Power, poverty, and participation: HIV and intimate partner violence in an informal settlement in Nairobi, Kenya.

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Declaration

I hereby declare this PhD thesis is a presentation of my original research work. Material contained herein has not been previously published, accepted or presented for the award of any University degree. Wherever contributions of others are involved, every effort has been made to indicate this clearly, with due acknowledgement to the relevant sections made in the thesis.

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Abstract

Background: People in informal urban settlements face numerous inequalities and social problems, including human immunodeficiency virus (HIV) and intimate partner violence (IPV). Despite evidence suggesting multiple intersections between IPV and HIV, research tends to investigate HIV or IPV in isolation. Studies commonly target single populations and focus on individual behaviour. Although the benefits of community participation are known, stakeholders are often insufficiently involved in decision-making processes related to health research.

Research aim: This thesis is to explore and expand understanding of the intersections of HIV and IPV in an informal settlement in Nairobi, Kenya in order to strengthen IPV and HIV prevention and response in the community. For this purpose, I conducted a researcher-led collaborative intersectionality study with a mixed-methods design, involving a secondary data analysis, focus group discussions, and key informant interviews.

Quantitative strand: This study compared current female and male IPV rates by urban residence (informal and formal settlements). Data from the 2014 Kenya Demographic and Health Survey, consisting of an ever-married sample of 1,613 women (age 15-49 years) and 1,321 men (age 15-54), were analysed. Multilevel logistic regression was applied to female and male data separately to quantify associations between residence and any current IPV. Results indicate gendered and spatial patterns, with women in informal urban settlements reporting highest rates of current IPV. Unadjusted analyses suggest residing in informal settlements is associated with any current IPV against women, but not men. However, this correlation is not statistically significant when adjusting for women's education level, marital status, having witnessed parental IPV, current use of physical violence against partner, and partner's alcohol use, all of which are statistically significantly correlated with male-to-female IPV in multivariate analysis.

Qualitative strand: This study explored power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal settlement in Nairobi, Kenya. I formed a study team of researchers (n=4) and lay investigators (n=11) from the informal settlement. We facilitated focus group discussions with 56 women and 32 men and interviews with 10 key informants, and analysed data together. Findings illustrate how gender power imbalance intersects with other axes of power to shape complex dynamics of power, poverty, marginalisation, and gatekeeping in the informal settlement, which together create a web of unequal power relations that are conducive to IPV perpetration and HIV transmission. In addition, critical reflection and lessons on power in this study suggest involving community members as co-researchers in collaborative reflection and action

was key to power-sharing; created opportunities for learning, change, and empowerment; and strengthened research process and findings.

Conclusions: IPV and HIV prevention interventions should be embedded within a community empowerment approach, involve people from all social ecological levels (including but not limited to individual, relationship, family, community, facilities) utilise multiple strategies (including individual economic and social empowerment, integration of services, and implementation of laws), and operate across sectors (including health, justice, housing, education, labour, transport). Research and programmes should create opportunities for the meaningful and continuous involvement of communities in decision-making and implementation.

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List of abbreviations

AIDS	Acquired immunodeficiency syndrome
ALIV[H]E	Action Linking Initiatives of Violence Against Women and HIV Everywhere
ART	Antiretroviral therapy
CBO	Community-based organisation
CEDAW	Committee on the Elimination of Discrimination against Women
CHW	Community health worker
COVID-19	Corona virus disease
CTS	Conflict Tactics Scale
CTS2	Revised Conflict Tactics Scale
CUSP	Community for Understanding Scale Up
DHS	Demographic and Health Survey
DREAMS	Determined, Resilient, Empowered, AIDS-Free, Mentored, and Safe (programme)
FGD	Focus group discussion
GBV	Gender-based violence
GCRF	Global Challenges Research Fund
HIV	Human immunodeficiency virus
ICF International	US-based global consulting services company, which implements DHS
IPV	Intimate partner violence
KALCP	Korogocho ALIV[H]E Local Community Partner
KDHS	Kenya Demographic and Health Survey
KII	Key informant interview
KNBS	Kenya National Bureau of Statistics
LVCT Health	Kenyan non-governmental organisation

LSTM	Liverpool School of Tropical Medicine
MOH	Ministry of Health
NASCOP	National AIDS and STI Control Programme
REAL	Responsible, Engaged, and Loving (intervention)
SASA!	Community mobilisation intervention charaterised by its Start, Awareness, Support, and Action phases
SDI	Slum Dwellers International
SGBV	Sexual and gender-based violence
SHARE	Safe Homes And Respect for Everyone (intervention)
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDESA	United Nations Department of Economic and Social Affairs
UN-Habitat	United Nations Human Settlements Programme
VAW	Violence against women
WHO	World Health Organization

Glossary of local language terms

Bhang or bhangi	Marijuana
Changaa or chang'aa	Home-brewed spirituous liquor popular in Kenya
Japolo	Healer practicing traditional medicine
Kipande	Compulsory colonial identity document for African men in the British Kenya colony, which included basic personal details, fingerprints, and an employment history (Ogot and Ogot, 2020).
Koch	Korogocho
Lele	Women who have sex with women
Mama Pima	Owner of a chang'aa den
Mau Mau	Resistance and military conflict by the Kenya Land and Freedom Army (1952–1960) against British occupation in the British Kenya Colony.
Mpango wa kando	A term, which means side plan and is widely used (within and outside informal urban settlements) to refer to a secret lover of a person who is married (or cohabiting).
Muratina	Home-brewed sweet-sour alcoholic beverage popular in Kenya
Muungano wa Wanavijiji	A Kenyan grassroots movement, which emerged from Nairobi's informal settlements with the aim to resist forced evictions by the Kenyan government.
Sheng	A mixed language (Swahili- English) based on Swahili grammar that loans words from Swahili, English, and other Kenyan languages (Githiora, 2002). *Sheng* emerged within multilingual settings of Nairobi (although the details of *Sheng's* exact origins are contested) (Githiora, 2002). It is widely spoken among urban youth (Githiora, 2002), including in the informal urban settlement where this study was conducted.
Sponyo	A term widely used within and outside informal urban settlements to refer to a sexual partner (usually a well-off older man) who provides food, money, shelter, (children's) school fees or scholarships, or transportation (to mainly adolescent girls and women, but also men) in exchange for sex.
Sugar mummy	A female *sponyo* is called *sugar mummy*.

Chapter 1: Introduction

The human immunodeficiency virus (HIV) and intimate partner violence (IPV) are threats to public health and social justice globally. This thesis explores the intersections of HIV and IPV within the context of informal urban settlements in Kenya. This chapter begins with an introduction to global and African urbanisation trends, which give rise to the emergence of informal urban settlements (1.1). I summarise the spatial and social patterns of HIV and IPV, providing estimates for global, African, and Kenyan contexts, and outline the rationale for the research (1.2). I then spell out the aim and objectives of the thesis (1.3). I outline my role in the study while situating the research within the ARISE consortium and collaboration with LVCT Health (1.4). I introduce to the reader my motivation, positionality, and choices of terminology and voice underpinning the research and write up (1.5). I conclude the chapter with an outline of the thesis (1.6).

1.1 Background

Global and African population trends are characterised by steady urban growth (the total number of people living in urban areas) and rapid urbanisation (the percentage of people living in urban areas), all of which bear opportunities and immense challenges to national health systems and the well-being of people. An urban agglomeration refers to "*a built-up or densely populated area*" (United Nations Human Settlements Programme [UN-Habitat], 2006, p. 7) According to 2018 United Nations (UN) population estimates, the world's urban population has grown from about 750 million in 1950 to 4.2 billion in 2018 and is projected to reach 6.7 billion in 2050 (United Nations Department of Economic and Social Affairs [UNDESA], 2018). Currently, one in two (55%) people live in urban areas, up from one in three (30%) in 1950, expected to reach two in three (68%) in 2050 (UNDESA, 2018). Urban growth is driven by natural population increase (more births than deaths in urban areas), migration from rural areas and abroad (in-migration exceeds out-migration), and reclassification of areas (from rural to urban) when cities grow in area (UNDESA, 2018).

The population of sub-Saharan Africa, currently 1.2 billion people, is expected to reach 2 billion in 2050 (UNDESA, 2018). Although population living in rural areas (57%) still dominates in sub-Saharan Africa, the continent's urbanisation level is rising quickly (UNDESA, 2018). While one in ten (11%) Africans lived in urban areas in 1950, about two in five (43%) did so in 2018 (UNDESA, 2018). Similar trends have been documented in Kenya where urban centres are defined as "*built-up and compact human settlements with a population of at least 2,000 people*" (Kenya National Bureau of Statistics [KNBS], 2022a, p. 5). Since Independence in 1962, Kenya's total population has risen from 8.6 million to 47.5 million in 2019 (CBS & MOPND, 1979, KNBS, 2019b). Over the same period of time, Kenya recorded rapid urban growth – from 750,000 to 14.8 million urban dwellers – and fast rising

urbanisation levels – from 8% to 31% – expected to reach about 50% by 2050 (Babijes, 2016, CBS & MOPND, 1979, KNBS, 2019b). About a third of Kenya's urban population is concentrated in the country's capital city Nairobi (4.4 million) (KNBS, 2022a).

Rapid urbanisation can lead to rising inequality when national and city governments do not plan for their growing urban population. Shortage of housing, employment, and social services contribute to the growth of informal urban settlements where people lack access to improved water and sanitation; security of tenure; durability of housing; and sufficient living area (UN-Habitat, 2016). The number of people living in informal urban settlements has risen from 800 million in 2000 to more than 1 billion in 2018 worldwide, and from around 130 million in 2000 to nearly 240 million in 2018 in sub-Saharan Africa. Chances of living in an informal urban settlement are disproportionately high in sub-Saharan Africa compared to global trends. Although the continent's share of the world's total and urban population is small (15% and 10%) (UNDESA, 2022), one in four (23 %) persons living in an informal urban settlement worldwide resides in Sub-Saharan Africa (UN-Habitat, 2020). More than half of urban residents on the continent live in informal urban settlements compared with about a quarter worldwide (UN-Habitat, 2020).

1.2 Problem Statement

In the following sections, I outline the spatial and social patterns of IPV and HIV (1.2.1 and 1.2.2). I briefly describe the consequences of IPV and HIV, including different ways in which they intersect (1.2.3), for which in-depth discussion follows in the Literature review (2.5). I close the section with a justification for the research (1.2.4), which lead to the next section (1.3.) stating the thesis aim and objectives.

1.2.1 The burden of IPV

The widely adopted typology of violence and definition of IPV, which the World Health Organization (WHO) spelled out in the first world report on violence and health (2002, p. 89), refers to IPV as a form of interpersonal violence and defines IPV as "*any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship*." According to pooled estimates by WHO and partners (2013), women in Africa are more likely to experience physical and/or sexual IPV during their lifetime than women globally (37 vs 30%). Whereas, pooled estimates, considering emotional, physical and sexual IPV, suggest men in Africa are less likely to be affected by IPV than men globally (16 vs 28%) (Lindstrøm, 2018). Syntheses of evidence, mainly from North America, suggest rates of IPV among gay and other men who have sex with men (ranging from 30 to 78%, pooled estimate of 48%) and among women who have sex with women (ranging from 44 to 52%) are comparable to or even greater than to those observed among women globally and in Africa (Finneran

and Stephenson, 2013, Buller et al., 2014, Badenes-Ribera et al., 2015). While male-to-female IPV is underpinned by gender inequality, including societal norms condoning male controlling behaviour over women (Heise, 2011), these findings indicate IPV cannot be limited to male-to-female IPV and challenge theories conceptualising gender inequality as the main driver of IPV.

In Kenya, women (47%) are two times more likely than men (24%) to experience emotional, physical and/or sexual violence by a current or former intimate partner (KNBS et al., 2015a). Although IPV is widely seen as a predominantly rural problem (García-Moreno et al., 2005, Coll et al., 2020), the burden of current physical and/or sexual IPV (experienced in the past 12 months) is comparable among urban and rural populations (women: 25 vs 26%; men: 8 vs 7%) (KNBS et al., 2015a). Levels of IPV experience observed in informal urban settlements in Kenya exceed average national and urban estimates (Swart, 2012, Orindi et al., 2020, Ringwald et al., 2020). One study found women and men in an informal settlement in Nairobi reported comparable rates of IPV experience (Ringwald et al., 2020) as did another study among young women and men in an informal settlement in Dar-es-salaam, Tanzania (Mulawa et al., 2018).

1.2.2 The burden of HIV

HIV is an infectious disease which weakens the immune system and gradually leads to immunodeficiency. According to UNAIDS estimates (2021b), nearly 38 million people are living with HIV across the world; more than half of them are in Eastern and Southern Africa (21 million). Out of 36 million adults (age 15 years and above) living with HIV more than 19 million are women (UNAIDS, 2021b). Despite the immense progress made in access to antiretroviral therapy (ART) over the past two decades, more than 10 million people globally are not taking antiretroviral (ARV) medication of whom 4 million are unaware of their status (UNAIDS, 2021b). Although gender differences are not statistically significant, more men than women may miss out on treatment (UNAIDS, 2021b). In 2020, an estimated number of 1.5 million people acquired HIV, with 60% of new infections occurring in sub-Saharan Africa (UNAIDS, 2021b). Two thirds of new infections on the continent affect women (63%), including 25% among women aged 15-24 years and 27% among women aged 25-49 years (UNAIDS, 2021b). Despite being a minority, 12% of new infections in sub-Saharan Africa affected female sex workers, while 6% occurred among gay men and other men who have sex with men (UNAIDS, 2021b).

Preliminary results of the 2018 Kenya population-based HIV impact assessment suggest annually about 36,000 people acquire HIV in Kenya, raising the adult population (age 15-64 years) living with HIV to 1.3 million in 2018 (National AIDS and STI Control Programme [NASCOP], 2020). Like global and regional trends, the rates of HIV are greater among women than men (6.6 vs 3.1%) (NASCOP, 2020). An estimated 80% of adults living with HIV know their status, 97% of persons who know their status

receive ART, and 91% of persons on treatment have achieved viral load suppression (NASCOP, 2020). Although women living with HIV may be more likely to know their status than men (83 vs 73%), there are no gender differences in levels of treatment and viral load suppression (NASCOP, 2020). Results of the 2012 Kenya AIDS Indicator Survey found the HIV incidence in Kenya is highest among people age 25 to 34 (NASCOP, 2014b). UNAIDS estimates (2021b) indicate the number of women acquiring HIV (about 19,000) countrywide every year is greater than those of men (about 9,000) and children (about 5,000) together. A surveillance survey among key populations[1] suggests disproportionally high rates of HIV among gay men and men who have sex with men (18%), female and male sex workers (29%), and people who inject drugs (19%) (NASCOP, 2014a). An analysis of population-based HIV prevalence surveys in Kenya by Nyovani Madise and colleagues (2012) shows rates of HIV among women and men living in informal urban settlements are higher than those observed among their counterparts in other urban areas.

1.2.3 IPV and HIV impact and intersections

Despite IPV being a form of violence and HIV being a mainly sexually transmitted virus, they share numerous similarities – like stigma, harm to well-being, geographic and social disparities (described in 1.2.1 and 1.2.2) – and have mutually reinforcing intersections. The nature of factors surrounding violence, including IPV – like hidden drivers, invisibility of vulnerability, occurrence within intimate relationships, social stigma, and invisible or silent suffering alongside visible effects, illustrated by the quote below, apply in some ways to HIV too.

> *"The human cost in grief and pain, of course, cannot be calculated. In fact, much of it is almost invisible. While satellite technology has made certain types of violence – terrorism, wars, riots and civil unrest – visible to television audiences on a daily basis, much more violence occurs out of sight in homes, workplaces and even in the medical and social institutions set up to care for people. Many of the victims are too young, weak or ill to protect themselves. Others are forced by social conventions or pressures to keep silent about their experiences. As with its impacts, some causes of violence are easy to see. Others are deeply rooted in the social, cultural and economic fabric of human life" (Krug et al., 2002, p. 3).*

Both, IPV and HIV negatively impact the physical well-being of affected people, described below, as well as the mental, material, and social well-being affected people and their families, discussed in

[1] The term "key populations" is used to refer to populations who are key to the HIV epidemic and key to the HIV response (UNAIDS, 2015). According to UNAIDS (2021a, p. 157), "*these populations often suffer from punitive laws or stigmatizing policies, and they are among the most likely to be exposed to HIV. Their engagement is critical to a successful HIV response everywhere*." Following the UNAIDS recommendations (2021a), Kenya considers men who have sex with men, sex workers, people who inject drugs, and transgender people as the four main key population groups (NACC, 2021).

depth in the Literature review (2.5.1 and 2.5.2). UNAIDS estimates that globally 680 000 [480 000–1 000 000] deaths occurred from AIDS-related causes in 2020, whereas 19,000 [14,000-30,000] AIDS-related deaths occurred in Kenya, including 8,900 [6,000-14,000] men (age 15 years and above) and 7,500 [5,700-11,000] women (age 15 and above) (UNAIDS, 2021b). WHO and partners estimate as many as two in five female homicides globally and in Africa are intimate partner homicides, in contrast with about 1 in 17 male homicides globally (WHO et al., 2013). In Kenya, about half of women affected by physical IPV (46%) and sexual IPV (49%) incur injuries compared with a third of men (34%) affected by physical IPV and a quarter of men (22%) affected by sexual IPV (KNBS et al., 2015a).

Research suggests HIV and IPV epidemics are correlated in multiple ways (Heise and McGrory, 2016). Systematic reviews demonstrated and quantified statistically significant associations between IPV and HIV: For instance, Ying Li and colleagues (2014) reported pooled relative risks of acquiring HIV among women experiencing physical IPV and any type of IPV to be 1.22 [95% CI: 1.01, 1.46] and 1.28 [1.00, 1.64] compared to women not exposed to IPV based on data from cohort studies. Ana Maria Buller and colleagues (2014) report a pooled odds ratio of 1.46 [1.26–1.69] for the association between IPV experience and acquiring HIV among men who have sex with men. Qualitative research among pregnant women in South Africa illustrates the complex and bidirectional nature of correlations between IPV and HIV (Hatcher et al., 2014). It has been reported that IPV increases the likelihood of acquiring HIV directly, in cases of sexual IPV, and indirectly as survivors of IPV and perpetrators of IPV are behaviourally vulnerable to HIV. A study among women in Kenya suggests HIV is also a trigger for IPV, for instance a male partner responding with IPV when a woman's discloses her HIV status (Colombini et al., 2016). Other research found IPV is associated with suboptimal HIV treatment uptake, adherence, and outcomes among women (Hatcher et al., 2015) and men (Schafer et al., 2012). An in-depth discussion of the intersections of IPV and HIV follows in the Literature review (2.5.3).

1.2.4 Justification for the study

Despite the evidence on the intersections between IPV and HIV, respective prevention and health care programmes tend to be implemented in silos. Disease-specific funding, programming, and care increased the fragmentation of health services and systems (Warren et al., 2017), including in Kenya (MOH, 2018b). Weak coordination between health programmes impedes integration of health services, and the health workforce is insufficiently equipped to deliver integrated services (MOH, 2018b). While the sector's sexual and gender-based violence (SGBV) programme is being established, national guidelines provide guidance on medical care and community awareness for sexual violence (MOH, 2009). The sector's response to IPV is hampered by lack of policy guidance and limited IPV-related knowledge and skills among health providers.

Evidence on best practice for integrating interventions on IPV and HIV is promising (Marshall et al., 2018). Janet Turan and colleagues (2013) reported the integration of a community-supported programme for prevention and mitigation of the effects of GBV among pregnant women in an antenatal care clinic in rural Kenya was feasible and acceptable. Research by LVCT Health[2] in informal settlements in Nairobi demonstrated community-based IPV prevention amplified the effects of counselling services offered in HIV clinics (Digolo et al., 2019). In Uganda, community mobilisation interventions in combination with sensitisation of service providers like health workers reduced acceptance and occurrence of IPV and improved condom use in the communities (Abramsky et al., 2014, Kyegombe et al., 2014, Wagman et al., 2015, Abramsky et al., 2016). In general, integration was found to overcome service access barriers, improve health outcomes, and use resources efficiently (Warren et al., 2017).

International and national frameworks show understanding of 'integration' goes beyond the provision of integrated health services but seizes integration as an opportunity to overcome fragmentation and build a health system that is people-centred (Warren et al., 2017, MOH, 2018b). In addition, Charlotte Warren and colleagues (2017, p. iv105) argue "*the SDGs (sustainable development goals) provide an opportunity to rethink approaches to equitable health coverage, integrate marginalised populations, and enshrine a stronger focus on human rights.*" The Kenyan framework stresses health service integration should be embedded in a wider approach, sometimes called 'linkages', that promotes an enabling environment by streamlining processes and systems, addressing structural barriers, and using a rights-based approach (MOH, 2018b). Integration, therefore, cannot be achieved with a health care programme; it requires a health systems approach which meaningfully involves communities.

Leading research ethics guidelines and Kenyan health policies recommend the participation of communities in health research and health service planning and delivery (Ministry of Medical Services [MOMS] and Ministry of Public Health & Sanitation [MOPHS], 2012, UNAIDS and World Health Oranization [WHO], 2012, World Medical Association, 2013). However, community stakeholders are often insufficiently involved in decision-making processes related to health research and services, because community participation platforms are lacking or not utilised (Karuga et al., 2019, Mannell et al., 2019). Community participation has the potential to enhance acceptability, uptake, ownership, and sustainability of interventions among others. The involvement of communities is essential when

[2] LVCT Health is a Kenyan non-governmental organisation specialising in HIV and gender-based violence services and research (https://lvcthealth.org/). For additional information, including on my collaboration with LVCT Health, see section 1.4.

the gap (in terms of geography, social location, socio-economic status etc.) between the community and influential outsiders (like researchers) is wide (Chambers, 2017).

Kenya's established HIV and community health programmes provide platforms and opportunities for integration of IPV and HIV (MOH, 2018b). However, there is a lack of research on how to support community health systems to advance understanding of IPV and HIV linkages (Salamander Trust et al., 2017) in order to mitigate the effects by adapting and integrating evidence-based IPV prevention interventions (LVCT Health, 2017). Approaches to service integration need to be tailored to contexts, populations, and locations, responding to the inequalities and needs in locations and among different populations (UNAIDS, 2021a). Adapting this focus on location and populations, my research focusses on HIV and IPV in the informal settlement in Kenya. First, my study is intended to build on the work of Nyovani Madise and colleagues (2012), who demonstrated intra-urban variation of HIV in Kenya and higher rates of HIV among women and men living in informal urban settlements than those living in formal urban settlement, by exploring intra-urban variation of IPV in Kenya. Second, my study in Korogocho is intended to engage community health actors and priority populations3 in research to explore IPV and HIV linkages in an informal settlement in Nairobi, Kenya. I use the term priority population to refer to groups of people who are important for the HIV and IPV response because they are at increased risk of HIV and IPV due to societal, structural, and/or personal circumstances.

1.3 Thesis aim and objectives

The overarching aim of this thesis is to explore and expand understanding of the intersections of HIV and IPV in an informal settlement in Nairobi, Kenya in order to strengthen IPV and HIV prevention and response in the community. The objectives are:

1. To compare rates of current IPV experience among women and men by residence (informal and formal settlements) in urban areas of Kenya.
2. To understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.
3. To provide critical reflection on experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.

[3] The term "priority populations" refers to "groups of people who in a specific geographical context (country or location) are important for the HIV response because they are at increased risk of acquiring HIV or disadvantaged when living with HIV, due to a range of societal, structural or personal circumstances" (UNAIDS, 2021a, p. 158). According to UNAIDS (2021a), priority populations may include people living with HIV, seronegative partners in sero-different couples, young women, fisherfolk, long-distance truck drivers, and mobile populations.

This is a publication-based thesis, and the research findings are presented as a series of published papers. Table 1 shows the objectives in relation to the thesis chapters as well as the three publications which have been accepted for publication or are in preparation for submission to academic journals. To present a complete thesis, the publications are integrated in a coherent and logic manner. Study findings are presented in three Results chapters, each of which comprises one publication relating to one specific objective. The Results chapters retain the structure and format of journal articles. However, the references of each publication are listed in the reference list at the end the thesis.

Table 1. Objectives, chapter, and publication details

Study objective	**Thesis chapter**	**Publication details**
1. To compare rates of current IPV experience among women and men by residence (informal and formal settlements) in urban areas of Kenya.	**Chapter 4:** Intra-urban variation of intimate partner violence against women and men in Kenya: Evidence from the 2014 Kenya Demographic and Health Survey	Ringwald, B., Tolhurst, R., Taegtmeyer, M., Digolo, L., Gichuna, G., Gaitho, M. M., Phillips–Howard, P. A., Otiso, L, and Giorgi E. (2022) Intra-urban variation of intimate partner violence against women and men in Kenya: Evidence from the 2014 Kenya Demographic and Health Survey, *Journal of Interpersonal Violence*, 38(5-6), pp. 5111–5138.
2. To understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.	**Chapter 5:** Power and poverty: A participatory study on the complexities of HIV and intimate partner violence intersections in an informal settlement in Nairobi, Kenya	Ringwald, B., Taegtmeyer, M., Mwania, V., Muthoki, M., Munyao, F., Digolo, L., Otiso, L., Ngunjiri, A. S. W., Karuga, R. N., Tolhurst, R. and for the Korogocho ALIV[H]E research team (no date) '*Power and poverty: A participatory study on the complexities of HIV and intimate partner violence intersections in an informal settlement in Nairobi, Kenya*' [manuscript under peer-review].
3. To provide critical reflection on experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.	**Chapter 6:** Critical reflection on power in a researcher-led, time-bound participatory study in an informal settlement in Nairobi, Kenya	Ringwald, B., Taegtmeyer, M., Mwania, V., Muthoki, M., Munyao, F., Digolo, L., Otiso, L., Ngunjiri, A. S. W., Tolhurst, R. and for the Korogocho ALIV[H]E research team (no date) *'Critical reflection on power in a researcher-led participatory study in an informal settlement in Nairobi, Kenya'* [manuscript in preparation].

1.4 Links to ARISE and LVCT Health

This thesis is the result of my doctoral research, undertaken as part of the UK Medical Research Council's Translational and Quantitative Skills Doctoral Training Programme in Global Health. As a doctoral researcher, I have been affiliated with LVCT Health and the Accountability for Informal Urban Equity Hub (ARISE) who influenced and supported this research in various ways. In this section, I introduce these partners, elaborate how my research links to their work, and describe our collaboration and their contribution to this project.

LVCT Health began as a research project, pioneering the first HIV voluntary counselling and testing centres in Kenya, and was registered as a Kenyan non-governmental organisation in 2001 (https://lvcthealth.org/). LVCT Health aims to reduce new HIV infections and expand equitable access to quality health services through innovative, integrated, comprehensive services and programmes that can be delivered at scale. The Liverpool School of Tropical Medicine (LSTM) and LVCT Health have worked together on several studies and research consortia, including ARISE. **ARISE** is an LSTM-led international research consortium of partners in Bangladesh, India, Kenya, Sierra Leone, and the UK (http://www.ariseconsortium.org/) with support from the Global Challenges Research Fund (GCRF). ARISE aims to enhance accountability and improve the health and well- being of marginalised people living and working in informal urban spaces. LVCT Health is one of three ARISE partners in Kenya,[4] conducting research with people in Korogocho and Viwandani informal settlements in Nairobi.

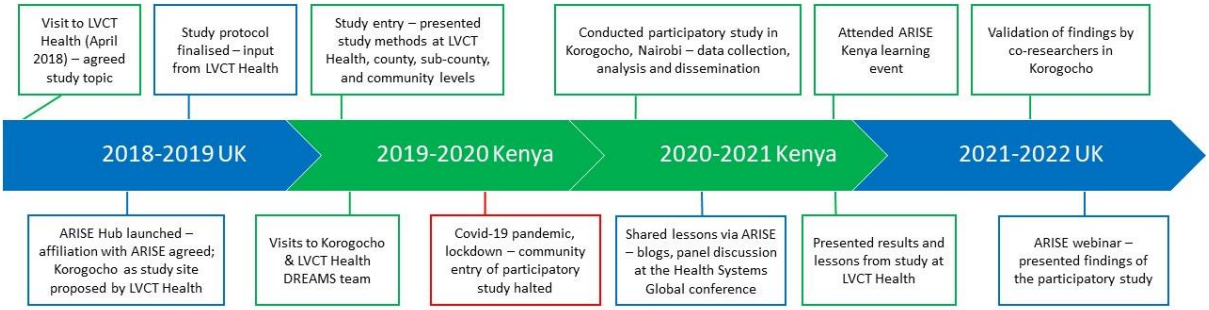
Figure 1 shows the main research activities of my thesis journey. It began with the successful enrolment in the doctoral training programme in October 2017[5]. One of my supervisors, Miriam Taegtmeyer, initiated the collaboration with LVCT Health because my research focus, IPV and HIV, aligned with LVCT Health's programmatic focus on HIV and GBV. I first visited LVCT Health in April 2018 to get to know the vision, work, and staff of LVCT Health. Together, we explored evidence gaps related to linkages of HIV and IPV and identified 'integrating community-based IPV and HIV prevention' as a mutually beneficial research topic. Lina Digolo, then head of LVCT Health research division, agreed to be a secondary supervisor on my PhD supervisory panel. I conceptualised the studies, which together make up this thesis, and wrote respective protocols, with input from supervisors and LVCT Health staff (September 2018 to June 2019). As part of the doctoral training, I analysed IPV data collected by LVCT Health in an informal urban settlement (April-May 2018). This

[4] African Population and Health Research Centre (APHRC), LVCT Health, and Slum Dwellers International (SDI) Kenya

[5] The initial one-year training within the programme (2017/18) was in the form of an MRes in global health.

study helped strengthen relations with LVCT Health researchers, although the corresponding publication (Ringwald et al., 2020) is not part of the thesis.

Figure 1. Timeline of thesis



Note. Timeline of thesis indicating key research activities of my thesis journey in affiliation with ARISE (blue-framed boxes) and collaboration with LVCT Health Kenya (green-framed boxes) between April 2018 and August 2022, while I was based in the UK (academic years highlighted blue) and Kenya (academic years highlighted green).

The ARISE consortium, launched in January 2019, provided an opportunity for linking this thesis to the ARISE partnership between LSTM and LVCT Health, which Rachel Tolhurst, my principal supervisor, coordinates as the ARISE Research Director. I welcomed this idea as the community-based participatory research approach underpinning my doctoral research project fitted well with the ARISE approach and helped clarify the study location, Korogocho (see 3.5.1). In contrast with the five-year timeframe of ARISE, the timelines of the doctoral training programme required me to complete the community-based research project in one year. Due to different schedules, my research was not integrated in ARISE research activities in Kenya, but is a stand-alone project affiliated with ARISE.

I finalised protocols, which were approved by LSTM and Kenyan ethics and scientific review boards between August and October 2019 (see Appendix 1). In August 2019, I moved to Nairobi to undertake the participatory study (objective 2 and 3), for which I required approval from county and sub-county health management teams and community leadership. LVCT Health secured appointments to present the ARISE study to county and sub-county authorities in January and February 2020, which provided me with the platform to present this research to them for review and approval (5.4.7). I used the waiting period for desk-based research activities, participated in LVCT Health activities, visited Korogocho, and built relationships with the LVCT Health team in Korogocho, including through capacity strengthening sessions for their volunteers.

The onset of the COVID-19 pandemic in March 2020 disrupted the community entry process of the participatory study and delayed start of research activities in the community. Also, work patterns at LVCT Health changed and working from home became the norm. From then, interactions with

colleagues at LVCT Health and ARISE were mainly online and less frequent. The participatory study commenced in August 2020 with the formation of the research team (3.5.2). Throughout the study, I worked closely with the researchers, recruited from the LVCT Health pool of research assistants, and the co-researchers from the informal settlement (3.5.3). I use the term 'co-researchers' to refer to non-academic people from the study community who are lay investigators actively participating in the research process. After team formation and capacity strengthening (August to October 2020), we collected data from November 2020 to Mach 2021 and analysed it from February to June 2021. We presented findings to community stakeholders in July 2021. I shared lessons from the participatory research process (April 2021). ARISE communication and learning platforms made it possible to share lessons and findings from this research within and beyond ARISE. For example, the co-researchers recently presented study findings to the ARISE partners globally via a webinar, hosted by LVCT Health (June 2022).

I conducted secondary data analysis (objective 1) from September 2019 alongside the other research activities. I explored different statistical methods (3.4.3) in consultation with supervisors. I consulted LVCT Health staff to discuss variable selection for formulation of statistical models and interpretation of results (3.4.4). I presented results from the secondary data analysis to LVCT Health staff before my return to the UK (July 2021).

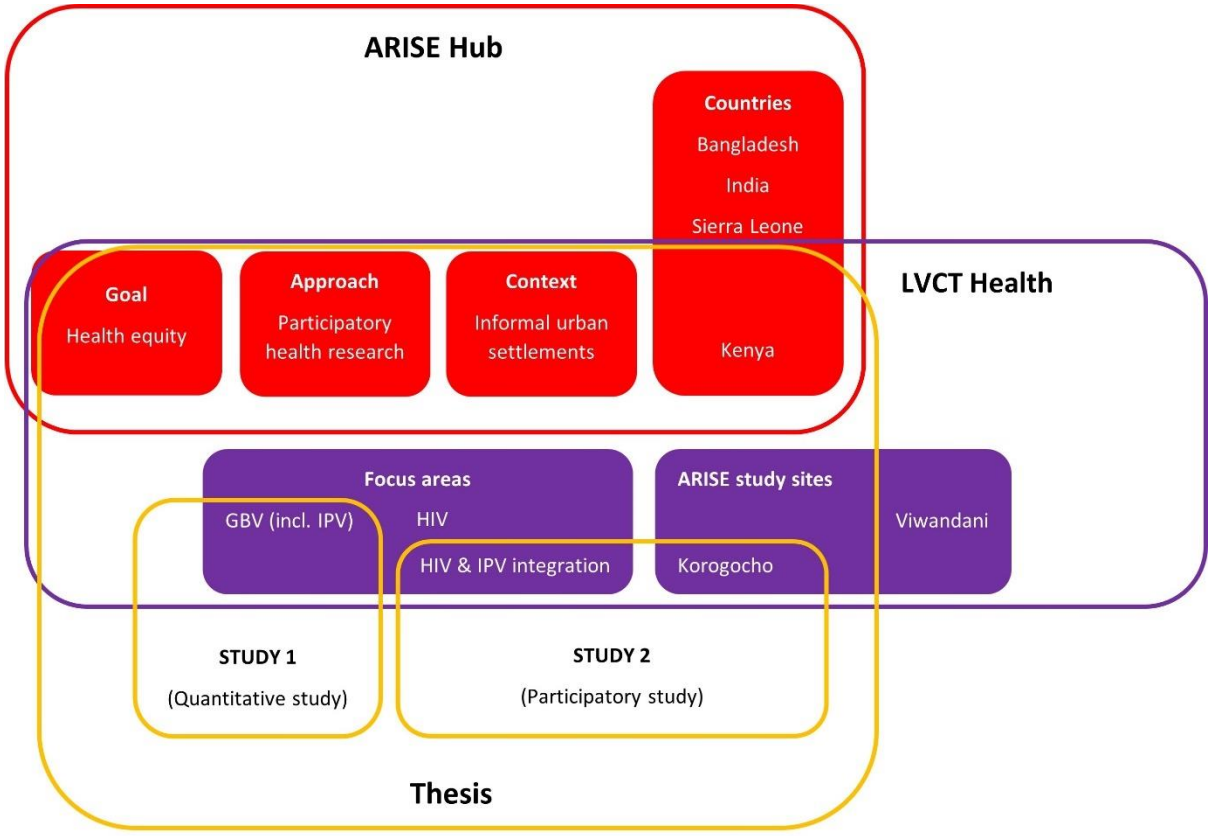
Figure 2 illustrates how this study relates conceptually to ARISE and LVCT Health. The research and work of ARISE, LVCT Health and my doctoral project envision and promote health equity and social justice. This commitment shows in the selection of research context, approach, and focus area:

- **Context:** Through the affiliation with ARISE, context played an important role in my research to focus on HIV and IPV in the informal urban settlement. First, Korogocho informal settlement where LVCT Health implemented the Determined, Resilient, Empowered, AIDS-Free, Mentored, and Safe (DREAMS) programme and conducted ARISE research was chosen as study site for participatory research. Second, it made me engage critically with "urban informality" (2.2.4); consider how multiple inequalities intersect in the informal settlement context in Kenya and create an environment that exposes people to IPV and HIV through unequal power relations in informal settlements; and involve community members as knowers, partners, and agents of change in the research process (3.2 and 3.5).
- **Approach:** This thesis uses a participatory research approach (3.2) in line with ARISE. The participatory study was designed to involve people from the informal urban settlement as lay investigators and equal partners in the research (3.5). The affiliation with ARISE and LVCT

Health enabled me to learn from their previous and ongoing community-based research as well as to contribute to learning by sharing lessons from this study.

- **Focus area:** Unlike ARISE, which provides time and space for people in the informal urban settlements to prioritise health problems to be investigated and addressed, this research topic was proposed to the community. As outlined above, the research topic of my project was identified in consultation with LVCT Health, a leader in HIV and GBV services and research in Kenya.

Figure 2. Conceptual map of connection between thesis and ARISE and LVCT Health



Note. Conceptual map illustrating how the thesis (yellow frames) relates to the research goal, approach, context, and countries of the ARISE Hub (red) and focus areas of LVCT Health (purple), a partner of the ARISE consortium conducting research in Korogocho and Viwandani, Nairobi, Kenya.

1.5 Motivation and framing of the thesis

In the following sub-sections, I present to the reader my background and motivation for this research and elaborate discussions and choices which informed the framing and presentation of the thesis.

1.5.1 Researcher motivation and positionality

My personal, professional, and intellectual positionality influence my motivation for and approach to the study. Here, I briefly introduce my positionality to initiate discussions on reflexivity which follow throughout the thesis, including in Methods (3.4.4 and 3.5.10) and Results (Chapter 6). As a white, European woman with academic education, I am aware of my privileges (like access to education, health care, international travel among others), including through my work and marriage in Uganda. However, as a woman, first generation PhD candidate, born and raised on a farm in the Black Forest, I also understand the extra work that is required to access and be recognised within spaces of power. Personal values like human dignity, community, participation, and social justice shaped by my engagement with Catholic social thought and professional training, form the basis of my motivation for the study.

Due to my professional background in social education and global health, I tend to approach health and well-being holistically (not purely biomedical) and understand them both as processes and outcomes. Over 15 years of work experience with youth, women and communities in Germany and Uganda equipped me with experiences, skills, and tools for managing a participatory study. At the same time, these have moulded my preference for and interest in applied knowledge for practice, which I balanced with the expectations of the doctoral research programme. Affiliations with the Gender and Health Group[6] and Community Health Systems Group[7] at the Liverpool School of Tropical Medicine (LSTM) have stimulated appreciation of the complexity of health issues and health systems as well as the capacity of communities and individuals as health actors.

In many ways, I was different from research partners and study community in Kenya. Over the course of the PhD, I learned to see not only our differences but also our similarities. My experiences during the study and triggers from outside influenced how I see and present myself as a person and researcher. In that sense, I shaped the research and research shaped me.

[6] https://www.lstmed.ac.uk/research/departments/international-public-health/gender-and-health-group
[7] https://www.lstmed.ac.uk/community-health-systems-group

1.5.2 Terminology and abbreviations

As an outsider researcher, I thought about the language and terms I use when I speak and write about my research. I actively engaged with the literature on global health language and communication (Jumbam, 2020) at the beginning of the COVID-19 pandemic when overwhelmed with the flood of health messages using militaristic terminology (while the participatory study was halted) (Itunga and Ringwald, 2020). The use of war metaphors is not specific to COVID-19 but common across many conditions (Flusberg et al., 2018), including HIV. Terminologies common in HIV discourse, research and programming have been criticised for being militaristic, dehumanising, othering, and/or blaming (Welbourn, 2015). Generally, I seek to use empowering language in accordance with preferences and recommendations by people and communities, including those affected by HIV (e.g., UNAIDS, 2015, Welbourn, 2015, Marcus and Snowden, 2020, National Institute of Allergy and Infectious Diseases, 2020, UN Geneva, 2021). In this section, I briefly describe reflections, discussions, and decisions underpinning my choice of terminology and use of abbreviations in the thesis to guide the reader.

The study site, Gitathuru in Korogocho, Nairobi is a densely populated settlement that lacks basic infrastructure including secure and durable housing, sanitation, and water. According to UN-Habitat, Gitathuru qualifies as a slum. However, the phrase 'slum' has derogatory connotations (Lines and Makau, 2018). During the study, the issue of how to describe the neighbourhood never came up in discussions as we simply referred to it as 'Gitathuru'. In preparation for research publications and this thesis, I discussed with the research team which term they would like me to use to characterise the settlement. The discussion showed the research team was divided by age. Older co-researchers preferred the term 'slum' because it is easily understood and highlights the cry of people for basic services. Younger co-researchers found slum insulting and did not agree with it. They call their settlement, and other similar settlements, 'ghetto'. The term ghetto is rooted in the African American hip hop culture and was adapted by African urban hip hop culture[8] (Ghetto Radio, no date). Insiders have made efforts to reinterpret and give positive meaning to 'slum' and 'ghetto' (Safaricom PLC, 2011, Ghetto Radio, no date). Examples are the Slum Dwellers International (SDI Kenya, 2018), a global social movement of the urban poor and network of community-based organisations in more than 30 countries, including Kenya; the Ghetto achievers, a youth group in Korogocho (Ghetto Achievers Youth Group, no date); and the Kenyan song "Ghetto", framing the term as an abbreviation to mean "*Getting Higher Education To Teach Others*" (Safaricom PLC, 2011), which is popular among young co-researchers.

[8] For instance, Ghetto Radio was set up to reveal the fuller picture of urban African ghetto life and culture by being a channel through which ghetto inhabitants, artists as well as regular inhabitants of slums and ghettos, can tell their own stories (Ghetto Radio, no date).

As an outsider, however, it is not straightforward to use slum and ghetto in the same empowered way as insiders do. The Nazis created ghettos to segregate and confine Jews, and sometimes Romani people, into small sections of towns and cities with the intention of furthering their exploitation (Yad Vashem, no date). As a German, I cannot use the name ghetto in a positive way as I do not have a link with African American or African hip hop culture. In addition, I respect some co-researchers felt offended by the term slum. Therefore, I refer to the study site as an 'informal settlement' which, although not the preferred term, was named as a choice by the co-researchers. The term is not precise as the Government of Kenya formally settled or relocated people to Korogocho and has an administrative presence there with a senior chief, assistant chiefs, and village elders. However, the term is widely used term and highlights the absence of basic infrastructure which is a defining characteristic of Gitathuru (see section 5.3.1).

Using labels to categorise people is ubiquitous; common examples include AGYW (adolescent girls and young women), MSM (men who have sex with men), PLWH (people living with HIV), or PWD (person with disability). However, there are disadvantages and advantages in doing so. On one hand, acronyms are imprecise and tend to oversimplify and distort the diversity and complexity of people's experiences and identities, as Alice Welbourn (2015) states, "*this reduction of an individual to a bunch of letters feels very dehumanizing*". On the other hand, categorisations provide an opportunity for accessing funding (Esplen and Greig, 2007). While it is not possible to avoid categorisations, I opted to follow the example of other researchers who avoid labels to describe groups of people, like Sverker Finnström (2008) desisting to use the acronym IDP (internally displaced people). These acronyms are therefore not used and not included in the list of abbreviations. In addition, I use "*Cite them Right*" (Harvard) referencing style which adds more words to the text (than number style) but makes it easier for the reader to see the source of information.

1.5.3 Researcher and community voice

While the thesis is my work, many other people contributed their time and input into the research I present here. In the research team, we discussed if co-researchers wanted to be co-authors. I learned the main interest in the study among co-researchers was to see change in their community. Co-researchers suggested to include the "Korogocho ALIV[H]E research team" in the list of authors and to acknowledge their contribution as individuals in acknowledgements (5.1. and 6.1). I have used the active voice where possible in the write up and use the first person ("I"; "we") in the Introduction and Methods (incl. in respective section of the Abstract), and third person in the other chapters (incl. the presentation and discussion of quantitative results in sections 4.5 and 4.6).

1.6 Outline of the thesis

In this section, I explain the structure of this publication-based thesis, organised in seven chapters. Figure 3 (on the next page) shows how Introduction, Literature Review, Methods, Results, and Discussion are organised across the chapters and how they relate to each other.

Chapter 1 is a general Introduction to the thesis stating the research problem, rationale for the study, research aim and objectives. In addition, I introduce the reader to the framing and style of the thesis by explaining my positionality, motivation, and role in the study as well as thoughts and choices in the write up. The chapter concludes with the outline of the thesis.

The Literature review in Chapter 2 has two main parts. In the first half, I discuss theoretical concepts related to well-being, urban informality, urban health equity, power, and intersectionality. These are applied in discussion of HIV and IPV literature and the Kenyan context. The chapter concludes by drawing together the theoretical and epidemiological bodies of literature to define an intersectionality conceptual framework for the intersections of HIV and IPV.

Chapter 3 justifies and outlines the theoretical, methodological underpinnings of this thesis and the research methods which were applied to meet the research objectives.

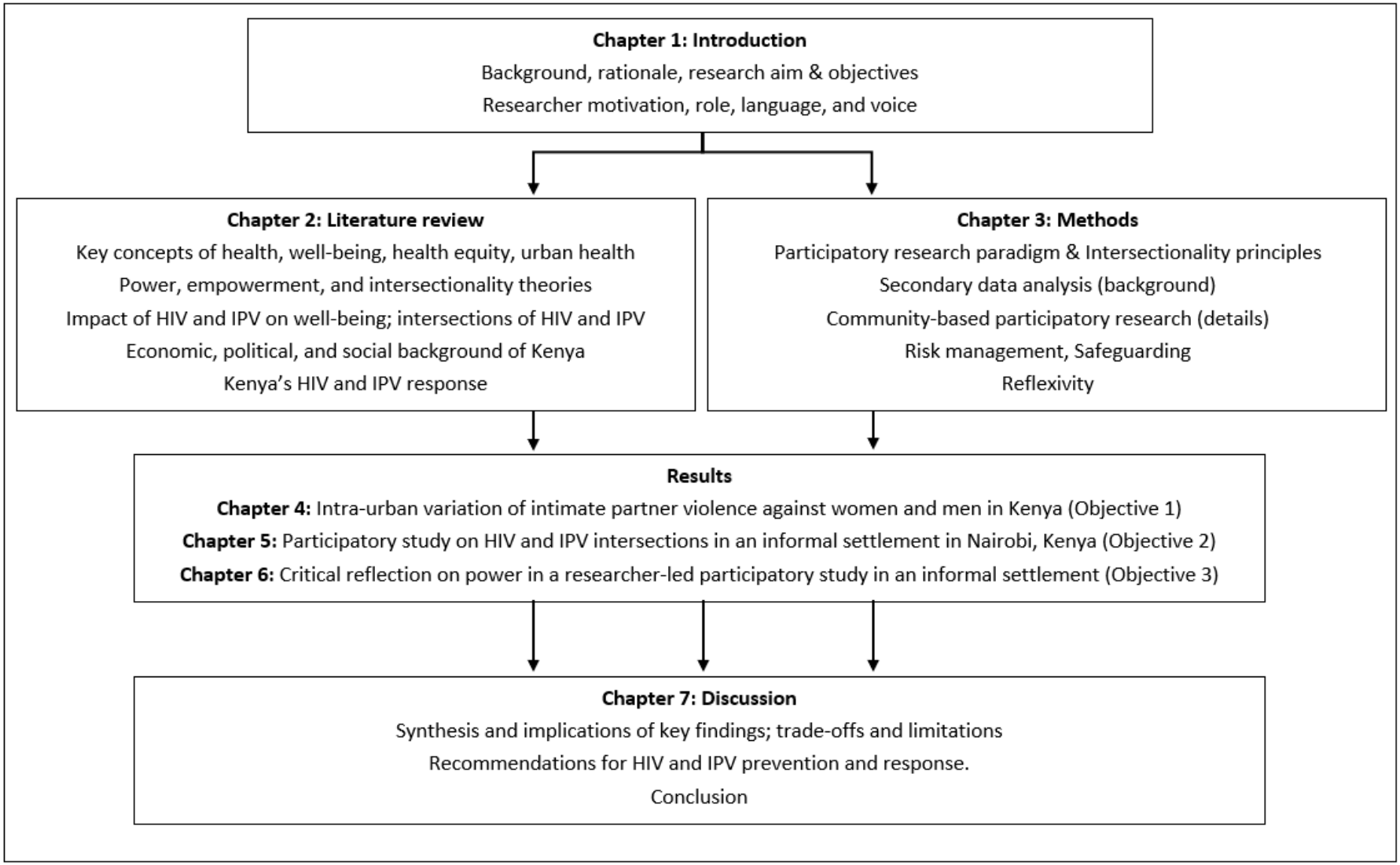
Study findings are presented in Chapters 4, 5 and 6. Following a brief introduction linking the article to the thesis aim and organisation, each chapter is structured like an academic journal article. Chapter 4 presents the results of the secondary data analysis of 2014 IPV data from Kenya which seeks to answer objective one; to compare rates of current IPV experience among women and men by residence (informal and formal settlements) in urban areas of Kenya.

In Chapter 5, I present the findings of the participatory study which seeks to answer objective two; to understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.

In Chapter 6, I discuss lessons on power, participation, and empowerment from the participatory study which seeks to answer objective three; to provide critical reflection on experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.

In Chapter 7, I discuss the relevance and implications of thesis results across the different findings with a focus on strategies for addressing IPV and HIV linkages. I outline the thesis contributions to evidence, methodology and theory. I conclude with general recommendations for research and practice.

Figure 3. Overview of thesis chapters



Chapter 2: Literature review

2.1 Chapter overview

The previous chapter sets the scene and outlines the thesis aims, structure, my positionality and role. This chapter introduces theoretical and conceptual frameworks that underpin this thesis. For this purpose, I draw on diverse bodies of literature regarding theoretical frameworks, research topic, and study context as shown in Table 2. In the review, I first introduce key concepts of health and well-being, discuss notions of health disparities and urban informality, and present urban health equity frameworks (2.2). The following sections (2.3 and 2.4) outline conceptual frameworks around power and intersectionality. These concepts are applied to present and locate multiple axes of power – coloniality, race, ethnicity, and gender – in the African context (2.4). The section is concluded with an intersectionality conceptual framework. It is within these frameworks then that the health and social aspects of HIV and IPV are discussed with a summing up that examines how they intersect (2.5). Next, the study context Kenya is introduced with a focus on urbanisation, Nairobi, and the country's health system (2.6). A discussion of Kenya's HIV and IPV response is structured around the main strategies for addressing HIV and IPV linkages (2.7). The chapter concludes with a conceptual framework which summarises and blends the different strands of the review (2.9).

Table 2. Overview of literature reviewed

Theory and key concepts	Context	Research topic
Health & well-being • Key concepts • Urban health • Health equity **Power** • Theories and concepts of power • Theories and concepts of empowerment • Coloniality of power **Intersectionality** • African gender, feminist, masculinities research • Intersectionality theory and practice • Intersectionality principles	**Kenya** • Historic, economic, social, political, and legal background • Demography • Health system • HIV and IPV policies and programmes **Informal urban settlement** • Definitions and concepts of informality • Drivers of urbanisation • Urbanisation in Kenya • Urban informality in Nairobi, Kenya	**HIV** • Epidemiology of HIV (global, regional, local) • Drivers and effects of HIV **IPV** • Epidemiology of IPV (global, regional, local) • Drivers and effects of IPV **Intersections of HIV & IPV** • Concepts on the intersections of HIV and IPV • Epidemiology of HIV and IPV intersections • ALIV[H]E* • Prevention and response

*Note. *ALIV[H]E = Action Linking Initiatives of Violence Against Women and HIV Everywhere*

2.2 Introduction to health and well-being

2.2.1 Defining health and well-being

Good health and well-being are essential to social and economic development as outlined in the 2030 agenda for sustainable development (2015). Health refers to "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*" (World Health Organization [WHO], 1946, p. 1315). This definition of health contrasts with (Western) biomedical models in that it does not focus solely on the functioning of the body but also considers mental and social capacities. At the same time, it differs from African notions of health, for instance:

> *"Good health for the African consists of mental, physical, spiritual, and emotional stability for oneself, family members, and community; this integrated view of health is based on the African unitary view of reality. Good health for the African is not a subjective affair"* (Omonzejele, 2008, p. 120).

African health concepts consider natural, social, political, and economic factors as causes of ill-health and situate health within the past, present and future involving relationships between the living, the ancestors and those yet to be born (Sunderland, 1993, Steady, 2004, Omonzejele, 2008).

Health is both resource for and outcome of human life and development. Health achievement and capabilities to achieve good health are mutually connected as Amartya Sen (2002, p. 660) elaborates,

> *"health is among the most important conditions of human life and a critically significant constituent of human capabilities which we have reason to value. Any conception of social justice that accepts the need for a fair distribution as well as efficient formation of human capabilities cannot ignore the role of health in human life and the opportunities that persons, respectively, have to achieve good health – free from escapable illness, avoidable afflictions and premature mortality."*

Health is lived by people and shaped by the circumstances in which they are born, grow, live, play, learn, work, love, and age (Commission on Social Determinants of Health [CSDH], 2008). Economic, political, and social conditions can be favourable or harmful to health. The Ottawa Charter for Health Promotion (1986) identifies peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity as fundamental conditions and resources for health.

Well-being is a broader concept encompassing various dimensions including but not limited to health and those reported as conditions for health. Sarah White (2010) proposed a well-being framework encapsulating three interdependent dimensions of well-being: material, relational, and subjective. Material well-being comprises employment, income, wealth, assets, and standard of living. The

relational domain involves social well-being (including security, violence, relations with the state, access to public services, social networks and relations) and human well-being (including capabilities, health, household composition, and personal relationships). The externally observable aspects of material, social, and personal well-being are interconnected with the subjective dimension in that cultural ideas, beliefs, and values determine the relative meaning and importance attributed to material and relational aspects (White, 2010). In addition, beliefs and ideologies underpin social power relations and hierarchies that shape social identities, divisions, inequalities, marginalisation, and domination; all of which are captured under social well-being. White conceives well-being as a social process located in space and time (history and life course) and grounded in the relationship between the individual and community (White, 2010). The Regional Network for Equity in Health in east and southern Africa developed a similar holistic well-being framework for their research with young people in urban areas. This framework considers nine well-being aspects like psychological and physical health, time use, quality of life, governance, economy among others (Loewenson et al., 2018), which resonate with the physical, mental, material and social dimensions considered by White.

In summary, concepts of health and well-being are holistic, positive, and multi-dimensional. Domains of health and well-being frameworks are related to each other and overlap to some extent. Cultural, economic, political, and social conditions influence the realisations of health and well-being within time and space – individually and collectively.

2.2.2 Health equity

In line with the broad concept of health (defined by the WHO, 1946), the right to health spelled out in international law goes beyond a right to health care:

> *"Health is a fundamental human right indispensable for the exercise of other human rights. Every human being is entitled to the enjoyment of the highest attainable standard of health conducive to living a life in dignity"* (United Nations Economic and Social Council, 2000).

The degree to which these rights are met varies between and within countries and cities (CDSH, 2008, WHO and UN-Habitat, 2010). Health inequalities, the differences in health between different groups of people, can be caused by non-modifiable or modifiable factors. Unlike inequality, the concept of health inequity has ethical, moral, and social justice dimensions (Rifkin, 2018). Margaret Whitehead (1992, p. 5) defined inequity as "*differences which are unnecessary and avoidable but, in addition, are also considered unfair and unjust*". Paula Braveman and Sofia Gruskin (2003) argued 'avoidability' as criterion for determining inequity is unnecessary since unfair and unjust encompass avoidability given that some inequities required complex interventions and fundamental changes to be overcome. In the

thesis, health inequity is understood as health inequalities that are systematic, socially produced, and unfair (WHO & UN-Habitat, 2010).

Capability approaches to health expand notions of health inequities as they do not only focus on the unequal distribution of health care and health achievements but consider unfair distribution of underlying capabilities to attain good health. The capability approach and perspective by Sen (2003, 2009, p. 231) "*proposes a serious departure from concentrating on the means of living to the actual opportunities of living.*" Sen refers to functioning as a person's achievement (what one manages to do or to be) in contrast with capabilities, which reflect a person's freedoms to achieve various combinations of functioning (what one can achieve) (Sen, 2003). The capability perspective draws attention to opportunities and freedoms to choose how to live; the expansion of human capabilities; and the quality of human life (Ruger, 2004, Sen, 2009). Capabilities are interrelated in that different kinds of capabilities are ends in themselves as well as vital for the achievement of other ends (Ruger, 2004). Conceptually, well-being approaches, like the one proposed by White considering multiple dimensions and the processes by which these are related, are informed by the capability approaches to development.

Health disparities are socially structured. They occur because of unjust social structures and unfair distribution of opportunities to achieve good health. Social stratification refers to a society's classification of its people into social groups based on wealth, income, education, race, ethnicity, gender, age among others. Social groups, placed at different levels in the social hierarchy, have unequal access to wealth, prestige, and/or power (Braveman & Gruskin, 2003, 'The distribution of power within the community: Classes, Stände, Parties by Max Weber,' 2010). Stefanie Nixon (2019) stresses unfair social structures result in disadvantage for some social groups and give unearned advantage to others. Robert Chambers (1997) coined the terms 'uppers' and 'lowers' to clarify that advantage and disadvantage is less fixed in persons than in their location in social hierarchies. Ill-health and social disadvantages can be clustered, ill health can become an obstacle to overcoming social disadvantage, and multiple disadvantages can reinforce each other (Galtung, 1969, Whitehead, 1992, Braveman et al., 2011). Without outlining the agency-structure debate in detail, I recognise the longstanding discussion about the relative importance of life chances (social structure) or choices (individual agency) as drivers of social health inequities, which led to the recognition of a complex interplay between structure and agency in producing and reproducing health disparities (Abel and Frohlich, 2012). The tension between individual and structural determinants is a recurring theme in subsequent sections that I also return to in the discussion.

Health disparities are also spatially structured. The geographical patterning of health has stimulated investigation into how place shapes people's health. Conceptual frameworks on geographic health disparities centre around compositional problems (composition, characteristics and behaviours of people) on one hand, and the contextual issues (material infrastructure, physical and social opportunity structures, and collective social functioning) on the other hand (Macintyre et al., 2002, Bambra, 2016). The "*false dualism*" of compositional (individual-level) and contextual (place-level) factors as well as physical and social aspects of a place has been widely criticised (Cummins et al., 2007, p. 1825, Bambra, 2016, Fox and Powell, 2021). Alternative models stress the relationships between people and their social and physical environments as well as interactions between material and socio-cultural aspects of locations (Cummins et al., 2007, Fox and Powell, 2021). Other approaches highlight how macro-level political and economic choices and processes shape places and impact on health (Cummins et al., 2007, Bambra, 2016, Bambra et al., 2019).

Health equity is widely agreed as the absence of systematic, unfair, and unjust disparities in health between social groups (Braveman & Gruskin, 2003, WHO, 2021), as well as the value underpinning the commitment to overcome health inequities (Braveman et al., 2011). There is an ethical and social justice obligation of eliminating health disparities and achieving equality of opportunity to enjoy the highest attainable level of health (Braveman et al., 2011).

2.2.3 Health in informal urban settlements

Most of the world's population now lives in urban centres (57%) (UN-Habitat, 2020). Urban growth (the total number of people living in urban areas) and urbanisation (the proportion of people living in urban (versus rural) areas) have an impact on health systems, determinants of health, and health outcomes. Many countries consider additional factors, beyond the "*built-up and compact human settlement*" (KNBS, 2022a, p. 5), to define "urban" (UN-Habitat, 2006). These criteria include population density or size (i.e., a minimum of 2,000 residents in Kenya (KNBS, 2022a)), economic characteristics (like the proportion of employment outside the agriculture sector), and infrastructure (like tarmac roads, electricity, water supply or sewerage systems) (UN-Habitat, 2006). Urban dwellers do not equally benefit from the 'urban advantage' – greater education and employment opportunities, improved housing, water, and sanitation infrastructure, better proximity to and quality of services compared to rural residence. The formal-informal urban divide and the rise of informal settlements are rooted in the history of colonial governance, planning, underinvestment, and segregation of cities in the Global South (Leaf, 1993, Fox, 2014, Ogot and Ogot, 2020). Most city dwellers in sub-Saharan Africa live in informal urban settlements (56% vs. 24% globally) due to urbanisation, urban growth, income inequality, and poor planning for urban population growth (Tacoli, 2012, UN-Habitat, 2020).

Informal urban settlements are characterised by poor housing conditions, unhealthy environments, inadequate infrastructure and services, and high risk of ill-health and poor wellbeing (WHO, 2016). Children growing up in informal settlements face increased risk of premature death, respiratory and waterborne diseases, food insecurity and stunting (Ezeh et al., 2017, Weimann and Oni, 2019). Poor sanitation and unsafe water cause likelihood of infectious diseases like cholera (Ezeh et al., 2017) and pose challenges for immune-compromised people like those living with tuberculosis or HIV (Weimann and Oni, 2019). Also common are injuries like burns due to cooking with open fire using paraffin, charcoal or wood as well as injuries from assault and crime (Weimann and Oni, 2019). Poor housing and waste management lead to breeding of vectors and parasites. Crowding contributes towards infectious diseases (like tuberculosis), mental health problems (like alcohol use), and domestic conflicts and violence along with other contributing factors such as poverty, powerlessness and the stresses of daily living (Meth, 2017, Weimann and Oni, 2019). With growing urbanisation, the risk of non-communicable diseases rises; hypertension, diabetes and obesity are issues in informal settlements. Material deprivation (food, housing, income) fuel stress, mental health problems, alcohol and drug use, crime, violence, and high-risk sexual behaviour. For these reasons, Alex Ezeh and colleagues (2017) suggest distinguishing 'slum health' from urban health as a distinct concept which takes the unique health determinants in informal urban settlements into account.

Urban health disparities, unhealthy urban living conditions, and inequities faced by urban poor and informal settlement dwellers have been well documented globally for at least two decades: WHO (1996) Healthy cities for a better life (Goldstein and Kickbusch, 1996, Nakajima, 1996); UN-Habitat (2006) State of the world's cities 2006/7; UN-Habitat (2010) The State of African Cities 2010, WHO & UN-Habitat (2010) Hidden cities (with focus on urban health inequities); World Bank (2011) Violence in the City; and WHO (2016) Global report on urban health. Solutions for achieving greater equity in health in cities depend on the framing and understanding of the problem. Several scholars draw attention to the problems and limitations of conventional concepts of urban informality and the formal-informal divide (Marx and Kelling, 2018, Banks et al., 2020).

2.2.4 Urban informality

Notions of the formal-informal divide emerged in conceptualisations of economic development (for example, Lewis, 1954) and the labour market (for example, Hart, 1973), distinguishing the small-scale, labour-intensive (informal) sector from the large-scale, capital-intensive, regulated formal sector (Banks et al., 2020, El Ghmari and Zabadi, 2021). Subsequent approaches to informality promote (1) dualist (e.g., marginal economic activities outside or detached from the formal economy); (2) legalist (e.g., informal economy due to overregulation and adverse bureaucracy); and (3) structuralist views (e.g., informal economy as subordinated economic units adversely related to the formal economy)

(Banks et al., 2020, El Ghmari and Zabadi, 2021). Conventional concepts of urban informality centre around informality within sectors; informality as setting in which certain groups secure livelihoods or commodities; or informality as an outcome related to legal status (Banks et al., 2020). The notion of 'slum health', coined by Ezeh et al. (2017), relates to the idea of informal settings causing adverse health outcomes. The formal-informal dichotomy is underpinned by an ideology in which formality is framed as the norm and more desirable, while informality is stigmatised as deviant, backward, problematic, unregulated, or inability to be 'formal' (Roy, 2005, Acuto et al., 2019, Banks et al., 2020, El Ghmari and Zabadi, 2021, Kanbur, 2021). The term 'informal settlement' implies settlements are temporary, transitory, unplanned, and unauthorised, while the term 'slum' implies settlements are untidy, backward, and unmodern (Huchzermeyer, 2013, Weimann et al., 2020). Development targets and programmes which focus on competitiveness and beautification of urban centres and envision 'cities without slums' run the risk of legitimising efforts to remove, demolish, redevelop informal urban living space, and displace their residents, instead of upgrading settlements and improving lives of the people living there (Huchzermeyer, 2013).

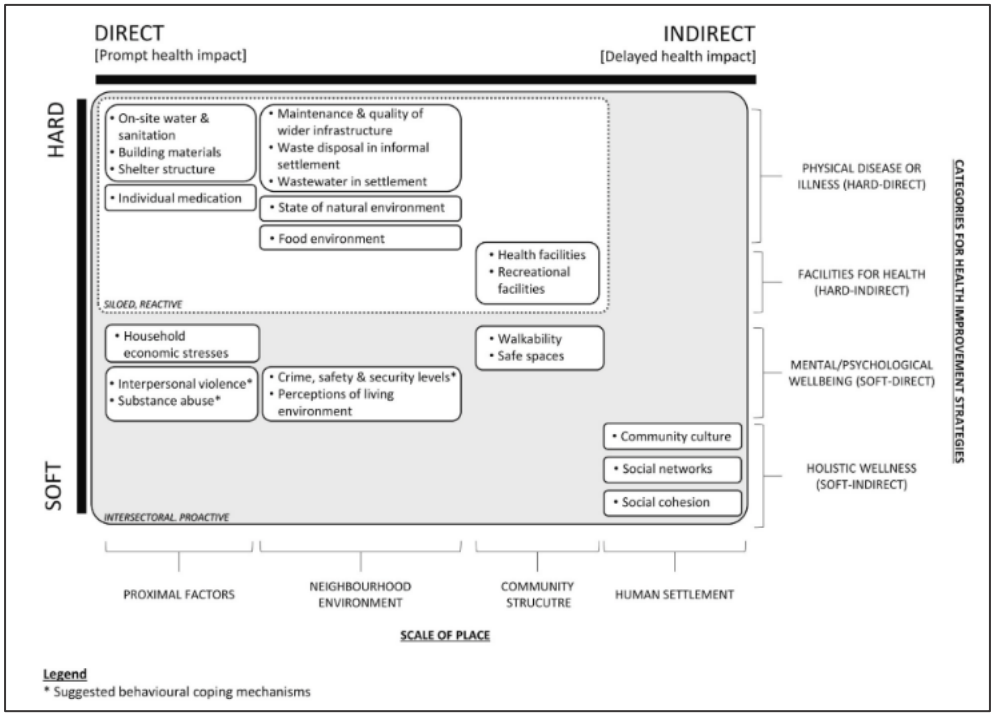
A narrow framing of urban informality overlooks the invaluable contributions organised and mobilised people in informal urban spaces make – for example through federations of organisations of the urban poor – to prevent evictions, advocate for access to services, and work for inclusive cities, economies, and politics (SDI, 2016, Lines and Makau, 2017). A narrow lens also overlooks the broader economic, political, and social processes which shape urban informality (Marx and Kelling, 2018, Banks et al., 2020). Ananya Roy and Nezar AlSayyad (2004 cited in Roy, 2005, p. 148) contest the idea of separate formal and informal sectors and use *"the term urban informality to indicate an organizing logic, a system of norms that governs the process of urban transformation itself*." Nicola Banks and colleagues (Banks et al., 2020, p. 227) conceptualise urban informality as "*a site of critical analysis*" to develop a nuanced "*understanding of the political economy of urban informality across spatial, economic, and political domains.*" Their approach considers social, political, and economic systems, actors, and resources and draws attention to the relations between formal and informal urban domains and processes (Banks et al., 2020). By overcoming a narrow focus on the urban poor, they illustrate how more and less powerful actors engage in informal and formal activities which create, maintain, and reinforce advantage and disadvantage (Banks et al., 2020). Thereby, the authors demonstrate 'informality' is common within urban spaces, both formal and informal. Although the starting point for this study is the informal settlement as a setting, my analysis of experiences of HIV and IPV intersections considers the broader economic, political, and social systems and forces operating in the informal urban settlement and shaping health of people there.

2.2.5 Urban health equity frameworks

Previous sub-sections show urban advantage and health are unequally distributed while urban sectors, settings, and outcomes are narrowly conceptualised as formal or informal. Research seeking to understand urban health disparities needs to consider the distribution of ill-health, determinants of health, as well as opportunities for achieving health and wellbeing (Loewenson et al., 2018). While it is beyond the scope of my thesis to introduce the various health equity frameworks and their differences in scope and complexity (as for example reviewed by Givens et al., 2020), I discuss two tools, their limitations and potential regarding urban health equity. I selected these two because they relate to housing on the one hand and situate residence within the broader political and economic factors on the other.

Poor housing is prevalent in and defining for informal settlements. Notions of shelter, home, and habitat underpin a housing and health framework by Mary Shaw (2004). In line with other public health models, differentiating distal (upstream) and proximal (downstream) factors (for example CSDH, 2008), the housing and health framework classifies direct and indirect impact of housing on health (Shaw, 2004). Amy Weimann and colleagues (2020) adapted this framework, initially developed for UK context, to research on perceived links between informal urban settlement characteristics and health in South Africa. Figure 4 shows a variety of hard and soft factors identified by the study as health determinants in informal urban settlements. Hard-direct factors included characteristics of the natural, food, physical environment (shelter, water, sanitation, and public infrastructure), whereas health and recreational facilities were classified as hard-indirect factors (Weimann et al., 2020). Soft-direct factors encompassed household economic stress, interpersonal violence, substance use, crime, and security levels, whereas community networks and social cohesion were named as soft-indirect factors (Weimann et al., 2020).

Figure 4. Housing and health conceptual framework



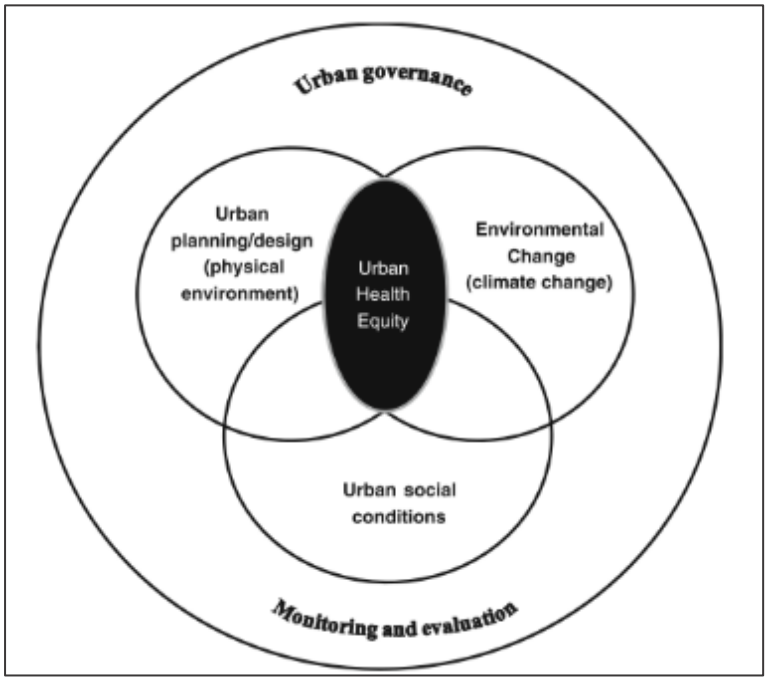
Note. Housing and health framework by Weimann et al. (2020, p. 5) based on (Shaw, 2004).

Although the housing and health framework helps identify areas for improving health and well-being, it falls short in conceptualising the broader economic and political forces (discussed in 2.2.4). It distinguishes between proximal and distal factors to acknowledge some factors have greater impact on health than others. However, Nancy Krieger (2008) discourages the logic of proximal and distal factors because it is rooted in spatiotemporal conceptualisations of health determinants. Since health disparities are caused by unfair distribution of power, status, and resources, she proposes an examination of levels, pathways, and power underlying health (Krieger, 2008). She highlights nested (global, national, city, settlement) or unnested (home, school, work) levels represent a hierarchical or structural order (not distance). Therefore, hierarchically linked systems and processes co-occur simultaneously across levels (Krieger, 2008).

Economic, natural, physical, and social living conditions in urban areas are systematically (not randomly) patterned and this builds the foundation of an urban health equity model by the Global Research Network on Urban Health Equity (Friel et al., 2011), shown in Figure 5. The model is designed to examine the collective effects of the physical environment, social living conditions, changing environmental conditions, and their interactions on health inequities (Friel et al., 2011). The model's urban governance domain denotes the broader political and economic factors shaping the interacting conditions of urban life (Friel et al., 2011). Relevant urban governance aspects are the distribution of power and resources, competing demands and needs of various stakeholders, collective decision-

making processes, and monitoring the implementation of these decision (Banks et al., 2020, Friel et al., 2011).

Figure 5. Urban health equity model



Note. Urban health equity model by Friel et al. (2011, p. 867).

In summary, I understand concepts of urban health and well-being to be holistic and multi-dimensional and to focus both the distribution of health and the capabilities to achieve good health. The unfair distribution of opportunities, power, and resources within cities shape urban health inequities. Urban health equity denotes the absence of systematic health disparities among urban populations and the commitment to achieving the same. It draws attention to the broader economic and political environment underpinning the social, physical, and environmental factors which influence health of urban populations. An urban health equity lens cannot escape an investigation of power structures, systems, and processes. The following section introduces key concepts of power relevant to the thesis.

2.3 Introduction to power

Exploring the intersections of HIV and IPV necessitates examining power structures and relations as is made clear in the WHO definition of violence. Violence refers to "*the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation*" (Krug et al., 2002, p. 5). According to this concept, violence includes

but is not limited to physical force and comprises also acts of violence resulting from a power relationship.

Since understanding the impact of power on HIV and IPV is a major focus of this thesis, power is an integral part of the research process and findings. The following sections guide the reader through the main definitions, expressions and faces of power (2.3.1 to 2.3.3). It describes how power operates (2.3.4) and what empowerment might mean in the context of well-being (2.3.5). The discussion of power provides the basis for the introduction to intersectionality theory and practice, which follows in section 2.4. Issues of power, especially intersectional power issues, are picked up throughout this thesis, including the epistemological, methodological, and theoretical underpinnings (3.2) as well as participatory research methods and tools (3.5) outlined in Methods and the thesis findings presented in Chapters 5 and 6.

2.3.1 Defining power

Although power is ubiquitous in that it is continuously exercised, experienced, and resisted in everyday life, it is complex to conceptualise. Power refers to the ability or capacity to do or accomplish something (Pansardi and Bindi, 2021). While this notion focusses on the ability of actors (as individuals or in groups), others underscore relational aspects of power; for example, when power is understood as "*an ability to achieve a wanted end in a social context, with or without the consent of others*" (Max Weber cited in Vermeulen, 2005, p. 39). This case suggests power is not exercised in isolation but within social, economic, and political relations of individuals or groups (VeneKlasen and Miller, 2007). Asymmetrical power relations between individuals and groups are commonly described using labels like powerful and powerless, empowered and disempowered, oppressor and oppressed, or uppers and lowers (Chambers, 1997, Vermeulen, 2005). However, actual power relations and hierarchies are not necessarily binary but more complex (Nixon, 2019). Defining power as "*the degree of control over material, human, intellectual and financial resources exercised by different sections of society*" implies a notion of degrees of power (Batliwala (1993) cited in VeneKlasen and Miller, 2007, p. 41). The idea of power being dynamic and fluid, rather than absolute, is useful for conceptualising empowerment and resistance.

Resources are a critical dimension of, and pre-condition for, exercising power (Kabeer, 1999, VeneKlasen and Miller, 2007). These include economic (wealth), social (prestige), or political (power) capacities according to Weber (see 2.2.2), as well as actual or potential material, human, or social resources providing opportunities to exercise choice (like education, rights, positions) (Kabeer, 1999). Resources are both a basis for and an outcome of power which tend to consolidate power over time while being open to resistance and change. Social norms, divisions and hierarchies determine the

distribution of resources as well as the degrees and forms of power available to individuals and groups based on their gender, age, class, and location in each context and time (Kabeer, 1999, VeneKlasen and Miller, 2007). At the same time, power is exercised to create and sustain social divisions, hierarchies, and structures within society. Neither power nor power structures are static because power is continuously negotiated, resisted, and challenged, including by the less powerful and marginalised sections of society (VeneKlasen and Miller, 2007).

2.3.2 Expressions of power

Expressions of power are commonly categorised as power-over; power-to; and power-with. The framing and expressions (also called dimensions or forms) of power vary widely (Pansardi and Bindi, 2021). In summary, the debate on expressions of power (since the 1940s) centres around different understanding of the nature of power, and how different expressions of power are valued and relate to each other (Pansardi and Bindi, 2021). For the thesis, I opted to use concepts framed by scholars and practitioners concerned with empowerment in the fields of international development, women's empowerment, citizen participation, and feminist research (for example, Rowlands, 1997, Kabeer, 1999, Gaventa, 2006, VeneKlasen and Miller, 2007), because these concepts have been most widely applied in IPV research (for example, Abramsky et al., 2012). According to their understanding, power is constituted and exercised in two fundamentally different ways (1) power as ability or capacity and (2) power as control or domination.

Power as ability or capacity refers to the processes in which individuals and groups discover and use their capacity to act through power-within, power-to, and power-with (Rowlands, 1997, VeneKlasen and Miller, 2007). ***Power-within*** refers to a person's sense of own uniqueness, self-worth, and self-awareness. The sense of dignity is not limited to self but extended to other people by respecting their dignity and diversity. One's understanding, hope, imagination, motivation, and purpose (power-within) stimulate individual and collective action (Kabeer, 1999, VeneKlasen and Miller, 2007). ***Power-to*** represents a person's capacity to shape their own life, to act in non-oppressive ways, and to create new possibilities (Rowlands, 1997, VeneKlasen and Miller, 2007). Power-to includes but is not limited to decision-making, bargaining, and negotiation, as well as cognitive processes of reflection and analysis (Kabeer, 1999). As the collective form of power-to, ***power-with*** denotes the ability of individuals for collective horizontal organisation, decision-making, action, and collaboration towards a common goal (VeneKlasen and Miller, 2007, Pansardi and Bindi, 2021). HIV and IPV-related examples of power-within include collective action and advocacy of persons living with HIV, for example, the Treatment Action Campaign[9] for improving access to HIV treatment, and the links and networks

[9] For a history of the Treatment Action Campaign see https://www.tac.org.za/our-history/

women have forged (locally and globally) to address gender power imbalance and violence against women (O'Barr et al., 1986, Ellsberg et al., 2022).

In contrast, power as control or domination, sometimes labelled as coercive power, negative power, or power-over, is "*exercised by dominant social, political, economic, or cultural groups over those who are marginalised. Power, in this sense, is in finite supply; if some people have more, others have less*" (Rowlands, 1997, p. 11). Vertical power-over relations are win-lose relationships or zero-sum games (Kabeer, 1999, Gaventa, 2006, VeneKlasen and Miller, 2007). Those with higher degree of power use it to control or dominate others as well as prevent them from gaining power. Power-over is exercised in various ways, which I discuss in the next section (2.2.3), and include abuse, coercion, discrimination, force, and manipulation. Therefore, vertical and asymmetrical power-over relations are sometimes referred to as oppression (Young, 1990, Freire, 2005), not power. I refer to power as control again in the introduction to intimate partner violence (2.5.2) and intersections of HIV and IPV (2.5.3).

Naila Kabeer (1999) states individuals and groups can use their capacity to define and act upon own goals in a positive sense (power-to and power-with) or negative sense (power-over). Some scholars disagree entirely with the value judgement and prefer to use the expression of power as a value-neutral tool for analysing processes of power (for a detailed discussion see Pansardi and Bindi, 2021). Nonetheless, different forms of power vary in their potential to strengthen or weaken power asymmetries among actors. Lena Partzsch (2017, p. 205) highlights different expression of power result in distinct outcomes – "*winners and losers*" (power-over), "*alternatives*" (power-to) and "*win-win situations*" (power-with) – while cautioning that power-to and power-with may not be free from power-over.

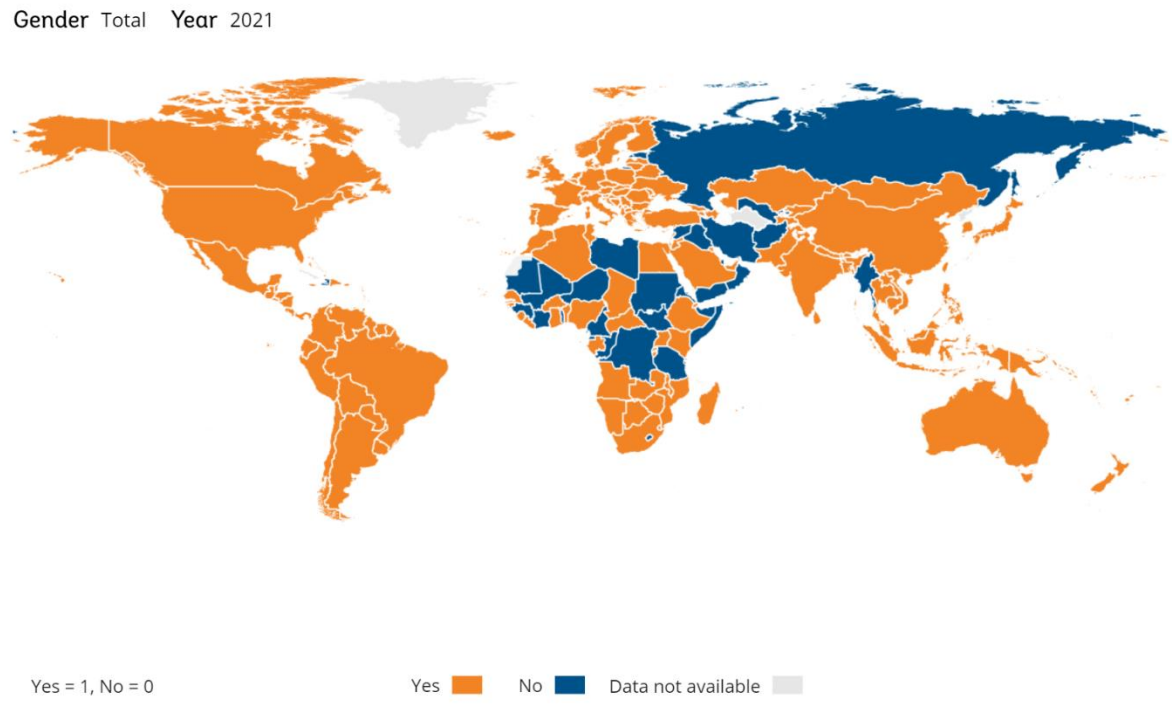
2.3.3 Faces of power

There has been a long-standing academic debate about the number and boundaries of the faces of power (Baldwin, 2021). Here I introduce the concept of 'three faces of power' of importance for the thesis. Within a framework of power as domination, Steven Lukes (1974, 2005 cited in Baldwin, 2021, pp. 85-96) identified three faces of power, whereby the power of A is detrimental to the interests of B. Later, Lisa VeneKlasen and Valerie Miller (2007) adapted Lukes' concept as a tool for examining power-over – differentiating visible, invisible, and hidden power. Other models focus on formal power, another name for the visible face of power, and on informal power, as an umbrella for invisible and hidden faces of power (Salamander Trust et al., 2017).

Visible power encompasses observable processes and institutions like elections, laws, policies, and by-laws. Groups of people exercise power as control over others through laws and policies that explicitly or non-explicitly adversely discriminate against another group to secure privilege, thereby

creating or sustaining social hierarchies and structures. For example, more than 90 countries globally introduced laws that punish nondisclosure and/or transmission of HIV (UNAIDS, 2021a), although it is extremely difficult to conclusively prove direction and timing of HIV transmission from one person to another (Barré-Sinoussi et al., 2018). Criminal and other laws against people living with HIV create an unjust legal and public health environment and undermine HIV prevention and response by deterring people from HIV testing and care seeking; fuelling stigma, discrimination and prosecution of people living with HIV, especially women and key populations; and causing misjudgements about HIV transmission when it is erroneously assumed the person diagnosed first passed it on (International Community of Women Living with HIV, 2015, Barré-Sinoussi et al., 2018, Mayer et al., 2018). Legislation is also being protective against the use of violence as a means to gain or maintain power over in an intimate relationship. Globally, most countries have legislations specifically addressing domestic violence (Figure 6). The content of laws can vary as the case of legislation addressing marital rape in Kenya demonstrates. Marital rape was removed from the initial bill before the 2006 Sexual Offences Act was passed (Kilonzo et al., 2009), but later prohibited by the 2015 Protection Against Domestic Violence Act.

Figure 6. Countries with legislation specifically addressing domestic violence

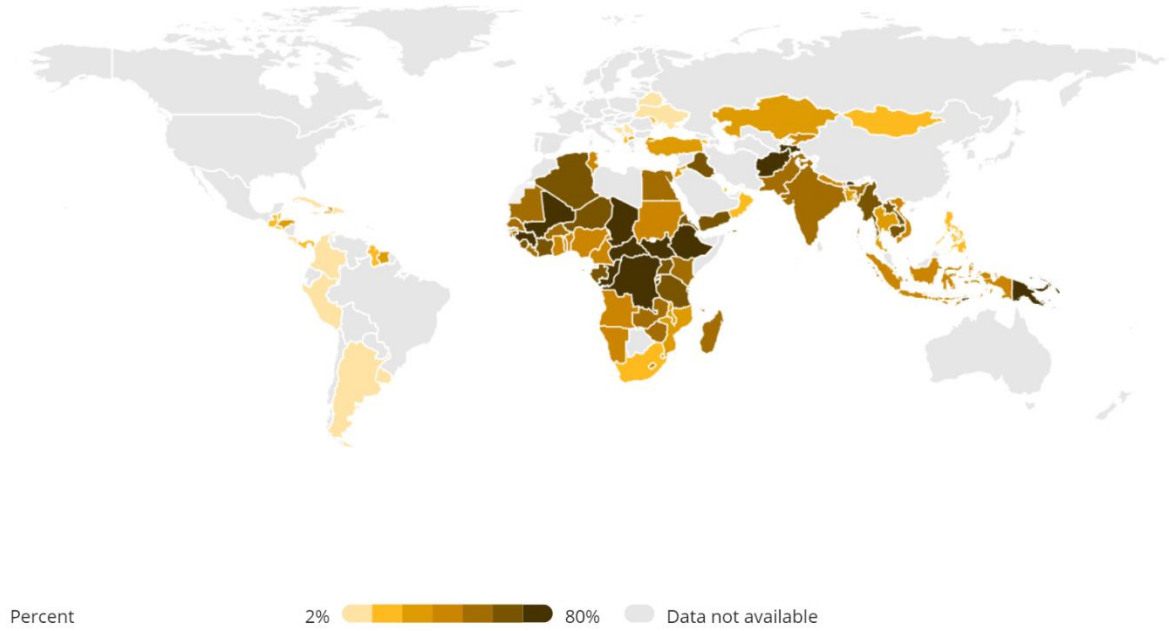


Note. World map indicating countries with legislation specifically addressing domestic violence (2021). Countries with legislation on domestic violence (orange), countries without legislation on domestic violence (blue). Data are missing for 28 countries (grey). Source: World Bank Group (2021).

Sonja Vermeulen (2005) suggests marginalised groups are not completely powerless, but their capacities and interests are not recognised by groups of people wielding greater degrees of power. Marginalised groups exercise visible power-with when publicly contesting processes or outcomes of decision-making (for example, by holding public demonstrations). ***Hidden power***, on the other hand, is about the less noticeable power dynamics aimed at setting of the agenda behind the scenes (VeneKlasen and Miller, 2007). Common cases of hidden power-over involves the inclusion or exclusion of less powerful persons or groups in decision-making processes (for example, regarding health policies and programmes), the prioritisation or neglect of problems of marginalised or less powerful groups, and the control of access to information, resources, and services (regarding health, education, or social protection). Hidden power includes social norms and practices, which are not laid out in laws and policies or divert from them, but may also involve hidden resistance, like social support and protective measures which act to prevent IPV or mitigate harm (e.g., women sharing information about services or hiding savings to resist financial abuse).

Invisible power refers to the unconscious ways in which power operates and constitutes itself in everyday life. VeneKlasen and Miller (2007, p. 47) explain "*significant problems and issues are not only kept from the decision-making table, but also from the minds and consciousness of the different players involved, even those directly affected by the problem. By influencing how individuals think about their place in the world, this level of power shapes people's beliefs, sense of self, and acceptance of their own superiority or inferiority*". Othering, social marginalisation, and stigmatisation of minority groups (like persons with disability, people living with HIV, homosexual and transgender people) as well as unquestioned norms, habits, and symbols are examples of invisible power. For instance, substantial proportions of women express a belief that a husband or partner is justified in beating his wife (Figure 7). Stefanie Nixon (2019) utilises the concept of invisible power in the coin model of privilege. It illustrates how asymmetrical systems of power, like patriarchy or heteronormativity, benefit those who are seen as the norm, dominant, or superior, while disadvantaging those who are not. Since such privileges are unearned, people who benefit from them tend to be unaware of their privileges. This points to the importance of ideologies as constitutive of unequal power relations, as illustrated in discussions of power in the regards to coloniality, race and gender (in section 2.4).

Figure 7. Women who express a belief that a husband is justified in beating his wife (%)



Note. Percentage of women (age 15-49 years) who express a belief that a husband/partner is justified in hitting or beating his wife/partner for any of the following five reasons: argues with him; refuses to have sex; burns the food; goes out without telling him; or when she neglects the children, based on most recent available demographic and health surveys, multiple indicator cluster surveys, and other surveys. Source: World Bank Group (2022b).

Ideology plays a critical role in processes of invisible power and sustaining social hierarchies, as Srilatha Batliwala (1993, cited in VeneKlasen and Miller, 2007, p. 41) states "*our understanding of power would be incomplete, unless we recognise its partner, ideology. […] While ideology does a far more effective job of sustaining an unequal power structure than crude, overt coercion and domination, we should not forget that it is always being reinforced by the threat of force, should anyone seek to rebel against the dominant system.*" Ideology is a combination of perceptions, beliefs, values, and attitudes. Social, economic, political, and religious institutions and structures (for example, the family, education system, religion, media, and state) disseminate and enforce ideologies to reinforce or challenge existing dominant ideologies and power asymmetries.

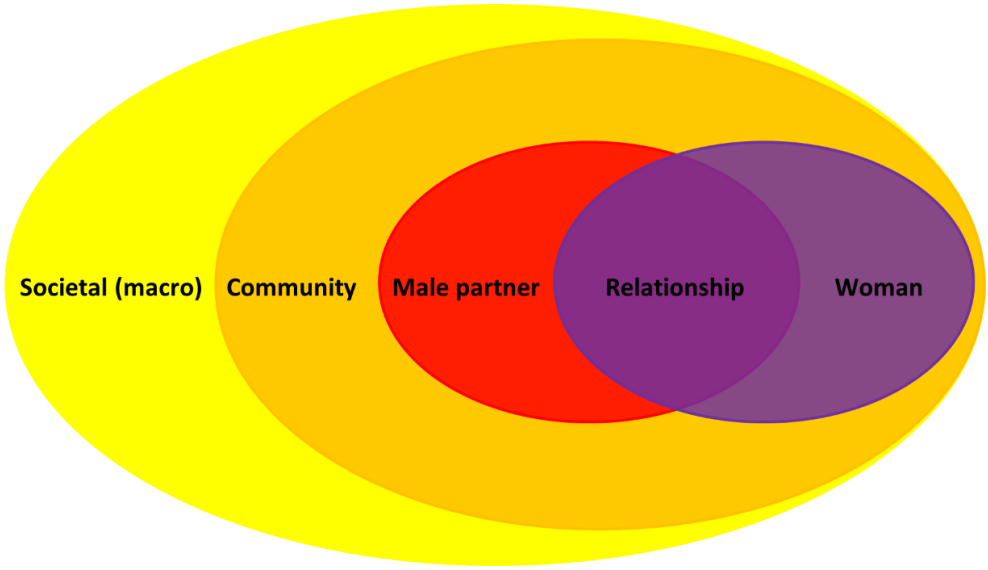
2.3.4 Levels at which power relations operate

Models of power commonly distinguish different levels of power to illustrate the complex and dynamic structure–agency processes and to explain how power structures, systems, and relations influence each other (for example, Heise, 1998, 2011). Models commonly differentiate micro and macro levels; individual and systemic power issues; as well as personal and public realms of power (VeneKlasen and Miller, 2007). Power at the individual, micro or personal level encompasses (1) the intimate realm of power involving individual consciousness and capabilities, like sense of self, personal

confidence, knowledge, skills, and relationship to body and health (Salamander Trust et al., 2017, Gender at Work, 2018;); as well as the private realm of power comprising of one's relationships and roles within family, friendships, sexual partnerships, and marriage (VeneKlasen and Miller, 2007, Heise, 2011, Salamander Trust et al., 2017).

The public realm of power cannot be reduced to the visible face of power, as presented by VeneKlasen and Miller (2007), needs to recognise how visible, invisible, and hidden forms of power operate in public spheres. For example, the gender at work framework assesses existing formal rules, laid down in constitutions, laws, and policies, as well as the informal norms practices and structures as systemic issues of power (Gender at Work, 2018). The ecological model considers how one is embedded in and interacts with various actors like peers, service providers, and community at the meso level and the wider society at the macro level (Heise, 2011). Figure 8 shows an example of the ecological model, which is widely used as an analytical tool in IPV research and programming, for its strength of illustrating the complex interplay of power relations and structures from the individual level of the woman to the societal level. With gender as the main axis of power, the ecological model aides in understanding the multi-layered gendered power dynamics that increase or decrease likelihood of male partners using violence and women experiencing violence. Emma Fulu and Stephanie Miedema (2015) propose the extension of the model to consider how globalisation affects local power structures and relations.

Figure 8. Ecological model of intimate partner violence



Note. Example of the ecological model of intimate partner violence illustrating the interplay of factors at micro (encompassing characteristics of the woman, male partner, and relationship), meso (community), and macro (societal) levels, adapted from Lori Heise (2011).

Because of the relevance of structural power issues for IPV and HIV, I introduce concepts of structural violence and oppression. Both illustrate distinctions between life chances and limited life choices. Johan Galtung (1969) coined the concept of structural violence, which was later popularised by Paul Farmer and colleagues (2006) specifically in relation to HIV. In contrast with inter-personal violence, structural violence cannot be traced back to concrete persons as actors. Instead, "*the violence is built into the structure and shows up as unequal power and consequently as unequal life chances*" because resources and power to determine the distribution of resources are unequally distributed within society (Galtung, 1969, p. 171). Farmer and colleagues (2006; 2013) adapted the structural violence concept and illustrate how social, economic, political, legal, religious, and cultural arrangements put people and populations in harm's way. They classify these arrangements as (1) structural because they are embedded in the political and economic organisation of society; and (2) violent because they result in systemic social inequities and power imbalances, which cause ill-health to individuals and populations and limit them from reaching their full potential (Farmer et al., 2013).

Iris Young (1990, p. 5) coined the five faces of oppression which she understands to be structural, because the "*causes are embedded in unquestioned norms, habits, and symbols, in the assumptions underlying institutional rules and the collective consequences of following those rules.*" Structural oppression focusses on the "*vast and deep injustices some groups suffer as a consequence of […] the normal processes of everyday life*" (Young, 1990, p. 6). Young's understanding extends distributive injustice and focusses on processes constituting and reinforcing these injustices – illustrated by the five faces. Oppression related to the social division of labour involves (1) exploitation, the unequal distribution of resources through social institutions and processes which enable the transfer of results of the labour of one social group to benefit another (including class, gender, and race); (2) marginalisation, the exclusion from useful participation in social life, cooperation, decision-making, and choice especially among those who do not work (for example, persons with a disability or who are elderly); and (3) powerlessness, the unequal distribution of privileges, capacities, power, and respect depending on the content of work. In addition, (4) cultural imperialism involves the experiences and culture of a culturally dominant group are universalised and established as the norm, while culturally dominated groups experiencing invisibility and otherness, being devalued, objectified, and stereotyped. Finally (5), structural oppression refers to the social context that makes threats or experiences of violence against certain social groups more frequent and acceptable (Young, 1990). Together, the faces of oppression create environments that are conducive to IPV perpetration and HIV transmission, as illustrated in the discussion of IPV and HIV linkages (2.5.3).

2.3.5 Empowerment

According to Kabeer (1999, p. 435), empowerment refers to "*the process by which those who have been denied the ability to make strategic life choices acquire such an ability.*" Therefore, empowerment in this sense does not apply to powerful actors who never experienced disempowerment. Resources, agency, and achievements are critical, interrelated dimensions of empowerment (Kabeer, 1999). Agency denotes "*the ability to define one's goals and act upon them*" encompassing both a sense of self-efficacy (power-within) and specific actions exercised individually (power-to) or collectively (power-with) (Kabeer, 1999, p. 438). Although the level of involvement, ownership, and scope of one's activities (agency) is a critical dimension of empowerment, it is not the same as empowerment (Drydyk, 2013). Empowerment as a process of change is broader in that it seeks to expand human capabilities (Sen, 2003, Drydyk, 2013).

Approaches to empowerment have been criticised for narrowly focussing on individual empowerment, achievement and status, while side-lining power and social transformation (Batliwala, 2007). For instance, empowerment of female sex workers through HIV self-testing in itself is limited in that self-testing enhances female sex workers' decision-making power over when and where to test for HIV but does not address the underlying power relations and vulnerabilities within sex work contexts which restrict sex workers' ability and freedom to make life choices (Lora, 2020). Rowlands (1997) refers to "*empowerment as a gift*" to mean the reduction of empowerment to the invitation to participate or delegation of power by those wielding power within systems of domination. Without substantial changes in the underlying power structures, empowerment remains constrained because delegated power or invitations can be withdrawn again and people who are given power can themselves exercise power as control despite their experiences of exclusion, marginalisation, or oppression (Rowlands, 1997, VeneKlasen and Miller, 2007). Batliwala (2007, p. 2) stresses empowerment is *"a process of transforming the relations of power between individuals and social groups*", which requires a threefold shift in social power: (1) "*challenging the ideologies that justify social inequality*"; (2) "*changing prevailing patterns of access to and control over economic, natural and intellectual resources*"; and (3) "*transforming the institutions and structures that reinforce and sustain existing power structures.*"

Individual choice and social structures are interrelated in that social context shape the parameters (resources, agency and achievement) within which choices are made, whereas the type of choices determine the potential these have in reproducing, challenging or transforming the structural conditions (Kabeer, 1999). Jay Drydyk (2013) concludes "*empowerment contextualises agency in two ways: in relation to well-being freedom and in the relational contexts of power. Or, to put this in*

another way, empowerment has three distinct but related dimensions: agency, well-being freedom, and power."

2.4 Introduction to intersectionality

Intersectionality, used as an analytical tool, enables researchers to utilise multiple axes of power to understand the interplay between power structures at the systemic level and experiences of power, privilege and oppression at the individual level (Collins and Bilge, 2020). The idea and practice of intersectionality has a long history within and beyond Black feminist movements in the US like antidiscrimination and social movements of African American, Asian American, Mexican American, and native American women among others (Anthias, 2014, Collins and Bilge, 2020). At the same time, Kimberly Crenshaw is widely recognised as the person who coined the term and concept of intersectionality. Her publications, like "*Mapping the Margins*" (1991), stimulate researchers and activists around the world to take up intersectionality theory in various disciplines, apply intersectional lens to various social justice and health issues, and further the development of intersectionality as a theory (Carbado et al., 2013, Cho et al., 2013). However, intersectionality goes "*beyond mere comprehension of intersectional dynamics*" and seeks to transform them through social justice action outside single-axis approaches (Cho et al., 2013, p. 786, Collins and Bilge, 2020). Intersectionality is valued for its potential to expose and address the interconnected structural factors and asymmetrical power relations underpinning health inequities across the world (Tolhurst et al., 2012, López and Gadsden, 2016, Gkiouleka et al., 2018).

The application of intersectionality theory has been criticised when used outside the discipline and context in which it emerged, including as a tool to explore diversity rather than issues of power, equity, and justice (Coalition of Feminists for Social Change, 2018). Devon Carbado and colleagues (2013, p. 304) share the view that it is in the nature of intersectionality theory and practice to be explored in different contexts and disciplines, applied to different issues or axes of power: "*There is potentially always another set of concerns to which the theory can be directed, other places to which the theory might be moved, and other structures of power it can be deployed to examine.*" Since intersectionality as a theory emerged from critical race scholarship in the US, I explain in this section the relevance of an intersectional approach to health and well-being in an African context. I demonstrate that African scholars and activists apply the idea of multiple intersecting axes of power and oppression in their research and work, although it may not be called 'intersectionality'.

2.4.1 Power and colonialism

The first axis of power that needs examination in the African context is colonialism. It is vital to consider the legacy of colonialism to understand the power structures and relations that underly and

influence current health inequities in urban Kenya. People on the African continent have interacted with people from other continents, including from Europe, through migration, trade, and science for centuries. In the 15th century, developed areas on the African continent were comparable to those in Europe (Rodney, 2018). European violence in Africa began at scale with the transatlantic slave trade from the 15th to 19th century. In the 19th and 20th century, European nations expanded the economic and strategic dominance through colonisation – conquering and enforcing economic, political, and military control over foreign territory and people, and transferring and settling its people in newly conquered territory to maintain political allegiance to the empire. Colonial powers enforced colonial governance structures that replaced indigenous power structures, systems, and relations of African societies as Sabelo Ndlovu-Gatsheni explains,

> *"colonisation institutes colonialism. A very complex power structure that transforms a people's way of life, colonialism is the invention of asymmetrical and colonial intersubjective relations between coloniser (citizen) and colonised (subject); and it economically institutes dispossession and transfers of economic resources from those who are indigenous to those who are conquering and foreign. It claims to be a civilising project, as it hides its sinister motives. The project also creates institutions and structures of power that sustain coloniser-colonised relations of exploitation, domination, and repression. Even when you push back colonization as a physical process (the physical empire), colonialism as a power structure continues as a metaphysical process and as an epistemic project"* (Omanga and Ndlovu-Gatsheni, 2020).

Being aware of the complexities of colonisation history and legacy of colonialism, this introduction does not claim to be comprehensive but focusses relevant colonial power structures influencing health inequities in informal urban settlements in Kenya to date. During colonisation, European empires applied 'define and rule' tactics, a term coined by Mahmood Mamdani (2012), and 'divide and rule' tactics, a principle used for conquest since the Roman empire (Howe, 2007), to expand their control over African territory and people. The asymmetrical colonial power relations that utilised ideas of 'race', 'modernity', 'gender' and 'tribe' continue to influence relations at all levels of power (Lugones, 2010, Quijano, 2000, Mamdani, 2012, Olusoga, 2015, Mahmud, 1999), including in Kenya.

2.4.2 Power and race

Race can also act as an axis of power, closely related to coloniality. Race involves the social categorisation of groups of people, based on their physical traits, appearance, or characteristics. Today, race is seen as a social construct because definitions and boundaries of races have changed over time and vary from place to place (Quijano, 2000); and because genetical research disproved the long-standing claims of natural difference and natural hierarchy of races (Jorde and Wooding, 2004)

that informed and motivated Europeans' development of asymmetrical power structures between the 'races' they defined. Based on supposed natural hierarchy of races, Europeans propagated racial social classification ranging from the inferior 'black' African race at the bottom of the scale to the superior 'white' European race at the highest level – basically to organise and justify relations between colonisers and colonised (Mahmud, 1999, Nnoli, 1981). European powers enforced the racial social hierarchies in large parts of the world through conquest as Aníbal Quijano (2000) points out:

> *"the conquered and dominated peoples were situated in a natural position of inferiority and, as a result, their phenotypic traits as well as their cultural features were considered inferior. In this way, race became the fundamental criterion for the distribution of the world population into ranks, places, and roles in the new society's structure of power."*

European empires used race theory to legitimise and configure different social locations and roles and, subsequently, give or deny privileges; control people's place of residence and movement; exercise control of labour by defining race-based division of labour and pay; justify slavery and the exploitation of African labour. In Kenya, for example, British officials allocated the most fertile land to white settlers, brutally evicted Africans from their land, and resettled them in reserves (Atieno-Odhiambo, 1972, Parveen, 2019, Parveen and Bowcott, 2019, Black History Month Editorial Team, 2020).

The ideology of race was overlaid with notions of modernity, associating European systems, norms, and practices with modernity and 'whiteness', while declaring the backwardness of indigenous systems, norms and practices summarised under the label of 'blackness'. African indigenous culture, knowledge, medicine, religion, education, and governance were devalued, demonised, exoticised, or criminalised. This narrative emphasised distinct differences between 'white' people from Europe and 'black' people from Africa by prescribing opposite characteristics like civilised and primitive, modern and traditional, scientific and mythical, rational and irrational, capable and incapable (Quijano, 2000, Mahmud, 1999).

European powers justified colonisation as the way to liberate and civilise the non-European world. Besides the economic dispossession and transfers of economic resources from colonised territories to the empire, colonisation aimed also at replacing indigenous governance and social systems and institutions with European, supposed modern, systems and practices (Rodney, 2018). Thereby, colonial power structures destroyed the indigenous governance and social systems and also the underlying indigenous philosophy and knowledge systems, impacting all aspects of African societies: knowledge, culture, art, economy, including gender relations (Bertolt, 2018). European empires deprived indigenous communities of their power to set their own standards and goals; to train their young community members; to tell their own history (Rodney, 2018). Therefore, colonialism as a

power structure deprived Africans of their history and humanity, characterising them as deficient, static, and incapable of creativity and change (Kisiang'ani, 2004, Lewis, 2004).

2.4.3 Power and ethnicity

Ethnicity is an additional intersecting axis of power in the African context. The notion of tribe, initially defined by kinship relations, referred to a group of people united by a common ancestor (Rodney, 2018, Gathara, 2018). Since the term 'tribe' is loaded with negative connotations, I will refer for the most part of the thesis to ethnic group, instead of tribe, to mean groups of people who identify with each other based on shared ancestry, consciousness, cultural boundaries and practices (Young, 2002). The colonial template of ethnicity became the basis for administrative organisation of the colonies. In the mindset of European colonisers, African people were essentially 'tribal' and their ethnic groups, identities, and practices primordial, ancient, and static (Young, 2002). However, ethnic affiliation and boundaries in Africa (like elsewhere) have always been fluid, malleable, and organic (Muiga, 2019, MacEachern, 2000). Although distinct ethnic groups existed in pre-colonial times, colonial authorities redefined the concept of tribes, defined ethnic boundaries, and codified ethnic geography by converting ethnic into social and administrative categories (Muiga, 2019, Mamdani, 2012, Young, 2002). "*Anthropologists' preoccupation with 'tribes'*" provided the material and ideological bases for the colonial notions of ethnicity (Mafeje, 1971, p. 254).Ethnic power and power structures existed at family and community levels before colonialism. However, colonial authorities amplified these power differences within societies and established control and order through the creation of a new 'traditional' administrative structure underpinned by the idea of tribes bounded within district boundaries (Gathara, 2018).

Like race, colonisers used tribe as a category for controlling and regulating African people's residence, movement, and political activities. Colonial ethnic categories were not historically authentic (Young, 2002) but used to reinforce ethnic consciousness by attributing to tribes differences in culture and ways of life and by assigning different types of work (Nnoli, 1981). European empires deliberately cultivated division between tribes and tribal nationalisms in Africa. Colonisers settled indigenous people in tribal reserves and controlled cross-group interaction and freedom of movement across reserves (Kamau, 2014). Attempt to build cross-ethnic political movements or socioeconomic organisations was met with swift repression (Ogot and Ogot, 2020, Nderitũ, 2018). The British empire only allowed political parties of Africans within ethnic boundaries (Nderitũ, 2018).

2.4.4 Power and gender

African people's loss of control over social, economic, and political life during colonialism had fundamental impact on African gender and family relations. Therefore, an examination of gender as

an axis of power in an African context needs to consider how contemporary notions of gender emerged from colonial gender concepts. Colonialism disrupted indigenous definitions and organisations of family and community and distorted indigenous notions of gender as being complementary by polarising gender power relations. Oyeronke Oyewumi (2004) argues notions of the nuclear family (focussing on the relation between parents and children) are rooted in European conceptualisations of the family which contrast with the pre-colonial African extended family structures. Although men contributed a high proportion of family income in 19th century Britain, the presence of the 'ideal' male breadwinner family varied greatly across time, space and occupations depending on the level of male wages, local opportunities for work of women and children, temporal or permanent absence of husbands or fathers, and influence institutions (Horrell and Humphries, 1997). The image of the male household head as the sole provider for his dependent wife and children is part of the ideology used to constitute and justify labour and class relations (Creighton, 1996, Janssens, 1997). The pre-colonial African extended family structures involved a greater variety of social roles and more complex power relations (Oyewumi, 2004) being determined by an interplay of lineage, gender, and seniority (Bakare-Yusuf, 2004).

Ideas of male superiority and female inferiority – based on supposed natural difference between men and women – are incorporated in the asymmetrical colonial power structures. Maria Lugones (2007, 2010) elaborates how unequal gender relations are entangled with notions of race and modernity in that binary gender classifications, 'male' and 'female', are woven into the racial social hierarchy. African societies' loss of power to govern economic, social, and political life fundamentally changed the recognition, division, and value of labour and impacted women's roles and status (Rodney, 2018). Patriarchal colonial-capitalist worldviews had no place for the social and political roles and privileges granted to African women in pre-colonial African societies (Rodney, 2018, Oyewumi, 2004). The gendered and racialised classifications produce a colonial social hierarchy with 'white men' at the helm and 'black women' at the bottom of the scale, resulting in the triple oppression of African women by European men, European women, and African men (Lugones, 2007, Bertolt, 2018) and the continued economic exploitation of African women (Rodney, 2018).

Images and narratives representing African women and African men are exotic, negative, stereotypical, and/or fraught with problems. African women are eroticised and seen as lacking control over their sexual urge (Lugones, 2010, Kisiang'ani, 2004). Other narratives show African women as being irrational, driven by instinct, unable to think in abstract terms, static, and frozen in time and space (Kisiang'ani, 2004, Lewis, 2004). Images showing African women as passive and powerless erase the activism and voice of African women, including their contributions to male-led liberation movements and their unique ways of contesting and resisting colonial rule (African Feminist Forum,

2016). The image of the powerless African woman tends to generalise that all African women suffer (for example from violence) and are in need of help, which is used to justify external intervention (Bertolt, 2018, Oyewumi, 2004). The dominant narratives focussing on women's vulnerability often lack due consideration of the historic and macro-level factors (that created them in the first place) or women's agency (Steady, 2004). Narratives of African women defined by women with greater degrees of power, often outsiders (see 2.4.6), do not adequately represent the issues faced by African women and marginalised groups of women among them (Lewis, 2004, Steady, 2004).

Representations of African men can be narrow as well, focussing on men's body, physiology, or roles as providers and protectors (Ratele, 2013). Notions of an African masculinity are entangled with hegemonic, Westernised gender concepts and the ideology of modernity, equating 'traditional' with 'African' and backwardness (Kisiang'ani, 2004, Ratele, 2013). African men are perceived as primitive, savage, incapable of controlling their anger and sexual urge, greedy, or as grown-up children (Kisiang'ani, 2004). Stereotypical images and narratives nourish tendencies of regarding African men as a 'problem' (for instance regarding HIV and violence against women), viewing African notions of masculinity as inherently dangerous, pathologising black sexuality, and justifying external interventions aimed at protecting African women from African men (Higgins et al., 2010, Mfecane, 2013 cited in Ratele, 2014). Another challenge is that imported gender and masculinity concepts do not sufficiently account for the marginalisation that most black men and boys in Africa experience (Ratele, 2014). Consequently, the marginalisation of African men globally and the disadvantages some men experience (based on class or sexuality) within African societies are neglected and reproduced when diverse masculinities are summarised under an umbrella of the African man. Notions of the African woman and African man represent them as monolithic and stereotypical despite the great diversity among African women and men (Ratele, 2013, Mohanty, 1988, Kisiang'ani, 2004, Lewis, 2004).

2.4.5 Violence and resistance

European colonial administrative measures were backed by "*brute force*" (Gathara, 2018). Indigenous justice systems were victim-centred and aimed at compensation; corporal and capital punishments were reserved for the worst crimes. While corporal punishment was used for disciplining the young in Africa, its practice was institutionalised during colonialism. Education without discipline was seen as worthless (corporal punishment in schools was abolished in 1948 in Britain and in 2001 in Kenya) and caning as integral to labour relations between European settlers and African labourers (Shadle, 2012). Courts sentenced mainly young African men to corporal punishment, women were more often repatriated or fined (Ocobock, 2012). Prisons were "*a punitive device*" to ensure compliance with the racist colonial order, to acquire resources for the colonial state, and to extract labour for agricultural

and public works (Gathara, 2020). African men were exposed to extra-judicial corporal punishment and settlers' rage for acts or behaviour that Europeans perceived as wrong or inappropriate (Shadle, 2012). Great concerns among Europeans about sexual violence by African men against European women was for the most part manufactured, since the number of such cases was extremely small (Pape, 1990). In contrast, sexual violence against African women by European men was far more frequent (Pape, 1990).

Throughout history, African people have contested and resisted conquest, colonisation, and colonialism by European empires (a Kenyan example is discussed in sub-section 2.6.2) and continue to challenge contemporary power imbalances and inequities. Women participated in men-led protests and movements; for example, in 1922, more than 7,000 African men and women demonstrated against the arrest of Harry Thuku, a founder of the East African Association, who condemned the injustices against Africans, challenged colonial rule, and promoted civil disobedience (like refusal to pay tax or work on government projects), and demanded his release (African Feminist Forum, 2016). In addition, women initiated their own protests like the 1948 'revolt of the women' when Kenyan women collectively resisted forced labour (Mackenzie, 1991). Throughout the protests, women demonstrated their political agency by applying own strategies; for example, by ululating and pulling their skirts above their shoulders, the women offered to exchange their dress with the men and take their trousers (a symbol of manhood) confronting both African men who capitulated and the colonial oppressors (African Feminist Forum, 2016).

2.4.6 Legacies of colonialism in contemporary power relations

This section, without claiming to be comprehensive, outlines the legacies of colonialism in as far as they are relevant to conceptual and methodological choices underpinning this study. Europe and North American countries still wield a great degree of power over African nations and people. The rate of multidimensional poverty is highest in sub-Saharan Africa while the continent's human development (encompassing a long and healthy life, knowledge and a decent standard of living) is considered lowest when compared with other regions (United Nations Development Programme [UNDP], 2020). Such underdevelopment is not driven by any 'original backwardness' of Africa but stems from colonial domination and integration of African economies into the global capitalist market (Hountondji, 1995). Narratives over-emphasising problems on the African continent and under-reporting the potential of African people and contexts, continue to stress Africa's need for help and investment from outside (Addy, 2022, Roberts et al., 2021). Stereotypical gendered images of the African continent, like Africa as a woman and object of sexual desire (mainly during colonisation) and Africa as the sick man in the world (more recently), are used to justify external interventions on the African continent (Bertolt, 2018, Kisiang'ani, 2004). Yet, rich countries (including the former colonial

empires) in the global North continue to thrive due to appropriation of resources from so-called emerging and developing economies (many of which are in Africa), often referred to as the global South. Jason Hickel and colleagues (2022) estimate the drain of Southern resources to be $10 trillion per year and to comprise on average about a quarter of the global North's total consumption. Since Southern resources not adequately compensated, the global South incurs losses which exceed aid from the North by a factor of 30 (Hickel et al., 2022).

To date, the legacies of colonialism influence the global knowledge economy and the ways scientific knowledge is produced, disseminated, and used (Pai, 2018, Roy, 2018). Although one in seven persons in the world lives on the African continent, Africa's share in global research output is small (about 1%) (Fonn et al., 2018). According to Paulin Hountondji (1995, p. 2),

> "*scientific and technological activity, as practiced in Africa today, is just as 'extroverted,' or externally oriented, as economic activity. Most of the shortcomings that can be identified should not be perceived, therefore, as natural and inevitable. They should be traced back, on the contrary, to the history of the integration and subordination of our traditional [African] knowledge to the world system of knowledge.*"

Scientific activity during colonial rule was characterised by the collection of raw information in the colonies and the transfer of these data to the imperial metropole for analysis and theory building (Hountondji, 1995 cited in Connell, 2014, p. 554). Legacies of colonial knowledge production and use continue in 'helicopter science' (a term referring to research in which foreign researchers collect samples or data from the global South and analyse these in their countries without input from or recognition of global South persons and communities) and persist in the "*hegemony of Western scholarship*" at large and its underlying asymmetrical power relations and practices (Mohanty, 1988, p. 336, Nnaemeka, 2003, The Lancet Global Health, 2018, Hedt-Gauthier et al., 2019, Olufadewa et al., 2020). Global health is no exception – "*still mimics colonial ways*" (Pai, 2018).

Power and privilege are unevenly distributed in the world knowledge economy and global health sector, the latter being defined by practicing public health somewhere else – mainly in the Global South (King and Koski, 2020). Global health is dominated by high-income countries where most global health organisations (85%), global health master degree programmes (88%), global health conferences (71%), global health journals' editors (68%) and editors-in-chief (73%), and highly-cited authors are based (English and Pourbohloul, 2017, Bhaumik and Jagnoor, 2019, Svadzian et al., 2020, Global Health 50/50, 2020, Velin et al., 2021, Global Health 50/50, 2022). Persons from high-income countries are over-represented in executive leadership (80%), mostly men (73%), and board seats (75%) of global health organisations; boardrooms of philanthropic funders (82%); and prominent author positions of

academic global health publications (Iyer, 2018, Hedt-Gauthier et al., 2019, Global Health 50/50, 2020, Svadzian et al., 2020, Velin et al., 2021, Global Health 50/50, 2022). Women of low- and middle-income countries are largely absent in global health leadership (5%) and boardrooms (1%) (Global Health 50/50, 2020, Global Health 50/50, 2022). Normative requirements of scientific work, unsupportive work environments, lack of women leaders, burdens of invisible and unpaid labour at work and family impede progression of African women scientists (Okech, 2020, Liani et al., 2021b, 2021a).

Western epistemologies, theories, frameworks, methodologies, classifications, and terminologies often neglect or misrepresent the complexities of power and marginalisation but reinforce existing power asymmetries and Western superiority (Stone and Priestley, 1996, Nnaemeka, 2003, Ratele, 2014, Hendrix-Jenkins, 2020, Selvarajah et al., 2020). Capacities, expertise, and voices of Global South researchers are questioned, quarantined, silenced, or rendered invisible (Nnaemeka, 2003, Bisoka, 2020, Rasheed, 2021). International research and programmes have been criticised for being extractive and misaligned with local needs; serving external donor and globalisation interests; and lacking accountability to participants and partners at the grassroots (Arnfred, 2004, Steady, 2004).

2.4.7 Relevance of intersectionality framework

Previous sub-sections introduce intersectionality theory and apply the concept to explore the interconnectedness of different power structures – based on race, ethnicity, and gender. The discussion builds on the notion of coloniality of power to clarify the colonial roots of power asymmetries and intersectionality of power. The legacies of asymmetrical colonial power systems are illustrated with focus on global health research. Here, I draw on the work of different African scholars who utilise notions of multiple intersecting axes of power in their work. The concepts emerged from critical reflection on gender power relations shaped by Africa's cultural context and colonial history. They illustrate power structures and imbalances affecting African women and men are complex, not simply binary. All concepts consider multi-layered systems of power, multiple intersecting identities of African women and men, and the diverse social locations that correspond with these.

African scholars of masculinity studies stress the limitations of concepts focussing solely on gender, as a single axis of power, to examine the complexities of issues affecting men in Africa (Shefer, 2016). Sakhumzi Mfecane (2013, cited in Ratele, 2014, p. 33) calls for research to pay greater attention to the systemic challenges affecting African men, like unemployment, poverty, and peer pressure, and their impact on men's attitudes, masculinity, health behaviour, and sexuality. Kopano Ratele (2008) provides such an example, as he elaborates how age and employment are interlinked with male gender, resulting in power differences among men and the disempowerment of young unemployed men.

African feminist scholars developed concepts and theories – in response to the shortcomings of foreign gender concepts (2.4.4 and 2.4.6) – to assist with exploring and representing diverse experiences and matters of African women. Examining the case of Yoruba people, Oyeronke Oyewumi (2004) suggests seniority rather than gender constitute power relations and structures in extended families in African societies. Catherine Obianuju Acholonu (1995, cited in Lewis, 2001, p. 6) proposes 'motherism' as Africa's alternative to Western feminism. These theories have been challenged for their tendencies to reinforce standard gender stereotypes and to neglect that gender power relations are interlinked with other axes of power like seniority (Lewis, 2001, Bakare-Yusuf, 2004). Nonetheless, they opened important platforms for discussion on the interactions between different power structures and the relative importance different axes of power.

The compounded effects and relative importance of axes of power is contested. Notions of African women experiencing triple oppression (2.4.4) imply compounded effect of different layers of power. For example, Awa Thiam (1986, p. 118) writes,

> *"the Black woman of Africa suffers a threefold oppression: by virtue of her sex, she is dominated by man in a patriarchal society; by virtue of her class she is at mercy of capitalist exploitation; by virtue of her race she suffers from the appropriation of her country by colonial or neo-colonial powers. Sexism, racism, class division; three plagues!"*

However, these approaches do not propose a simple addition of independent effects of power axes but consider how they are intertwined, in line with intersectionality theory. African feminists discuss a false 'hierarchy of oppressions' in (male-led) African liberation movements which saw "*'the women question' as divisive*" within the struggle of African people against colonialism (Abbas and Mama, 2014, p. 5). Desiree Lewis (2004) argues racial discrimination need not to be pitted against gender discrimination and no one form of oppression should be privileged over another, in line with intersectionality theory. For the thesis, I conceptualise the intersection axes of power and "*social categories as interacting with and co-constituting one another to create unique social locations that vary according to time and place*" (Hankivsky, 2014, p. 9).

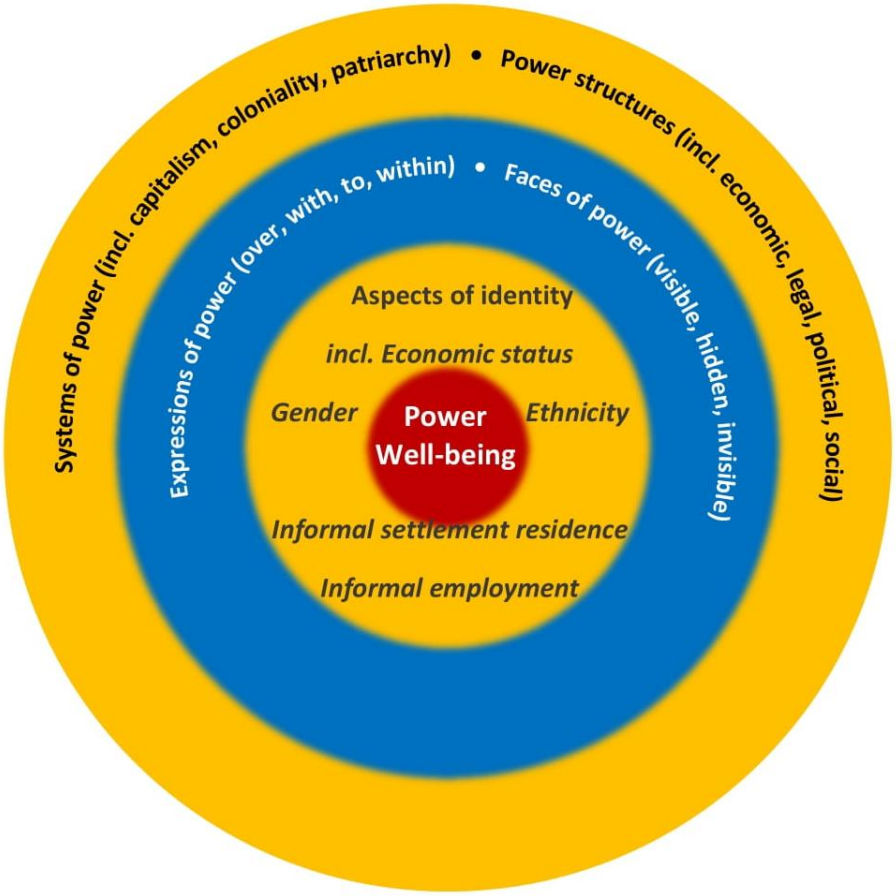
2.4.8 Intersectionality conceptual framework

Previous sections introduce key theoretical concepts regarding well-being, urban informality, power, and intersectionality. These build on notions of health as essential resource for life, multi-dimensional achievement or outcome given one's capabilities or freedoms to achieve good health. Respective frameworks highlight different but related dimensions:

- **Well-being** – encompassing interconnected observable and subjective dimensions of physical, mental, material, and social well-being.
- **Urban informality** – interrogating how social, political, and economic systems, actors, and resources shape formal and informal domains and processes, which create inequalities.
- **Urban health equity** – considering how health disparities are shaped by economic, natural, physical, and social living conditions in urban areas in the context of macro-level economic and political structures and forces.
- **Power** – encompassing distinct expressions of power as control or process as well as visible, hidden, and invisible faces of power operating at multiple interconnected ecological levels.
- **Intersectionality** – addition layers to one-dimensional ecological models of power by illustrating how multiple interrelated structures and systems of power shape people's individual circumstances and opportunities in relation to their multiple intersecting aspects of identity.
- **Coloniality** – linking asymmetrical power structures introduced during colonialism to contemporary power imbalances.

For this thesis, I adopt and blend key features of these concepts to define an intersectionality conceptual framework (Figure 9). Unique experiences of power and well-being are connected to one's multiple intersecting aspects of identity (individual level). Interconnected axes of power (gender, ethnicity, urban in/formality) impact a person's identity and circumstances. Structural forces of power work together to create, maintain, and reinforce power relations and imbalances. Expressions and faces of power are used to describe processes and activities by which people with lower degrees of power are controlled, marginalised, or oppressed as well as contest or resist power.

Figure 9. Intersectionality wheel



Note. Intersectionality conceptual framework: Unique experiences of power and well-being (inner circle, red) shaped by one's social locations involving multiple intersecting aspects of identity (second circle from inside, yellow) corresponding with multiple intersecting axes and processes of power (third circle from inside, blue) underpinned by structural forces of power (outer circle, yellow).

2.5 HIV and IPV

Theoretical underpinnings, outlined in previous sections, are applied to the relevant literature on HIV, IPV, and their linkages. Drawing on notions of health and well-being (2.2), I conceptualise HIV and IPV in this thesis as social issues that affect the physical, mental, material, and social well-being of a person. I am aware HIV and IPV can both cause physical ill-health directly. In the following sub-section, I briefly cover clinical aspects to ensure the reader understands a) treatment is lifelong and requires good adherence and b) regular clinic attendance is required even in those who are well. Late presentation, low rates of status disclosure to partners and poor adherence have all been associated with social issues (including IPV) that lead to poor clinical outcomes. These are mediated through the mental health impacts of HIV and IPV and the high levels of stigma associated with both. In this section, separate introductions to HIV and IPV (2.5.1 and 2.5.2) are followed by an overview on the intersections of HIV and IPV (2.5.3).

2.5.1 HIV-related health and well-being

HIV is transmitted through exposure to HIV-containing body fluids during unprotected vaginal or anal sex; blood transfusion; shared injecting equipment; pregnancy, childbirth, or breastfeeding. HIV targets immune cells (CD4 T helper-cells) to replicate itself, thereby weakening the immune system and gradually leading to immunodeficiency. Advanced HIV disease emerges when CD4 cell counts fall below 200 cells/mm^3 or when persons living with HIV develop certain cancers, infections, or other severe long-term clinical manifestations (WHO, 2021). People living with HIV are more susceptible to communicable (often called 'opportunistic infections') and non-communicable diseases as a result of immunodeficiency. Whilst HIV can lead to impairments or make them more severe, systematic reviews indicate HIV prevalence among women and men with disabilities is higher compared to the general population, especially among women and in sub-Saharan Africa (De Beaudrap et al., 2014, Ward et al., 2022). People with disability are faced with physical, structural, social, cultural, and communication barriers in accessing health services and information (WHO and World Bank Group, 2011).

I continue this section with a focus on **HIV and physical well-being**. Advancements in ART, a combination of three or more antiretroviral drugs, have turned HIV from a terminal to a chronic disease over the last 20 years. By inhibiting the replication of the virus, ART leads to HIV viral load suppression and CD4-cell count recovery (Song et al., 2018). ART improves physical well-being (for instance, reduces incidence of pain, fatigue, nausea, and skin problems); prevents HIV-related disease progression and death; and prolongs life (Rosen et al., 2010, Olubajo et al., 2014, Anglemyer et al., 2014, Nakagawa et al., 2013). Research in South Africa found 1 in 2 adults living with HIV experiences impairments, most of them relatively low disability (Kietrys et al., 2019). Better immunity (measured by higher CD4 cell counts) at ART initiation is beneficial for immunologic recovery and better quality of life (Song et al., 2018, Torres et al., 2018, Ghiasvand et al., 2019). Higher CD4 cell counts at treatment initiation reduce risks of HIV disease progression, immune reconstitution inflammatory syndrome, tuberculosis, developing frailty, and mortality (Müller et al., 2010, Gupta et al., 2011, Clouse et al., 2013, Anglemyer et al., 2014, Levett et al., 2016, Song et al., 2018), and women acquiring human papilloma virus and developing cervical cancer (Liu et al., 2018, Stelzle et al., 2021). Whilst early diagnosis is beneficial for physical well-being, social issues deter people from HIV testing and care. These range from poverty and time constraints, to perceived HIV stigma, quality of care, and provider attitudes, as well as relationship problems and fear of rejection or abandonment (Alhassan et al., 2022).

Virologic suppression of HIV through ART is essential for the immune system to recover and prevents sexual and vertical transmission of HIV (Cohen et al., 2011, Siegfried et al., 2011, Loutfy et al., 2013, Cohen et al., 2016). Promoted as 'treatment as prevention' or 'Undetectable = Untransmittable'

(U=U), the goal of ART is thus for everyone on treatment to have an undetectable viral load. Persons living with HIV can rapidly develop detectable viral load and drug resistance when their adherence to ARVs is suboptimal. Primary prevention, early diagnosis of HIV infection, early initiation of ART, and good lifelong adherence remain critical for averting new HIV infections and improving HIV-related health. However, adapting and maintaining ART into daily lives can be difficult for people living with HIV, including for reasons regarding their physical health like low weight, poor health, feeling sick as well as feeling well (Wilkinson et al., 2015, Shubber et al., 2016, Eshun-Wilson et al., 2019).

This sub-section draws attention to **HIV and mental well-being**. People living with HIV are faced with numerous challenges to their mental wellbeing – the HIV-positive diagnosis itself is traumatising (Eshun-Wilson et al., 2019, Rzeszutek et al., 2021). Accepting HIV and embracing positive living is difficult. In the context of HIV stigma (see also social well-being), people living with HIV may accept negative images about themselves as 'HIV-positive' persons and have negative feelings like blame, embarrassment or shame referred to as internalised stigma (Turan et al., 2017). A systematic review found prevalence of any mental illness among people living with HIV in sub-Saharan Africa varied across settings (5-83%), for instance, depression ranging from 12% to 56% (Breuer et al., 2011). Mental health problems like anxiety and depression are barriers to ART adherence (Breuer et al., 2011). Emotional, financial, and social support help people living with HIV accept their status and gain self-confidence. Prospects of a long life with ART stimulate optimism, hope, and acceptance of HIV-positive status among persons living with HIV (Nixon et al., 2018). Persons struggling to cope with a new diagnosis may respond with denial, hopelessness, or use of alcohol and drugs (Eshun-Wilson et al., 2019).

Alcohol is the most widely consumed drug in Kenya. Countrywide, alcohol consumption and heavy episodic drinking are more often reported by men than women (59 vs 20% and 21 vs 3%) (Kendagor et al., 2018). Prevalence of lifetime alcohol consumption and hazardous drinking are even greater among key populations, for instance, men who have sex with men (87% and 44%) and female sex workers (84% and 37%) in Nairobi (NASCOP, 2014a). Relations between alcohol use and HIV are complex. Alcohol use among women and men is associated with sexual behaviour in heterosexual and same-sex partnerships, like multiple concurrent sexual partnerships and condomless sex, which increase the likelihood of HIV (Mustanski et al., 2007, Shuper et al., 2010, Woldu et al., 2019). Harmful alcohol use can accelerate HIV progression through biological impact on immunity, delayed care seeking, disengagement from care and/or suboptimal adherence to treatment (Shuper et al., 2010, Shubber et al., 2016, Belay et al., 2019).

People who inject drugs are a key population in the HIV response. Research estimates the number of people who inject drugs is close to 1.4m in sub-Saharan Africa (Degenhardt et al., 2017). These include more men than women (88% vs 12%); people affected by homelessness or unstable housing (27%); and young people (19%) (Degenhardt et al., 2017). Heatmaps presented by this study indicate the prevalence of injecting drug use in Kenya (estimated to be above 1%) is higher than the average prevalence of sub-Saharan Africa (0.3%) (Degenhardt et al., 2017, pp. Figure 2, p e1199). Similar prevalence of injecting drug use was observed among men who have sex with men (1.4%) and female sex workers (1.8%) in Nairobi; they also reported frequent use of other drugs like marijuana, locally known as ***bhangi,*** (51% and 36%) and khat (49% and 40%) (NASCOP, 2014a). According to synthesis of qualitative evidence from sub-Saharan Africa, work environments of sex workers – living and working in close proximity to bars and illicit drug selling establishments and interacting with people who sell and use drugs – influence their patterns of alcohol and drug use (Kuteesa et al., 2020). In addition, using alcohol and drugs helps sex workers cope with the physical demands and psychosocial effects of commercial sex work like feelings of stigma, low self-esteem, guilt, and self-condemnation (Kuteesa et al., 2020). Estimates of HIV prevalence among people who inject drugs ranges from 19% reported by a surveillance survey among key populations in Kenya (NASCOP, 2014a) to over 40%), well above the average prevalence of sub-Saharan Africa (18%), by Louisa Degenhardt et al. (2017).

The relationships between **HIV and material well-being** are complex. These include poverty-related exposure to HIV and the economic burden of HIV on affected individuals and households. Loss of income and savings due to HIV-related illness, reduced productivity, death of income earner, and financial burdens of funerals cause financial insecurity (Collins & Leibbrandt, 2007, Adedigba et al., 2009). Persons living with HIV incur substantial costs for medications, travel to health facilities, and income foregone when attending medical appointments (Katz et al., 2013), resulting in catastrophic health expenditure among the poorest (Assebe et al., 2020). These economic burdens are significant barriers to HIV care and treatment (Katz et al., 2013). At the same time, ART has the potential to restore productivity, increase employment, improve work performance, and decrease absenteeism among people living with HIV (Beard et al., 2009, Rosen et al., 2010). HIV-related human, material, and social well-being are interrelated. On one hand, HIV-related illness can lead to perceived economic inadequacy and social exclusion. On the other hand, HIV stigma, social marginalisation, and exclusion from support networks can reinforce or exacerbate economic insecurity (Katz et al., 2013).

The subsection on HIV concludes with a focus on stigma to discuss issues of **HIV and social well-being**. Stigmatisation of HIV and people living with HIV is a major social well-being issu. In addition to "*internalised HIV stigma*" (acceptance of negative assumptions about self because of HIV and experience of self-deprecating feelings), persons living with HIV are faced with "*enacted HIV stigma*"

(actual experiences of discrimination, devaluation, and prejudice due to HIV-positive status); "*perceived HIV stigma*" (one's perceptions of the extent of stigmatising attitudes in the community); and "*anticipated HIV stigma*" (one's expectations of negative treatment by others due to HIV-positive status) (Turan et al., 2017, p. 864). HIV-related stigma can be clustered with other forms of stigma regarding mental health, race, and sexuality among others. A recent systematic review suggests HIV-related stigma has affected the psychological well-being of people living with HIV over the past four decades at comparable levels despite medical advancements and changing manifestations of stigma during this period (Rzeszutek et al., 2021).

HIV stigma poses a challenge to acceptance and disclosure of HIV-positive status, mental health, and social support of people living with HIV (Rueda et al., 2016, Nixon et al., 2018, Okawa et al., 2018).Persons experiencing HIV-related stigma are less likely to use health services, while those exposed to enacted, anticipated, or perceived HIV stigma are more likely to present to HIV care late (Rueda et al., 2016, Gesesew et al., 2017, Belay et al., 2019). Through these factors (non-disclosure, fear of unintentional HIV disclosure, mental health difficulties, and lack of support), HIV stigma contributes to suboptimal HIV treatment adherence (Sweeney and Vanable, 2016). Anticipated and enacted HIV stigma within intimate relationships, and health care settings is detrimental to physical and mental well-being and can affect treatment adherence and outcomes (Turan et al., 2017, Alhassan et al., 2022). ART enables social participation, economic productivity, and fulfilment of social roles (like parenting), all of which can motivate people living with HIV to take their medication (Nixon et al., 2018, Eshun-Wilson et al., 2019).

2.5.2 IPV-related health and well-being

According to WHO, IPV refers to "*any behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm to those in the relationship*" (Krug et al., 2002, p. 89). Across the world, women and men in heterosexual and same-sex partnerships may experience IPV in all its forms – emotional, physical, and sexual IPV – but with varying acts and levels of violence (Krug et al., 2002, García-Moreno et al., 2006, Buller et al., 2014, Badenes-Ribera et al., 2015, Lindstrøm, 2018). Since women bear the overwhelming burden of IPV at the hands of men, IPV is widely recognised as a gender problem (United Nations [UN], 1986, 1996, African Union, 2003). IPV research focuses largely on women in heterosexual relationships and when it is about men research is more often focused on men who have sex with men than men in heterosexual relationships.

Defining and detecting IPV can be difficult and confusing because the presence, severity, and nature of IPV shifts constantly, involving subtle forms of violence and alterations of aggression and loving contrition (Liang et al., 2005). In addition, definitions of IPV are context-specific and standard

questionnaires like the demographic and health survey (DHS), may not adequately capture how women and men themselves define IPV. For instance, studies from Malawi suggest women experience husbands abandoning their wives as a form of IPV (Mkandawire-Valhmu et al., 2013) and consider the risk of acquiring HIV due to husbands having extramarital affairs, insisting on condomless sex, or rejecting HIV testing as an HIV-related form of IPV (Chepuka, 2013, Mkandawire-Valhmu et al., 2013). Gender norms may also underpin men's understanding of IPV. Men perceive women's neglect of their conventional gender roles as an offence and a form of IPV against them (Chepuka, 2013). In the following sections I illustrate wide-ranging effects of IPV on health and well-being of affected persons and their families.

Connections between **IPV and physical well-being** are obvious. The WHO and others (2013) suggest the IPV-related health burden is vast, especially among women, ranging from injuries to permanent disability and death. Worldwide, about 2 in 5 women incur non-fatal injuries from IPV. In line with global trends, the burden of IPV-related injuries in Kenya is overall greater among women than men (for example, injuries from physical violence 46% vs 34% and from sexual violence 49% vs 22%) (KNBS et al., 2015a). In addition to acute injuries, like bruises, cuts or fractures, IPV-affected women can also develop chronic conditions like chronic pain syndromes, gastrointestinal disorders, irritable bowel syndrome and lasting physical disabilities (Krug et al., 2002). Whilst acknowledging that impairments are not limited to being physical, rates of current IPV are two to four times higher among women with disability than women without disability (Dunkle et al., 2018), impairments . About two third of women with disability reported experience of current physical and/or sexual IPV compared to a third of women without disabilities (Dunkle et al., 2018). Globally and in Africa, about 40% of homicides of women are committed by male intimate partners compared with 6% of murders of men (WHO et al., 2013).

IPV has profound negative impact on victim's sexual and reproductive health. HIV rates are higher among IPV-affected women and men who have sex with men than those who have not experienced IPV (Li et al., 2012, Buller et al., 2014, Li et al., 2014). Further details on the intersections of IPV and HIV are discussed in sub-section 2.5.3. IPV poses additional challenges for women trying to negotiate condom use and family planning with male partners, as negotiations can trigger IPV (Chepuka, 2013). Condom use and partner-dependent contraception methods (like condoms, abstinence, and rhythm or calendar method) are less common among women affected by IPV than those who are not (Wilson et al., 2016, Maxwell et al., 2018a), while pregnancy incidence and the number of births are more common among women with a history of IPV than those without (Emenike et al., 2008, Maxwell et al., 2018b). Unintended pregnancy, involuntary pregnancy loss, and induced abortion are associated with IPV experience among women (Stöckl et al., 2012, WHO et al., 2013, Maxwell et al., 2018b). IPV also

affects children of women exposed to IPV; for instance, the rate of skilled delivery assistance is lower while incidences of preterm birth and low birth weight are higher among women with a history of IPV compared to those without (Goo and Harlow, 2012, WHO et al., 2013). Evidence suggests male-to-female IPV is correlated with sub-optimal infant feeding practices and stunting of children (Misch and Yount, 2014, Chai et al., 2016, Hampanda, 2016).

I proceed by drawing the focus on **IPV and mental well-being**. IPV does not only affect the mental well-being of persons undergoing IPV but also negatively impacts the well-being of children in affected families. Experience of IPV and depression are correlated among women and men who have sex with men (WHO et al., 2013, Buller et al., 2014), although these correlations are potentially bidirectional (Bacchus et al., 2018). Equally complex is the relationship between alcohol and substance use and IPV (WHO et al., 2013). Alcohol and substance use, themselves harmful to health, are associated with IPV experience and perpetration (Wong et al., 2008, Buller et al., 2014). At the same time, individuals affected by IPV use alcohol or substances as a way of coping (Wong et al., 2008, Ndungu et al., 2020). Lastly, witnessing IPV among parents and/or experiencing violence during childhood enhance chances of IPV experience and perpetration later in life (Hindin et al., 2008, Heise, 2011, Tenkorang and Owusu, 2018) suggesting violence continues from one generation to the next.

Next, I discuss connections between **IPV and material well-being**. IPV causes economic loss for affected individuals, families, and society at large. Individuals and families incur IPV-related costs when seeking medical care and justice. Injuries and premature death result in loss of productivity and income at family, community, and societal levels. Kenya's National Gender and Equality Commission (2016) estimates GBV-related costs and losses in Kenya could be as high as 1% of the country's gross domestic product. A study in neighbouring Uganda suggests the provision of domestic violence-related public services by health facilities, police, and judiciary is a burden to the country's national budget (nearly 1% in 2010/11) (Center for Domestic Violence Prevention, 2013).

I conclude the IPV sub-section with a discussion on **IPV and social well-being**. IPV-related shame, silence and stigma make it difficult for victims to talk about the violence they experience at the hands of their partners (Gillum et al., 2018). Social norms condoning male-to-female IPV may encourage men's use of violence against female partners (Antai and Adaji, 2012, Vyas and Heise, 2016), while also making women feel shame or embarrassment about the violence at the hand of intimate partners (Liang et al., 2005). A study in Rwanda suggests women remain silent about IPV to protect the family's image and their own reputation (Mannell et al., 2016). This stigma of women experiencing IPV could also be seen as a way of oppressing them into silence. Anticipated stigma plays a vital role in women's

decision-making about whether to go public and seek help or not. Help seeking may comprise loss of privacy, risk of blame, and threats by abusive partners among others (Liang et al., 2005).

In many settings, including Africa, female-to-male IPV is a severe challenge for men's social well-being. Men experiencing IPV by women are highly stigmatised. Female-to-male IPV is taboo and men are usually hesitant to speak about their IPV experiences due to fear of mockery and stigma by family members, peers and service providers (Thobejane et al., 2018). Examples from Kenya indicate men's own direct or indirect experiences of violence encourage them to become advocates against GBV (Edström et al., 2014). At the same time, men's involvement in the GBV response assists men who experience IPV to seek help (Edström et al., 2014).

2.5.3 Intersections of HIV and IPV

The similarities and overlap in the health impacts of HIV and IPV emerge clearly when presented separately above. I now go on to lay out the complex and multiple pathways through which HIV and IPV are linked (for instance, Heise and McGrory, 2016, Klot et al., 2012, WHO, 2013), mainly focussing on women but also on men who have sex with men. Evidence on the intersection of HIV and IPV has grown over the past two decades since the publication of two seminal reviews. Suzanne Maman and colleagues (2000) found women with a history of childhood sexual assault are behaviourally vulnerable to HIV and women living with HIV are more likely to experience sexual coercion than women without HIV. Although Linda Koenig and Jan Moore (2000) found comparable rates of IPV among women with and without HIV, their review suggests some women may experience violence around condom negotiation. Both reviews indicate women may experience IPV after partner disclosure of HIV positive serostatus (Koenig and Moore, 2000, Maman et al., 2000). Later, a cohort study in South Africa found IPV and power imbalances in intimate relationships enhance likelihood of acquiring HIV among young women (Jewkes et al., 2010). A secondary data analysis of DHS data from ten sub-Saharan countries and a systematic review confirm correlations between IPV and HIV among women (Li et al., 2014, Durevall and Lindskog, 2015), especially in areas with high HIV prevalence and among women experiencing IPV in combination with marital control (Durevall and Lindskog, 2015).

2.5.3.1 IPV and HIV transmission

The main physiological pathways linking IPV and HIV transmission comprise sexual IPV, including rape, as a direct factor of HIV transmission, elevated through genital and anal injuries, and IPV as an indirect factor increasing HIV susceptibility through compromised immune function due to IPV and IPV-related stress, depression, and other comorbidities (Campbell et al., 2008, Klot et al., 2012, WHO, 2013). However, sexual violence appears not to be the main driver of associations between IPV and HIV (Heise and McGrory, 2016).

Alternative models consider structural, interpersonal and individual factors as links between incidence of IPV and HIV among women (Heise and McGrory, 2016). IPV can make it difficult for women to negotiate sex and condom use with an abusive partner, consequently increasing chances of acquiring HIV (Campbell et al., 2008, Swan and O'Connell, 2012, MacPherson et al., 2014). Men who have sex with men exposed to IPV or unequal power relations may find it equally challenging to negotiate sex and condom use (Niang et al., 2003). In addition to reduced protection against HIV, women with a history of IPV can also be behaviourally vulnerable to HIV (WHO, 2013, Heise and McGrory, 2016). Research suggests women affected by IPV are more likely to have multiple and concurrent partners, engage in transactional sex or sex work, and use alcohol. Similar to women, chances of HIV are elevated among men who have sex with men affected by IPV through high-risk sex (Kalichman et al., 2005, Eaton et al., 2013), substance use and psychological distress (Mustanski et al., 2007).

2.5.3.2 HIV disclosure and IPV

Overall, women have more opportunities to test for HIV than man, because of HIV testing in antenatal care. As a result, "*women bear the brunt of disclosure to partners, who tend to use women's status as a 'proxy' for their own*" (Hatcher et al., 2014, p. 4). Disclosure of HIV status, including to intimate partners, is complicated for persons living with HIV, especially those with violent partners. Women living with HIV who disclosed their status are more likely to experience IPV than those who did not (WHO, 2013). Studies in Africa report women and men who have sex with men living with HIV encounter mixed responses upon disclosing their HIV status (Kennedy et al., 2013, Kehler et al., 2012, Evans et al., 2016). Most of them experience disbelief or shock as well as acceptance and support (Visser et al., 2008, Kennedy et al., 2013, WHO, 2013), some experience stigma, discrimination, and violence (Kehler et al., 2012). Qualitative research in Africa, including Kenya, indicates women living with HIV experience a wide range of IPV following partner disclosure: controlling behaviour; emotional IPV like denying communication, accusations of infidelity, blame for bringing HIV and insults; physical IPV (including around condom use); sexual IPV including refusing condom use; withdrawing material support; and separation (Kehler et al., 2012, Colombini et al., 2016). Internalised stigma, difficulties disclosing HIV status, and fear of abandonment, blame, emotional and physical IPV are barriers to partner disclosure among women and men who have sex with men living with HIV (Visser et al., 2008, Kennedy et al., 2013, Evans et al., 2016).

2.5.3.3 IPV and access to HIV testing, care, and treatment

IPV can be a barrier to uptake and engagement in HIV care and treatment (Orza et al., 2017). A systematic review reports associations between IPV and sub-optimal treatment uptake, adherence and outcomes among women (Hatcher et al., 2015). A synthesis of qualitative studies from sub-

Saharan Africa illustrates how fear of marital conflicts, separation or IPV undermine uptake of HIV testing (Musheke et al., 2013). HIV self-testing offers people greater control over HIV testing and disclosure of HIV status. At the same time, HIV self-testing may bear the risk of triggering social harm, including IPV. However, evidence based on distribution of over 175,000 HIV self-test kits in Malawi over a six-year period found IPV in the context of self-testing is rare, but may trigger occasional cases of marriage break-up of sero-different couples (Kumwenda et al., 2019).

Qualitative research in South Africa and Uganda indicates poor communication, conflict, and fear within intimate relationships deter women from HIV testing and care (Alhassan et al., 2022). Fragile intimate partnerships discourage women living with HIV from disclosing their HIV status, while fear that husbands finding ARVs could trigger IPV deters them from initiating ART (Buregyeya et al., 2017). Partner disclosure has the potential for promoting ART uptake and adherence as women find it difficult to take and adhere to treatment when partners are unaware about their HIV status (Hatcher et al., 2014). Similarly, fear of stigma discourages men who have sex with men from partner disclosure of HIV status, subsequently leading to challenges with adherence to HIV medicines (Evans et al., 2016). Research in Malawi suggests attendance for HIV care and adherence to ART are compromised in couples where emotional, physical and/or sexual IPV is bidirectional (Conroy et al., 2020). IPV-related stress can undermine adherence to HIV treatment (Zunner et al., 2015). Although few studies investigate men's IPV experiences, evidence suggest this is also linked with suboptimal treatment adherence (Schafer et al., 2012). Dynamics that result in poor HIV treatment adherence may involve interactions between partner conflict, alcohol use, maladaptive coping attitudes, mental health problems and attitudes toward HIV medication (Malow et al., 2013). Lastly, a study in South Africa suggests disease progression in treatment-naïve young women is associated with IPV (Jewkes et al., 2015).

2.5.3.4 Childhood violence, IPV and HIV

Exposure to violence during childhood as a determinant of HIV and IPV constitutes another link between the IPV and HIV epidemics. One pathway emerges from the inter-generational effects of violence (2.5.2.2). Women and men who experienced violence and/or witnessed violence between parents during childhood are more likely to experience or perpetrate IPV later in life, affecting both heterosexual or same-sex relationships (Craft and Serovich, 2005, Hindin et al., 2008, Heise, 2011, Pack et al., 2013, Siemieniuk et al., 2013, Badenes-Ribera et al., 2015, Papas et al., 2017, Chirwa et al., 2018, Tenkorang and Owusu, 2018). In accordance with this, the 2014 Kenya and Demographic Health survey (KDHS) reports higher IPV among both women and men who witnessed parental IPV than those who did not (57 vs 40% and 29 vs 20%) (KNBS et al., 2015a). A second pathway explains linkages

between childhood violence and HIV. People who experienced violence during childhood are more likely to be behaviourally vulnerable to HIV; through early sexual initiation, multiple sexual partners, and transactional sex (Richter et al., 2014). A third pathway emerges from mental health problems (2.5.1.2), like depression, alcohol and substance use, among people who experienced violence during childhood (Heise and McGrory, 2016).

2.5.4 Gender, IPV and HIV

Inequitable gender norms and relations are an important link between IPV and HIV. Research suggests women who express attitudes justifying violence against women (VAW) in certain instances report greater rates of IPV compared to those who do not (Hindin et al., 2008, Mugoya et al., 2015, Reese et al., 2017). Gender inequitable attitudes increase the chances of men perpetrating IPV (Chirwa et al., 2018), while equitable gender norm attitudes can be protective (Peitzmeier, 2016). The WHO multi-country study on VAW suggests physical and/or sexual IPV against women often occurs in combination with controlling behaviours by the male partner (García-Moreno et al., 2006).

Research from low and middle-income countries found rates of IPV against women are higher in communities where inequitable gender norms are more common at community-level (Ackerson and Subramanian, 2008, Boyle et al., 2009, Vyas and Heise, 2016). Inequitable gender norms and endorsement of IPV in families and communities create social environments which elevate women's vulnerability to experiencing IPV (Hatcher et al., 2013). Strict gender norms make it difficult for women and men to talk about experiences of IPV and seek help (Edström et al., 2014, McCleary-Sills et al., 2016). Perceived failure to fulfil gender roles can trigger relationship conflict and IPV (Hatcher et al., 2013). IPV against women may be accepted in certain situations to 'educate' women, for instance, when she burns food. IPV may be perceived as a normal or unchangeable part of life or even as a sign of love.

Gender inequality and strict gender norms enable men to set the terms of sex and enforce these through violence, limiting women's ability to negotiate sex and condom use (Peacock et al., 2008, Campbell et al., 2008, MacPherson et al., 2014). Notions of masculinity that condone male violence may also encourage certain behaviours like using alcohol and having multiple concurrent sexual partners (Peacock et al., 2008, Dunkle and Decker, 2012). Consequently, women's likelihood of acquiring HIV is elevated through male partner's behavioural vulnerability to HIV and clustering of HIV risks in men who use IPV against female partners (Kalichman et al., 2007, Woolf-King and Maisto, 2011); for example, men under the influence of alcohol sexually coercing women and women being expected to offer men sex in exchange for alcohol (Woolf-King and Maisto, 2011).

2.5.5 Urban informality, HIV and IPV

Several studies suggest women and men in Nairobi's informal urban settlements are exposed to higher levels of IPV compared to average levels observed among women and men in the city (Swart, 2012, Orindi et al., 2020, Ringwald et al., 2020). Table 3 shows rates of current IPV reported in informal settlements are comparable or higher than report of lifetime IPV city-wide, even at an early age. Similarly, an analysis of data collected in Nairobi informal settlements and with nationally representative data found HIV prevalence among women and men in informal settlements is greater than among women and men in other urban areas (13% vs 8% and 10% vs 3%) (Madise et al., 2012).

Table 3. Comparison between informal urban settlement vs Nairobi IPV prevalence estimates

	Females				**Males**	
	Current IPV[1]	**Current IPV[2]**	**Lifetime IPV[3]**	**Lifetime IPV[4]**	**Current IPV[2]**	**Lifetime IPV[4]**
Age group	15-22	18 and above[a]	18-30	15-49	18 and above[b]	15-54
Location	Korogocho, Viwandani	Kawangware	Kibera	Nairobi	Kawangware	Nairobi
Year	2017	2016	2009	2014	2016	2014
Emotional IPV	33%	43%	62%[c]	41%	46%	26%
Physical IPV	23%	23%	36%[d]	45%	19%	10%
Sexual IPV	16%	23%	36%[e]	21%	20%	6%
Any IPV	44%	-	85%	60%	-	30%

Note. Estimated IPV prevalence in informal settlements (1) Orindi et al. (2020), (2) Ringwald et al. (2020), (3) Swart (2012), compared with Nairobi as a whole (4) KNBS et al. (2015a). Current IPV = IPV experienced during the past 12 months; (a) 31% women (age 18–24), 64% women (age 25–49); (b) 29% men (age 18–24), 67% men (age 25–49); (c) emotional IPV = said something to humiliate; (d) physical IPV = slapped or twisted arm; e) sexual IPV = physically forced to have sex.

Although health effects of structural and contextual conditions are known (CSDH, 2008, Ezeh et al., 2017), many studies seeking to explain these social patterns of HIV and IPV in urban areas concentrate on individual behaviour correlates (Wado et al., 2020). Studies, like the "*Nairobi cross-sectional slums survey*" (2014), indicate sexual behaviours which increase likelihood of HIV and IPV are particularly common in informal urban settlements. Compared to women in Nairobi, women in the city's informal urban settlements initiate sex about one year earlier and marry about two years earlier (APHRC, 2014). Unmarried women in informal settlements are more likely to be sexually active than women in Nairobi on average (36 vs 16%) (APHRC, 2014). Young people (age 15-24) in informal settlements initiate sex

earlier and report more recent sexual partners than their counterparts in the whole of Kenya (APHRC, 2014). Within informal settlements, young men are more likely than young women to report more than one recent sexual partner (36 vs 5%) (APHRC, 2014).

Patterns of sexual activity and behaviours associated with HIV and IPV exposure are clustered within informal urban settlements. Young people in informal urban settlements leave parental homes at young ages, which makes them often more vulnerable (Zulu et al., 2011). Among young women in Nairobi, age disparity (more than 3 years) with current partner (57%), receiving money, food, shelter, transportation among others from current partner (93%), and transactional sex outside relationships (23%) are common (Decker et al., 2021). Young women with history of transactional sex are more likely to report being afraid of partner and experiencing physical IPV (Decker et al., 2021). Beliefs about men's dominate or control over women seem to persist in Nairobi, where more men than women express attitudes justifying wife beating (45 vs 19%), in contrast with national trends (36% of men and women) (KNBS et al., 2015a). Which may partly explain why condom use is low in informal settlements, especially among young women (9% during recent sex compared with 32% among men) (APHRC, 2014). In addition, young men in informal settlements are exposed to alcohol and substance use at an early age (APHRC, 2014). At age 21-24, 1 in 4 young men there report recent drunkenness and 1 in 5 recent illicit drug use (APHRC, 2014).

Research documents also the compounded structural disadvantages faced by people in informal urban settlements, including limited education opportunities, high unemployment, widespread poverty, and lack of basic services (APHRC, 2014). Vulnerability to poor sexual and reproductive health among people in informal urban settlements is underpinned by limited access to school education and health services, important sources of HIV information. Although most women in informal settlements are aware of HIV (90%), their knowledge of HIV prevention methods is limited, for example, condom use (72%), being faithful to one's partner (56%), sexual abstinence (48%), and avoiding multiple sexual partners (21%) (APHRC, 2014). In return, mother's incomplete HIV awareness, coupled with taboos around discussion of sex, and mothers' limited of time due to neighbourhood deprivation impede mother-daughter communication about sexual health and relationships (Crichton et al., 2012).

In summary, HIV and IPV affect women and men in heterosexual and same-sex relationships and impact their health and well-being across all dimensions, often in bidirectional and complex ways. Co-occurrence of HIV and IPV is not coincidental, as illustrated by multiple pathways linking IPV and HIV. Patterns of HIV and IPV linkages are socially structured due to gender, sexuality, disability, childhood exposures, and residence in informal urban settlements.

2.6 The context of Kenya and Nairobi

This section gives an overview of the Kenya context relevant to this research, beginning with a brief introduction of the country's geography and demography (2.6.1). The study (related to objectives 2 and 3) takes place in an informal settlement in Nairobi, which is inhabited by people from all over the country. The people and their settlement, their social norms and community structures are deeply affected by Kenya's colonial, political and economic history with many 'echoes' and profound continuing impacts in the present day (as discussed in sub-sections 2.6.2 to 2.6.3). I describe Kenya's urbanisation and urban growth dynamics (2.6.4), in which Nairobi city plays a key role as the country's largest urban centre (2.6.6). The section concludes with an introduction to Kenya's health system and development agenda (2.6.7). This sets the scene for the following section (2.7) which outlines the strategies for addressing intersections of IPV and HIV and includes a discussion of Kenya's HIV and IPV response.

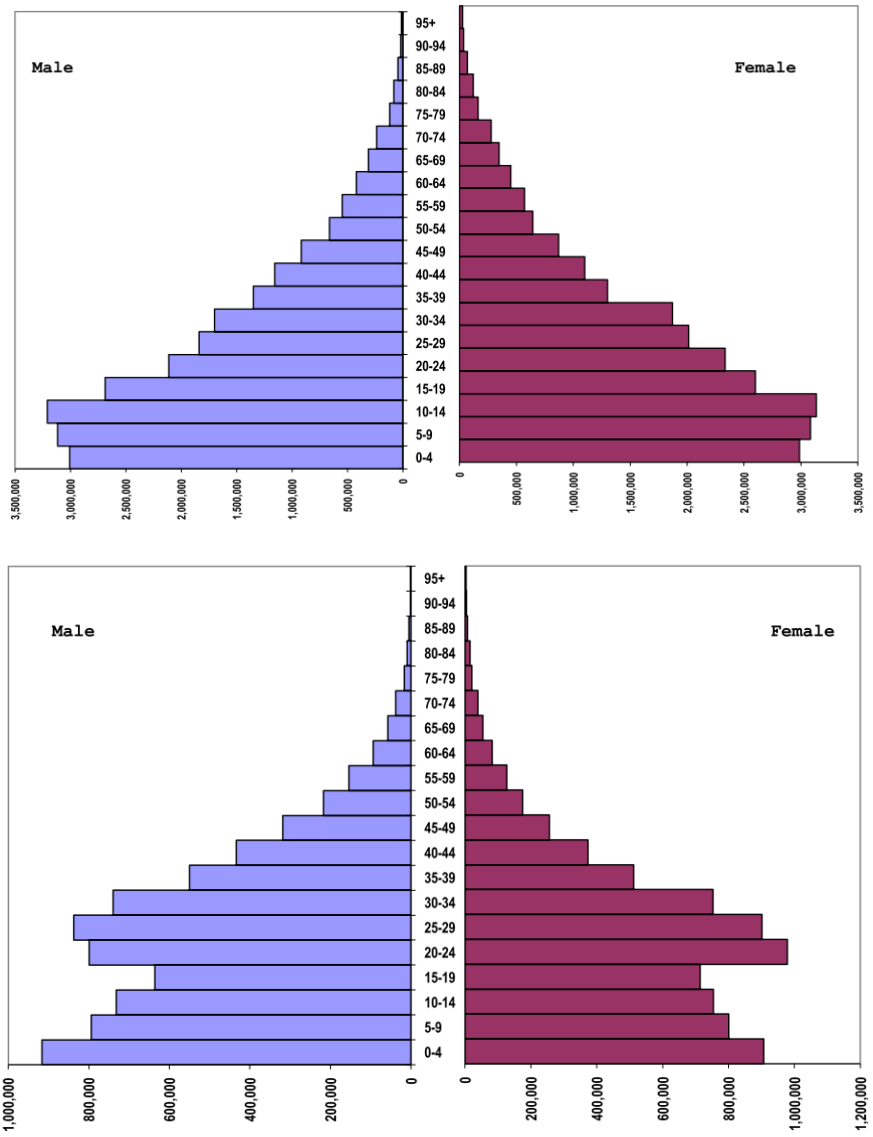
2.6.1 Geography and demography of Kenya

Archaeological discoveries indicate humans have lived in coastal Kenya for tens of thousands of years (Burke, 2018, Sample, 2021) and in the East African Rift Valley in Southern Kenya for millions of years (Smithsonian Institution, 2022). Europeans demarcated boundaries on the African continent, including those of Kenya, at the Berlin Conference (1884/85) without involving native people (Atieno-Odhiambo, 1972, Ndege, 2009). After decades of colonial rule, Kenya became a sovereign state in 1963 and a republic in 1964. Situated on the equator, Kenya borders Ethiopia (north), Somalia (northeast), South Sudan (northwest), Uganda (west), and Tanzania (south). The Indian Ocean is on the eastern side. Kenya's land area (571,466 km2) covers most of the country's total size (582,646 km2) (KNBS et al., 2015). Kenya is administratively divided into 47 counties. Counties are sub-divided into different decentralised administrative units through which the national and county governments provide functions and services.

Kenya's population has grown from 2.5 million in 1897 to 8.6 million in 1962 and 47.5 million in 2019, comprising 24 million females, 23.5 million males, and 1,524 intersex persons[10] (KNBS et al., 2019a). Nearly 33 million people (69%) live in rural areas and close to 15 million people (31%) in urban centres (KNBS, 2019b). Countrywide, the population is concentrated among children aged 0-15 years (Figure 10, upper panel), those aged 0-19 years account for 50% of the population (KNBS, 2019c). On the contrary, the population in urban areas is concentrated between ages 20-34 (Figure 10, lower panel).

[10] The third sex marker was introduced in the 2019 Census.

Figure 10. Population pyramids Kenya (2019)



Note. 2019 national population pyramid and urban population pyramid of Kenya (Kenya National Bureau of Statistics [KNBS], 2019c, pp. 12-13).

Kenya's population is a diverse mix of over 120 Kenyan ethnic groups and sub-groups as well as non-Kenyans (1%), mostly East Africans (KNBS, 2019d). Kikuyu (8.1 million), Luhya (6.8 million), Kalenjin (6.4 million), Luo (5.1 million), and Kamba (4.7 million) constitute the largest groups (KNBS, 2019d). In addition to the official languages, English and Swahili, numerous Kenyan languages are spoken. A Kiswahili-based mixed language, called Sheng, is spoken in some urban areas. People in Kenya are predominantly Christian (86%), followed by Muslim (11%) (KNBS, 2019d).

2.6.2 Pre-colonial and colonial history

In section 2.4, I discuss the coloniality and intersectionality of power. Here I put these into the Kenyan context. Kinship relations have moulded social, political, and economic life in native societies for several thousand years. Unlike African communities who established centralised kingdoms (like Buganda kingdom in Uganda), political units in pre-colonial Kenya were smaller and based on kinship ties (Ndege, 2009). Ethnic boundaries, identities, customs, and languages changed and evolved (Gathara, 2018, Muiga, 2019, Ndege, 2009). Different ecological conditions influenced the development of economic activities (for example, agricultural economies among the Agikuyu and Miji Kenda; pastoralist forms of production by the Maasai and Samburu; crop cultivation and livestock keeping by the Luo and Abagusii; and hunting and gathering of the Ogiek) (Ndege, 2009). Land, livestock, and labour were owned and organised collectively within kinship systems primarily for subsistence; outputs were redistributed in kind based on need. Differences in wealth were small, and class largely absent because "*reciprocity and the egalitarian ideal ensured that individuals never slid into abject poverty*" (Ndege, 2009, p. 1).

The arrival of Vasco da Gama in the ports of Mombasa and Malindi in April 1498 marked the onset of European explorers, missionaries, and traders arriving in Kenya. Different territorial agreements alongside the Berlin Conference and Britain's declaration of protectorate over Kenya (1885) initiated colonial occupation (Atieno-Odhiambo, 1972, Ndege, 2009). The 1902 Crown Lands Ordinance, which permitted agricultural land leases only to Europeans (initially for 99, later 999 years), enabled British authorities to control Kenyan land and invite white settlers (Atieno-Odhiambo, 1972). To consolidate power, British authorities introduced the Hut Tax in 1901 (collecting tax from families for each hut owned), essentially forcing native Kenyans to take up wage labour and providing British settlers with cheap labour (Black History Month Editorial Team, 2020, Atieno-Odhiambo, 1972). The British further expanded their rule through forceful evictions of native Kenyans from their fertile lands to 'Native Reserves'; the introduction of the *Kipande (1919-1947)*, an identity for Kenyan men for controlling movement and labour; and the establishment of the British Crown colony (1920), administered by a British governor (Black History Month Editorial Team, 2020, Parveen, 2019, Parveen and Bowcott, 2019).

From the beginning, native Kenyans resisted European exploration, interventions, rule, and settlers. British authorities responded with force and imprisonment to resistance. After 1885, they built 30 prisons within a few years and the incarcerated population rose from 1,500 around 1900 to 12,000 in 1951 (Gathara, 2020). The best-known revolt is the *Mau Mau* uprising, a war between the Kenya Land and Freedom Army and the British authorities (1952–1960). After declaring a state of emergency (1952), the British carried out mass arrests and mass deportations (from 1953). Over 80,000 *Mau Mau*

were incarcerated in detention camps, while several tens of thousands of Africans, both *Mau Mau* and loyalist Africans serving in the 'Home Guard', lost their lives (Black History Month Editorial Team, 2020).

2.6.3 Political history

During colonialism, native Kenyans were excluded from Kenya's legislature, the Legislative Council, until 1957 but instead could participate in the 'Local Native Council' (from 1924), whose activities were controlled and sanctioned by colonial authorities (Atieno-Odhiambo, 1972). Kenya's constitutional framework and independence were negotiated at the Lancaster House conferences (1960-1963). Centralised and ethnised governance influenced Kenya's post-colonial state, with presidents and politicians invoking ethnic and class sentiments to gain or stay in power (Ndege, 2009).

The Kenya African National Union formed the first government of Kenya under Jomo Kenyatta, who ruled as president until he died in 1978. His presidency was characterised by calls to forgive and forget the past, economic growth, ban of opposition parties, establishment of a single-party system, and human rights abuses. Daniel arap Moi (vice president from 1967-1978) became the second and longest-serving President of Kenya (1978-2002). A multi-party system was restored in 1991. Due to a fragmented opposition, Moi won elections in 1992 and 1997; both tarnished by political violence. Human rights abuses and corruption were common during Moi regime.

After previously serving as cabinet minister (1966-1978), vice president (1978-1991), and leader of opposition, Mwai Kibaki was elected president in 2002 as candidate of the opposition's National Rainbow Coalition. Following Kibaki's re-election (2007), opposition leader Raila Odinga claimed elections were rigged, which triggered Kenya's worst post-election violence (including in Nairobi's informal settlements) leaving 1,500 people dead and another 600,000 internally displaced. The two leaders agreed to work together, with Kibaki as president and Odinga as prime minister. Kibaki's legacy comprises of free primary education, comprehensive infrastructure developments, access to better healthcare, promotion of the East African Community, Kenya's long-term development plan 'Vision 2030', and the 2010 Constitution (Kenyatta, 2022).

The Constitution (2010) laid the foundation for devolution of government to promote democracy; accountability; decentralisation of services; participation of the people in decision-making; and equitable sharing of national and local resources throughout Kenya (Article 174, *The Constitution Of Kenya*, 2010). Under the Kenyan devolution model, governments at national and county levels are distinct and inter-dependent, while the President is provided with the power to suspend a county government in exceptional circumstances (Articles 6 and 192, *The Constitution Of Kenya*, 2010). Independent branches of the national government are: (1) the Parliament comprising of the legislative

National Assembly (representing the constituencies and special interests) and Senate (representing the counties); (2) the national executive comprising of the President (elected by the people and serving as Head of State and Government), Deputy President, Attorney General, and Cabinet Secretaries; and (3) the independent Judiciary. Each of the newly-created 47 county governments consists of a county executive, headed by an elected governor, and a county assembly. Government functions are distributed between national and county levels, with the national government in charge of policy development, regulation, resource mobilisation and county governments in charge of policy implementation and service provision.

Kibaki was succeeded by Jomo Kenyatta's son, Uhuru Kenyatta, who won elections in 2013 and 2017. Building on Kenya Vision 2030 (2008), Kenyatta promoted the 'Big Four' development priority areas (2017) – manufacturing, universal healthcare, affordable housing, and food security. Although women are underrepresented in Parliament, in violation of laws ensuring fair gender representation[11], Kenyatta did not dissolve Parliament as advised by the Chief Justice in 2020 (Kinyanjui, 2020, Wasuna, 2021). With a historic handshake in 2018, Kenyatta and opponent Odinga (four times unsuccessful presidential contestant) set a sign for reconciliation, stability, and economic growth. They initiated the 'Building Bridges Initiative' promoting major changes to the constitution and expansion of legislative and executive branches of government. The Kenyan High Court ruled the constitutional reform efforts were unconstitutional because the Building Bridges Initiative was a government not popular endeavour.

2.6.4 Economic history

Native economies were integrated in the global capitalist economy during the British colonial rule. As shown in 2.6.2, this happened through the transformation of land, natural resources, and labour into property through appropriation, possession, displacement, and enslavement by European persons and companies or through the extension of the Crown's dominion (Bhambra, 2021). Colonial rulers introduced taxation to raise tax and other revenues within a colony for the benefit of the metropolis (Bhambra, 2021). The colonial economy has had a lasting impact on the post-independence economy of Kenya, having a narrow geographical and structural base due to concentration on a few urban centres and limited activities (Ndege, 2009). Kenya's economy depends technologically, financially, commercially, and monetarily on European, American, and Asian countries making it vulnerable to fluctuations in world prices.

[11] The 2010 Constitution states that not more than two-thirds of the members of elective public or appointive bodies shall be of the same gender (Art. 27 (8)).

Due to sustained economic growth, Kenya was classified as a lower middle-income country in 2014 and aspires to achieve middle-income status by 2030. Following an annual average growth of about 5% over the past 15 years, Kenya's nominal gross domestic product (GDP) was Kenya Shillings (KSh) 10.8 trillion (US$ 89.9 billion) in 2020, after which COVID-19 pandemic related disruptions caused the economy to contract by 0.3% (KNBS, 2021a). About a quarter of the GDP comes from agriculture, transport & storage account for about a tenth, so do manufacturing and wholesale & retail sectors (KNBS, 2020c). Kenya's imports exceed the country's exports (KNBS, 2020a). Personal remittances account for about 3% of Kenya's GDP (World Bank Group, 2022a). Inflation stood at above 5% in 2020, down from 8% in 2017 (KNBS, 2021a).

Employment[12] levels in 2021 reached 18 million, as recorded before the COVID-19 pandemic in 2019 (KNBS, 2020a, 2022b). Most Kenyans work in the informal sector (15.3 million), mostly in wholesale and retail trade, hotels, restaurants, and manufacturing (KNBS, 2022b). The private sector offered most wage employment (2 million), mainly in agriculture, manufacturing, wholesale and retail trade, construction, and education sectors (KNBS, 2022b). Education, public administration, and defence account for the bulk of wage employment in the public sector (920,000) (KNBS, 2022b). The informal sector creates more than 80% of new jobs (Babijes, 2016, KNBS, 2020a). Most of the jobs lost in 2020 due to the COVID-19 pandemic were in the informal sector (500,000 of 730,000) (KNBS, 2022b). Other sources found even greater damage of at least a million jobs lost (Wafula, 2020). The official unemployment[13] rate was 6.6% in early 2021 (KNBS, 2021b).

From the colonial era, inequality has been a dominant feature of the Kenyan economy which has one of the greatest gaps between richest and poorest individuals in Africa as evidenced by a Gini coefficient[14] of 0.404 in 2015 (down from 0.470 in 2005) (KNBS, 2020). The richest 10% receive about half of the income share (46%), the richest 30% about three quarters (74%), and the poorest 40% together less than 1% (KNBS, 2020). A recent poverty report (2020b) found a third of the Kenyan population (15.9 million) lives below the national monetary poverty lines (KSh 3,252 (US$ 27) in rural and KSh 5,995 (US$ 50) in urban areas monthly per adult). One in two Kenyans (23.4 million) is multidimensionally poor, deprived in realisation of at least 3 out of 7 age-specific basic needs (like nutrition, health, education, economic activity, information, water, sanitation, and housing). A quarter of the population (27%) is poor in monetary and multidimensional terms.

[12] Employment outside small-scale agriculture and pastoralist activities.
[13] Unemployment rate measured based on the strict definition of not working, seeking work in the last four weeks and available to work.
[14] A Gini coefficient of 0 expresses perfect equality, where all values are the same (e.g., income) while a Gini coefficient of 1 (or 100%) expresses maximal inequality among values.

Inequalities in Kenya have age, gender, and regional dimensions. Children comprise the largest share of the monetary (55%) and multidimensionally poor (48%). Youth account for about a quarter of monetary (22%) and multidimensionally poor (25%). Unemployment is high among young people aged 20-24 and 25-29 years (16% and 9%) (KNBS, 2021b). Men have higher employment rates, higher earnings, and more assets than women, while women are more likely unemployed or work as unpaid family workers (KNBS et al., 2020). Geographical disparities indicate monetary and multidimensional poverty is greater in rural than urban areas (40 vs 29% and 67 vs 27%), while Nairobi has one of the widest income inequalities (KNBS, 2020b).

2.6.5 Urbanisation

While urban settlements have existed along the coast for over 600 years, those in Kenya's inland were founded during the colonial era. British people developed urban centres like Nairobi, Nakuru and Kisumu along the railway lines for economic and strategic purposes (CBS & MOPND, 1979, p. 2). After independence, Kenya recorded rapid growth in urban centres – both in numbers and population – due to the extension of boundaries of towns, re-classification of locations, and rural-urban migration (CBS & MOPND, 1979). In 1962, Kenya counted 34 urban centres housing 750,000 people (8% of total population), concentrated in Nairobi (340,000) (CBS & MOPND, 1979). Since then, Kenya's urban population has grown twenty-fold to 14.8 million or one in three Kenyans in 2019 (KNBS, 2019b). The level of urbanisation at county level varies greatly – ranging from 100% in Nairobi and Mombasa counties to 3% in Bomet county. Most urban residents live in just a few cities (of the 372 urban centres), including a third in Nairobi (4.4 million), followed by Mombasa (1.2 million), Nakuru, Ruiru, Eldoret, Kisumu and Kikuyu (each above 300,000) (KNBS, 2022a). Although Kenya's urban growth rate declined over time (from 7.9% in 1999-2009 to 2.1% in 2009-2019)[15] (KNBS, 2022a), about half of the population is expected to live in cities by 2050 (Babijes, 2016). The economic importance of agriculture and limited formal employment opportunities shape Kenya's urbanisation. People migrate from rural to urban areas because of a push from agriculture (improved agriculture productivity, excess labour), limited economic prospects and underemployment in rural areas rather than pull from industry (Babijes, 2016, Zulu et al., 2011).

2.6.6 Nairobi

Nairobi was founded as a railway depot for the Kenya-Uganda Railway in 1899 and became the official capital of the Protectorate in 1907, when its population comprised nearly 600 Europeans, about 3,000 Asians, and over 10,000 Africans (Ogot and Ogot, 2020, p. 12). The population of the capital city expanded to nearly 600,000 at independence and 4.4 million people in 2019, who reside in 1.5 million

[15] Additional intercensal rates of urban growth: 7.7% in 1969-1979, 5.2% in 1979-1989, 3.4% in 1989-1999.

households (with a below national average household size: 2.9 vs 3.9 persons) (KNBS, 2019a). Nairobi City County is a creation of the 2010 Constitution, which made Nairobi the 47th county of Kenya and the country's third smallest county (704 km2) after Mombasa and Vihiga. Nairobi is the most populated county, accommodating about a tenth (9%) of Kenya's population (KNBS, 2019c), and more densely populated than any other county, over 75 times the national average (6,247 vs 82 persons per km2) (KNBS, 2019a). Administratively, Nairobi is composed of 11 sub-counties and 85 ward – decentralised units through which the county government provides services – headed by sub-county and ward administrators. The 85 wards are politically represented in the county assembly by an elected member, alongside 42 nominated members. Administrative units under the national government involve divisions, locations, and sub-locations, each administered by an assistant county commissioner, chief and assistant chief, salaried public servant positions under the Office of the President. The smallest administrative unit, the village, is headed by a village elder, a voluntary and non-salaried public servant position.

2.6.6.1 Demography of Nairobi

In line with national trends, the sex ratio of population in Nairobi has steadily declined from 138 males per 100 females in 1979 to 99 in 2019, with 2,204,376 females, 2,192,452 males, and 245 intersex persons residing in the capital city (KNBS, 2019c, 2022a). Women and men at reproductive age (female: 15-49 years, male: 14-54 years) are overrepresented in Nairobi compared to age distributions at national and urban levels, accounting for 12% of Kenya's population at reproductive age (Table 4). Nairobi's 1.3 million children make up a substantial fraction of the city's population (30%) (KNBS, 2019c).

Table 4. Age and sex distribution of population in Kenya and Nairobi (2019)

	Children (0-14 years)		**Reproductive age**	
	Females	**Males**	**Females**	**Males**
Kenya (total)	9,208,427 (38%)	9,333,055 (40%)	12,094,679 (50%)	12,421,839 (53%)
Urban Kenya	2,462,056 (33%)	2,442,915 (33%)	4,488,221 (60%)	4,531,917 (62%)
Nairobi	671,912 (30%)	664,337 (30%)	1,405,171 (64%)	1,428,826 (65%)

Note. Female reproductive age = 15-49 years; Male reproductive age = 15-54 years. % = Percentage of total female or male population in Kenya or Nairobi. Source: (Kenya National Bureau of Statistics [KNBS], 2019c)

Education levels of Nairobi's population reflect average levels in urban areas (KNBS, 2022a). In Nairobi, 1.4 million people (aged 3 years and above) attend learning institutions (690,000 females and 670,000

males) (KNBS, 2019d). Among those who left school after completion (940,000 women and 990,000 men), fewer women than men attained university (150,000 vs 190,000), but more women than men attained vocational or technical training (260,000 vs 240,000) (KNBS, 2019d). More women than men never attended (100,000 vs 80,000) or dropped out of school before completion (280,000 vs 230,000) (KNBS, 2019d). More men than women work (1 million vs 0.8 million), while more women than men are unemployed (220,000 vs 200,000) or outside the labour force[16] (920,000 vs 650,000) (KNBS, 2019d). Unlike people in rural areas who mostly own the property they live in (87%), persons in urban centres, particularly in Nairobi, rarely do so (21% and 9%) (KNBS, 2019d). Instead, 91% of households in Nairobi are rented, mainly from individual owners (87%) (KNBS, 2022a). Official estimates suggest persons with disability are underrepresented in Nairobi (females: 23,000, males: 19,000, mainly visual and mobility impairments) compared to the national average (1% vs 2%) (KNBS, 2019d).

2.6.6.2 Informal urban settlements

Population estimates for Nairobi's informal urban settlements vary greatly. A low estimate, by the 2019 Census, suggests the city's informal settlements accommodate about 800,000 people, accounting for less than 20% of people in Nairobi and 80% of all Kenyans living in informal urban settlements (KNBS, 2022a). On the contrary, UN-Habitat (2016) estimates more than half of Kenyan city dwellers live in informal settlements, resonating with findings of the "*inventory of the slums in Nairobi*" (2009), for which 150 informal settlements were enumerated in collaboration with their residents. The inventory indicates over half of city dwellers live informal settlements, occupying less than 5% of land in Nairobi. Yet, "*the phenomenon of informality did not exist before the imposition of a Western development paradigm*" (Anyamba, 2011, p. 66). The first informal urban settlements emerged due to racial and class segregation of populations, land, and other resources during the colonial era. Nairobi's informal settlements are diverse, each has a unique history (Ogot and Ogot, 2020). Here, I provide a short summary and introduce the study site in Results (section 5.4.1).

2.6.6.3 History of informal settlements in Nairobi

Tom Anyamba (2011) describes three waves of informal settlement growth during the colonial era: (1) Following the 1902 Crown Lands Ordinance, first informal settlements were established by native Kenyans after European settlers displaced and evicted them from their land ; (2) following the establishment of the British Crown colony (1920), informal settlements of Africans expanded as young men and a few women arrived in Nairobi in search for wage labour, including returning African porters and soldiers who during World War I had gained new knowledge and self-confidence which they used

[16] Full-time students, home makers, the retired, incapacitated persons and those who are either too young or too old to work.

to seek work in urban centres, form alliances, and challenge colonial rule (Nderitũ, 2018); and (3) during the Great Depression (1929), the drop in world prices for agricultural products from white settlers and local prices for produce in African Reserves caused unemployment and poverty among Africans (Ogot and Ogot, 2020). Due to unemployment, landlessness, and poverty in rural areas Nairobi's native population nearly doubled as the number and density of informal settlements grew (Anyamba, 2011). This was coupled with an influx of Africans in search of military and semi-military employment during World War II (Ogot and Ogot, 2020). Rural-urban migration accelerated after independence, because native Kenyans sought employment in Nairobi when colonial movement restrictions were lifted (CBS & MOPND, 1979, Weru et al., 2009). In addition to government permitting or relocating people to settle on public land, new informal settlements emerged outside official planning, often in hazardous areas (like riparian reserves, swamps, slopes, refilled quarries and garbage dumps, railway safety or road reserves) (Weru et al., 2009).

2.6.6.4 Land, housing, and informal settlements in Nairobi

The illegal and irregular allocation of public land in Nairobi to individuals and companies was common in post-colonial Kenya and intensified with the multi-party system (1991) triggering competitive politics and land allocation for political favours (Commission of Inquiry into the Illegal/Irregular Allocation of Public Land, 2004, Weru et al., 2009). Mass evictions and demolitions of informal settlements followed when land accommodated informal settlements, intensifying confrontation between the state and informal settlement communities (Weru et al., 2009). Informal settlement dwellers founded federations and *Muungano wa Wanavijiji*, as an unifying umbrella organisation to advocate against illegality and evictions of settlements (Lines and Makau, 2018). After 2000, the focus shifted to solution-seeking and upgrading, providing opportunities for informal settlement communities to engage with government (Weru et al., 2009). However, the threat of evictions has not dissipated; for instance, in May 2020 when Nairobi was under lockdown due to the COVID-19 pandemic, officials from the Nairobi Water and Sewerage Company, accompanied by police, evicted about 5,000 residents from parts of Kariobangi North informal settlement, near the study site of this project, and demolished their houses (Omulo, 2020). This eviction, as in other instances in Nairobi, was underpinned by issues of land ownership; officials claimed people resided on public land that had been illegally acquired (Nnoko-Mewanu and Abdi, 2020).

The demand for housing is high in Nairobi due to its constant population growth. The formal housing supply does not correspond with required numbers and types of housing units. For instance, 15,000 housing construction permits were issued in Nairobi in 2013 in contrast with an estimated annual demand for housing of about 80,000 units (Babijes, 2016). Although the demand for housing is

greatest in the low-price market segments, formally constructed housing units are rarely targeted at these segments (approximately 2% in 2013) (Babijes, 2016). Because cost of land is high and administrative procedures to register land transactions are expensive and lengthy, both poor and nonpoor urban residents rely on informal markets to access land. However, the vast majority of women (91%) and three in four men (75%) living in Nairobi do not own a house (KNBS et al., 2015) and find housing by renting, mainly through informal markets. Due to lack of infrastructure and services (e.g., water and electricity) in informal urban settlements, many residents these settlements are faced with 'poverty penalty' – paying more and receiving inferior services compared to households in formal settlements (Babijes, 2016, Lines and Makau, 2018).

2.6.6.5 Diversity of informal urban processes

The government has been unable to meet the increasing demand for urban settlement, goods, and services after independence. Consequently, residents across all socio-economic classes, not limited to the urban poor, developed and sought diverse informal processes to meet basic needs, including but not limited to settlement (Anyamba, 2011). For instance, informal economic activities (like roadside kiosks, informal garages, tree nurseries among others) have flourished across Nairobi's formal and informal urban areas (Anyamba, 2011). Kate Lines and Jack Makau (2018, pp. 417-418) advocate for

> *"a recognition of the multiple benefits and contributions slums generate for a city, as well as their interdependence. They are a tremendous resource: pulsating with micro businesses and primary markets for industry, as well as providing low-cost accommodation, schooling, health care, and recreation for the mass of the city's workers, and labourers who care for children, clean, guard and cook for most middle- and high-income homes. They also provide a vital link between urban and rural economies."*

2.6.7 Kenya health system

This sub-section provides an overview on Kenya's health system and development agenda. After outlining the constitutional provisions related to health and well-being, I summarise the organisation of Kenya's health services and the roles national and county governments play in coordinating these (2.6.7.1). I discuss commitments made by national and Nairobi County governments regarding the reduction of HIV and IPV as well as the way in which health policies and services should be implemented (2.6.7.2).

The Constitution of Kenya 2010 contains robust health, equality and non-discrimination provisions. In accordance with international human rights agreements (*Universal Declaration of Human Rights*, 1948, *International Covenant on Economic, Social and Cultural Rights*, 1966), the Constitution of Kenya and subsequent legislations guarantee the right to health: "*Every person has the right to the highest*

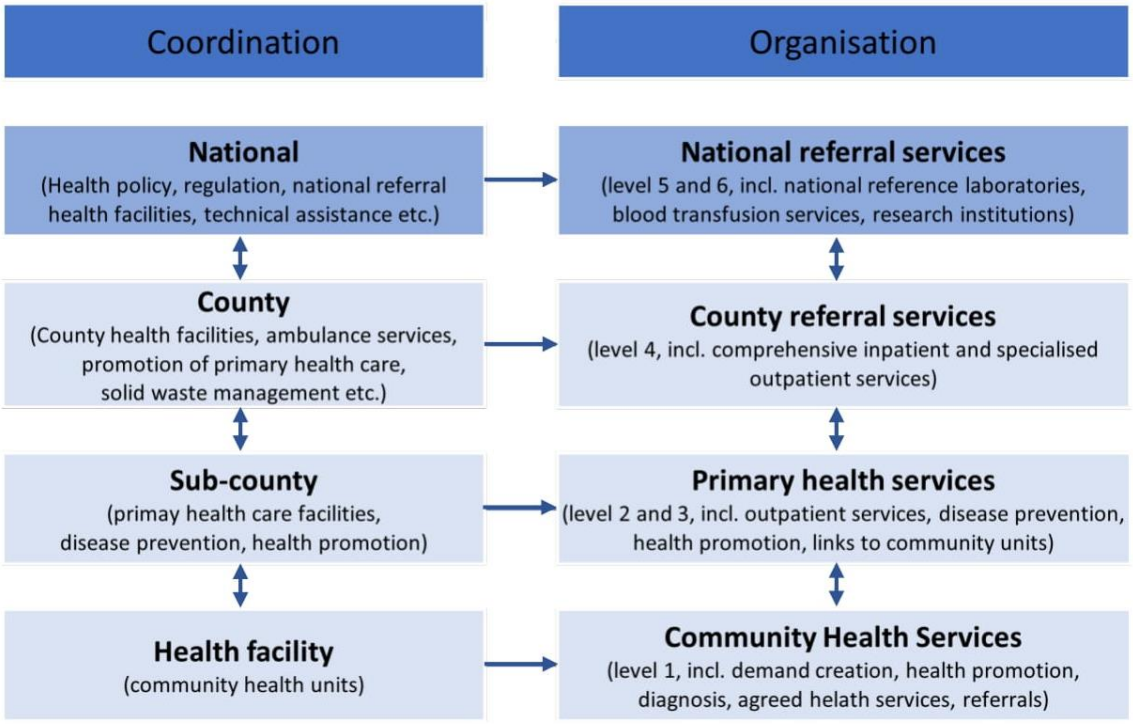
attainable standard of health which shall include progressive access for provision of promotive, preventive, curative, palliative and rehabilitative services" (Section 5, *Health Act (Kenya)*). Articles 27 and 29 of the Kenyan Constitution (2010) provide for the equality of every person, equal treatment of women and men, and protection against violence, torture, and corporal punishment.

2.6.7.1 Organisation of health service delivery

Sections 4 and 5 of the Kenya Health Act (2017) obligate the state to ensure the realisation of the highest attainable standard of health by all Kenyans; equitable access to health services; and the elimination of social and geographic health disparities. The Kenyan health system consists of six service delivery levels as shown in Figure 11. The mandate of the national government comprises health policy, regulation, capacity strengthening and technical assistance for counties, management of national (secondary and tertiary) health facilities and referral services, and mobilisation of financial resources (MOMS and Ministry of Public Health & Sanitation [MOPHS], 2012, *Health Act (Kenya)*). The national AIDS response is coordinated by the National AIDS Control Council (NACC), responsible for development of HIV policies, strategies, and guidelines (NACC, 2022), and the National AIDS and STI's Control Programme (NASCOP), responsible for the coordination of HIV prevention, care and treatment; capacity strengthening; and surveillance (NASCOP, 2022).

County governments (like Nairobi City County) are responsible for the implementation of national health policies and standards, county health facilities and primary referral services (level 4), ambulance services, environmental health and sanitation, and solid waste disposal among others (MOMS and MOPHS, 2012, *Health Act (Kenya)*). Under the leadership of the County Director of Health, the County Health Management Team supervises the Sub-County Health Management Teams (including the public health officers designated to coordinate HIV and GBV services), Health Facility Management Teams, and the community units who manage and deliver primary and community health services. In 2020, President Kenyatta established Nairobi Metropolitan Services (NMS) to transfer County Health Services and three other functions of the Nairobi City County to the national government and later his Executive Office (Julius Otieno, 2020, NMS, 2021).

Figure 11. Organisation of health services in Kenya



Note. Organisation of six service delivery levels of the Kenyan health system adapted from Kenya Health Policy 2012-2030 (MOMS and MOPHS, 2012).

2.6.7.2 Kenya's health development agenda, targets, and principles

In 2015, alongside all United Nations member states, Kenya adopted the global 'Agenda 2030', consisting of 17 sustainable development goals (SDGs), and committed to promote

- "***Good health and well-being***" (SDG 3) and end the AIDS epidemic by 2030 (Target 3.3)
- "***Gender equality***" (SDG 5) and "*eliminate all forms of violence against all women and girls in the public and private spheres*" (Target 5.2)
- "***Peace, justice, and strong institutions***" (SDG 16) and "*significantly reduce all forms of violence*" (Target 16.1).

Besides global goals and commitments, Kenya's development agenda is driven by the Kenya Vision 2030 (2008) promoting "*a globally competitive and prosperous country with a high quality of life by 2030.*" Health plays vital role in advancing the quality of life for Kenya's people and "*maintaining a healthy and skilled workforce necessary to drive the economy*" (Ministry of Health [MOH], 2018a, p. 1). Kenya Health Policy 2012-2030 sets out the county's health development agenda and objectives: (1) eliminate communicable conditions (incl. HIV); (2) reverse the burden of non-communicable conditions; (3) reduce the burden of violence and injuries (incl. GBV); (4) provide essential health care; (5) minimise exposure to health risk factors; and (6) strengthen collaboration with the private and

other sectors (MOMS and MOPHS, 2012, p. 21). These are realised through the incremental implementation of medium-term Kenya Health Sector Strategic Plans, plus subsequent programme-specific and county-specific policies, plans, and strategies.

Since the Ministry of Health seeks to strengthen the health sector's role in reducing the burden of violence, injuries, and their consequences, national and county policies include GBV-related targets (Table 4). Kenya's HIV-specific national and county strategic plans align to the global AIDS agenda and its HIV treatment targets. These aspire 95% of people living with HIV know their status, 95% of people living with HIV who know status initiate ART, and 95% on treatment are virally suppressed by 2025 (UNAIDS, 2021a). As part of the Fast Track Cities initiative, Nairobi City County committed to accelerate its efforts towards achieving the global HIV treatment targets. The county's HIV & AIDS Strategic Plan (2015/16 - 2018/19) outlines the county's multi-faceted HIV & AIDS control program dedicated to adapting gender-sensitive and human rights approaches; scaling-up best practices in HIV and AIDS control; and prioritising needs of persons in informal settlements. Table 5 outlines how the county's targets align to global commitments and national goals regarding HIV and GBV.

Table 5. Kenya's HIV and IPV-related commitments and targets

Domain	Kenya's global commitments	Kenya national targets	Nairobi city county targets
HIV transmission	• Zero new HIV infections by 2030 (SDG3)	• 47% reduction of HIV incidence (from 0.19 in 2018 to 0.1 in 2023) (KHSSP II) • 75% reduction of new HIV infections (KASF II)	• 75% reduction of new HIV infections (NCCHASP)
HIV-related death	• Zero AIDS-related deaths by 2030 (SDG3)	• 50% reduction of AIDS-related mortality (KASF II)	• 25% reduction of AIDS-related mortality (NCCHASP)
HIV stigma and discrimination	• Less than 10% experience stigma and discrimination (UNAIDS)	• Less than 25% experience HIV-related stigma and discrimination (KASF II)	• 50% reduction of HIV-related stigma and discrimination (NCCHASP)
HIV financing	• 15% of government's annual budget for health (Abuja Declaration)	• 10% government contribution for commodities in health programmes (KHSSP II) • 50% increase in domestic financing for HIV response (KASF II)	• 50% increase in domestic financing of HIV response (NCCHASP)
GBV	• Zero VAW by 2030 (SDG 5, GEF) • Less than 10% experience gender inequality and violence (UNAIDS)	• 50% reduction of current GBV against women and girls (age 15-49 years) from 20% in 2014 to 10% in 2023 (KHSSP II)	• Zero GBV (NCCHSSIP)

Note. Abuja Declaration = Abuja Declaration on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases; GBV = gender-based violence; GEF = Generation Equality Forum; KASF II = Kenya AIDS Strategic Framework 2020/21 - 2024/25; KHSSP II = Kenya Health Sector Strategic Plan 2018–2023; NCCHASP = Nairobi City County HIV& AIDS Strategic Plan 2015/16 - 2018/19; NCCHSSIP = Nairobi City County Health Sector Strategic and Investment Plan 2013/14 – 2018/19; SDG = Sustainable Development Goal; UNAIDS = Global Aids Strategy 2021–2026; VAW = violence against women.

In addition to defining objectives and targets, Kenya's long-term health policy outlines the way in which health sector policies, plans, strategies, and investments should pursue good health and well-being for all. The policy's guiding principles are (MOMS and MOPHS, 2012, p. 19):

- ***"Equity in distribution of health services and interventions"*** by focussing on inclusiveness, non-discrimination, and gender equality to avoid social disparities in health care provision.
- ***"People-centred approach to health and health interventions"*** involving community participation in deciding, implementing, and monitoring health services to ensure these are premised on people's legitimate needs
- ***"Participatory approach to delivery of interventions"*** through models of dialogue and the involvement of different actors in designing and delivering health services
- ***"Multi-sectoral approach to realising health goals"*** through mainstreaming 'Health in all Sectors' like agriculture (food security), education (secondary education of girls), housing (decent housing conditions) among others.
- ***"Efficiency in application of health technologies"*** by maximising the use of existing resources and accessible, affordable, feasible and culturally acceptable technologies.
- ***"Social accountability"*** through transparency and public participation in health-related decision making.

2.7 Responding to the intersection of IPV and HIV

The previous section outlines the historic, economic, political, and health system context which constitute the social determinants of HIV and IPV epidemics in Kenya. IPV and HIV have profound impact on people's well-being and highlight the ways in which the two epidemics are mutually connected, including in that key and priority populations are more vulnerable to HIV and IPV exposure (discussed in 2.5). Globally and in sub-Saharan Africa, a variety of interventions seeking to prevent both IPV and HIV have been tested. In this section, I compare different ways of classifying these combined interventions and present the state of the evidence for their effectiveness (2.7.1). Subsequent sub-sections (2.7.2 to 2.7.5) provide illustrative examples of interventions for the specific prevention strategies. This discussion draws mainly on programmes and research from Kenya but includes relevant examples from other settings (especially Africa) in cases where evidence from Kenya is scarce.

2.7.1 Literature search strategy for and limitations of evidence review

Evidence presented in the following sections is based on a non-systematic literature review drawing on systematic reviews of randomised and non-randomised studies of IPV and HIV prevention

interventions. I used a combination of search terms related to HIV (human immunodeficiency virus, AIDS, or acquired immunodeficiency syndrome) and to IPV (intimate partner violence, gender-based violence, gender based violence, domestic violence, violence against women, IPV, GBV, or VAW) for searching PUBMED database. Search results were restricted to systematic reviews and abstracts screened to identify reviews reporting on interventions. Additional (web-based) reviews were identified by searching websites of relevant organisations (i.e., LVCT Health, Sexual Violence Research Initiative, UNAIDS, What Works, WHO, World Bank). These were complemented by non-systematic literature searches on PUBMED and GOOGLE SCHOLAR for reviews specific to the prevention strategies and for randomised and non-randomised studies conducted in Kenya.

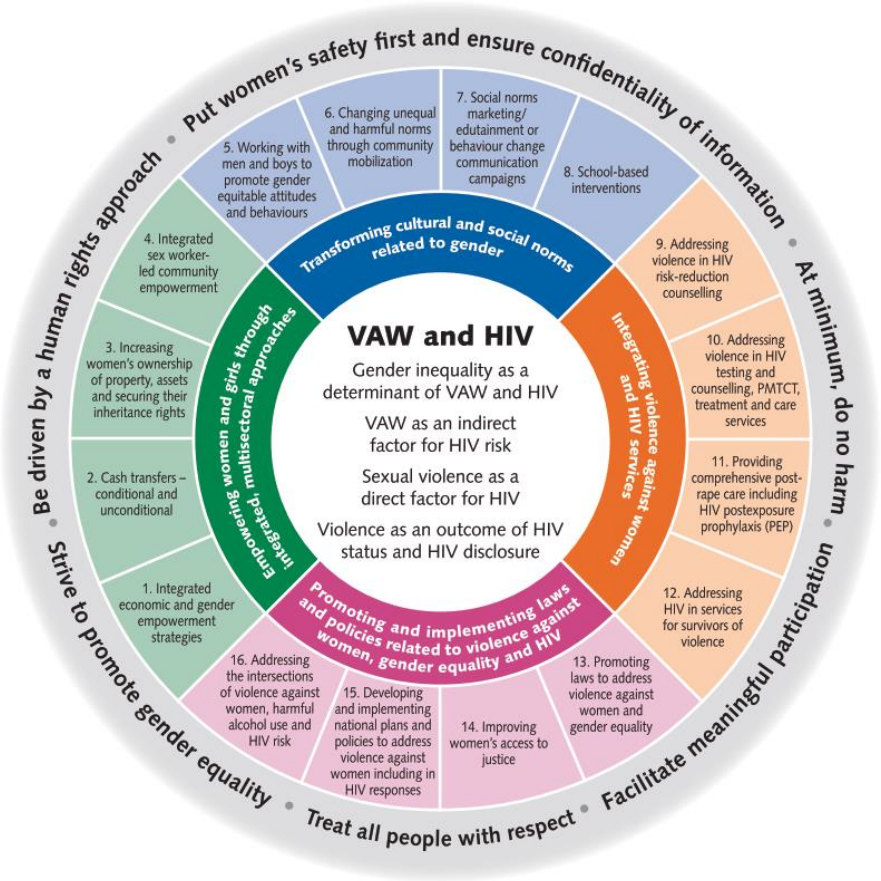
There are several limitations to the review and discussion of evidence on IPV and HIV prevention interventions presented in the following sub-sections should have been. Ideally, the evidence would have been evaluated in a systematic review. Due to time constraints in light of the complexities related to the participatory approach, mixed-methods design, and volume of empirical, methodological, theoretical literature reviewed, I could not review the HIV and IPV prevention literature in a way that would meet the standards of a systematic or integrative review (Snyder, 2019). Literature was gathered through non-systematic search strategies, non-specified inclusion and exclusion criteria, and the quality systematic reviews of randomised and non-randomised studies of healthcare interventions was not critically appraised as recommended by AMSTAR (2021). Furthermore, included systematic reviews report substantial heterogeneity, differences in outcome measures and tools, and methodological issues of studies (Arango et al., 2014, Meinck et al., 2019, Kerr-Wilson et al., 2020). In addition, there is risk of publication bias, including an over-estimation of the effectiveness of interventions, given that about one in four registered IPV studies are not published following completion (Madden et al., 2019). As a result, evidence presented should be interpreted with caution. Most studies were designed for the prevention of male-to-female IPV and evidence may not be directly transferable to other populations.

2.7.2 Strategies for addressing intersections of IPV and HIV

Reviews of combined HIV and IPV prevention intervention provide a synthesis of the effectiveness of interventions on one hand and propose ways of classifying existing strategies on the other hand. Jocelyn Anderson, Jacquelyn Campbell, and Jason Farley (2013) reviewed combined IPV and HIV interventions in sub-Saharan Africa, differentiating between those within and outside health care settings. A global systematic review by Khiya Marshall and colleagues (2018) evaluated interventions addressing both IPV and HIV, which they clustered according to respective approaches: (1) reducing behavioural risk of HIV among IPV-experienced women; (2) preventing HIV and IPV among women at risk of both; and (3) addressing structural drivers of IPV and HIV. The WHO (2013) proposes four

strategies for addressing VAW and HIV, as shown in Figure 12. These include (1) empowering women and girls; (2) integrating VAW and HIV services; (3) transforming cultural and social norms related to gender; and (4) promoting and implementing laws and policies related to gender equality, VAW and HIV. I prefer this WHO classification as it builds on ecological models of IPV and HIV, addresses the complex nature of IPV and HIV intersections, engages high-incidence populations and other people who are behaviourally vulnerable, and promotes multi-sectoral and multi-level approaches in line with the global sustainable development agenda. Since IPV is the most common form or VAW, the framework is relevant to this study.

Figure 12. Violence against women and HIV programming wheel



Note. The VAW and HIV programming wheel proposing four broad strategies (second circle from inside) and the corresponding 16 programming ideas (third circle from inside) for addressing VAW in the context of the HIV epidemic, as displayed in WHO (2013, p. 14, fig. 4).

Evidence regarding interventions under the four strategies is summarised in subsequent sub-sections (2.7.2 to 2.7.4). Here, I discuss crosscutting issues identified by systematic and narrative reviews related to HIV and/or IPV prevention interventions. Reviews and studies vary in terms of the populations they involve in integrated HIV and IPV prevention interventions; some engage women in general, others are tailored to specific groups like pregnant women, adolescent girls, female sex

workers, women who experience forced sex, women living with HIV, male partners among others (e.g., Dworkin et al., 2013, Dhana et al., 2014, Kennedy et al., 2015, Deming et al., 2018, Righi et al., 2019, Sapkota et al., 2019). Studies tend to report a blend of statistically significant and non-significant improvements in IPV and/or HIV outcomes as well as different effects for the same outcome at different time points (Marshall et al., 2018). For instance, Alice Kerr-Wilson and colleagues (2020) found 37 out of 96 randomised-controlled trials and quasi experimental studies globally (and 13 out of 42 in Africa) did not yield impact on VAW. Anderson, Campbell, and Farley (2013) found most combined IPV and HIV interventions in sub-Saharan Africa were set outside health care settings. IPV-related evidence suggests interventions engaging multiple stakeholders and addressing multiple drivers are more effective than brief, standalone interventions (Kerr-Wilson et al., 2020). Similarly, Marshall and colleagues (2018, p. 3259) found "*efficacious interventions utilise multiple strategies with multi-pronged, multi-layered approaches (e.g., both individualised and group-oriented) to address the complex syndemic of IPV and HIV*."

Reviews highlight several limitations of IPV and HIV prevention interventions and evidence gaps. There exists great heterogeneity among interventions – even within a category – regarding their components, dosage, duration, follow-up periods, outcome measures, and tools (e.g., Dhana et al., 2014, Marshall et al., 2018, Righi et al., 2019, Kerr-Wilson et al., 2020). Many IPV prevention interventions have been tested within African settings (e.g., 42 of 96 VAW prevention intervention studies) but tend to be concentrated in a few countries, primarily South Africa (13 out of 96) and Uganda (8 out of 96) (Kerr-Wilson et al., 2020). Adolescent girls and young women are targeted by numerous prevention studies globally (e.g., 40 out of 96 VAW prevention interventions), mainly conducted in schools (Kerr-Wilson et al., 2020). Jenevieve Mannell and colleagues (2019) stress interventions seeking to reduce IPV and HIV among young women do not meaningfully involve targets groups in the development of interventions and focus on individual risk factors rather than the structural contexts which expose young woman to HIV and IPV. Kerr-Wilson and colleagues (2020) stress a lack of effective interventions to prevent violence among populations who experience disproportionately high rates of violence, like women with disability. Their review did not consider interventions engaging lesbian, gay, bisexual, transgender, and intersex persons. Furthermore, evidence regarding the impact of IPV prevention interventions relies on self-reports. Therefore, underreporting is possible due to stigma around IPV or social desirability bias.

For the review of the literature on combined IPV and HIV prevention interventions, I propose adapting the approaches outlined by WHO to focus on:

- Economic and gender empowerment

- Transforming social norms related to gender
- Integrating IPV and HIV services
- Promoting and implementing laws and policies related to IPV, gender equality, and HIV

In addition, I adjust the sequence in which evidence for each strategy is presented, usually from individual empowerment to policy interventions. Instead, I discuss policy interventions first, including strength and challenges of Kenyan policies to set the scene for the discussion of the other approaches related to integration of services, empowerment, and social norm change.

2.7.3 Promoting and implementing IPV and HIV-related laws and policies

Evidence on the effectiveness of policy interventions is scarce (Table 6). Rights based approaches to sexual and reproductive health, building capacity for rights holders to claim their rights, were reported to be associated with increased condom use but evidence for the impact on HIV and IPV was conflicting (McGranahan et al., 2021). Standalone training of service providers was found to be ineffective to reduce levels of IPV (Arango et al., 2014). Similarly, WHO (2013, p. 42) suggests "*isolated efforts to train police and judiciary or increase female officers may have limited impact in the context of dysfunctional justice systems,*" recommending a whole-systems' approach. A review by Eman Zaher, Kelly Keogh, Savithiri Ratnapalan Zaher et al. (2014) found domestic violence training for healthcare workers using problem-based learning improves their perceptions, knowledge, and skills in managing domestic violence, while suggesting that physician training combined with system support interventions may lead to benefits for women undergoing domestic violence and increase in referrals. A global systematic review found evidence for the effectiveness of alcohol and/or other substance-use interventions but suggest couples' interventions are generally more effective in reducing alcohol abuse and IPV than other interventions (Kerr-Wilson et al., 2020).

Table 6. Effectiveness of promoting and implementing IPV and HIV-related laws and policies

Programme ideas	**Effectiveness**	
	VAW	**HIV**
Promoting laws and policies to address VAW and gender equality	Insufficient evidence[1]	Insufficient evidence[1]
Improving women's access to justice	Conflicting evidence[2]	Conflicting evidence[1]
Developing and implementing national plans and policies to address violence against women including in HIV responses	Insufficient evidence[1]	Insufficient evidence[1]
Addressing the intersections of violence against women, harmful alcohol use and HIV risk	Effective[3]	Insufficient evidence[1]

Note. IPV = male-to-female IPV. HIV = HIV among women. The idea of presenting evidence in tables was adopted from Arango et al. (2014). The traffic-light system for rating evidence was adopted from WHO (2013). Evidence should be interpreted with caution due to the limitations discussed in 2.7.1. The rating of evidence in this table is based on the following systematic reviews:
1 WHO (2013)
2 McGranahan et al. (2021) reports evidence of rights-based approaches on reducing IPV and HIV is conflicting. Arango et al. (2014) rates standalone training of personnel ineffective to reduce levels of IPV.
3 Kerr-Wilson et al. (2020)

2.7.3.1 IPV-related laws and policies in Kenya

In Kenya, the 2010 Constitution contains robust equality and non-discrimination provisions. Since 2015, the Protection Against Domestic Violence Act provides for the protection and relief of victims of IPV and other forms of domestic violence. The law governs emotional or psychological abuse including repeated insults and threats, which cause emotional pain; verbal abuse; economic abuse including the denial of one's right to engage in employment or income-generating activity; physical abuse; and sexual violence within marriage. The latter was excluded from the Kenya Sexual Offences Act (2006) because it was reasoned that marital relationships implied consent for sex (Kilonzo et al., 2009). Consequently, there is still a conflict between these two laws.

Help-seeking among IPV survivors remains low, especially among men (Gatuguta et al., 2018). Less than half of women (44% countywide and 42% in Nairobi) and even fewer men (28% countrywide and 15% in Nairobi) with history of physical and/or sexual IPV sought help to stop violence, but rarely from health care providers and police (6% and 10% of women, 6% and 8% of men countrywide) (KNBS et al., 2015a). Qualitative evidence from Kenya suggests lack of IPV-related awareness and knowledge impede reporting, while stigma, financial barriers, and fear of unsupportive or discriminatory responses by service providers undermine access to justice (Fernandes et al., 2020). For example, service providers illegally charge victims, especially women in informal settlements, for forms and male perpetrators of IPV reported to the police can circumvent any justice with bribes (Committee on the Elimination of Discrimination against Women [CEDAW], 2017, Gillum et al., 2018). Weak law enforcement and low prosecution rates because of limited coordination among sectors, financial and human resources, and knowledge among service providers as well as flawed evidence collection deter survivors from seeking help and justice (Kilonzo et al., 2009, Ajema et al., 2011, CEDAW, 2017, Wangamati et al., 2021). Health records observed an increase in SGBV reports from about 5,000 in 2014, to a peak of 7,600 in 2017, and close to 6,800 in 2018 (MOH, 2018a). While the rise could be attributed to better reporting, health seeking remains low given the high rates of IPV.

2.7.3.2 HIV-related laws and policies in Kenya

The 2006 HIV and AIDS Prevention And Control Act provides HIV prevention and control measures like HIV education, information, testing, and counselling. It further protects human rights and civil liberties of persons living with HIV, including facilitating their access to healthcare services; prohibiting compulsory testing; protecting against discrimination at workplaces, schools, and health facilities; and guaranteeing confidentiality (*HIV And AIDS Prevention And Control Act (Kenya)*). Same-sex sexual relationships and acts as well as living wholly or in part on the earnings of "prostitution" are illegal under Kenyan law (*Penal Code (Kenya) CAP.63*). Stigma, discrimination, and threat of prosecution are serious barriers to health services for gay, bisexual, and other men who have sex with men as well as sex workers. Until recently, provisions of the HIV act criminalising HIV transmission provided further disincentives to seek health care, especially for sex workers. In 2015, the Kenya High Court ruled these provisions were unconstitutional (Center for Reproductive Rights, 2015).

The Ministry of Health Kenya recognises the vulnerability of sex workers and men who have sex with men to HIV and their challenge to seek health care. Kenya's AIDS Strategic Framework (2020/21-2024/25), guiding the country's comprehensive HIV programme, states commitment to promoting human rights and differentiated service delivery in respect to population needs and geographic context. In order to ensure universal access to comprehensive, quality, and integrated prevention of HIV, the strategy recommends prevention packages, involving biomedical, behavioural, and structural interventions, tailored to the needs of specific populations, like adolescent girls, young women, young men (in high priority geographies), female sex workers, men who have sex with men, people who inject drugs, transgender people, sero-different couples and other priority populations,. Additionally, the strategy seeks to reduce GBV, prevent stigma and discrimination of people living with HIV, and leverage communities led programmes to advance the effectiveness of Kenya's HIV response (NACC, 2021).

Kenya's 2018 population-based HIV impact assessment estimates that three in four adults (age 15-65) living with HIV have achieved viral load suppression (72% [95% CI: 69-74%]), with men (65% [59-71%]) having achieved lower rates compared to women (75% [72%-78%]) (NASCOP, 2020). The gendered disparity in viral load suppression could be driven mainly by differences in uptake of HIV testing, rather than ART uptake or adherence since the recent HIV impact assessment found that more women than men who tested HIV positive knew their HIV status (83 vs 73%), but similar rates of ART coverage among women and men who knew their HIV status (97 vs 95%) and of viral load suppression among women and men on HIV treatment (90 vs 91%) (NASCOP, 2020).

2.7.4 Integrating services

Building on experiences of integrating reproductive health and HIV services, Kenya's integration framework seeks to expand its integration agenda to other related health issues like HIV, SGBV, sexual health and reproductive health, and tuberculosis (MOH, 2018b). Since the framework promoting integrated health care is relatively new, examples of service integration are limited. For example, GBV screening and referral services are recommended for people initiating and taking antiretroviral treatment (Ministry of Health [MOH], 2015); and prevention of sexual violence against female and male sex workers is recommended within targeted HIV programmes (NASCOP, 2010). Integration of IPV support was found to be feasible in Kenya, but evidence is skewed toward secondary prevention at facility-delivered antenatal and primary health care (Turan et al., 2013, Mutisya et al., 2018). Among local initiatives addressing IPV and HIV simultaneously (LVCT Health, 2017), only a few were evaluated rigorously (Sakwa et al., no date).

Global evidence on integrating IPV and HIV services for preventing IPV and HIV is reported in Table 7. The WHO (2013) review found evidence for integrating IPV primary prevention interventions in HIV risk-reduction counselling promising for preventing VAW and effective for HIV-related outcomes.

Table 7. Effectiveness of integrating IPV and HIV services

Programme ideas	Effectiveness	
	IPV	HIV
Addressing violence in HIV risk-reduction counselling	Promising[1]	Effective[1]
Addressing violence in HIV testing and counselling, prevention of vertical transmission, treatment, and care services	Insufficient evidence[2]	Insufficient evidence[1]
Providing comprehensive post-rape care including HIV post-exposure prophylaxis	N/A[1]	Effective[1,3]
Addressing HIV in services for survivors of violence	N/A[1]	Promising[1,3,4]

Note. IPV = male-to-female IPV. HIV = HIV among women. The idea of presenting evidence in tables was adopted from Arango et al. (2014). The traffic-light system for rating evidence was adopted from WHO (2013). Evidence should be interpreted with caution due to the limitations discussed in 2.7.1. The rating of evidence in this table is based on the following systematic reviews:
1 WHO (2013)
2 Kennedy et al. (2015)
3 Deming et al. (2018)
4 Cavanaugh and Ward (2021) suggest women with history of IPV who received HIV prevention intervention reported fewer episodes of condomless sex or consistent condom use during sex compared with control group.
N/A = The WHO (2013) review rates this approach as not applicable (N/A) in terms of its impact on preventing violence as it responds to women who have already experienced violence.

According to WHO (2013), evidence regarding the integration of IPV support in HIV testing, treatment, and care programmes is insufficient for rating their impact on HIV-related outcomes. Similarly, Caitlin Kennedy and colleagues (Kennedy et al., 2015) found insufficient evidence for rating the impact of safer HIV disclosure interventions (integrated screening for IPV in HIV testing services and support for HIV disclosure by trained counsellors) on IPV. Health facilities and health care providers may also be ill-equipped to support safe disclosure among women at risk of IPV (Obermeyer et al., 2011). The successful delivery of IPV prevention interventions in healthcare settings require ongoing organisational commitment to ensure uninterrupted availability of the intervention and support for healthcare workers to be non-judgemental, empathetic, and supportive (Sapkota et al., 2019). A review by Lorna O'Doherty and colleagues (2014) suggests IPV screening programmes in healthcare settings, which do not entail additional advocacy or therapeutic interventions, increase IPV identification but do not advance referrals to domestic violence support services or reduce IPV. Similarly, Kerr-Wilson and colleagues (2020) report IPV counselling and safety planning as stand-alone interventions are ineffective in reducing IPV. Angela Taft and Manuela Colombini (2017, p. 2) argue screening programmes build on assumptions, which may not hold true:

> *"The … hypothesis was that if nurses screened, identified, and counselled women, and provided safety plans and referrals to community resources, then their partner's violence might decrease. However, this is likely to be out of the control of both the women and certainly nurses."*

Evidence from integrating more comprehensive IPV prevention and support services in health care settings in Kenya is promising for acceptability, feasibility, and improving IPV-related outcomes. In Nyanza Province, an integrated GBV prevention programme in rural primary health-care setting increased awareness on GBV, supported affected women in accessing GBV services, and was acceptable and feasible to healthcare providers and the surrounding community (Turan et al., 2013). In this programme, clinic staff screened pregnant women during antenatal care and provided GBV services and community-supported referrals to existing GBV service providers. Similarly, a pilot study found IPV screening, counselling and referral services offered to women at community HIV testing and counselling centres in urban and peri-urban areas were acceptable and feasible for women and service providers (Sakwa et al., no date). The two studies achieved different levels in uptake of referral services (53% in rural vs 29% in urban setting) (Sakwa et al., no date, Turan et al., 2013). Within Kenya's widely appreciated community health programme (McCollum et al., 2016), community health workers play a critical interface role in linking communities and the formal health sector and extending health services to the community, including for HIV (Otiso et al., 2017). Their involvement in IPV prevention is unclear, although such involvement may be beneficial for reducing IPV (Digolo et al., 2019).

Kenyan HIV testing and counselling guidelines recommend disclosure support to mitigate the risk of IPV following disclosure (MOPHS, 2010). Research in Kenya indicates counsellor-supported disclosure increases the uptake of couple HIV testing and counselling and assisted partner notification services rarely triggers IPV (Kababu et al., 2018, Cherutich et al., 2017). Comprehensive post-rape care services for survivors of rape (including HIV post-exposure prophylaxis within 72 hours of the incident) are considered effective in preventing HIV (WHO, 2013). Kenya's post-rape care package, laid out in the 2009 guidelines, includes post-exposure prophylaxis for female and male survivors of sexual violence (MOPHS and MOMS, 2009). However, post-exposure prophylaxis provision is inconsistent as hospital records show. Data of 2015 from two referral hospitals (level 4 and 5 outside Nairobi) reveal 1 in 6 survivors of sexual violence missed out on post-exposure prophylaxis (Gatuguta et al., 2018). Global evidence suggests HIV prevention interventions for women with history of IPV is promising in reducing HIV-related risk and promoting consistent condom use (WHO, 2013, Cavanaugh and Ward, 2021).

2.7.5 Economic and gender empowerment

Table 8 shows evidence for the effectiveness of four types of interventions using economic and gender empowerment strategies. Integrated economic and gender empowerment programmes with women are considered effective for preventing IPV and promising for preventing HIV (WHO, 2013, Kerr-Wilson et al., 2020). The Intervention with Microfinance for AIDS and Gender Equity (IMAGE) study in South Africa, combining a microfinance programme with participatory learning sessions (incl. gender roles, cultural beliefs, power relations, domestic violence and HIV) effectively reduced IPV experiences among participating women in South Africa (Pronyk et al., 2006) and demonstrated the superiority of the combined economic and gender empowerment approach compared to the economic empowerment alone (Kim et al., 2009). An adaptation of IMAGE, called Mashinani (which means together we can succeed economically in Swahili), was tested in a small study in Korogocho informal settlement in Nairobi between October 2014 to May 2015. Eighty women with history of physical and/or sexual IPV were provided with psycho–social support, eight-week business management training, and microloans. After 4-to-5 months follow-up period, women reported fewer incidences of recent (past three months) IPV compared to baseline.

Table 8. Effectiveness of economic and social empowerment interventions

Programme ideas	Effectiveness	
	IPV	HIV
Integrated economic and gender empowerment strategies targeting women	Effective[1]	Promising[2]
Cash transfers – conditional and unconditional	Effective[1]	Promising[2,3]
Increasing women's ownership of property, assets and securing their inheritance rights	No evidence available[2]	No evidence available[2]
Integrated sex worker-led community empowerment	Promising[1]	Effective[2,4]

Note. IPV = male-to-female IPV. HIV = HIV among women. The idea of presenting evidence in tables was adopted from Arango et al. (2014). The traffic-light system for rating evidence was adopted from WHO (2013). Evidence should be interpreted with caution due to the limitations discussed in 2.7.1. The rating of evidence in this table is based on the following systematic reviews:
1 Kerr-Wilson et al. (2020)
2 WHO (2013)
3 Stoner et al. (2021) found most evidence is limited in demonstrating cash transfers can reduce HIV but government social protection cash transfer programs and programs incentivizing school attendance among adolescent girls and young women show greatest promise for HIV prevention.
4 Kerrigan et al. (2013);

Kenya operates different economic empowerment programmes. In line with Article 27 of the Constitution, which provides for affirmative action to redress disadvantages suffered due to discrimination, Kenya's national government established several affirmative action funds.[17] Coordinated by the State Department of Gender Affairs, these funds provide loans and capacity building to women, youth, and persons living with disability for enterprise development (individually or in groups). An evaluation suggests these funds supported the establishment and expansion of businesses, increased access to markets, and improved food security (Kiriti-Nganga and Mogeni, 2020). Lack of access to funds by people in the informal sector, limited human resource capacity for the administration of funds, politicisation of funds, and low repayment rates undermine the implementation and impact of funds (Kiriti-Nganga and Mogeni, 2020).

In addition to economic and gender empowerment programmes for women, others engage women and their male partners. The Women Plus programme, which combined a microenterprise assistance intervention called Women's INcome Generating Support (WINGS) with partner participation, did not lead to reduction in IPV rates but improved the quality of partner relations among participating couples in rural Uganda (Iyengar and Ferrari, 2010, Green et al., 2015). A study in Côte d'Ivoire found a combined gender dialogue and savings group interventions was more effective in reducing women's

[17] Uwezo Fund, Women Enterprise Fund, and Youth Enterprise Development Fund

experiences of economic IPV (e.g., husband refused money for household necessities) compared to savings groups alone (Gupta et al., 2013). Women who attended most gender dialogue sessions with their male partner reported lower levels of physical IPV compared to women who attended savings groups only (Gupta et al., 2013). A similar approach applied in gender dialogues among village saving groups in Burundi enhanced women's decision-making authority but did not yield statistically significant reduction in IPV rates (Iyengar and Ferrari, 2010). Participation in saving groups was found to improve adherence to HIV treatment among women and men living with HIV in Ethiopia (Bezabih et al., 2018).

Conditional and unconditional cash transfer programmes with women are rated effective for preventing IPV and promising for preventing HIV (WHO, 2013, Kerr-Wilson et al., 2020). However, a recent systematic review which evaluated 27 cash transfer programmes (incl. 23 conducted in Africa) found limited evidence for their impact on sexual behaviour and HIV (Stoner et al., 2021). Overall, 10 out of 18 studies reported delayed sexual debut and 3 out of 8 studies reduced HIV incidence or prevalence (Stoner et al., 2021). Authors conclude government social protection cash transfer programs and programs incentivizing school attendance among adolescent girls and young women show greatest promise for HIV prevention (Stoner et al., 2021).

Interventions seeking to increase ownership of assets and property among women and other marginalised populations may involve training government officials to uphold property rights, strengthening knowledge on property rights and inheritance among priority populations, and providing legal services. However, such interventions have not been evaluated with regards to IPV and/or HIV outcomes (WHO, 2013). Cross-sectional studies suggest Kenyan women who own land are less vulnerable to HIV since they report fewer current sexual partners and lower rates of transactional sex compared to women who do not own land (Muchomba et al., 2014). Since land ownership is out of reach for most Nairobi residents, their financial security may depend on employment and savings. A study with girls (age 15-19) living in informal urban settlements across Kenya indicates girls who work and have no regular savings experience greater levels of IPV than those who work and have regular savings (Muthengi et al., 2016). Complementary qualitative data confirm savings decrease girls' dependency on men and make it easier for them to leave abusive partners (Muthengi et al., 2016).

Evidence reviews found integrated sex worker-led community empowerment programmes effective for improving HIV-related outcomes and effective in reducing violence from clients (Kerrigan et al., 2013, WHO, 2013, Kerr-Wilson et al., 2020). Interventions working at multiple levels, apply a combination of effective biomedical, behavioural and structural prevention approaches within

community-based programmes are most effective (WHO, 2013, Bekker et al., 2015). The Sonagachi programme in India has demonstrated the vital role community-led initiatives play in boosting the impact of clinical services and health education on HIV-related prevention outcomes (Swendeman et al., 2009). Sonagachi empowerment strategy (involving community organising, advocacy, rights-based framing, and micro-finance approaches) addresses power dynamics and risk environments in workplaces of female sex workers to advance HIV prevention goals and improve sex worker autonomy and safety. In comparison with standard care, the empowerment programme resulted in improved HIV-related knowledge, improved skills in sexual and workplace negotiations, strengthened social support among sex workers, and reduced economic insecurity (Swendeman et al., 2009). The WHO (2013) recommends violence prevention and community-mobilisation as integral parts of HIV services for sex workers. However, evidence on IPV prevention interventions with female sex workers is promising but insufficient (Kerr-Wilson et al., 2020). Moreover, the WHO (2013) cautions about unintended programme outcomes like heightening chances of sex workers experiencing IPV from intimate partners who feel threatened by sex workers becoming empowered.

2.7.6 Transforming social norms

Table 9 shows evidence related to interventions targeting social norm change. Community mobilisation strategies for changing unequal and harmful norms are effective in reducing IPV and promising for preventing HIV (WHO, 2013, Kerr-Wilson et al., 2020). Stepping Stones is one of the first interventions that combined HIV and IPV prevention, applying social norm change strategy through participatory learning sessions on topics like sexuality, love, sexual and reproductive health, HIV, GBV, and communication skills (Jewkes et al., 2008). When tested in a randomised controlled trial in South Africa, Stepping Stones improved various risk behaviours in men, for example perpetration of IPV, transactional sex and problem drinking, but effects on prevention of HIV and IPV experiences among women were not statistically significant (Jewkes et al., 2008).

Other interventions targeted at changing social norms use community mobilisation approaches to prevent IPV. For example, the SASA! (which means 'now!' in Swahili and as an acronym stands for intervention phases Start, Awareness, Support, and Action) and the Safe Homes And Respect for Everyone (SHARE) interventions in Uganda involved a variety of stakeholders at local and national levels and combined promotion of local activism with media campaigns and stakeholder training (Abramsky et al., 2012, Wagman et al., 2012). Like Stepping Stones, SASA! reported statistically significant reductions in self-reported IPV perpetration among men within the community, but insignificant decrease in self-reported IPV experiences among women (Abramsky et al., 2014). In addition, SASA! reduced acceptance of male-to-female IPV in the community and demonstrated the effects of community-level normative attitudes towards IPV on intervention effect (Abramsky et al.,

2016). SASA! has been implemented in Kenya, including as part of a quasi-experimental study by LVCT Health (Digolo et al., 2019). Contrary to SASA!, SHARE reported reductions in women's IPV experiences, but did not show impact on levels of IPV perpetration by men (Wagman et al., 2015).

Table 9. Effectiveness of transforming social norms

Programme ideas	Effectiveness	
	IPV	HIV
Changing unequal and harmful norms through community mobilisation	Effective[1]	Promising[2]
Working with men and boys to promote gender equitable attitudes and behaviours	Promising[1,2,3]	Promising[2,3]
Social norms marketing/ edutainment or behaviour change communication campaigns	Ineffective[4]	Promising[2]
School-based interventions	Promising[1,5]	Promising[6]

Note. IPV = male-to-female IPV. HIV = HIV among women. The idea of presenting evidence in tables was adopted from Arango et al. (2014). The traffic-light system for rating evidence was adopted from WHO (2013). Evidence should be interpreted with caution due to the limitations discussed in 2.7.1. The rating of evidence in this table is based on the following systematic reviews:
1 Kerr-Wilson et al. (2020)
2 WHO (2013)
3 Dworkin et al. (2013)
4 Kerr-Wilson et al. (2020) found insufficient evidence, but suggest social marketing campaigns and edutainment are unlikely to work as standalone interventions to reduce VAW.
5 Meinck et al. (2019)
5 Fonner et al. (2014) suggest school-based sex education is an effective strategy for reducing HIV-related risk (e.g., greater HIV knowledge, fewer sexual partners, and higher rates of condom use).

Working with men and boys to promote gender equitable attitudes and behaviours has gained greater attention in the prevention of IPV as this strategy has shown to be promising for preventing IPV and HIV. A systematic review suggests gender-transformative interventions involving heterosexual men found evidence for self-reported increase in condom use and HIV testing among men and for self-reported reduction in transactional sex (purchasing sex) and use of violence against women (Dworkin et al., 2013). In the Democratic Republic of the Congo (DRC), faith leaders were trained to deliver "Transforming Masculinities" dialogues among women and men that resulted in decreasing experience and perpetration (across all forms) of IPV among women and men respectively (Bezzolato et al., 2019); statistical significance or confidence intervals of estimated changes were not reported. The Responsible, Engaged, and Loving (REAL) Fathers Initiative, implemented in Northern Uganda, assisted fathers in taking on non-violent parenting and conflict resolution methods through mentoring and a community poster campaign (Ashburn et al., 2017). Men's self-reports suggest the intervention reduced IPV and violence against children (Ashburn et al., 2017). A qualitative study among male GBV

activists in Kenya suggests male activism contributed to broadening the understanding of gender from being limited or equal to women (Edström et al., 2014). In addition to preventing IPV against women, Kenyan male GBV activists have enhanced visibility of men as survivors of IPV and help male survivors to come out (Edström et al., 2014).

According to Kerr-Wilson et al. (2020), limited evidence on social marketing campaigns and edutainment indicates such strategies are unlikely to be effective in isolation. School-based approaches have shown to be effective for preventing IPV and promising for preventing HIV. School-based approaches target mainly adolescent girls and boys. Since they are not the primary target group of this study, I limit the illustrative examples to the DREAMS programme because of its presence in the study community.

The multi-sector DREAMS programme – an integrated HIV and GBV prevention programme for adolescent girls and young women (age 15-24 years) by the United States President's Emergency Plan for AIDS Relief – has been implemented in Kenya and elsewhere since 2014. The DREAMS core package includes a combination of tested prevention approaches to reduce HIV risk and incidence among adolescent girls and young women. These are: (1) empowering adolescent girls and young women and reduce their risk (incl. biomedical interventions and mentoring); (2) strengthening families of participants (incl. educational subsidy at secondary school level and parenting programmes); (3) mobilising communities for change; and (4) reducing HIV risk among men in the same geographic locations as DREAMS (incl. HIV testing, treatment, and voluntary medical male circumcision) (Saul et al., 2018). Data from Nairobi suggest high uptake of DREAMS interventions, mostly those operating at the individual level and rarely in combination with community mobilisation or parenting interventions (Mulwa et al., 2021). While impact in Nairobi is currently being evaluated, data from western Kenya indicate substantial declines in HIV incidence among adolescent girls, young women and young men started before DREAMS was introduced and did not accelerate during initial years of DREAMS implementation (Birdthistle et al., 2021).

2.8 Action linking initiatives of violence against women and HIV everywhere (ALIV[H]E)

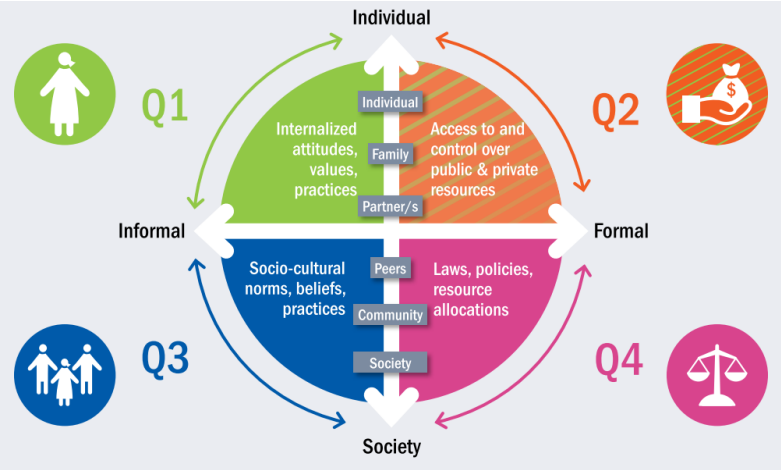
Despite the growing number of effective IPV and HIV prevention interventions, there is lack of evidence related to the combinations of different interventions and their effects towards preventing HIV and IPV globally and in Kenya. Experiences have shown the importance of context-specific understanding of drivers of IPV and HIV as well as the involvement of local stakeholders and future participants (Community for Understanding Scale Up [CUSP], 2017, Stern et al., 2018). Within many settings, public and not-governmental health facilities and organisations already offer a variety of IPV

and HIV services. Research is needed that demonstrates how to assess, strengthen, and complement existing interventions to address the IPV and HIV linkages.

The Action Linking Initiatives of Violence Against Women and HIV Everywhere (ALIV[H]E) framework was developed to help address these evidence gaps (Salamander Trust et al., 2017). ALIV[H]E is the product of a participatory learning process involving organisations in Kenya, Malawi, South Africa, South Sudan, Zimbabwe, and India (Hale et al., 2018). The expertise of women living with and affected by HIV around the world was centred in creating ALIV[H]E (Hale et al., 2018). The development of ALIV[H]E was supported by UNAIDS and coordinated by a global reference group, the AIDS Legal Network, Athena Network, HEARD, Project Empower, and Salamander Trust (Salamander Trust et al., 2017). Participating partners in Kenya include Better Poverty Eradication Organisation (as NGO/CBO partner), LVCT Health (as research institute), and the UNAIDS county office (Salamander Trust et al., 2017).

ALIV[H]E provides a step-by-step approach for generating nuanced understanding of the intersections of VAW and HIV and subsequently strengthening VAW and HIV programmes (Salamander Trust et al., 2017). Figure 13 shows the change matrix which underpins the ALIV[H]E approach and is conceptually related to the WHO 16 programme ideas (2.7.1). ALIV[H]E promotes human rights, sexual and reproductive health and rights, gender equity and equality, respect for diversity, safety, and evidence-informed programming as well as the involvement of priority populations in planning, implementing, and evaluating VAW and HIV services (Salamander Trust et al., 2017). ALIV[H]E was piloted in five countries, including in Kenya where LVCT Health participated in the development of framework (Salamander Trust et al., 2017). Since then, ALIV[H]E has been applied to strengthen action on linkages between HIV and VAW in the Middle East and North Africa through community dialogues in seven countries; to advance the participation and inclusion of women with disabilities in GBV programmes in Botswana; and to explore the feasibility of addressing violence in existing HIV programmes in India (AIDS Legal Network et al., 2019). Applications of ALIV[H]E have not focussed on linkages of HIV and IPV in an informal urban settlement nor assessed its relevance for other key and priority populations who are important for HIV and/or IPV response (like men who have sex with men and people who use drugs).

Figure 13. ALIV[H]E change matrix



Note. The change matrix used by the ALIV[H]E framework (Salamander Trust et al., 2017, p. 22, fig. 5). The change matrix originates from an analytical framework by Gender at Work (2018).

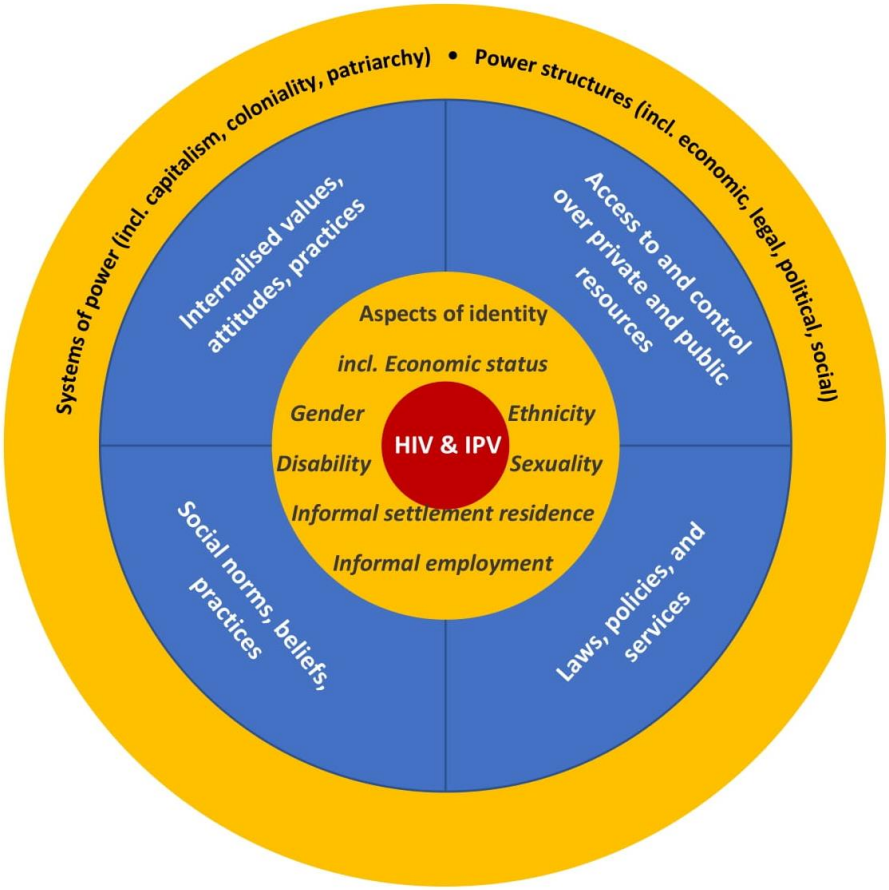
2.9 Chapter summary

This chapter introduces key theoretical concepts relating to well-being, urban informality, urban health equity, power, intersectionality, and coloniality, which are summarised in 2.4.8 and harmonised within an intersectionality conceptual framework (Figure 9 in 2.4.8). Subsequent sections applied key concepts and aspects to the HIV and IPV literature.

The impact HIV and IPV have on physical, mental, material, and social well-being are discussed (2.5.1 and 2.5.2), before the numerous pathways through which IPV and HIV are connected in complex and bidirectional ways are elaborated (2.5.3). The discussion of HIV and IPV linkages – focusing on gender, urban informality, socio-economic status, sexuality, and disability as axes of power – shows some people are more likely to be affected due to behavioural vulnerability to HIV and IPV and compounded systemic disadvantages they are faced with. The historic, economic, political, and health system context of Kenya and Nairobi are introduced (2.6) providing the background of this thesis, in general, and the HIV and IPV response, outlined in 2.7. Then follows the introduction of the ALIV[H]E framework – a research and programming tool for strengthening coordinated HIV and IPV response.

I conclude this chapter with an update of the intersectionality conceptual framework (Figure 14), incorporating lessons from the IPV and HIV literature. Additional layers of identity (incl. disability, sexuality) are added. The conceptual framework adopts the four domains of power proposed in the ALIV[H]E matrix (2.8). These domains provide a lens to the examination of processes of power, which can manifest in different expressions and faces.

Figure 14. Conceptual framework for intersections of IPV and HIV



Note. Intersectionality conceptual framework: Power structures and systems (outer circle, yellow) shape expressions, faces, and processes of power – manifest internalised values, attitudes, practices; social norms, beliefs, practices; access to and control over private and public resources; and laws, policies, services (third circle from inside, blue). Together these influences one's circumstances, including vulnerability to HIV and IPV (red circle), based on multiple aspects of identity (second circle from inside, yellow).

Chapter 3: Methods

3.1 Chapter overview

This chapter presents the epistemological, methodological, and theoretical underpinnings of the thesis (3.2). I present the methods used to achieve specific objectives - a secondary data analysis and a participatory study (3.3). Table 10 summarises the respective research methods and explains where study methods and findings are presented in the thesis Methods and Results chapters.

Table 10. Linking study objectives to Methods and Results chapters

Objective	1. To compare rates of current female and male IPV by urban residence (informal and formal settlements) while controlling for other risk factors	2. To understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.	3. To provide a critical reflection of experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.
Publication	Chapter 4	Chapter 5	Chapter 6
Methods	Sections 3.4 and 4.4	Sections 3.5 and 5.4	Sections 3.5 and 6.4
Sample	Women (age 15-49 years) (n=1,613) Men (age 15-54 years) (n= 1,312)	Focus group discussion (n=88) Key informants (n=10)	Research team (4 researchers and 11 co-researchers)
Data collection	Secondary data from the 2014 KDHS	Focus group discussion Key informant interview	Individual and group reflections Research team meetings
Data analysis	Statistical analysis (binomial mixed-effects models)	Participatory data analysis (DEPICT*)	Reflexivity and thematic analysis
Results	Section 4.5	Section 5.5	Section 6.5
Discussion	Section 4.6 and Chapter 7	Section 5.6 and Chapter 7	Section 6.5 and Chapter 7

*Note. *DEPICT is an acronym representing six data analysis steps: Dynamic Reading, Engaged codebook development, Participatory coding, Inclusive reviewing and summarising of categories, Collaborative analysing, and Translating (Flicker and Nixon, 2015).*

3.2 Epistemological, methodological, and theoretical underpinnings

Participatory models of research emerged in different disciplines, settings and times like action research (US from the 1940s) (Lewin, 1946), pedagogy of the oppressed (Latin America from the 1960s) (Freire, 2005), participatory rural appraisal (Asia from the 1970s) (Chambers, 1994), participatory action research (Africa, Asia and Latin America from the 1960s) (Loewenson et al., 2014) and community-based participatory research (America from the 1990s) (Israel et al., 1998). Over time, these approaches contributed to the formation of a participatory paradigm with distinct views about the nature of reality, knowledge and ways of knowing (Loewenson et al., 2014).

From a participatory perspective, reality is subjective and co-created (Loewenson et al., 2014). Epistemological underpinnings of the participatory paradigm build on paradigms that view knowledge as plural, subjective and, thus, inseparable from the knower. These include critical theory, which perceives knowledge of social reality as dynamic and shaped by social, political, economic factors; and constructivism that considers all knowledge to be constructed from human experience (Loewenson et al., 2014, Israel et al., 1998). Conventional forms of inquiry involve researchers as experts who conduct research on people as passive subjects providing data. Participation – as the defining principle of participatory research – sets it apart from other approaches. The ideas and work of Brazilian educator Paulo Freire strongly influenced participatory research approaches. He criticised education and knowledge systems for creating unequal (vertical) social relations and imposing knowledge on people (Freire, 2005). He considered such practice as disempowering and dehumanising because they can make people accept fragmented knowledge, internalise negative images about themselves, and don't develop their creativity and critical thinking capacity (Freire, 2005).

Epistemological and methodological critiques of conventional inquiry approaches - for example in development, disability, and health research – emphasise problems of power, representation, and social justice. Problems arise from underlying power structures and relations (Chambers, 2017, Oliver, 1992, Wallerstein et al., 2017). Such critiques prompted the development of emancipatory and participatory ways of inquiry (Cornwall and Jewkes, 1995, Stone and Priestley, 1996, Gaventa and Cornwall, 2006). Participatory research seeks to overcome the separation between subject and object. Those whose life or work is affected by the issue at hand are actively involved throughout the research process as active researchers and agents of change (Loewenson et al., 2014, International Collaboration for Participatory Health Research [ICPHR], 2013). Participatory research is typically characterised by "*shared ownership of research projects, community-based analysis of social problems, and an orientation toward community action*" (Kemmis and McTaggart, 2000, p. 568).

3.2.1 Participation and power-sharing

Community participation in health research is justified from a rights-based perspective (facilitating right to self-determination), scientific perspective (enhancing validity of results), and ethical perspective (advancing equity and justice) (Rogers, 2006, Pratt, 2019, Cashman et al., 2008). Participatory research envisions the community as the primary source of information and primary actor in generating, validating, and using the knowledge for action (Loewenson et al., 2014). Equitable research partnerships between researchers and the community are an essential part of the solution to address health inequities and improve health of those considered disadvantaged (Rogers, 2006, Loewenson et al., 2014). Maximising the participation of those affected by the problem studied in all stages of the research process, gradually adjusting the differential power relationships between researchers and lay people, and equalising power relations are explicit goals in participatory health research (Baxter et al., 2001, ICPHR, 2013). Participatory research is a departure from power-over to make space for collective power, stimulating processes of power-within, power-to, and power-with (2.3.2). The fundamental shift in the location of power and power-sharing in the research process requires awareness of power differentials within the research, a desire to share power among all stakeholders, willingness by the powerful to give up power, and processes that enable lay people to influence decisions (Baxter et al., 2001, Roura, 2020, Pratt, 2021).

In theory and practice, community participation in research partnerships takes different forms, whereby not all of them are empowering. Sherry Arnstein (1969) coined the ladder of community participation (manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control). Participation can be tokenistic if the involvement of community members is limited to support roles with no real decision-making power over processes (Cornwall, 2008). Stephen Biggs (1989, p. 3) classified the relationships between outside researchers and resource-poor communities in agricultural research and identified four types of farmer participation:

- **Contractual**: Outside researchers use the facilities or resources of the community to carry out own research.
- **Consultative**: Outside researchers consult community about their problems and then develop solutions.
- **Collaborative**: Outside researchers and community collaborate as partners in the research process.
- **Collegial**: Outside researchers work to strengthen community's informal research and development systems.

In addition, communities also conduct own research without any involvement of outside researchers. In light of this, Jock Cambell and Venkatesh Salagrama (2001) developed the typology further and defined a spectrum of nine types of community involvement in (fisheries) research ranging from professional researcher-led studies without community participation (like laboratory-based studies) to lay researcher-led studies conducted without professional researchers. According to this typology, a professional-led collaborative study refer to "*professionals allowing the involvement of lay people in the research activities of the professional under prescribed conditions*" (Baxter et al., 2001, p. 49). The level of participation is determined by the extent to which power and decision-making shift towards lay people. Since participation is a process, the capacity, opportunities, and space for participation may change over the duration of a study. Therefore, it may be more meaningful to assess the dynamic processes of participation and power-sharing research, instead of classifying entire studies as researcher-led, collaborative, or lay-led. Andrea Cornwall (2008 cited in ICPHR, 2013, p. 7) reported six types of participation (shown in Box 1), which allow assessment of the extent of participation at different research stages.

Box 1. Six types of community participation in research

- **Co-option**: Token representatives are chosen but have no real input or power in the research process.
- **Compliance**: Outside researchers decide the research agenda and direct the process, with tasks assigned to community members and incentives being provided by the researchers.
- **Consultation**: Local opinions are asked for, but outside researchers conduct the work and decide on a course of action.
- **Co-operation**: Community members work together with outside researchers to determine priorities, with responsibility remaining with outsiders for directing the process.
- **Co-learning**: Community members and outside researchers share their knowledge to create new understanding and work together to form action plans, with outsiders providing facilitation.
- **Collective action**: Community members set their own agenda and mobilise to carry out research in the absence of outside initiators and facilitators.

Note. Adapted from Andrea Cornwall (2008 cited in ICPHR, 2013, p. 7).

3.2.2 Reflection and action

Participatory research seeks to create knowledge that offers new possibilities and stimulates change. For Freire, reflection and action, theory and practice, word and work are inseparable and constitute human activity which is liberating and transformational. He promoted a humanist and libertarian pedagogy that stimulated oppressed people to think critically about themselves and reality and to produce and act upon their own ideas in order to liberate themselves (Freire, 2019). His pedagogy influenced participatory research to value different ways of knowing and forms of knowledge (experiential and academic); to respect communities as knowledgeable, capable, and creative; to promote collective reflection and action to build new knowledge; and to "*move from practical problem solving towards more fundamental social transformation*" (Loewenson et al., 2006, p. 21).

The repeated action and reflection cycles constituting knowledge creation in participatory research were further inspired by action research. Lewin (1946) merged social science, learning and action to create action research as an approach for understanding and addressing social problems by involving stakeholders collaboratively in planning, action, and evaluation cycles. In the action and reflection cycles, quantitative and qualitative methods can be used and adjusted for data collection and analysis in participatory ways (Dias et al., 2018, Flicker and Nixon, 2015). In addition, a vast array of participatory methods has been tested like in participatory rural appraisal, an approach developed to empower rural communities to share and analyse their knowledge for planning and action on issues affecting them (Chambers, 1994). Participatory methods involve mapping and diagramming; grouping, ranking and scoring; roleplays and storytelling; calendars and transect walks (Chambers, 1994, Loewenson et al., 2006).

3.2.3 Participatory health research

Participatory health research building on this rich and diverse tradition of participatory approaches and is increasingly applied to improve health and health equity (Ortiz et al., 2020). Over time, researchers consolidated existing knowledge from different strands developing shared definition, principles, and values of participatory health research (ICPHR, 2013, Israel et al., 1998). Box 2 shows principles of participatory health research agreed in global dialogue facilitated by the International Collaboration for Participatory Health Research (ICPHR). Participatory heath research views health as a social right; uses positive, holistic, and ecological models of health; and focusses on biomedical, economic, historical, political, and social factors as determinants of health (Israel et al., 1998, Loewenson et al., 2014, Wallerstein, 2020). Deep concern to overcome health inequities and social injustice is embedded in participatory health research seeking to address health needs of those considered disadvantaged or marginalised and enabling their participation in research and decision-

making, and listening to the experiences and perspectives of those whose voices have been marginalised, silenced, devalued, made to feel inferior, and/or erased (Rogers, 2006, Pratt, 2021).

Box 2. Characteristics of participatory health research

Participatory health research
1) is participatory.
2) is locally situated.
3) is a collective research process.
4) projects are collectively owned.
5) aims for transformation through human agency.
6) promotes critical reflexivity.
7) produces knowledge, which is local, collective, co-created, dialogical, and diverse.
8) strives for a broad impact.
9) produces local evidence based on a broad understanding of generalisability.
10) follows specific validity criteria.
11) is a dialectical process characterised by messiness.

Note. Characteristics of Participatory Health Research consolidated by ICPHR (2013).

3.2.4 ALIV[H]E approach

As outlined in 2.8, ALIV[H]E was developed to support organisations to advance their understanding, response and data regarding intersections of violence against women and HIV (Salamander Trust et al., 2017). ALIV[H]E envisions "*safe and healthy communities*" and targets community-based initiatives and organisations to broaden and diversify the evidence base – diverse locations, approaches, and voices – needed to effectively prevent violence against women and HIV everywhere (Salamander Trust et al., 2017, p. 49). ALIV[H]E values and participatory step-by-step 'staircase' approach align well with principles and methodology of participatory health research. ALIV[H]E builds on existing community knowledge and resources; emphasises the diversity of voices; calls for the inclusion of populations, who are important for the response because they are at increased risk of VAW and HIV, alongside those who offer services in the community; and seeks to empower community members as agents of change (Salamander Trust et al., 2017). This study adapted ALIV[H]E guiding questions for data collection and utilised the conceptual framework for data analysis, while putting ALIV[H]E core values (Table 11) into action.

Table 11. Core values of the ALIV[H]E Framework

Value	Explanation
Human rights	IPV and HIV programmes and research protect and promote the human rights of all people.
Sexual and reproductive health and rights	IPV and HIV programmes and research are embedded in comprehensive sexual and reproductive and rights (SRHR) agenda and approaches.
Gender equity and equality	IPV and HIV programmes and research promote gender equity and transform gender norms to achieve gender equality.
Respect for diversity	IPV and HIV programmes and research recognise and respect the diversity of communities and the people in them.
Safety	IPV and HIV programmes and research promote safety and autonomy and, at minimum, do no harm.
Participation	IPV and HIV programmes and research enable meaningful participation of those most affected by IPV and HIV at all stages.
Evidence-informed	IPV and HIV programmes utilise evidence-based initiatives where a formal evaluation process has taken place. IPV and HIV research and programmes fill the evidence gap.

Note. The core values of the ALIV[H]E Framework were adapted from Salamander Trust et al. (2017).

3.2.5 Intersectionality as practice and critical lens

Participation research literature revealed a great variation in the way community participation is realised (see 1.2.1). Besides types of participatory spaces (professional-led, collaborative, lay-led) and levels of power-sharing (consultation, co-operation, co-learning, collective action), is also matters who participates or gets invited to participate (Cornwall, 2002). It is relevant as participatory health research seeks to involve those affected by the study topic, especially those whose voices are excluded, unheard, or marginalised. Chambers (2017, p. 121) argues

> *"putting the last first in knowing and action is to ask, not once but again and again and again, 'Who?' and 'Whose?' questions about realities and power. […] Whose reality counts? Whose knowledge? Whose priorities? Whose appraisal? Whose analysis? Whose planning? Whose action? Whose indicators? Whose monitoring and evaluation? Whose research? Whose voices? Whose language?"*

Intersectionality – as a theoretical framework and practice – can help ask and answer the 'Who?' and 'Whose?' questions as demonstrated in various fields of research; explicitly, in critical race and black feminist research (where the name 'intersectionality' emerged) and more broadly in studies, like African feminist, gender, HIV, IPV, and masculinity studies, that interrogate multiple interrelated systems and axes of power as drivers of inequity and social injustice without necessarily calling it

'intersectionality'. In this section I outline the application of intersectionality in research as an analytical tool and practice based on principles proposed by Hankivsky (2014).

Intersectionality was used as a critical lens at different stages of the study (from designing study to interpreting finding):

- **Power**: Consideration of how power shapes behaviour and experiences regarding intersection of IPV and HIV, including different expressions and faces of power.
- **Multi-level analysis**: Consideration of expressions, dynamics, and manifestations of power across the social ecology and their interconnectedness, for example individual, partnership, community.
- **Intersecting systems and axes of power**: Attention to the social hierarchies created by systems and structures like capitalism, coloniality, patriarchy and their connectedness in defining social locations that shape people's unique circumstances, including HIV and IPV. Consideration of different axes of power (gender, class, age, disability, education, occupation, and sexuality) simultaneously.
- **Time and space**: Consideration of how geographic context and historic processes influenced power structures and relations, including the economic, environmental, political and social dynamics in the informal settlement and the formation of informal settlements in the colonial and post-colonial history of Nairobi.
- **Agency**: Attention to expressions of positive power (agency) and consideration of how agency shapes experiences of intersections of IPV and HIV.

Intersectionality was practised throughout the study in the following ways:

- **Power**: Attention to power imbalances and dynamics within the research team (among and between researchers, co-researchers, and participants) and external influences.
- **Reflexivity**: Regular practice of individual and group reflection about multiple identities of self, own social location and power, group dynamics, and their influence on interactions, research processes, and study findings. Appropriate measures to mitigate against power as control and generalising or universalising experiences.
- **Diversity of Knowledges**: Involvement and attention to diverse voices through sampling, methods, facilitation techniques, reflexivity, and risk of bias assessment. Promotion of sharing knowledge and learning by researchers and co-researchers.
- **Equity**: Promotion of equitable participation through attention to diverse needs of people, language, methods, and silences.

- **Social Justice**: Reflection on and validation of findings to be fair and just. Production of diverse research outputs tailored to the needs of different audiences (local, professional, academic).

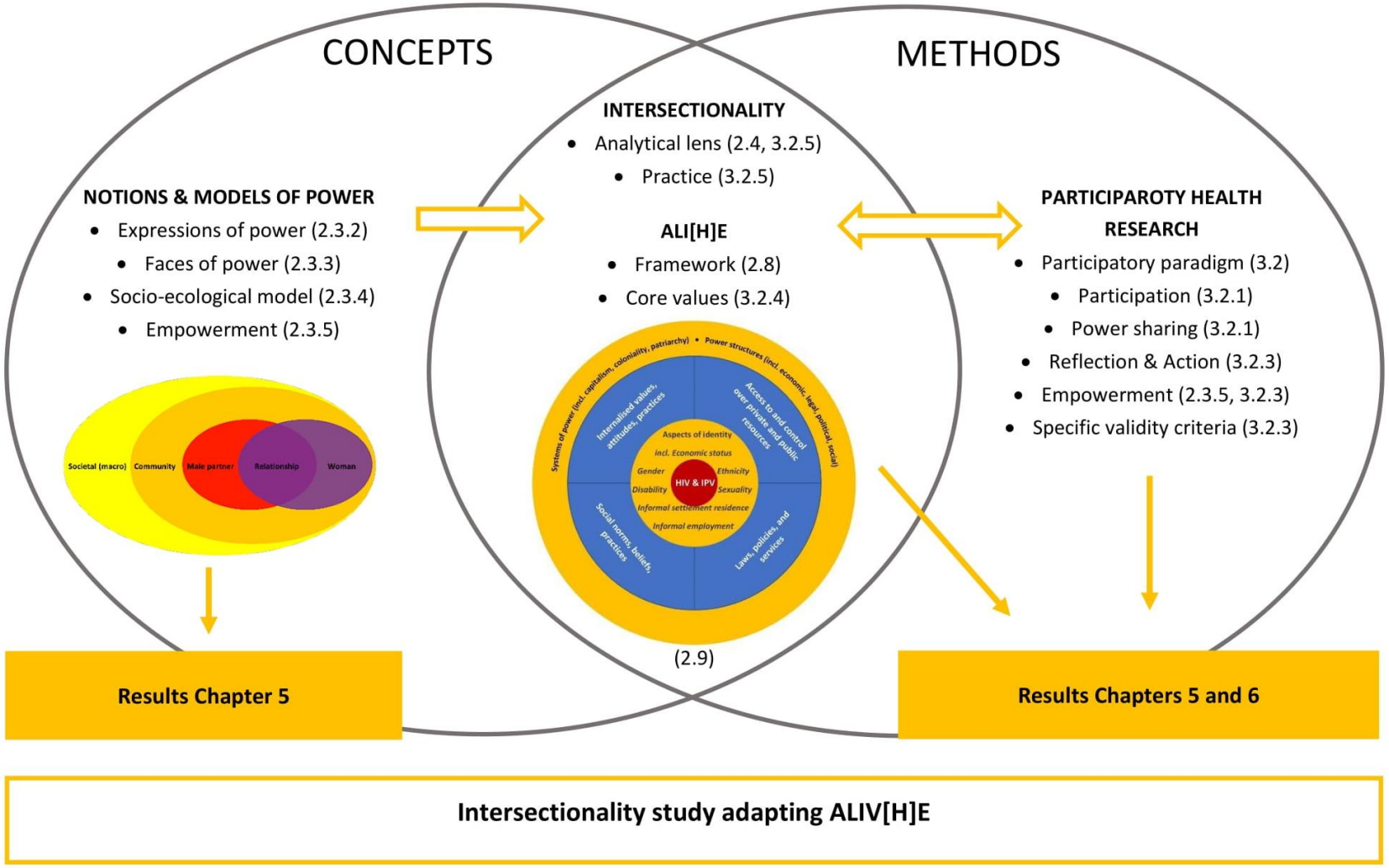
3.3 Summary of conceptual and methodological frameworks

This section illustrates how the theoretical concepts (introduced in Chapter 2) and the methodological frameworks (3.2) are linked and applied by this research to become an intersectionality study adapting ALIV[H]E (Figure 15).

At the conceptual analytical level, notions and models of power (2.3) provide the foundation on which the main conceptual frameworks of this research rest. The ecological model of power (2.3.4) informs the statistical analysis of 2014 KDHS (3.4), which seeks to answer the first objective regarding intra-urban variation of IPV (Chapter 4). The intersectionality conceptual framework (2.9) – blending power, intersectionality, and ALIV[H]E frameworks – underpins the participatory study, which seeks to answer the second objective; to understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya (Chapter 5).

At the methodological level, ALIV[H]E and intersectionality approaches are applied within the participatory health research paradigm. Participation, power sharing, reflexivity, and a commitment to social justice are key characteristics of the participatory research paradigm (3.2.1). The core values of ALIV[H]E, like gender equality and participation (3.2.4), and principles of intersectionality, like equity and social justice (3.2.5), resonate with the participatory paradigm, and complement it with a focus on sexual and reproductive rights (ALIV[H]E) and multiple axes of power (intersectionality). Principles of intersectionality and ALIV[H]E practice are matched with a researcher-led participatory health research approach (3.2.3) to operationalise the theoretical concepts within the research. An intersectionality lens has been applied in individual and collective critical reflection on power and power-sharing to answer the third objective (Chapter 6).

Figure 15. Conceptual map of research



3.3.1 Overview of selected research methods

Within a researcher-led participatory health research design, I selected quantitative and qualitative research methods to meet the different study objectives. The quantitative and qualitative strands were independent and implemented concurrently (Creswell and Pano Clark, 2007). Different stakeholders were involved in in different ways at different stages of the research process. Table 12 shows study objectives, selected methods, stakeholders, and degrees of their participation. Selected methods are discussed in detail in the subsequent sections (3.3 and 3.4) and the corresponding Results chapters (as shown in Figure 15 above).

Table 12. Overview of selected methods

Objective	1. To compare rates of current female and male IPV by urban residence (informal and formal settlements) while controlling for other risk factors	2. To understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.	3. To provide a critical reflection of experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.
Strand	Quantitative	Qualitative	Qualitative
Methods	Secondary data (KDHS)	Focus group discussion Key informal interview	Individual and group reflections Research team meetings
Level of participation			
PhD candidate	Conceptualisation Implementation	Conceptualisation Co-production	Conceptualisation Co-production
Community	-	Consultation Co-operation Co-learning	Consultation Co-operation Co-learning
LVCT Health Programme staff	Consultation	Consultation Entry & Logistics	-
Research staff	Consultation	Co-operation Co-learning	Co-operation Co-learning
Academic supervisors	Supervision Consultation	Supervision Consultation	Supervision Consultation

Note. Consultation = consulted and asked for views but retained responsibility for directing and implementing process; Co-operation = worked together to determine priorities but retained responsibility for directing process; Co-learning = shared knowledge to create new understanding, worked together to form action plans, while providing facilitation.

3.3.2 Reflexivity

Reflexivity is the practice of regular critical reflection by researchers throughout the research process. Researchers engage critically with their own positionality, assumptions, lens, preferences, and role in the research to enhance the quality of the research process and findings and mitigate against bias. In participatory research, reflexivity is both an individual and a collective endeavour. Instead of a standalone reflexivity statement, accounts of critical reflection are provided throughout the thesis. In Introduction, I elaborate my motivation and positionality (1.5.1). Throughout the Literature review, I justify selection of concepts (e.g., 2.4.8 and 2.9). In 3.4.4, I provide critical reflection on the methodological approach to the secondary data analysis and consulting expert colleagues. I discuss my role in the participatory study and the roles of other researchers and co-researchers in the study (3.5.3). The Methods chapter concludes with reflection on the quality based on the quality indicators for participatory health research. Lastly, Chapter 6 is dedicated to critical reflection on power in the participatory study in Korogocho, providing an intersectional reflection on context, team and process and highlighting lessons on power, participation, and empowerment.

3.4 Secondary data analysis on intra-urban variation of IPV prevalence

The quantitative study used data of the 2014 KDHS to quantify intra-urban variation of female and male IPV prevalence in Kenya. KDHS data collection methods and statistical methods of my analysis are presented in Chapter 5. Here, I describe the history and theoretic underpinnings of IPV measurement tools and the choice and limitation of quantifying spatial variation of IPV prevalence as a reflection on the validity of study results.

3.4.1 Source of data

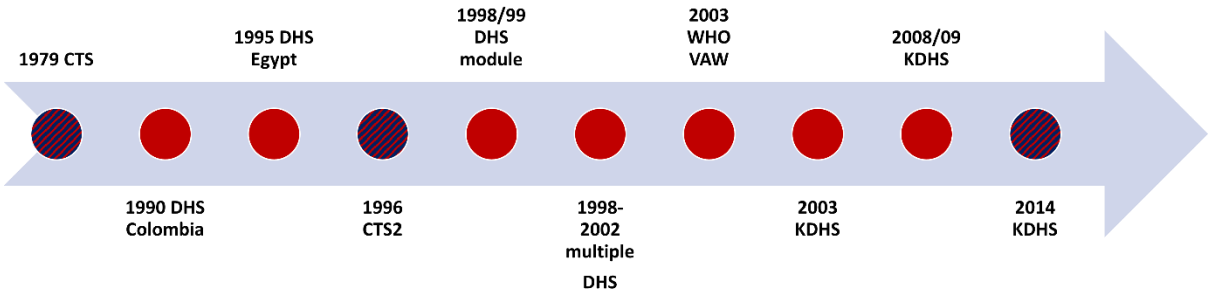
Since 1984, the DHS Program[18] has provided technical assistance on nationally representative cross-sectional surveys in over 90 countries to monitor health and population trends. The first Kenya Demographic and Health Survey (KDHS) was conducted in 1980. The country's sixth DHS in 2014 was designed to provide estimates for a wide range of health and socio-economic indicators representative at the national and regional levels, as well as for rural and urban areas based on a sample of 40,300 households. Indicators for measuring violence against women were pioneered in Kenya in 2003 and followed up in subsequent surveys in 2008/09 and 2014. In 2014, the KDHS domestic violence questionnaire was, for the first time, also administered to male respondents to provide representative estimates on the burden of violence against men in Kenya.

[18] The DHS programme is implemented by ICF, a US-based global consulting services company (established in 1969 and grown to total revenue of $1.48 Billion in 2019) (ICF International Inc., 2023).

3.4.2 Measuring IPV - history, scales, and limitations

When, after the World Conferences on Women in Mexico (1975), Copenhagen (1980), Nairobi (1985) and Beijing (1995), research on violence against women gained greater attention, the DHS Program considered its survey to be "an ideal vehicle" for studying domestic violence against women and its linkages with contextual factors and health outcomes (Kishor and Johnson, 2004, p. 2). In the late 1990s, the DHS Program standardised its domestic violence instrument, drawing largely on the Conflict Tactics Scale (CTS) while also utilising partner countries' expertise on domestic violence measurement (Kishor and Johnson, 2004). Figure 16 illustrates a history of relevant IPV research tools informing the 2014 KDHS domestic violence questionnaire, starting from the original CTS in 1979.

Figure 16. Timeline of tools and surveys measuring intimate partner violence



Note. Timeline of tools and surveys measuring intimate partner violence (IPV), including both male-to-female IPV and female-to-male IPV (blue/red) and male-to-female IPV only (red). CTS = Conflict Tactics Scale; DHS = Demographic and Health Survey; WHO = World Health organization; KDHS = Demographic and Health Survey. Sources: (KNBS et al., 2015a, Kishor and Johnson, 2004, Straus et al., 1996)

Straus and colleagues (1996) developed the CTS for research on family violence drawing on conflict theory. The CTS prompts respondents to think about what happens when they have differences with a partner and presents concrete conflict tactics that intimate partners experience and/or use; initially, physical and psychological attacks, reasoning or negotiation (Straus, 1979). Later, Straus and colleagues (1996) renamed sub-scales, revised their items, added injury and sexual coercion scales, but retained conceptual underpinnings. The CTS was validated in a sample of college students in the USA to measure experience and use of IPV among women and men (Straus et al., 1996, Straus, 1979). Further studies confirmed reliability and validity of the CTS in national and clinical samples in the USA and in general population, clinical, and university samples in other countries, including Botswana, Mozambique, South Africa, and Tanzania (Straus, 2004, Straus and Mickey, 2012).

In contrast, the DHS Program conceptualised domestic violence as a gender problem and standardised its tool to measure violence against women by male partners and other men. The DHS considers emotional, physical, and sexual IPV in line with WHO IPV definition. Despite different theoretical

underpinnings, the DHS questionnaire drew largely on the CTS for its advantages of asking respondents about concrete acts of violence. This approach was found to be more reliable than using summary terms while also providing respondents with multiple opportunities to recall and disclose an experience of IPV (Fisher, 2008). Table 13 shows the relevant IPV tools that informed the 2014 KDHS tool for comparison. A detailed assessment of items measured by the revised CTS (known as CTS2) and 2014 KDHS is provided in Appendix 2.

Table 13. Overview of domestic violence tools

Instrument	CTS2	DHS	WHO VAW	KDHS
Year	1996	1998	2003	2014
Theory	Conflict theory	Feminist theory	Feminist theory	(Not stated)
Direction of violent acts	Male-to-female, female-to-male	Male-to-female	Male-to-female	Male-to-female, female-to-male
Negotiation scale	Negotiation (6 items)	N/A	N/A	N/A
Emotional, psychological violence scale	Psychological aggression (8 items)	Emotional violence (2 items)	Emotional abuse (4 items)	Emotional violence (3 items)
Physical violence scale	Physical assault (12 items)	Physical violence (7 items)	Physical violence (6 items)	Physical violence (7 items)
Sexual violence scale	Sexual coercion (7 items)	Sexual violence* (2 items)	Sexual violence (3 items)	Sexual violence (3 items)
Injury scale	Injury (6 items)	Injuries due to IPV (3 items)	Injury due to IPV (1 item)	Injuries due to IPV (3 items)

*Note. *Sexual violence assessed as part of physical violence (not separate scale). CTS = Conflict Tactics Scale; DHS = Demographic and Health Survey; WHO = World Health Organization; KDHS = Kenya DHS. Source: (Ellsberg and Heise, 2005, KNBS et al., 2015a, Straus et al., 1996, Kishor and Johnson, 2004).*

The 2014 KDHS female and male domestic violence questionnaires are the same and, like the CTS, administered to female and male respondents. The KDHS 2014, however, does not discuss the theoretical and methodological implications of measuring IPV with the DHS tool previously tested in female not male populations. The survey retains gendered framing of male-to-female IPV but does not provide a conceptual framework for female-to-male IPV. Although the CTS has been validated for measuring female and male IPV in various settings, the KDHS 2014 provides limited information on measures taken to test the validity of emotional, physical, and sexual IPV indicators among Kenyan men. Despite these limitations, the survey contributes towards scarce evidence on IPV against men.

3.4.3 Quantifying spatial variation

The 2014 KDHS provides representative urban IPV data, while its regional estimates suggest great variation of IPV occurrence across the country. Since the KDHS data does not disaggregate data at intra-city level, the analysis of intra-urban variation of IPV prevalence needed to define clusters within urban areas. For this purpose, I considered analytical approaches that had previously been used for other conditions and contexts.

First, I considered model-based geostatistics to model the spatial variation of IPV prevalence. Geostatistical models incorporate unexplained residual spatial variation to make predictions of disease risk throughout a geographical area of interest, including in locations where no data were collected (Diggle and Giorgi, 2019). Although variogram method (Diggle and Giorgi, 2019) indicated spatial correlation of Kenyan IPV data, the geostatistical models did not provide a good fit this data. It is plausible that (1) the residual spatial correlation may not be continuous, stationary, and isotropic as required by the assumption underpinning the Gaussian process applied in geostatistical modelling; or that (2) the scale of the spatial correlation is below the size of distance between clusters.

Second, I attempted to approximate cluster-level characteristics by drawing on individual and household-level data within each KDHS enumeration areas as proxies for communities (Vyas and Heise, 2016). This method assists in quantifying correlations between community-level factors and IPV risk, providing a potentially more nuanced picture of factors operating at different ecological levels. However, the numbers of observations per cluster were small (n=1-6) and did not allow to reliably approximate cluster-level characteristics.

Third, night-time light images are used in research to explore the urban divide (Kuffer et al., 2018) and data from satellite imagery is available for Kenya (National Centers for Environmental Information). Since deprived urban areas are generally the darker spots of built-up areas within cities generally (Kuffer et al., 2018), I considered night-light emission as a proxy for neighbourhood deprivation. When I started to visit Korogocho, I saw the high streetlights there which had been installed during previous upgrading programmes (United Nations Human Settlements Programme [UN-Habitat], 2012). Hence, I opted to drop the idea of using variation in urban night-time light as proxy for urban residence.

Fourth, I used household-level housing characteristics as proxies for defining residence in informal and formal urban settlements. In accordance with these studies (Madise et al., 2012, Zulu et al., 2002), informal settlement residence was defined as the simultaneous absence of electricity, improved sanitation, and improved water; residence in a formal settlement was defined as the simultaneous presence of the three household amenities; and 'intermediate' category involved households with access to one or two amenities. The strength of this method is its clear relation to the UN-Habitat

definition of “slum” based on housing characteristics. Selected housing indicators largely rely on public infrastructure. I am aware that access to electricity, improved sanitation, and improved water are imprecise measures for approximating urban residence, including from the differences in the built environment within the informal settlement observed during a transect walk and the regular visits to Korogocho (5.4.1). Although people with access to one or two amenities in informal urban settlements are classified ‘intermediate’ through the method, it distinguishes least deprived from most deprived. Another limitation is the method’s imprecision in ascertaining the specific community-level factors driving IPV.

3.4.4 Response rates and potential impact on IPV prevalence estimates

For the 2014 KDHS, half of sampled households were selected for the full questionnaire which included questions on domestic violence. Out of 7,394 households selected in urban clusters, 7,790 were occupied and 6,645 interviewed, resulting in an urban response rate (98%) slightly below the overall response rate (99%) (Kenya National Bureau of Statistics [KNBS] et al., 2015a). In urban clusters, the full questionnaire was administered to 5,472 women out of 5,772 eligible women (age 15-49 years) and 4,915 men out of 5,676 eligible men (age 15-54 years) (KNBS et al., 2015a). Female and male response rates (95% and 87%) in the urban sample are lower than in the total sample (96% and 90%) while reflecting overall gendered response patterns. The 2014 KDHS report (Kenya National Bureau of Statistics [KNBS] et al., 2015a) states failure to find eligible respondents at home despite repeated visits to the household as main reason for non-response. In case more frequent and longer absences from urban homes were directly related with incidences of current IPV (like someone temporarily leaving the household to be safe from their partner), then the actual IPV prevalence is likely be above observed estimates because people undergoing IPV could have been missed. Other plausible reasons for frequent absence from home involve employment and work whose correlations with IPV are complex and context specific (Vyas and Watts, 2009). A cross-sectional community survey, using a systematic point sampling strategy, in an informal settlement in Nairobi found rates of current emotional and physical IPV reported by self-employed women were statistically lower compared to those reported by employed women (Ringwald et al., 2020). The study found no correlations between unemployment and current IPV among women as well as no associations between men’s employment status and reports of current IPV (Ringwald et al., 2020). If these results were representative for informal urban settlements countrywide, the impact of non-response due to work-related absence from home on female and male IPV prevalence estimates could be minimal.

3.4.5 Methodological reflexivity and consultation

Reflexivity is a practice in qualitative research involving critical reflection on the research process and the researcher's role. Pfurtscheller and Wiemers (2022) argue methodological reflexivity is equally relevant in quantitative studies since the researcher's background, experiences and worldviews may influence the methodological choices and interpretation of results. In the analysis of secondary data, scientific rigour could be enhanced by involving researchers from study countries, ideally those who collected original data (The Lancet Global Health, 2018, Merson et al., 2018).

At different stages of the analysis, I consulted LVCT Health GBV programme team and Kenyan supervisor. When conceptualising the study, their input complemented the considerations of the study's relevance to the context and the potential uptake of results in Kenya. During data analysis, I discussed the relevance of various DHS indicators as potential IPV risk factors with programme staff and supervisors to inform decisions on model formulation. Consultations with programme staff and supervisors on study results helped expand my interpretation of results, revolving around economic and gender inequalities, to also consider evidence on linkages between the built environment and violence. I presented study methods, results, and conclusions to LVCT Health GBV and research teams for validation to ensure conclusions were coherent, fair, and sensible.

3.5 Participatory study on HIV and IPV intersections in informal urban settlements

The participatory study, titled Korogocho ALIV[H]E, seeks to explore the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi. Details about the sampling and data collection methods and the research participants are presented in Chapter 5. Critical reflection of experiences of power within the research process and team are presented in Chapter 6. Here, I describe how the study location was selected (3.5.1), introduce the research team and roles (3.5.2 and 3.5.3), explain the capacity strengthening activities (3.5.4), summarise selection of study participants (3.5.5), provide a detailed account of the participatory data analysis process (3.5.6); discuss safety measures employed in the study (3.5.7), including to mitigate risks during COVID-19 pandemic (3.5.8), and conclude elaborating measures taken to enhance the quality of the research (3.5.9).

3.5.1 Selection of the study location

The co-production of local knowledge is essential in participatory research, which therefore needs to be situated within the reality of a community who is likely to adopt results for change (International Collaboration for Participatory Health Research [ICPHR], 2013). Although 'location' of participatory research is not limited to a geographic location in theory (ICPHR, 2013), I considered proximity important for this study designed to facilitate learning among people from different backgrounds

including those most likely affected by intersections of HIV and intimate partner violence and those offering services. I assumed involving people who lived and worked in the same geographic location would be of advantage for interest in uptake of co-produced knowledge.

Korogocho as study site was purposively selected among the informal settlements taking part in the ARISE study. LVCT Health proposed Korogocho because of their physical presence (facility and team); a public health facility, community health programme, and various community-based organisations; established working relationships with these stakeholders and the community; community awareness about unmet HIV and IPV prevention needs; and potential synergies with DREAMS and SASA! programmes run by LVCT Health in Korogocho. While in the UK, I familiarised myself with Korogocho through the literature, websites of organisations, online news, and videos. I developed a more realistic understanding of the size and diversity of the settlement through my first visits to Korogocho in November 2019. Korogocho encompassed nine villages, each with their own history and characteristics, and was, therefore, not one but various communities (map of Korogocho shown in Appendix 3). Given the time and budget constraints of a PhD research project, I decided to concentrate study activities on one village to ensure the process and results were grounded in the reality and social systems of the study location.

The process of selecting the study site within Korogocho settlement was done in consultation with LVCT Health staff, Slum Dwellers International Kenya (another ARISE partner), Senior Chief, and Community Health Assistants (a formal employee of the County Government, coordinating community health activities, supervising community health volunteers, and functioning as a link between the health facility and the community). With their support, I developed criteria to assist with prioritising and selecting the village. Selection criteria included ethnically mixed population, perceived high risk of HIV and IPV, deprivation, functioning community health unit[19], active DREAMS mentors and SASA! change agents, and endorsement by village leaders. In February 2020, LVCT Health staff helped me develop a profile of each village (see Appendix 4). Village profiles were complemented with information and recommendations from the Senior Chief whom we met on 10th March 2020, just before the onset of the COVID-19 pandemic. During the strict lockdown of Nairobi (March to July 2020), we had to halt community entry activities. We resumed activities in August 2020 and finalised village profiles with input from Community Health Assistants (during meeting on 4th August 2020). Next, LVCT Health staff and I excluded most villages for being ethnically homogenous and prioritised three villages. The LVCT Health site in-charge and I walked through short-listed villages (on 7th August

[19] A community health unit is a health service delivery structure within a defined geographical area covering a population of approximately 5,000 people. Each unit is assigned one Community Health Assistant and 10 community health volunteers who offer promotive, preventative, and basic curative services (MOH, 2020) .

2020) and identified Gitathuru as the first priority due to the density of alcohol outlets, known as *chang'aa* dens, poor infrastructure like housing and footpaths, and active community volunteers. I met the village elder (on 11th August 2020) and explained the study to her. She told me about excessive alcohol use, HIV, and IPV in Gitathuru and endorsed the study, highlighting it was timely since the COVID-19 pandemic had amplified these problems.

3.5.2 Selection of research team members

3.5.2.1 Selection of research partners

The study was planned to involve two Kenyan researchers part time (approximately 6 days per months). Their role was to support research activities in the community and to bridge cultural and language gaps as cultural interpreters. I agreed to select research partners from LVCT Health's pool of researchers whom they regularly contracted as research assistants. The LVCT Health research manager assigned two staff to advise me and support selection. I developed a job description outlining the purpose of the study; expectations, responsibilities, and tasks of researcher partners; and required competencies (research, interpersonal, personal and language skills). I stressed in my consultation with the two staff the importance of candidate's ability to build rapport and communicate effectively with people from different backgrounds; openness to reflect, self-reflect and learn from others; and teamwork spirit. The HR officer contacted the prioritised candidates who accepted the offer and were invited to the study inception workshop.

The two-day study inception workshop (on 20th and 21st February 2019) involved the selected research partners, DREAMS programme officer, site in-charge and a field officer from Korogocho. The programme covered self-introduction, participatory research paradigm and process; positionality and reflexivity; HIV & IPV risk; ALIV[H]E framework; mapping of villages, community members, and service providers; safety and security plan; expectations and agreement on roles and responsibilities. I delivered these topics in participatory ways using visual and interactive methods to reflect and demonstrate the nature of collaboration that I aspired to embed throughout the study. The methods facilitated learning and helped build trust among participants. For example, during an introduction exercise using three life events, they talked about joyful and difficult experiences that shaped them personally and professionally. The following week, I did a one-day training with the research partners on power theories. During lockdown, I aided research partners to complete an online course in participatory visual methods.[20]

[20] An online course by the Global Health Network: https://globalhealthtrainingcentre.tghn.org/practice-and-ethics-participatory-visual-methods-community-engagement-public-health-and-health-science/

When restrictions on movement and gatherings were eased, research activities resumed with a refresher training for research partners on 8th August 2020. Shortly after, one of the research partners was offered full-time employment elsewhere which required frequent travels upcountry. I remained with one research partner who had gone through all training - Veronicah - and recruited another researcher from the pool - Faith. Before the first meeting with co-researchers, I trained Faith in a one-day one-on-one session on 19th August 2020 about participatory research, the study, and her role. Faith was pregnant and left the study in December 2020 to prepare for the birth of her baby. This time, Veronicah proposed to recruit Maria as replacement for her expertise in translation and transcription who joined in January 2021. I now introduce the three research partners and their role in the study.

Veronicah was 45 years old and had over 17 years of experience in health, social and market research when she joined the study. She was a single mother with a daughter at primary-school age and a grown-up son. Veronicah had a Bachelor's degree in Psychology and Development Communication and several Postgraduate Diploma. She had extensive experience in collecting, managing, and analysing qualitative and quantitative data involving participants from all walks in life across Kenya. Veronicah worked as a Senior Research Assistant with LVCT Health on the LSTM-led REACHOUT and SQUALE studies supporting close-to-community providers to improve quality health care and outcomes. As a freelance researcher she frequently managed research projects and teams. She had previously conducted research in Korogocho and, as a research assistant, was once mugged there. Despite mixed memories, she was highly motivated to strengthen her community engagement skills and work with residents from the informal settlement as co-researchers. Veronicah's main role was facilitation. Her strength in building rapport, asking questions, and seeing linkages between issues helped continuously deepen understanding of context and topic and enrich critical reflexive practice.

Faith was 30 years old when she joined the study. She was married, had one daughter and was pregnant with their second child. Faith had a Bachelor's degree in Public Health and four years of experience in health research. She had worked with LVCT Health on HIV and gender-based violence studies previously. Her research skills included interviewing, facilitating focus group discussions, note taking, transcribing, translating, and analysing qualitative data. Faith had conducted research in informal settlements and was more than willing to work with people from Korogocho. She was enthusiastic about the prospects of expanding her experience in participatory research methods. Her primary role encompassed note taking, transcription, and translation. Faith's observations during research activities supported critical reflexive practice and adjustments where needed.

Maria was 41 years old when she joined the research team in January 2021, taking on the roles Faith had played in the study. Maria was a mother of two children who were both primary-school age then. She had a Diploma for Tour Guiding and Administration and brought 14 years of research experience to the team. She had worked for six years as an interviewer with a Kenyan research company specialised in health and market research. After the birth of her children, Maria specialised in transcription and translation to balance family and work life. She was very excited about this study even though she did not have a background in participatory research methods and working in informal settlements. She was more than willing to support the diverse research team and research activities since it offered her the opportunity for in-person contact and balance with her other responsibilities. Maria took on the roles Faith played in the study. Maria identified narratives through her observations and interactions during research activities offering new perspectives and insights within critical reflexive practice.

3.5.2.2 Selection of community partners

The selection for overall composition of community partners in the research team was done with consideration of the experiences and actors needed to promote change (Abma et al., 2019). In consultation with LVCT Health staff, I identified community programmes involving volunteers for their potential of adopting research outcomes in their practice and selected priority populations who were perceived to be more vulnerable to exposure to HIV and IPV; faced with more challenges accessing services; and important for the HIV and IPV response. I engaged LVCT Health staff and Community Health Assistants working in Korogocho in the recruitment of candidates. LVCT staff who had attended the study inception workshop identified representatives from the DREAMS and SASA! programmes, community members from priority populations, and a translator. I explained the study (topic, aim, duration, and methodology) to the Community Health Assistant who identified two community health volunteers. Community health volunteers are members of the community selected and trained to offer promotive, preventative, and basic curative health services in a community health unit (Ministry of Health [MOH], 2020). The initial plan foresaw one community health volunteer. However, the Community Health Assistant recommended involving two community health volunteers because Gitathuru was sub-divided in two community health units (Gitathuru A and B) and for potential benefit of involving a female and male community health volunteer. LVCT Health staff and Community Health Assistants contacted candidates via phone and invited them to meet researchers in-person. Research partners and I met all candidates one-on-one; introduced the study; explained the role of co-researchers, the term used to refer to the community partners in the thesis; and spoke about confidentiality (see Appendix 5). All candidates expressed interest and were given about a week to consider their participation. The first meeting of researchers and co-researchers was held on 22

August 2020. Two additional co-researchers were recruited in March 2021, when the research team saw the need to reach additional populations. Over time, the translator took on additional roles and effectively became a co-researcher. The informed consent procedure was administered in a stepwise manner: Initially, co-researchers provided oral informed consent. After discussing expectations, risks, and roles of co-researchers and scope of the study, they provided written consent confirming their voluntary participation as co-researchers (Appendix 6). Now I introduce the eleven co-researchers, who called themselves Korogocho ALIV[H]E local community partners.

Augustus (52) is a community health volunteer in Gitathuru and works as a security guard at night. He is married and has 5 children, most of whom grown up already. His faith transformed his life, and he serves his church in a volunteer role, titled 'elder of quorum of presidency.' Augustus is involved in several self-help groups within the community.

Farida (34) is a single mother, bringing up her son and daughter. She enriched research team meetings with her rich repertoire of ice breakers from her role as a mentor of adolescent girls and young women. She had experience in data collection (including with Kenyan non-profit organisation NairoBits[21]).

Joyce (43) was born and raised in Korogocho. She works as a community health volunteer in Gitathuru, especially with young women and their children. As a community health volunteer, Joyce was involved in numerous community activities and campaigns outside our study. She is also a trainer for day care managers.

Linah (25) was selected to represent the DREAMS programme. She mentors young women, teaches them financial capability, and serves as a community health volunteer. She makes arts, crafts, and soap as a business. Linah was pregnant and delivered her first child soon after the study ended.

Manjoy (29) had lived in Korogocho for six years when the study started. He has a Diploma in human resource and business administration. He has worked with young people in the community as a peer educator for eight years. Previously, he had been involved in research, including three studies on HIV.

Margaret (29) is a single mother, who raises up her daughter. She lives with her younger sister in Korogocho. Before the COVID-19 pandemic, she worked as a waiter. Margaret enriched the research with her openness, unafraid to name community issues within the team and share her lessons from the study with peers.

[21] NairoBits leverages ICT to empower disadvantaged youth from the informal settlements of Nairobi.

Maryann (24) moved to Korogocho at the age of 12 years and was a participant in the DREAMS programme. The backrest of her wheelchair proudly states “Motivation.”. Together with a friend, she has documented lives and challenges of persons with disability in Korogocho (Life goes on, 2021).

Michael (56) was selected to represent the SASA! change agents, who raise awareness on violence against women and refer affected women. He has lived in Korogocho for over 30 years, is married to one wife, and has 5 children. Michael is a pastor of the Pentecostal Power Christian Church Korogocho, and a member of the APHRC community advisory committee involved in the ARISE study.

Nelly (25), who had lived in Korogocho for five years with her grandmother, joined the study as a translator. She was a DREAMS mentee, a Law student, and a child protection volunteer in her village. Later, Nelly started to work in the Chief’s office when the COVID-19 pandemic disrupted her studies.

Wilkister (25) was born and raised in Korogocho. She was pregnant during the research and gave birth to her third child soon after the study. Wilkister enriched the research team with her wealth of stories about life in the informal settlement. She says this research has helped her reform her life. Now she helps others in her community promoting good communication in families.

Zainab (21) had lived in Korogocho for ten years when she joined the study. She matched her unique position as the youngest and only Muslim community co-researcher with her confidence and passion for the community to become an outspoken research team member.

3.5.3 Roles and steps of the research team

Co-researchers, research partners and I played different complementary roles in the study which I present here.

Co-researchers were the community voices guiding the study. They actively participated in reflection and action phases of the study, including planning, decision-making, reviewing, and evaluating during research team meetings. Co-researchers piloted and validated data collection tools; decided the composition of participants; and identified, selected, and invited suitable candidates. They supported data collection as co-facilitators and co-interviewers and fully participated in data analysis including the identification of emerging themes and their translation into a roleplay. Co-researchers were the main presenters in dissemination meetings.

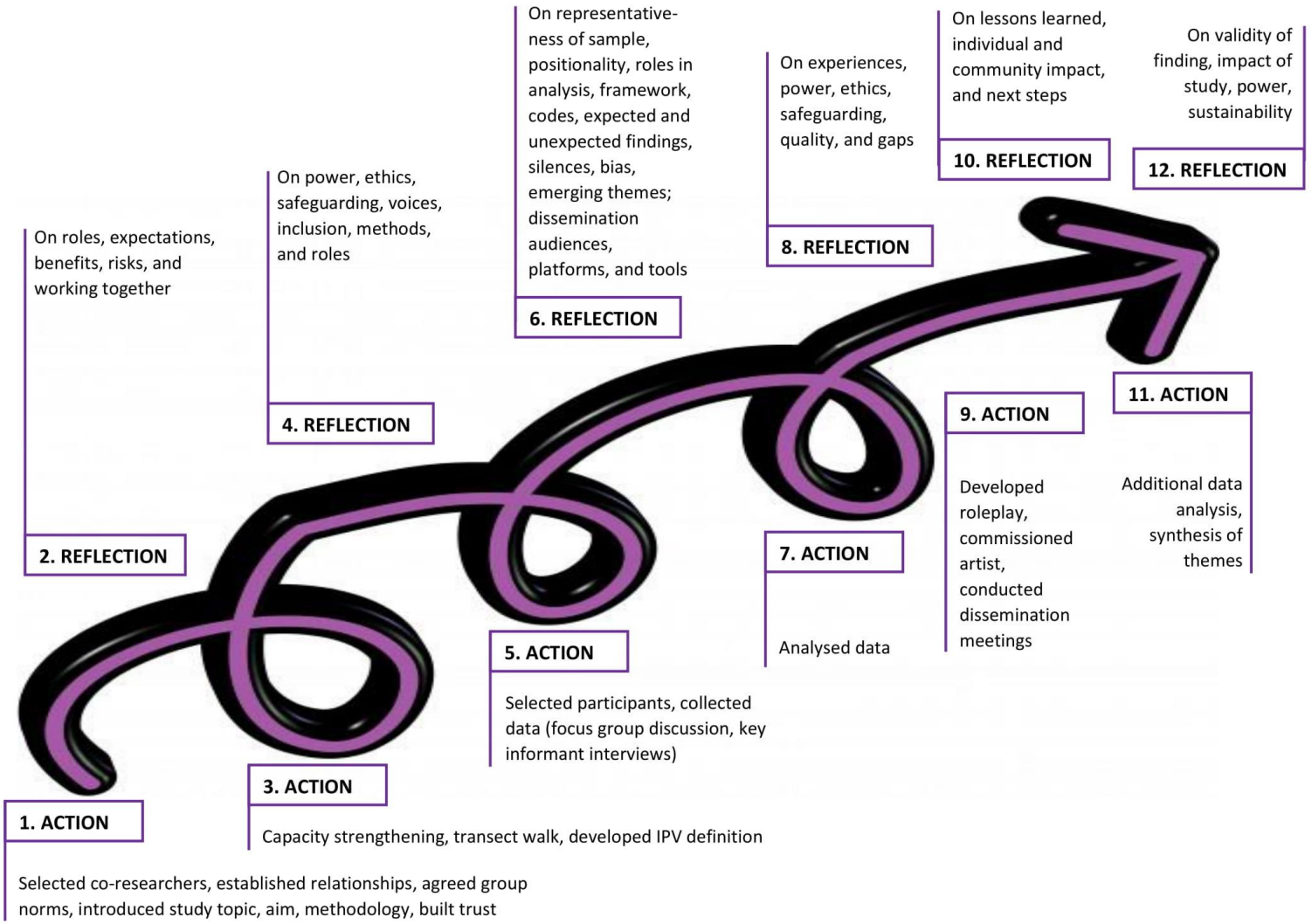
The main roles of research partners involved facilitation of activities, documentation, and reporting. Veronicah became the main facilitator because she was involved in the study from its inception and was most experienced. She facilitated all research team meetings, focus group discussions, and dissemination meetings, and quality checked transcripts, meeting reports and debriefing notes. Faith and Maria provided support on data collection and management, which included taking notes during

research team meetings and focus group discussions, compiling reports and transcripts, and building rapport with community partners and participants. In addition, Faith and Maria translated tools for data collection and dissemination from English to Swahili. All research partners participated in planning and debriefing sessions, provided critical feedback on activity plans and programmes, study progress, and group dynamics.

My role was overall guidance and facilitation of the study. Before inception, I introduced the study to the relevant authorities for approval (as shown in section 5.4.7). During the study, my main task included translating the different research steps into programmes and methods. I discussed these with Veronicah, Faith, and Maria to seek feedback and validation. During research team meetings I mainly listened and observed, and sometimes facilitated selected sessions. I regularly updated the initial plan outlined in the protocol to ensure the research team achieved to complete data analysis and disseminated findings. I managed data storage, including written documents and photos of activities and flipcharts. I quality checked transcripts, meeting reports and debriefing notes and prepared monthly reports to LVCT Health. I managed study funds with support from LVCT Health finance department; handled administrative tasks; and prepared study materials.

Figure 17 shows the steps of the research team from recruitment and formation to dissemination of finding and evaluation. I distinguish action and reflections activities undertaken by the team. These did not necessarily happen subsequently but rather iteratively, repeatedly, or simultaneously.

Figure 17. Stages of the Korogocho ALIV[H]E study



Note. Adapted from Pain et al. (2017). Spiral arrow (image): https://www.publicdomainpictures.net.

3.5.4 Capacity strengthening

While the study facilitated continuous learning through action, discussion, and reflection, it also entailed specific capacity activities. I designed these sessions to be interactive as possible using participatory methods; to be accessible as possible by minimising use of written information and involving examples, analogies, symbols, and diagrams relating to informal settlement context; and to be empowering as possible by building on existing knowledge and experience. Capacity strengthening sessions covered the following topics:

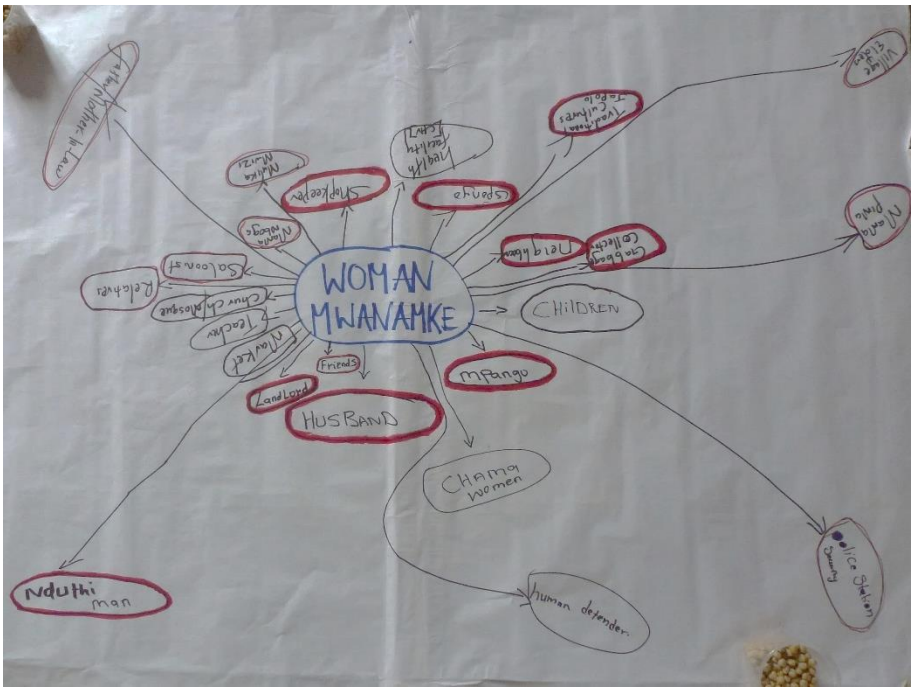
- Research (goal and process) and characteristics of participatory research
- Research ethics and safeguarding
- Definition of IPV
- Drivers of HIV and IPV
- Power and power matrix
- Data analysis, including DEPICT[22] steps (described in section 3.5.6)

As an example, I describe the capacity strengthening session on defining IPV whose aim was to develop shared understanding and definition of IPV situated in the informal settlement context. Female and male co-researchers drew in separate groups chapati diagrams representing social networks of women and men in Gitathuru, including closeness of relationships and likelihood of violence occurring within each relationship (Figure 18). When the two groups presented and discussed their diagrams, co-researchers realised magnitude of abusive relationships, lack of communication between intimate partners, and bilateral accusations (often unspoken). These lessons made co-researchers later consider gender-mixed focus groups for the potential benefit of facilitating dialogue between women and men. To come up with a definition of IPV, co-researchers summarised reported acts of violence as economic, emotional, physical, and sexual IPV; used beans for identifying relationships they considered to be intimate; and recommended our study should cover IPV occurring among intimate partners in dating, cohabiting, marital and transactional relationships. The exercise offered research partners and me an opportunity to learn about the complex social relationships and power imbalances in the study community. Co-researchers gained clarity about IPV, including forms of violence that were normalised, and confidence to explain to fellow community members what IPV is.

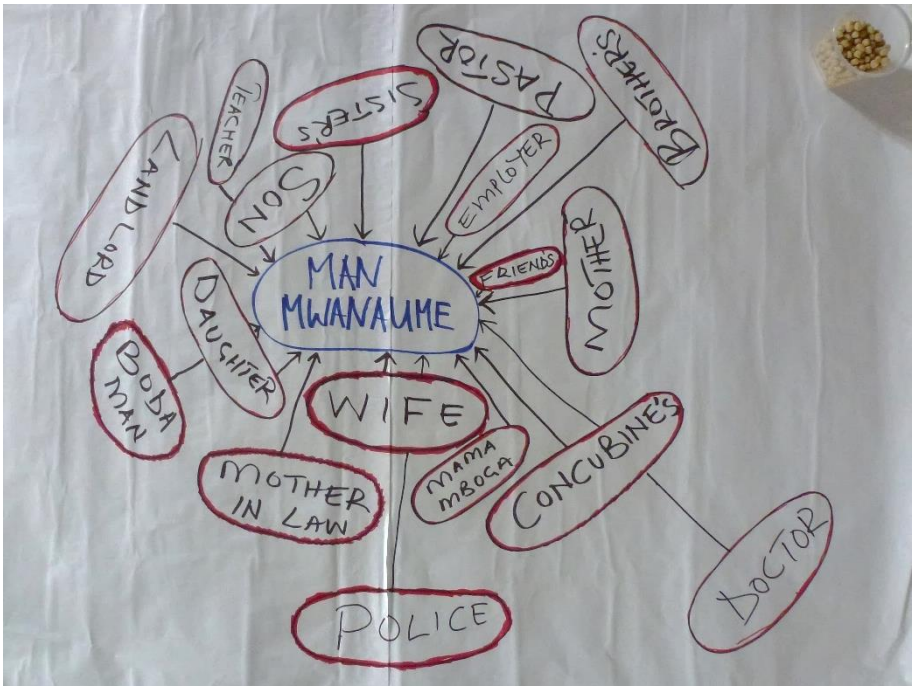
[22] DEPICT is an acronym representing six data analysis steps: Dynamic Reading, Engaged codebook development, Participatory coding, Inclusive reviewing and summarising of categories, Collaborative analysing, and Translating (Flicker and Nixon, 2015).

Figure 18. Chapati diagrams representing social networks of women and men

(a)



(b)



Note. Chapati diagrams prepared by co-researchers show social networks of women (a) and men (b) in Gitathuru. Distance between circles indicates closeness of relationship, circle highlighted red suggests violence occurs in relationships, and thickness of red line indicates likelihood of violence occurring. The direction of arrow heads has no significance.

In addition to the continuous capacity strengthening through learning and reflection among researchers in planning and debriefing sessions, I also conducted specific capacity strengthening activities for research partners. These included training on research ethics and safeguarding,

trustworthiness, facilitation skills (July 2020), conflict resolution skills (November 2020), DEPICT method (January 2021), and academic writing (June 2021).

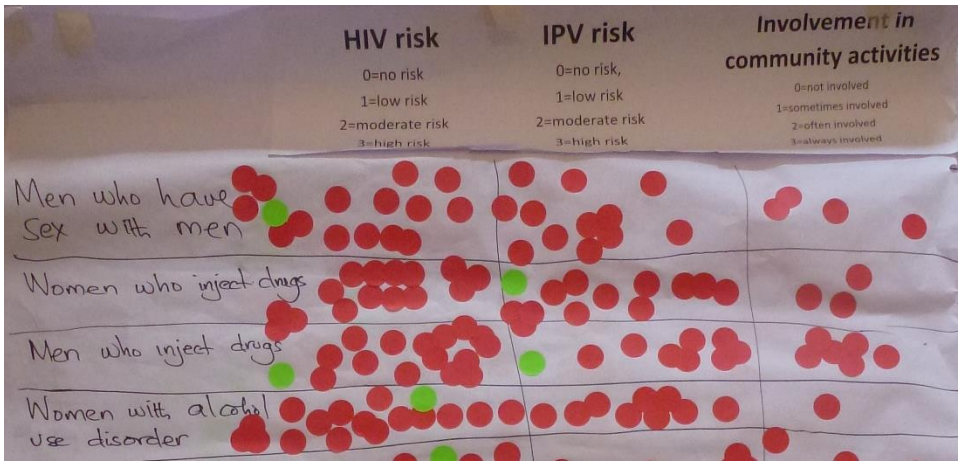
3.5.5 Selection of participants

Building on feminist and participatory research practice that value voices and perspectives of "ordinary" community members (Lokot, 2021), this study prioritised community voices over expert voices. In the following sections, I describe sampling and recruitment of participants for focus group discussions and key informant interviews.

3.5.5.1 Focus group discussion

The sampling strategy for focus group discussions was developed stepwise with co-researchers. First, co-researchers mapped perceived distribution of risk of HIV, risk of IPV and marginalisation in the community through a scoring exercise (Figure 19). For this, I developed a list of social characteristics likely to be associated with high risk of HIV and IPV from the literature and my experience, which co-researchers complemented. Then each co-researcher assigned scores of perceived HIV and IPV risk (0=no risk to 3 = high risk) and level of involvement in community activities (0=not involved to 3=always involved) to every social category. HIV, IPV, and community involvement scores were tallied and discussed. Gradients of total scores (lowest to highest) resonated with co-researchers' perceptions. Although HIV and IPV are not caused by single factors and people's identities are multi-layered (Chavis and Hill, 2009, UNAIDS, 2021a, Hankivsky, 2014), the exercise was useful as a first step toward gaining more nuanced understanding of intersections between social marginalisation, HIV, and IPV and the identification of priority populations considered in subsequent sampling steps.

Figure 19. Example of scoring exercise on perceived HIV and IPV risk



Note. Example of result of scoring exercise by co-researchers on perceived HIV risk, IPV risk, and involvement in community activities based on social characteristics.

We considered priority populations and community-based service providers as participant groups for focus groups. Instead of drawing solely on the scores, researchers supported co-researchers to define criteria which they used to identify priority populations from whom we would sample representatives for involvement in focus groups. The criteria were perceived high chances of experiencing HIV and IPV; limited knowledge about the population; limited involvement in research and programmes; and perceived uniqueness of their views. Table 14 shows priority populations and service providers selected for focus groups.

Table 14. Selection of participant groups

	Perceived high chances of HIV and IPV exposure	Limited knowledge about the population	Limited involvement in research, programmes	Perceived uniqueness of their views
Priority populations				
Female sex workers	✓	-	✓	✓
Men who have sex with men	✓	-	✓	✓
People living with HIV	✓	-	✓	✓
Persons with disability	✓	✓	✓	✓
People who use drugs	✓	✓	✓	✓
Women who have sex with women	✓	✓	✓	✓
Young people who married early	✓	-	✓	✓
Young women	✓	-	-	✓
Service providers				
Community-based organisations	N/A	N/A	N/A	✓
Community health volunteers	N/A	N/A	N/A	✓

Co-researchers identified and invited potential participants from their social networks and by snowball sampling (see 5.4.3). Initially, nine FGDs were conducted (November-December 2020) based on the following characteristics as primary basis for recruitment: female sex workers (n=8), men who have sex with men (n=8), people living with HIV (n=9), persons with disability (n=6, incl. physical or visual impairment), people who use drugs (n=8), young people who married early (n=10), young women (n=9) as well as community-based organisation (CBO) (n=10) and community health volunteers (n=8). To enhance the quality of data and diversity of perspectives (for detailed justification see 5.4.3), we conducted two additional focus groups with: (1) persons with hearing impairment (n=4) (December

2020); and (2) with women who have sex with women, known as '*Lele*' (n=8) (March 2021). The focus group discussion topic guide is provided in Appendices (English version in Appendix 4 and Swahili version in Appendix 5).

3.5.5.2 Key informant interviews

The selection of key informants was based on their expertise and role in HIV and/or IPV prevention. I made suggestions drawing on the list of service providers in the area (compiled at the beginning of the study), which co-researchers complemented. We approached (see 5.4.3) and interviewed stakeholders from local administration (n=2), law enforcement (n=1), and community-based organisations (n=2), as well as youth leaders (n=3) and facility-based HIV health care providers (n=2). The semi-structured questionnaire applied in key informant interviews is provided in Appendix 9.

3.5.6 Data analysis

In this section, I describe the data analysis steps (summarised in section 5.3.4) in more detail. Researchers and co-researchers jointly analysed data following the DEPICT model for participatory data analysis (Flicker and Nixon, 2015).

3.5.6.1 Introduction to data analysis

Researchers trained co-researchers in data analysis before and during data collection, and data was jointly analysed. The initial training involved an exercise of grouping a variety of groceries (Figure 20) for demonstration of data analysis process. A co-researcher was asked to group different groceries without revealing the logic used to define clusters. After other co-researchers made guesses about the logic, the co-researcher explained the clusters and underlying logic. This was repeated severally to demonstrate key steps involved in data analysis: defining labels (coding frame), applying labels (coding), clustering by labels (summarising), and naming clusters (interpretation). The exercise also demonstrated that different people make sense of the same things (data) in different ways leading to different interpretations. This was later followed up with reflections on positionality.

Figure 20. Data analysis training.

Note. Co-researcher explains her criteria for clustering groceries (data) during data analysis training.

3.5.6.2 Implementation of DEPICT

This study adapted the participatory data analysis model DEPICT which was developed by Sarah Flicker and Stephanie Nixon (2015) who piloted and applied it in HIV research with youth, women, and persons with disability in Canada, Zambia, and South Africa. Here I describe how the six sequential steps were implemented to analyse focus group discussion data.

Step 1: Dynamic Reading in February 2021

- Research team discussed representativeness sample based on a summary of socio-demographic characteristics of participants that I prepared.
- Dynamic reading was practiced with entire research team (Figure 21a), before co-researchers read two transcripts each in pairs (one reading aloud to the other) and highlighted main ideas on hard copies of each transcript.

Step 2: Engaged codebook development in March 2021

- I extracted main ideas documented in transcripts to MS Word and clustered similar and related issues to identify codes.
- Co-researchers validated the theoretical framework which I proposed for structuring codes and data based on the power matrix (applied by the ALIV[H]E framework) - – internalised

values, attitudes, practices; social norms, beliefs, practices; access to and control over private and public resources; and laws, policies, services.

- While codes were drawn from the data, the structure of the codebook was chosen deductively following the flow of the topic guide (categories) and domains of the theoretical framework (sub-categories).
- Co-researchers reviewed the draft code book adding and rephrasing codes (Appendix 10).

Step 3: (Participatory) coding in March 2021

- Due to time constraints, I coded data and did not involve co-researchers, to whom I explained what I did. I applied codes manually to data using MS Office spreadsheets.

Step 4: Inclusive reviewing and summarising of categories from March to May 2021

- I organised data by focus group discussion (columns) and codes (rows) in spreadsheets (MS Word). I developed guiding questions to help co-researchers summarise data. I glued printed spreadsheet with guiding questions on flipcharts according to categories.
- Co-researchers reviewed data category by category in small groups (Figure 21b) looking out for similarities and differences. They documented summaries on flipchart, which I later typed. At this stage, co-researchers worked largely independently, because of a lockdown in Nairobi.
- Veronicah, Maria, and I reviewed and complemented summaries to ensure all data was analysed. Summaries were quality checked by the entire research team to include silences (missing data), outliers ('negative' cases), and unexpected findings.
- I prepared summaries for presentation to the research team. I organised summaries according to power matrix and colour coded strands (HIV, IPV, COVID-19 and well-being).

Step 5: Collaborative analysing from May to June 2021

- In two meetings, I presented summaries to the research team. Presentations of summaries were aligned with the domains of the ALIV[H]E framework (i.e., internalised values, attitudes, practices; social norms, beliefs, practices; access to and control over private and public resources; and laws, policies, services), which were the sub-categories in the codebook. In order to help the research team identify the original data and codes within the presentation, I colour-coded the categories.
- Co-researchers and researchers documented emerging issues individually on cards for each quadrant.

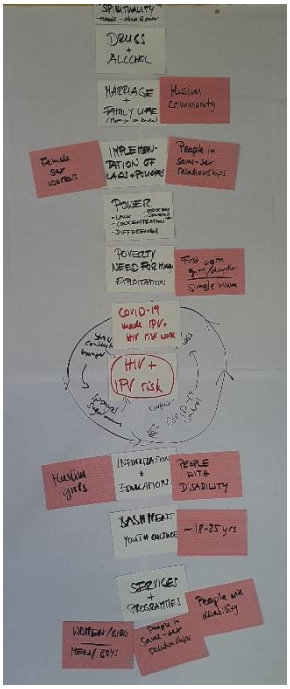
- In the following meeting, co-researchers reviewed emerging issues highlighted, discussed those cutting across several power matrix quadrants, and identified nine over-arching themes (Figure 21c).

Figure 21. Data analysis

(a)

(b)

(c)



Note. Introduction and demonstration of dynamic reading (a), inclusive reviewing and summarising of categories in small groups (b), and overview of emerging themes at collaborative analysis step (c).

Step 6: Translating from June to July 2021

- Co-researchers identified and prioritised target groups and existing platforms (they had access to) for disseminating findings.
- A local artist (vetted by co-researchers) translated themes into paintings (see Appendix 11). Researchers later used them to produce a dissemination toolkit (including laminated images with complementary description of findings and guiding questions) for community dissemination.
- Co-researchers translated findings into a roleplay, which they practiced for dissemination meetings with stakeholders.
- The research team disseminated findings to stakeholders in two meetings in July 2021.

3.5.6.3 Validation of findings generated by additional analyses

For this thesis, I complemented findings co-produced with co-researchers with data from key informant interviews (2.9.1.4). The analysis of key informant interview data followed aforementioned steps and views from key informants were incorporated when adding information and insights not covered in focus group discussions. I synthesised initial themes to identify over-arching themes. I discussed, reviewed, and clustered themes with RT and MT considering how the power issues captured in the initial themes related to each other. I identified four major power dynamics that manifested themselves in initial themes. I also strengthened the intersectional lens in the analysis that initially distinguished general findings from those specific to individual sub-groups. I paid attention to interconnectedness of structures and axes of power and located themes in the historic and spatial context.

In May 2022, Veronicah and Maria presented the process and findings of my synthesis to co-researchers, using the diagram which summarises the findings (shown in section 5.5). With a game of "heads, bodies, and legs", co-researchers deepened their understanding of intersecting identities and systems of power. Veronicah refreshed co-researchers' awareness of the history of Nairobi to facilitate the location of the power dynamics driving IPV and HIV in space and time. She expounded the structural forces of power (like patriarchy and capitalism) using examples. Following a recap of the initial themes, Veronicah summarised the dynamics of power and poverty. Co-researchers were given time to discuss the presented synthesis and validated the synthesis of findings.

3.5.7 Safety of researchers, co-researchers, and participants

The sensitive research topic, participatory nature of the study, and duration of community engagement required a comprehensive strategy to ensure safety, security, and wellbeing of all. The study followed the WHO (2001) ethical and safety recommendations for research on domestic

violence against women. I worked with the assumption that everyone involved in this study has potentially experienced violence, including IPV, and individuals might be at different levels of ability in coming to terms with and talking about their own experiences. The training with research partners covered an introduction to psychological first aid "*look, listen, link*" (WHO, 2013). Hearing about cases of IPV can also be traumatising (WHO, 2001). Group reflection, debriefing, and informal chat before or after activities provided platforms to talk about feelings and wellbeing and offer emotional support. Veronicah, Maria, and I attended monthly group counselling sessions with a psychologist from LVCT Health (funded by ARISE).

The study's safety and security plan was based on a safety and security toolkit by the International HIV/AIDS Alliance (2018). The plan, which was updated regularly, involved measures to mitigate against general safety and security risks, COVID-19 infection (see section 3.5.7.2), risk at individual and study levels (Appendix 12). I set aside an emergency fund (approximately 5% of the initial budget). Veronicah and I developed an alternative topic guide that prepared us to quickly shift topic in case an outsider would enter the room during activities (Appendix 13). In addition, the study was guided by the ALIV[H]E core values. Table 15 shows how these values were implemented.

Table 15. Implementation of ALIV[H]E values

Core values	Examples of implementation
1. Human Rights	• Research team agreed, reviewed, and updated ground rules • Informed consent • Non-disclosure of identities of co-researchers, participants • Compensation (stipend, transport, refreshments)
2. Sexual and reproductive health and rights	• Shared definition of IPV covering emotional, physical, sexual, economic, and other forms of harm relevant to the context • Provided comprehensive directory of service providers • Debunked myths about HIV
3. Gender equity and equality	• Recruited more female than male co-researchers and participants • Selected methods to amplify women's voices and facilitate dialogue, e.g., gender-specific group work followed by all-group discussion • Intersectionality
4. Respect for diversity	• Selected and adjusted methods to accommodate different needs • Reflected on own power and positionality • Intersectionality
5. Safety	• Emphasised and observed confidentiality and defined "safe space" • Regular assessment of risks; contingency plan • Follow-up of participants • Counselling (as needed); Reflection on wellbeing
6. Participation	• Built and retained trust through listening, modelling values, reflection • Methods and facilitation techniques applied to maximise participation and dialogue • Communicated in Swahili language (with translation for me)

Table 15. Implementation of ALIV[H]E values (continued)

Core values	Examples of implementation
7. Evidence-informed	• Built research capacity of co-researchers and researchers • Adapted tested participatory methods for data collection and analysis • Disseminated findings to community stakeholders

In preparation for focus group discussions, co-researchers stated that focus groups needed to provide a safe space. This prompted a discussion on characteristics of a safe space and agreed as follows:

- Ensure confidentiality. Discuss the importance of confidentiality with participants.
- Voluntary participation (informed consent).
- Invite homogeneous groups of participants.
- Consider power imbalance and do not include people who could have power over others.
- Invite one person from a household. Do not invite people who live together, are married or partnered with another participant.
- Hold focus groups on different days (so that different groups don't meet each other).
- Be welcoming, fair, non-judgemental facilitators.
- Give participants time to express themselves.

3.5.7.1 Contingency plan

The research team developed a four-step contingency plan for handling personal problems that could come up during the study. The views of co-researchers were diverse. Some argued strongly against providing any support as request could snowball and overwhelm the team. Some found cases should be handled individually. Since everyone thought that a shared strategy and preparedness would help focus on the study, the team agreed on a stepwise strategy that accommodated different views. The steps involved:

- **Stay focussed**: To focus on the core mission of conducting research, the research team works with a disclaimer. It is explained to participants and other stakeholders that the team does research and does not offer support and/or handouts.
- **Be prepared**: The research team has a comprehensive list of service providers offering a wide range of services. Every team member has a copy of the referral directory. In case a personal problem is brought to the team's attention, the team facilitates referral to relevant service providers.

- **Handle issues case by case**: In instance when cases cannot be referred (e.g. no organisation provides needed services), the research team assesses each case individually. The research team designated two co-researchers (1 female, 1 male) to assess the situation, provide a report, and make recommendations to the team for handling the issue. The team decides.
- **Use a disclaimer**: If the research team decides to help someone, a disclaimer is used. The recipients is informed that the study usually does not provide direct support and is asked not to talk about the help received.

During the study material support was provided to two different people and psychological counselling was offered to another three people through the emergency fund.

3.5.7.2 Mitigating risk of COVID-19 infection

Kenyan infection control policies and guidance were followed throughout the study. The initial study protocol was amended to include measures for mitigating risk of COVID-19 infections, which were approved by the institutional review boards. We took the following precautions:

- **Information**: Researchers, co-researchers, and participants were given evidence-based information on COVID-19; mode of transmission; infection control measures including hand hygiene, physical distancing, and proper use of masks; and later COVID-19 vaccines. We shared handouts (shown in Appendix 14) from reliable sources in English and Swahili and debunked myths.
- **Face masks & hand sanitisers**: Researchers, co-researchers, and participants were provided with face masks and reminded to wear them consistently during activities. They were provided with hand sanitisers and regular refills during research team meetings.
- **Distancing & ventilation**: Research activities were held in community halls that had good ventilation and enough space. Chairs were arranged in accordance with physical distancing guidelines. Facilitators reminded before and during meetings to maintain physical distance.
- **Body temperature checks**: Body temperature of researchers, co-researchers, and participants were measured upon arrival with non-contact thermometer.
- **No-handshake policy**: We followed no-handshake policy during activities, amended methods to reduce physical contact, and stocked enough pens and markers to limit sharing.
- **Symptoms**: Persons with symptoms of COVID-19 were excused and transport costs refunded.
- **Mode of meetings**: In April 2021, when social gatherings were not allowed, in-person meetings of the entire research team were suspended. Instead, co-researchers met in small

groups at well-ventilated venues across Korogocho simultaneously at the regular time for meeting. The different groups connected virtually with each other and researchers via Zoom.

3.5.8 Challenges and limitations due to the COVID-19 pandemic

The COVID-19 pandemic disrupted social and economic activities across the country; people in informal employment, including informal settlement dwellers, were most affected. The COVID-19 pandemic disrupted the research at three different times. First, after the onset of the COVID-19 pandemic in Kenya, community entry activities in the community were halted in line with national infection control policies and organisational guidelines. When restrictions on movement and social gatherings were eased, community entry and research activities were resumed with safety measures due to emerging reports of pandemic-related increases in domestic violence. Second, the re-opening of schools in January 2021 caused co-researchers financial and mental stress. Instead of accelerating data analysis at that time, research activities and pace were adjusted to enhance wellbeing of co-researchers. Third, Nairobi was locked down for a second time in March 2021; Then, the research team was half-way through data analysis, summarising data. To continue summarising data in small groups, I amended the protocol to include virtual meetings of researchers with co-researchers who gathered in small groups at different locations.

Due to restrictions on social gatherings and time constraints, a community entry meeting was not held. Instead, I met relevant stakeholders bilaterally to introduce and discuss the study. They endorsed the study, sharing fears of increase in IPV and HIV risk due to the desperation and conflict that the COVID-19 pandemic caused in many families. The limitations of bilateral meetings include that they were time-intensive and did not facilitate discussion among community stakeholders on the topic. Therefore, a few gatekeepers were involved in the selection of co-researchers, many of whom were involved in LVCT Health programmes as volunteers or participants.

The COVID-19 pandemic amplified inequalities between informal and formal settlements. Despite initial concentration of COVID-19 cases in formal settlements, Faith, Maria, Veronicah and myself were never treated as threats that could bring COVID-19. Instead, the community welcomed the restart of the study. I observed the challenges informal settlement dwellers faced in following pandemic control protocols due to the physical environment, financial insecurity, and irregular provision of water. Parents in the research team were concerned about the future of their own children, but co-researchers had more substantial worries – school drop-out, drug use, gangs, and teenage pregnancy – than researchers from outside. Debriefing and group counselling sessions with the research partners helped me process my experiences and emotions. The schedules of research team meetings required sufficient time for checking in on co-researchers' wellbeing and conducting group reflections.

Measures to mitigate risk of COVID-19 infections during research activities were acceptable to people involved in the study but incurred additional costs not included in initial budget. For example, expenditures tripled when co-researchers met in small groups all of which were provided with a no-contact thermometer and stationery. To compensate for these, the number of participants per focus group discussion was reduced, which also facilitated our approach to mitigating risk of infection.

3.5.9 Quality assurance

The ICPHR developed a set of quality criteria grounded in participatory research paradigm for assessing the validity of participatory health research. Springett et al. (2011) argue quality frameworks for qualitative and quantitative research are ill-prepared for capturing the validity of participatory research because of their narrow focus on the truth or accuracy of findings. Instead, the rigour in participatory research lies in the extent to which it is situated in local reality and enables new, transformative insights offering opportunities for action (ICPHR, 2013). The quality of relationships within a study and plurality of voices and ways of knowing influence the potential of research to produce locally situated outcomes and solutions (Rogers, 2006). Hence, quality frameworks for participatory research consider the level of participation and influence of non-expert participants in a study and the usefulness of research findings for action and change (Springett et al., 2011). The level of power sharing between professional and non-expert researchers is a critical indicator for the authenticity of participation (Gaventa and Cornwall, 2006). A detailed reflection on power and sharing of power in the study follows in Results (Chapter 6). In the sections below, I describe how I employed the ICPHR validity criteria to enhance quality of the study.

Participatory Validity: Extent to which stakeholders take an active part in research process.

- The study involved community member and volunteers as co-researchers in decision-making and research activities – from recruitment of participants to dissemination of findings.
- Researchers sought and incorporated feedback from co-researchers on work and plans by researchers (e.g., data collection tools, analytic framework, and coding frame).

Intersubjective Validity: Extent to which the research is viewed as being credible and meaningful by the stakeholders from a variety of perspectives.

- A diverse team of investigators, involving professional researchers and non-expert researchers from priority populations, collected and analysed data together.
- Visual methods and gender-specific group discussions facilitated active participation of people from different backgrounds, including those with low literacy levels.
- Data were triangulated by comparing views of participants from diverse social locations and by comparing results from focus group discussions and key informant interviews.

Contextual Validity: Extent to which the research relates to the local situation.

- Outside researchers executed the study together with people living and/or working in Gitathuru. The artist, who illustrated the study findings, lived in Korogocho.
- The research team did a transect walk through Gitathuru for researchers to familiarise themselves with the location.
- Researchers' long-term engagement with the community helped build trust and rapport and gain deep understanding of context.

Catalytic Validity: Extent to which the research is useful in presenting new possibilities for social action.

- Researchers supported co-researchers in identifying existing platforms for disseminating findings and opportunities for actions within their daily life and work.
- Two dissemination meeting were held involving staff and mentors of the DREAMS programme and stakeholders from the community.
- Research findings were translated into paintings and roleplay for community dissemination.

Ethical Validity: Extent to which the research outcomes and the changes exerted on people by the research are sound and just.

- Training of researchers and co-researchers covered research ethics and safeguarding.
- Researchers reflected on ethical practice and discussed ethical dilemmas with co-researchers.
- Transport costs for all research activities were covered. Co-researchers were compensated for their time and gained skills and knowledge.

Empathic Validity: Extent to which the research has increased empathy among the participants.

- I carefully selected methods and facilitation techniques to stimulate dialogue among participants, co-researchers, and researchers and active participation of all participants.
- Focus groups were carefully designed to facilitate dialogue among women and men (Theobald et al., 2011).
- The research team agreed group norms, whereby I encouraged the formulation of positive descriptions (how we want to work together) instead of negative wording (what is not wanted). Researchers regularly reminded about the norms and role-modelled values.

Chapter 4: Intra-urban variation of intimate partner violence against women and men in Kenya: Evidence from the 2014 Kenya Demographic and Health Survey

4.1 Chapter overview

This is the first of three Results chapters, which helps answer **objective one; to compare rates of current IPV experience among women and men by residence (informal and formal settlements) in urban areas of Kenya.** The chapter presents results from the secondary data analysis and is structured in article form in line with the requirements of the academic journal. The article's Introduction (4.3) outlines characteristics of informal urban settlements (4.3.1) and compounded inequalities which affect people living there (4.3.2). The understanding of IPV (4.3.3) utilises the ecological model (presented in 2.3.4) and is followed by a summary of IPV drivers (4.3.4). The justification for the study (4.3.6), aligning with the broad problem statement (presented in section 1.2), elaborates the problem statement and hypotheses underpinning the data analysis in greater detail. The article's Methods section (4.4) builds on section 3.4., which introduced the source of data, IPV tools, and choice of statistical model. Here I outline variables, the choice of urban residence indicator, methods of statistical analysis of the study. After the presentation of study results in section 4.5 follows a discussion of their relevance and implications for future research and reflection on study limitations.

This chapter has been published in the Journal of Interpersonal Violence (Ringwald et al., 2022). As outlined in the manuscript title page (next page), I led the conceptualisation and administration of the study, data management and analysis, and the production of this publication including writing the initial draft, revising, finalising, and submitting subsequent drafts. Other authors supported the publication through their strategic advice on data analysis, interpretation of results and/or manuscript reviews in line with their role as supervisors or project partners (see section 3.4.4). PhD supervisors tended to have greater role than other authors, especially Emanuele Giorgi as the lead supervisor of this quantitative study.

Intra-urban variation of intimate partner violence against women and men in Kenya: Evidence from the 2014 Kenya Demographic and Health Survey

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4.2 Abstract

Although urban areas are diverse and urban inequities are well documented, surveys commonly differentiate IPV rates only by urban versus rural residence. This study compared current female and male IPV rates by urban residence (informal and formal settlements). Data from the 2014 Kenya Demographic and Health Survey, consisting of an ever-married sample of 1,613 women (age 15-49 years) and 1,321 men (age 15-54), were analyzed. Multilevel logistic regression was applied to female and male data separately to quantify the associations between residence and any current IPV while controlling for regional variation and other factors. Results show gendered patterns of intra-urban variation in IPV occurrence, with the greatest burden of IPV identified among women in informal settlements (across all types of violence). Unadjusted analyses suggest residing in informal settlements is associated with any current IPV against women, but not men, compared with their counterparts in formal urban settlements. This correlation is not statistically significant when adjusting for women's education level in multivariate analysis. In addition, reporting father beat mother, use of current physical violence against partner, partner's alcohol use, and marital status are associated with any current IPV against women and men. IPV gets marginal attention in urban violence and urban health research and our results highlight the importance of spatially disaggregate IPV data – beyond the rural-urban divide – to inform policy and programming. Future research may utilise intersectional and syndemic approaches to investigate the complexity of IPV and clustering with other forms of violence and other health issues in different urban settings, especially among marginalised residents in informal urban settings.

Keywords: Intimate partner violence, Domestic violence, Urban health, Slum, Informal settlement, Kenya

4.3 Introduction

IPV is a widespread health, wellbeing, equity, and justice problem (Muluneh et al., 2020, WHO et al., 2013). IPV is common in Kenya where one in two women and one in four men report experiencing emotional, physical and/or sexual IPV during their lifetime, including one in three women and one in five men experiencing 'current IPV' defined as IPV experienced in the last 12 months (Ellsberg and Heise, 2005, KNBS et al., 2015a). Current IPV prevalence varies across the country: among women, from 37% in the Western region and 35% in Nairobi to 6% in the North-Eastern region, and from 11% in Nairobi to 3% in the North-Eastern region among men (KNBS et al., 2015a).

Multi-country studies on violence against women suggest IPV risk is greater in rural than urban areas (García-Moreno et al., 2005, Coll et al., 2020). In contrast, Kenyan prevalence estimates of current physical and/or sexual IPV are comparable between urban and rural populations (women: 25 vs 26%; men: 8 vs 7%) (KNBS et al., 2015a). While urban areas are diverse spaces, national surveys investigating IPV, such as the KDHS, do not disaggregate beyond the conventional urban-rural divide. Limiting IPV prevalence estimates to 'urban' and 'rural' residence hides variation and inequalities within settings, and opportunities for targeted interventions may be missed.

4.3.1 Defining informal urban settlements

Disaggregating urban data at intra-city level is common in global reports on urban health and living (UN-Habitat, 2006, WHO, 2016). Education, employment, housing and safety inequalities are well documented in cities, including Kenya's capital city Nairobi (APHRC, 2014). Fifteen million of the estimated 47.6 million Kenyans reside in urban areas (KNBS, 2019c), and more than half (56%) live in slums (UN-Habitat, 2016). UN-Habitat defines an urban slum household as one lacking access to improved water and sanitation; security of tenure; durability of housing; and sufficient living area (UN-Habitat, 2016). Other definitions cover the lack of basic services like education, electricity, and transportation (Habitat for Humanity Great Britain, no date, Cities Alliance, no date). We use the term 'informal settlement' to acknowledge the absence of essential services as an identifying characteristic since the term 'slum' has derogatory connotations (Lines and Makau, 2017).

4.3.2 Compounded inequalities in informal urban settlements

People living in Kenya's informal settlements face challenges ranging from insecurity and unemployment to unmet needs for family planning and contraception (APHRC, 2014). Poor health outcomes, including high rates of HIV (Madise et al., 2012) and teenage pregnancy (APHRC, 2014), are connected to poverty, marginalisation and limited access to quality health services in these areas (Zulu et al., 2011). IPV gets marginal attention in global urban reports which tend to focus on insecurity, crime, and violence more broadly. However, IPV studies conducted among women (Ringwald et al.,

2020, Orindi et al., 2020, Swart, 2012) and men (Ringwald et al., 2020) in informal settlements in Nairobi reported rates of IPV above KDHS urban prevalence estimates. Contrary to widely reported gender gaps, IPV studies in informal settlements in Nairobi and Dar-es-salaam found comparable rates among women and men (Mulawa et al., 2018, Ringwald et al., 2020). The impact of IPV in informal settlements may be particularly grave due to the economic burden of IPV-related harm on survivors, families and communities (National Gender and Equality Commission, 2016).

4.3.3 Conceptualising IPV

The ecological framework is used globally and in sub-Saharan Africa to conceptualise male-to-female IPV and takes into account gender inequality as underlying driver (Raising Voices and African Women's Development Fund, 2019). According to the model, a complex interplay of factors across levels of the social ecology – from individual, partner, relationship, community to societal levels – causes IPV (Heise, 2011). Frameworks conceptualising female-to-male IPV locate it within bilateral couple violence (Johnson and Leone, 2005) and as a response to male-to-female IPV (Swan et al., 2008), although there is limited literature on this from sub-Saharan Africa. The ecological model has the potential to accommodate a variety of factors and their interplay in relation to female and male IPV.

4.3.4 IPV risk factors reported in Kenya

IPV research in Kenya has focused mainly on women to date and identifies various individual and partner-level risk factors. Women's education reduces and poverty increases their risk of experiencing IPV (Abuya et al., 2012, Bamiwuye and Odimegwu, 2014), while men's unemployment enhances their IPV risk (Gateri et al., 2021). Women who are married or cohabiting (Burmen et al., 2018, Gust et al., 2017) and formerly married men; women and men who witnessed IPV between parents (i.e. father beat mother) during childhood (Ringwald et al., 2020); and women whose partners use alcohol or drugs (Gust et al., 2017, Owaka et al., 2017) are disproportionally affected. Evidence on community-level IPV risk factors is sparse. Neighbourhood effects on IPV have mainly been studied in high-income countries and rarely in sub-Saharan Africa (Alderton et al., 2020). A study on female-to-male IPV suggests economic and social environments in rural Kenya trigger marital conflicts and IPV against men (Gateri et al., 2021). Community norms and deprivation are known to amplify male-to-female IPV risk. One in three people justify wife beating in urban Kenya (KNBS et al., 2015a) and inequitable gender norms and patriarchal culture condone men's use of violence against women as a means of discipline, maintaining male dominance and control (Gillum et al., 2018, Hatcher et al., 2013). Multiple intersecting disadvantages based on gender, class, socio-economic status and education shape women's experience of IPV since patriarchy is intertwined with other systems of oppression (Coalition of Feminists for Social Change, 2018). For example, intersecting gender and economic inequalities

influence experiences of poor women in Kenya and those who depend on their partners economically (Gillum et al., 2018, Hatcher et al., 2013).

4.3.5 Kenya's commitments towards eliminating IPV

Kenya is committed to "significantly reducing all forms of violence" (Sustainable Development Goal 16) and "eliminating all forms of violence against all women and girls" (SDG 5). These commitments are evidenced in its Constitution (2010), the Protection Against Domestic Violence Act (2015), and the Sexual Offences Act (2006). The State Department of Gender Affairs coordinates the multi-sectoral response laid out in national policy (Ministry of Devolution and Planning, 2014). Several toll-free hotlines provide IPV survivors with information and referral. In 2021, Kenya renewed its commitments to scaling up one-stop victim support 'Policare' centres in all counties (Kenya Police Service, n.d.); and integrating medical, legal and psychological gender-based violence services into the universal health coverage programme (Government of Kenya, 2021).

4.3.6 Research problem, aim and hypotheses

Although the consequences of IPV in informal urban settlements may be particularly grave, the comparative burden of IPV in informal urban settlements in Kenya has not been reliably quantified. Evidence on the burden of IPV in informal urban settlements has mainly been generated through research in Nairobi's informal settlements; studies lacked comparators in other urban areas; and research often involved small numbers of respondents. Consequently, the results are not necessarily generalizable to informal settlements countrywide and do not quantify potential differences in IPV prevalence in informal and formal urban settlements.

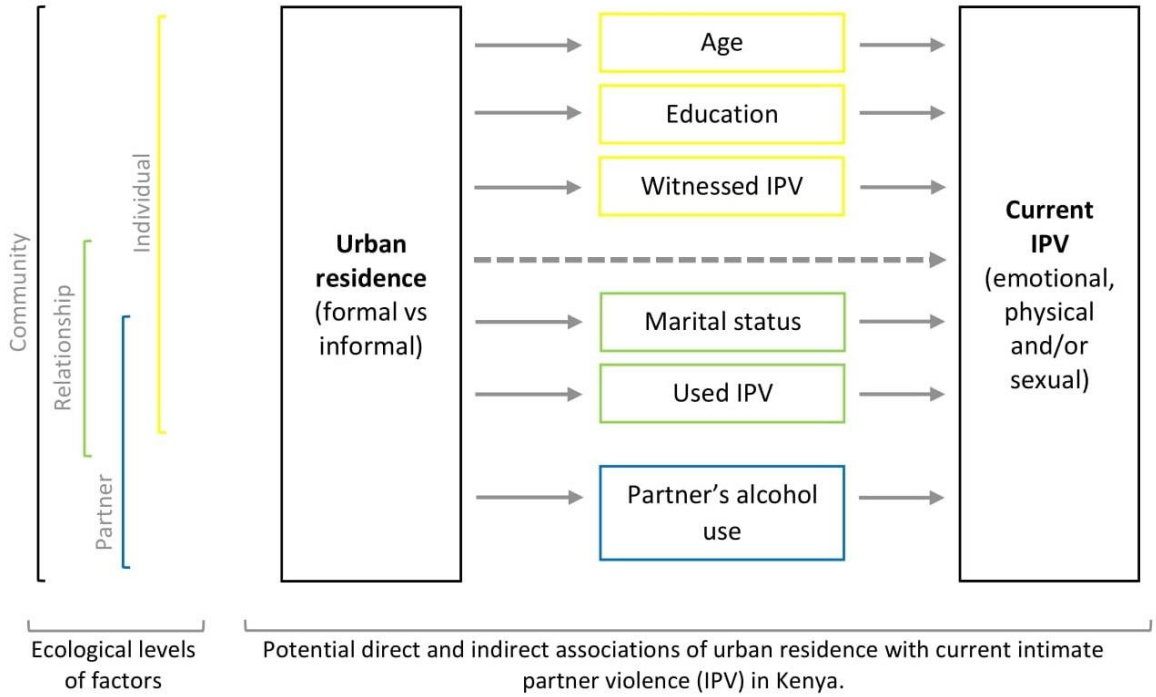
This study aimed to compare rates of current female and male IPV by urban residence (informal and formal settlements) while controlling for other risk factors; for this, we used data from the 2014 KDHS. The analysis is based on an ecological model to investigate direct associations between urban residence and IPV and indirect associations mitigated by individual, relationship, and partner factors, as shown in Figure 22. Based on the review of the literature, we tested the following hypotheses:

Hypothesis 1: Female and male prevalence of any current IPV is higher in informal than formal urban settlements.

Hypothesis 2: Female and male prevalence of any current IPV in informal urban settlements are comparable.

Hypothesis 3: Informal urban residence is directly correlated with any current IPV against women and men, even after adjusting for individual, relationship, and partner factors.

Figure 22. Conceptual framework of associations between urban residence and intimate partner violence



Note. Conceptual framework illustrating potential direct association between urban residence and current IPV (dashed arrow) and potential indirect associations through individual factors (yellow), relationship factors (green), and partner factors (blue).

4.4 Methods

This study is nested within ARISE Hub – an international research consortium of partners in Bangladesh, India, Kenya, Sierra Leone, and the UK. ARISE works towards catalysing change in approaches to enhancing accountability and improving the health and wellbeing of poor, marginalised people living in informal urban settlements. Within this research partnership, European and Kenyan researchers at the LSTM and LVCT Health jointly conducted this analysis.

4.4.1 Dataset and sample

This study used data from the 2014 KHDS, a cross-sectional household survey designed to produce nationally representative estimates for urban and rural areas of a wide range of health and socio-economic indicators (KNBS et al., 2015a). Through a two-stage sampling design, 39,679 households were selected for the survey of which 15,419 were in urban areas. First, enumeration areas (n=1,612, including 617 urban clusters) were randomly selected from a national sampling frame comprising 92 sampling strata (45 urban and 47 rural strata). Then, an equal number of households was sampled within each cluster. Individual interviews were conducted in person among women (age 15-49 years) and men (age 15-54 years) from May to November 2014. Questionnaires were administered in English

and 16 other Kenyan languages. Details on survey design and methods can be found in the 2014 KDHS report (KNBS et al., 2015a). We obtained 2014 KDHS datasets [dataset] (KNBS et al., 2015b) through application to the DHS Program.

Of the 31,079 female and 12,819 male respondents, 5,657 females and 4,962 males were interviewed on domestic violence. Married, cohabiting, separated, divorced, and widowed respondents (4,519 females and 3,268 males) were asked about intimate partner violence. Since our analysis focussed on the variation of IPV within urban areas, we excluded records from rural areas and selected observations among 1,644 female and 1,331 male respondents residing in urban areas.

Observations with missing values of relevant variables were excluded from the analysis (31 females, 10 males). These included missing values on IPV (2 females, 2 males); missing or inconsistent data on the primary source of drinking water and toilet facility (24 females) and electricity (1 male), which were used for approximating the type of residence; and missing values among other explanatory variables (5 females, 7 males). We retained 1,613 female and 1,312 male observations with complete data in the analytic sample.

4.4.2 Outcome variable

Our primary outcome was current IPV, which we selected over lifetime IPV to minimise impact of recall bias and advance practical relevance of findings for the delivery of IPV services. The KDHS domestic violence module, measuring IPV, is an adaption of the revised Conflict Tactics Scale (Kishor and Johnson, 2004) first validated for use with females and males (Straus et al., 1996). The questions assess concrete acts of violence by a spouse/ partner involving emotional violence, including (a) humiliated in front of others; (b) threatened to hurt or harm respondent or someone close; or (c) insulted or made to feel bad; physical violence, including (a) pushed, shook or threw something; (b) slapped; (c) twisted arm or pulled hair; (d) punched with fist or something that could hurt; (e) kicked, dragged or beat up; (f) tried to choke or burn; or (g) threatened or attacked with knife, gun or another weapon; and sexual violence including (a) forced to have sexual intercourse when not wanted; (b) physically forced to perform any other sexual acts when not wanted; or (c) forced respondent with threats or in any other way to perform sexual acts when not wanted.

A binary variable was coded for each act of current violence (0 = never or not in the last 12 months, 1 = often or sometimes in the past 12 months). IPV was classified as emotional, physical, and sexual, and a combination of these summarised as ‘any IPV’. Composite variables were coded ‘1’ when at least one listed act of violence occurred in the past 12 months.

4.4.3 Spatial variables

Residence. In line with the UN-Habitat definition, we used household-level housing indicators as proxies for defining the type of urban residence, our primary explanatory variable. As introduced by Eliya Zulu et al. (2002) and applied by Nyovani Madise et al. (2012), the urban residence variable considered respondents' household's access to electricity, improved sanitation, and improved water (0 = no, 1 = yes). Improved sanitation was identified if a household had a flush toilet (including flushed to a piped sewer system, septic tank, pit latrine or unspecified); and improved water was identified if a household had water piped into the dwelling, yard, or plot. Residence in an informal settlement was defined as the simultaneous absence of electricity, improved sanitation, and improved water (informal = 0). Residence in a formal settlement was defined as the simultaneous presence of the three facilities (formal = 3). Households reporting one or two facilities were assigned as 'intermediate' (intermediate = 1 or 2).

Province. Urban communities vary across the country, including in size and population density (KNBS, 2019b). We opted to include province (n=8), the former administrative unit in Kenya, instead of counties (n=47), as some counties had too few observations.

4.4.4 Other variables

Individual characteristics. We describe the female and male samples by age (coded as single years of age), wealth (reported as wealth quintiles derived through household asset index approach; 1 = poorest, 2 = poorer, 3 = middle, 4= richer, 5 = richest), and education level (0 = no schooling, 1 = primary, 2 = secondary, 3 = higher education).

Marital status. Respondents' marital status was treated as a categorical variable (1 = married, 2 = cohabiting, 3 = separated, 4= divorced, 5 = widowed).

Witnessed father beat mother. Within the domestic violence module, respondents reported if their father ever beat their mother (0 = no, 1 = yes, 2 = don't know). Respondents were not asked if the mother ever beat the father.

Current use of physical violence against partner. Based on a single question, "Have you ever hit, slapped, kicked, or done anything else to physically hurt your (last) (spouse/partner) at times when he/she was not already beating or physically hurting you?", a binary variable was coded (0 = never or not in the last 12 months, 1 = sometimes or often in the past 12 months).

Partner's alcohol use. Respondents were asked if their partner drank alcohol and if those who did so got drunk never, sometimes, or often (0 = does not drink or never gets drunk, 1 = gets drunk

sometimes, 2 = gets drunk often). Since few male respondents reported their partner drank alcohol, a binary response was retained (0 = does not drink alcohol, 1 = drinks alcohol).

4.4.5 Statistical analysis

Our analysis was stratified by sex as standard in other studies (Ringwald et al., 2020, Papas et al., 2017) to account for differences in IPV exposure between women and men. The description of the female (n=1,613) and male (n=1,321) samples was stratified by residence. We estimated prevalence of different types of IPV, stratified by sex and residence.

We used multilevel logistic regression to quantify the associations between residence and any current IPV. The analysis was conducted with current IPV as the outcome and those who reported having never experienced IPV as the reference group (Vyas and Heise, 2016). Observations with lifetime but not current IPV experience among females (n=184) and males (n=76) were excluded, yielding an analytic sample of 1,429 female and 1,245 male observations for analysis. We formulated binomial mixed-effects models with fixed effects at the individual level and random effects at the cluster level (i.e. provinces) because we observed significant variation in IPV prevalence across provinces (KNBS et al., 2015a). Random effects at the cluster level account for overdispersion and variation unexplained by other covariates. The fixed effects of individual-level parameters are constant over all provinces.

We modelled the commonly used composite measure 'any IPV' (Memiah et al., 2018) and assessed its correlations with residence. We conducted bivariate analysis (Model 1) and multivariate analysis (Model 2), adjusting for factors linked to IPV in previous studies. Models adjust for respondent's education level, marital status, having witnessed father beat mother, and use of physical violence against partner, partner's alcohol use. We sought to minimise model complexity so as not to destabilise models. Therefore, age was excluded after preliminary analysis showed no correlation between age (including on log-scale) and current IPV. In addition, categorical variables were recoded, collapsing levels when having few observations or observing similarities between levels in preliminary analysis (i.e., female education level: 0 = no schooling, 1 = primary or secondary, 2 = higher education; male education level: 1 = no schooling, primary or secondary, 2 = higher education; female marital status: 1 = married, 2 = cohabiting, 3 = separated or divorced, 4 = widowed; male marital status: 1 = married, 2 = cohabiting, 3 = separated, divorced, or widowed). The KDHS household wealth index is based on household-level housing indicators. Since we used some of these indicators to approximate residence, the analysis did not adjust for household wealth. We followed the standard practice for analysis of subsamples of DHS data and did not apply sample weights (Durevall and Lindskog, 2015). We report fixed effects with odds ratios (OR), 95% confidence intervals (CI) and respective p-values. Statistical analysis was done in RStudio (Version 1.3.1093).

4.4.6 Ethical considerations

The institutional review board of ICF International reviewed and approved the DHS-7 used in the current study (ICF Project Number: 132989.0.000). We sought and received formal permission from DHS Program, ICF, to use the 2014 KDHS datasets. Our study (registration number 19-067) did not require formal review by LSTM Research Ethics Committee as datasets are publicly available and fully anonymised. The authors provide R-codes to replicate the study upon request.

The KDHS 2014 was conducted following the WHO's ethical and safety recommendations for research on domestic violence (WHO, 2001): Only one person per household was interviewed on domestic violence to ensure confidentiality; additional consent was obtained for the domestic violence questionnaire; violence questions were administered when no other person was present (except for small children); and respondents were given contact details for domestic violence service centres (KNBS, 2015a).

4.5 Results

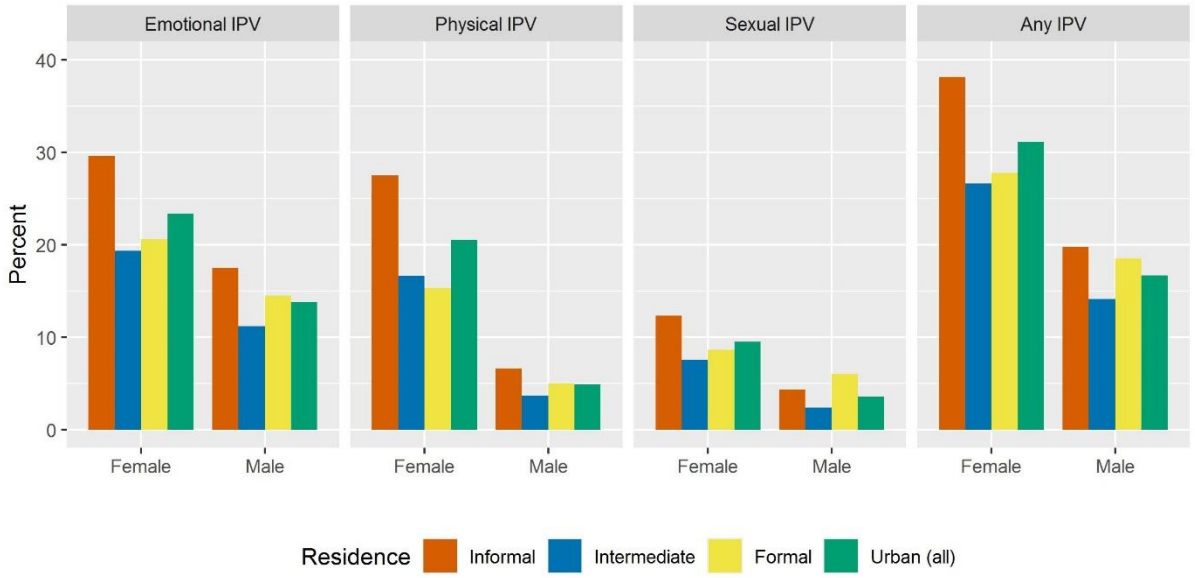
About one-third of women (38%) and men (33%) were identified as residents of informal settlements; about one in eight women (13%) and men (15%) were identified as residing in formal settlements; approximately half of the women (49%) and men (51%) were assigned to the 'intermediate' residence class (Appendix 15). The median age is 29 years in the female sample and 35 years in the male sample. While most women (89.7%) and men (96.1%) have some level of schooling, educational attainment is lower in informal settlements than in other settlements. For example, in informal settlements women are fifteen times and men six times less likely to have accomplished higher education than counterparts in formal settlements. Overall, about two-thirds of urban residents are in the top two wealth quintiles. Urban poor reside almost exclusively in informal settlements. Women and men in bottom two wealth quintiles constitute over half of informal urban settlement population (55.1% and 51.1%) there), are a tiny minority in intermediate settlements (4.3% and 5.1%), and absent in formal settlements. Most women (77.6%) and men (88.4%) are married. More men (44.3%) than women (35.6%) recall their father beating their mother. More men (95.2%) than women (67.7%) have a partner who does not drink alcohol or get drunk. One in ten women state their partner gets drunk 'often', while two in ten state he gets drunk 'sometimes'. Very few women (2.6%) and some men (13.0%) used physical violence against a partner in the past 12 months.

4.5.1 Prevalence of any current IPV and overlap with current use of IPV

Figure 23 shows prevalence estimates of any current IPV against women and men in urban areas. Across all types of current IPV experienced, prevalence is higher among women than men, including in informal urban settlements where 38% women and 20% men reported any current IPV, mainly

emotional IPV (30 vs 18%), followed by physical IPV (27 vs 7%) and sexual IPV (12 vs 4%). Female IPV prevalence estimates in informal settlements are above urban averages (e.g., any current IPV: 38 vs 31%) and higher than those in formal settlements (e.g., any current IPV: 38 vs 28%). In contrast, male IPV rates are comparable between informal and formal settlements (any current IPV: 20 vs 19%).

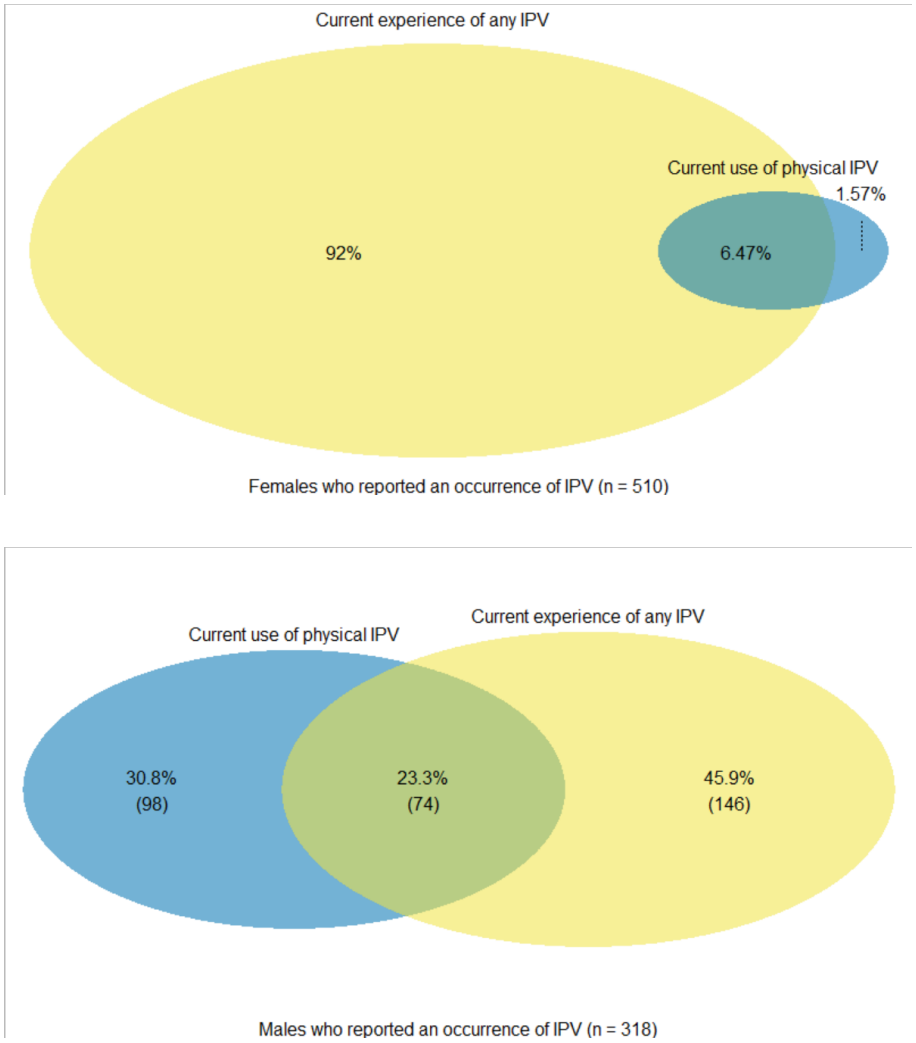
Figure 23. Prevalence of current intimate partner violence in urban areas of Kenya



Note. Prevalence of current intimate partner violence (IPV) among female (age 15-49) and male (age 15-54) residents in urban areas of Kenya by type of IPV (columns) and residence (2014).

Figure 24 shows the overlap between current experience of any IPV and current use of physical violence against partner. According to the data of current IPV, most women (68%) and men (76%) do not experience any IPV nor use physical violence against a partner. Figure 25 shows patterns of the overlap vary: Nearly all women (92.0%) and about half of men (45.9%) state experiencing any current IPV without using physical violence against partner. Current use of physical violence against a partner without current victimisation is rare among women (1.6%) but more common among men (30.8%). Concurrent experience of any current IPV and use of current physical violence against a partner is less common among women (6.5%) than men (23.3%).

Figure 24. Overlap between current experience of any intimate partner violence and current use of physical violence against partner in urban areas of Kenya

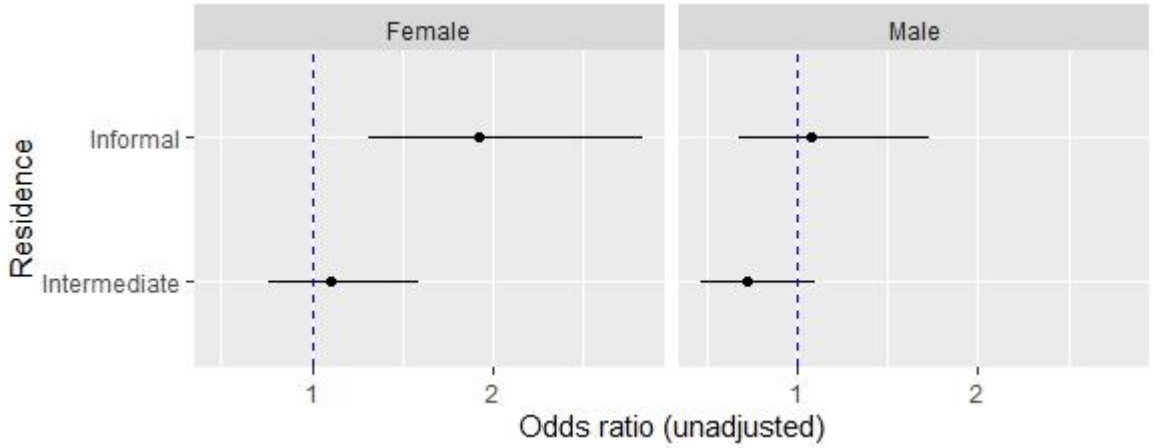


Note. Overlap between current experience of any intimate partner violence and current use of physical violence against partner among women (age 15-49) (upper panel) and men (age 15-54) (lower panel) in urban areas of Kenya who reported an occurrence of IPV in the past 12 months (2014).

4.5.2 Correlations between type of residence and IPV

Figure 25 shows the unadjusted estimates from binomial mixed-effects models for any current IPV. Estimates suggest a statistically significant association between residing in informal urban settlements and any current IPV among women (OR 1.92 [95% CI: 1.31, 2.83]), unlike among men (OR 1.08 [95% CI: 0.68, 1.73]), when compared with those residing in formal urban settlements. For tabulation of model estimates, see Appendix 16.

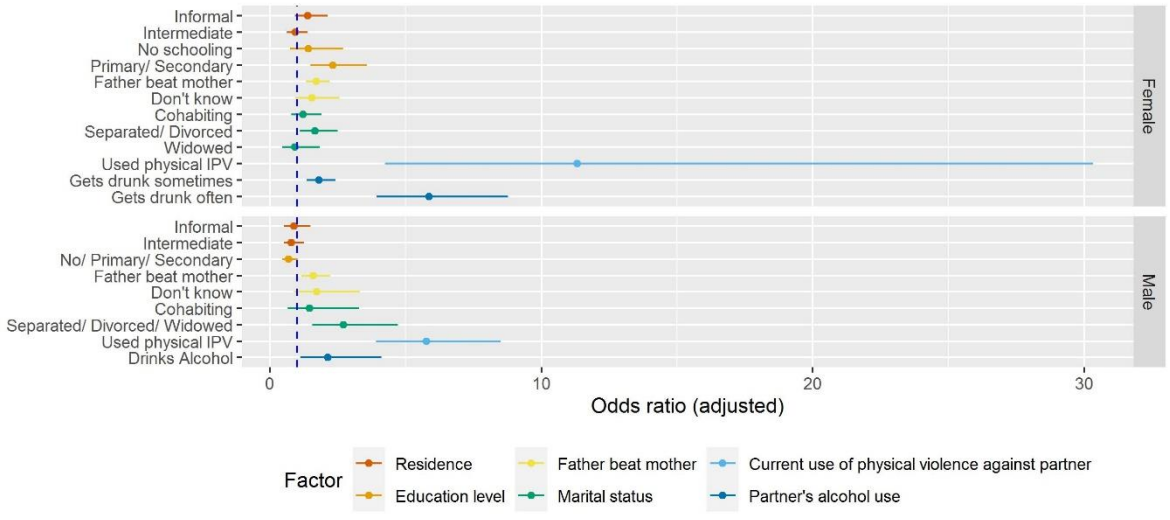
Figure 25. Unadjusted estimates from binomial mixed-effects models for any current intimate partner violence in urban areas in Kenya (2014)



Note. Unadjusted estimates from binomial mixed-effects models for any current intimate partner violence against women (age 15-49) and men (age 15-54) in urban areas in Kenya (2014).

Figure 26 shows the adjusted estimates from binomial mixed-effects models for any current IPV. Female data suggest correlation between residing in informal settlements and any current IPV among women is not statistically significant (adjusted OR (aOR) 1.39 [95% CI: 0.91, 2.13]) when adjusting for individual, relationship, and partner factors. The odds of any current IPV are higher among women with primary or secondary education (aOR 2.31 [95% CI: 1.49, 3.57]) when compared to those with higher education. Additional analyses (shown in Appendix 17) indicate women's education level mediates the correlation between informal settlement residence and any current IPV. Other factors at the individual, relationship, and partner levels do not change estimates of this correlation.

Figure 26. Adjusted estimates from binomial mixed-effects models for any current intimate partner violence in urban areas in Kenya (2014)



Note. Adjusted estimates from binomial mixed-effects models for any current intimate partner violence against women (age 15-49) (upper panel) and men (age 15-54) (lower panel) in urban in Kenya (2014).

The odds of any current IPV are higher among women and men who witnessed father beat mother (aOR 1.71 [95% CI: 1.33, 2.20] and (aOR 1.59 [95% CI: 1.14, 2.22]) when compared with those who did not. Female data suggest several relationship and partner factors correlate with any current IPV. These include being separated or divorced (aOR 1.65 [95% CI: 1.1, 2.49]), women's current use of physical violence against their partner (aOR 11.32 [95% CI: 4.23, 30.34]), and having a partner who gets drunk sometimes (aOR1.81 [95% CI: 1.35, 2.42]) and often (aOR 5.86 [95% CI: 3.92, 8.77]). Male data similarly suggest relationship and partner factors are correlated with any current IPV. These include being separated, divorced, or widowed (aOR 2.71 [95% CI: 1.56, 4.71]), men's current use of physical violence against their partner (aOR 5.76 [95% CI: 3.91, 8.49]), and having a partner who uses alcohol (aOR 2.14 [95% CI: 1.11, 4.11]). Tabulation of unadjusted and adjusted model estimates are shown in Appendices 16-18. Estimates of the variation of the random effect of the cluster variable 'Province' are shown in Appendix 19.

4.6 Discussion

We set out to compare IPV against women and men by urban residence. Our analysis shows women reported higher rates of IPV than men across all urban settlements. Women in informal urban settlements experienced the highest rates of IPV across all types of violence, supporting Hypothesis 1 for female data (i.e., higher prevalence of any current IPV in informal than formal urban settlements). These results confirm high rates of IPV observed among women in informal settlements in Nairobi (Swart, 2012, Orindi et al., 2020, Ringwald et al., 2020). The estimated male prevalence of any current IPV is comparable to the pooled estimate of female-to-male IPV prevalence in Africa (Lindstrøm, 2018). However, contrary to our Hypotheses 1 and 3, male results indicate rates of IPV against men are high in informal and formal urban settlements and men's residence is not associated with experience of any current IPV. Data show evidence against Hypothesis 2 as women in informal settlements experience a greater burden of current IPV than men across all types of violence. Observed gender differences in IPV prevalence are consistent with results of a national survey in South Africa (Gass et al., 2011) but contrast with results from research in informal settlements in Nairobi and Dar-es-salaam reporting comparable rates of IPV among women and men (Mulawa et al., 2018, Ringwald et al., 2020). Our results are based on female and male samples representative of urban areas in Kenya and show high burdens of IPV apply to informal settlements countrywide.

The results highlight the compounded disadvantage of women in informal urban settlements as they bear the brunt of IPV. In unadjusted analysis, informal settlement residence, identified by the absence of household amenities, is significantly associated with IPV against women. Studies conducted in African informal urban settlements reported women's increased risk of domestic and non-partner violence due to housing deprivation and lack of infrastructure (Barchi and Winter, 2019, Meth, 2017,

Pommells et al., 2018, Shiras et al., 2018). Contrary to our expectation, however, female data do not support Hypothesis 3 (i.e., direct association between informal urban residence and any current IPV after adjusting for control variables). When models adjust for women's individual, relationship and partner factors, informal urban residence is not significantly associated with any current IPV.

Our analysis suggests women's education level plays a role. It is plausible the benefits of education (better job opportunities, increased disposable income, enhanced access to knowledge, more equitable gender attitudes, and greater control over intimate partnerships) mediate the association and reduce women's IPV risk (Bates et al., 2004, Brooks et al., 2019, Gillum et al., 2018, Mugoya et al., 2015). Free public primary schools are, however, scarce in informal settlements, and families rely on small private 'non-formal' schools for primary education (Oketch et al., 2010) facing a 'poverty penalty'; they pay more to receive inferior educational services (Malenya, 2020). Since employment and income opportunities are limited, financial constraints force children (girls more often than boys) to drop out of school (APHRC, 2014). Children from informal settlements have disproportionally low chances of joining public secondary schools (Ohba, 2013), and girls face additional barriers. These include sexual harassment; challenges paying for sanitary products and managing menstruation in schools (Girod et al., 2017); and unintended pregnancies (Beguy et al., 2014) which hinder school re-entry (Walgwe et al., 2016). Women in Kenya are underrepresented in tertiary learning institutions (Ministry of Devolution and Planning, 2016), with additional barriers to accessing higher education for those residing in informal settlements.

To our surprise, men in formal and informal settlements experience comparable rates of IPV. Since a study in rural Kenya had suggested economic, physical, and social environments shape individual risk factors of female-to-male IPV (Gateri et al., 2021), we expected to find evidence for correlations of IPV with residence as proxy for community factors. Results from rural Kenya suggest women's frustration and desire to control and men's alcohol use and infidelity trigger female-to-male IPV (Gateri et al., 2021). However, we could not investigate these factors, nor ascertain whether overlap of experience and use of current IPV constituted bilateral partner violence, acts of women's self-defence, or response to partner's use of IPV. Media coverage of female-to-male IPV frequently gets sensational attention in Kenya (King'ori and Bitrus-Ojiambo, 2017). Although the question "what about men?" is often raised (for example, Osindo et al., 2018), there is a paucity of high-quality studies on female-to-male IPV in Kenya to date.

Female and male data indicate partner's alcohol use strongly correlates with any current IPV – independent of the respondent's residence and other control variables. On the one hand, these results resonate with a multi-country study that found links between alcohol and IPV for both women and

men (Graham et al., 2018). On the other hand, alcohol does not fully explain the link, since partners are not always intoxicated when abusive or abusive when intoxicated (Kelly, 2011). Expanding our focus to the interplay of community and individual factors, research in urban Tanzania suggests the heavy presence of alcohol-selling outlets signals social acceptance of drinking (Ibitoye et al., 2019). High density of alcohol outlets can create environments where alcohol use and IPV risk mutually reinforce each other; with easy access to alcohol stimulating patterns of drinking, whilst triggering IPV; and alcohol outlets providing opportunities for forming groups and practices that reinforce IPV-related attitudes (Cunradi, 2010). The widespread production and consumption of traditional homebrew in Kenya complicates efforts to prevent harm related to excessive alcohol use (Mkuu et al., 2019).

Our results suggest IPV deserves greater attention in the fields of urban health and urban violence. Compared to crime and other forms of violence, IPV plays a marginal role in these discussions. Studies from sub-Saharan Africa found IPV does not occur in isolation but overlaps with other forms of violence: violence against children (Namy et al., 2017); domestic violence and collective political violence (World Bank, 2011). Experience and perpetration of different forms of violence in urban areas are interlinked, with blurred lines between different expressions of violence (World Bank, 2011). Consequently, those experiencing a disproportionally great burden of IPV, including people in informal settlements, are likely to be exposed to other forms of violence and, subsequently, at risk of poor health outcomes. While urbanisation provides opportunities that are potentially protective against IPV, the pressures of urban living contribute to a context where IPV can flourish (McIlwaine, 2013).

Despite Kenya's progress in establishing legal and policy frameworks, limited coordination among sectors and service providers; limited financial and human resources and equipment; lack of knowledge among service providers; and flawed evidence collection impede enforcement (Ajema et al., 2011, Kilonzo et al., 2009, Wangamati et al., 2021) and successful prosecution (CEDAW, 2017). Cases of IPV are underreported due to financial barriers and fear of an unsupportive or discriminatory response from service providers (Fernandes et al., 2020). For example, service providers may illegally charge women in informal settlements for reporting forms (CEDAW, 2017). Limited awareness of own rights, lack of knowledge of existing services, acceptance of IPV, and stigma impede access to IPV services (Fernandes et al., 2020). IPV survivors' rates of help-seeking remain low (KNBS et al., 2015a), especially among men (Gatuguta et al., 2018).

4.6.1 Recommendations

We recommend more attention is given to addressing interconnecting challenges and identifying integrated approaches to preventing IPV and addressing related challenges. IPV research needs a more intersectoral lens. Future studies should assess how types of urban residence, gender, and other

axes of disadvantage (such as wealth, (dis)ability or ethnicity) intersect in shaping IPV risk in greater depth. A syndemic approach (Singer, 2006, Singer, 1996) may provide a suitable lens for exploring the complex nature of IPV; illuminating processes through which IPV is interconnected both with other social and health conditions and the environment.

We further recommend actions to advance the collection of better-disaggregated urban IPV data. The Nairobi Urban Health and Demographic Surveillance System collects data on various health indicators in two informal settlements in Nairobi and provides a platform for providing reliable IPV prevalence estimates if a domestic violence module was added to the survey. Given a high concentration of research in informal settlements in Kenya's capital city, future research should be conducted in urban centres other than Nairobi. Extensive cross-sectional surveys like the DHS would benefit from disaggregating urban residence with categories relevant to the context. At a minimum, a distinction between informal and formal settlements should be made in Kenya.

The KDHS classified respondents as female and male and assumed heterosexual relationships. Hence, the survey was not equipped to involve and report on intersex and non-binary people and same-sex relationships. Gender and sexual minorities in Kenya may face high risk to IPV, as observed in Tanzania (Mgopa et al., 2017), given the legal and social marginalisation. Alternative study designs are needed to document their burdens and experiences of IPV.

4.6.2 Limitations

This study used household-level housing indicators as a proxy to determine type of residence. A third of urban respondents were identified as residing in informal settlements, yet countrywide more than half of urban residents live in informal settlements (UN-Habitat, 2016). We cannot rule out some of those assigned to the 'intermediate' class actually living in informal settlements in households with access to amenities (APHRC, 2014) and acknowledge potential influence on IPV prevalence estimates for informal urban settlement and 'intermediate' classes. In addition, it is possible some people living in informal settlements were excluded from the 2014 KDHS because its sampling frame was aligned with administrative boundaries outside of rapidly emerging informal settlements (Chumo et al., 2021). Given that IPV prevalence was high in informal settlements and people in informal settlements were potentially underrepresented, we hypothesise average urban IPV prevalence was underestimated. In addition, our results suggest disparate urban distributions of household wealth. Since women's socio-economic status is protective against IPV (Vyas and Watts, 2009), adjustments for socio-economic status would have been useful, but was not possible.

IPV estimates are based on presence in the household and on respondents' self-reported information, both of which may have introduced bias. Firstly, the response rate was greater among women (95%)

than men (87%) in urban households selected for the full questionnaires, which included the domestic violence module, mainly due to absence from home (KNBS et al., 2015a). Secondly, we cannot rule out underreporting due to recall and social desirability biases in contexts where IPV is normalised and stigmatised. The 2014 KDHS applied measures to maximise participation, minimise bias, and enhance data quality: Questionnaires were administered in various languages; same sex interviewers received training on asking sensitive questions and building rapport; IPV was measured with a validated research instrument; and respondents were asked about a wide range of violent acts providing respondents with multiple reliable opportunities to recall and disclose IPV experience.

Finally, we used 2014 KDHS data not collected for the purpose of our study. The cross-sectional nature of the data limits our ability to draw causal inferences for the identified associations while situating results within the literature. Although recommended (Merson et al., 2018), we were not able to directly involve 2014 KDHS data collectors and researchers but did conduct our study within an established partnership of European and Kenyan researchers.

4.6.3 Conclusion

This study quantified intra-urban variation of IPV risk in Kenya, highlighting the need to spatially disaggregate IPV data beyond the rural-urban divide. Multilevel logistic regression analysis aided in identifying associations of individual, relationship, and partner factors with any current IPV, whilst the ecological model assisted in interpreting and contextualising results. High rates of IPV in informal settlements, especially among women, suggest work on urban violence and urban health ought to pay greater attention to IPV. Future research is recommended to evaluate the impact of gendered urbanisation processes on IPV in greater depth; there is potential to utilise intersectional and syndemic approaches to advance understanding about the complexities and interconnectedness of IPV and identify integrated approaches to address IPV and related challenges in diverse urban settings.

Chapter 5: Power and poverty: A participatory study on the complexities of HIV and intimate partner violence intersections in an informal settlement in Nairobi, Kenya.

5.1 Chapter overview

Results presented in Chapter 4 show variation of IPV experience within cities and high burden of IPV in informal urban settlements, especially among women. This chapter brings the focus to intersections of IPV and HIV and the informal urban settlement context. It seeks to answer **objective two; to understand the power dynamics that influence IPV and HIV intersections among different groups of women and men in an informal urban settlement in Nairobi, Kenya.** Study findings are embedded and presented in form of an article. As a result, the Introduction to the article (5.3) duplicates content discussed in greater detail in the Literature review, including intersections of IPV and HIV (2.5.3), concepts of power (2.3), history of Nairobi (2.6.6), and connections with ARISE and LVCT Health (1.4). The discussion of study methods (5.4) builds on above sections justifying conceptual frameworks (2.8) and participatory approach (3.2); elaborating study process and methods (3.5); and introducing the research team (3.5.2). Here, I describe the study site (5.4.1.), characteristics of study participants (5.4.3), and data collection process (5.4.4) in greater detail, and briefly summarise data analysis, quality assurance, and ethical considerations (5.4.5 to 5.4.7). Study findings are presented under four themes, each representing a cluster of power dynamics found to shape IPV and HIV in the informal settlement. I conclude with a discussion of the relevance and implications of findings and reflection on strength and limitations of the research.

The article which makes up this chapter was submitted to *Social Science & Medicine* for publication and is currently undergoing peer-review. As outlined in the manuscript title page (next page), I have been leading the process from conceptualisation and administration of the study to writing and revising the manuscript. I planned and conducted data collection and analysis together with the research team (as outlined in 3.5.2, 3.5.3, 3.5.5, and 3.5.6). Other authors were engaged in the research process (3.5.3) and/or manuscript writing in line with their role as supervisors, research partners, or project partners (3.3). Rachel Tolhurst and Miriam Taegtmeyer had a greater role in the development of the manuscript than other authors given their responsibility as academic PhD supervisors.

Power and poverty: A participatory study on the complexities of HIV and intimate partner violence intersections in an informal settlement in Nairobi, Kenya

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5.2 Abstract

People in informal urban settlements in Kenya face multiple inequalities, including HIV and IPV, which intersect in multiple ways. Yet, research often investigates HIV or IPV in isolation, targets single populations, and focusses on individual behaviour, with limited involvement of informal settlement dwellers. We formed a study team of researchers (n=4) and lay investigators (n=11) from an informal settlement in Nairobi, Kenya to develop a nuanced understanding of the power dynamics that influence IPV and HIV intersections among different groups of women and men in the informal urban settlement. We identified priority populations, considered to be important for the HIV and IPV response, facilitated focus group discussions with 56 women and 32 men and interviews with 10 key informants, and analysed data together. Study findings suggest interrelated dynamics of power and poverty drive and reinforce HIV and IPV. Unequal gender relations among partners, reinforced or at times altered by their access to money, are expressed through controlling power and IPV. Young people get married and resort to transactional sex, alcohol, and/or crime to cope with poverty and powerlessness, all of which heighten chances of IPV and HIV, especially among young women. People in positions of power act as gatekeepers to opportunities and services, amplifying existing inequalities. The economic, political, and social forces create and sustain complex unequal power relations in informal urban settlements, which are conducive to IPV perpetration and HIV transmission. Consequently, HIV and IPV prevention interventions need to address underlying inequalities as to maximise and sustain effects of biomedical, behavioural, and empowerment strategies.

Keywords: HIV, Intimate partner violence, Informal urban settlement, Kenya, Intersectionality, Gender equality, Social justice, Participatory research

5.3 Introduction

The HIV and IPV are interconnected (Li et al., 2014, WHO et al., 2013). Associations between HIV and IPV have been shown to be bi-directional (Hatcher et al., 2014). On the one hand, women experiencing IPV are more likely to acquire HIV (Heise and McGrory, 2016) and on the other hand, women living with HIV are at heightened risk of IPV following HIV diagnosis and status disclosure (Orza et al., 2015, Colombini et al., 2016). Linkage to HIV care and treatment outcomes are sub-optimal among both women and men living with HIV who are exposed to IPV (Schafer et al., 2012, Hatcher et al., 2015). Studies suggest persons experiencing IPV and partners using IPV are behaviourally vulnerable to HIV (including through alcohol or substance use, condomless sex, and multiple sexual partners) (Eaton et al., 2013, Heise and McGrory, 2016). Persons with an abusive partner are faced with risk of acquiring HIV because of challenges and conflicts around condom use and (perceived) infidelity, all of which can trigger IPV (Campbell et al., 2008, Heise, 2011).

Discriminatory laws, policies, and social norms drive IPV and HIV. Within heterosexual relationships, inequitable gender relations attribute more power to men than women whilst gender norms condone men's use of violence against women (Hatcher et al., 2013). Men who have sex with men, female and male sex workers and people who inject drugs are also at increased risk (Pack et al., 2013, Buller et al., 2014, NASCOP, 2014a). While same sex acts, sex work and illicit drug use is criminalised in Kenya (Sections 153,154, and 162 of the *Penal Code (Kenya) CAP.63*, *Narcotic Drugs and Psychotropic Substances (Control) Act (Kenya), 1994*), these groups are 'key populations' in Kenya's HIV response (NACC, 2021). The HIV and IPV epidemics are unevenly distributed in Kenya. More women than men are affected by HIV (6.6 vs 3.1%) and current (past-year) physical and/or sexual IPV (26 vs 7%) (KNBS et al., 2015a, NASCOP, 2020). Women (35%) and men (11%) in Nairobi are disproportionally affected by IPV (KNBS et al., 2015a), as studies indicate levels of HIV and IPV among women and men in informal settlements in Nairobi are even higher (Madise et al., 2012, Ringwald et al., 2020).

The intersections between HIV and IPV are driven by the power imbalances that shape partnerships. In this study, we refer to power as "*an ability to achieve a wanted end in a social context, with or without the consent of others*" (Vermeulen, 2005, p. 39). We consider power to be relational and dynamic, not static. Joanna Rowlands (1997) introduced two distinct expressions of power: (1) power as control (also called power-over) describes a finite quantity of power divided among actors, with dominant individuals or groups exercising control over marginalised individuals or groups; and (2) power as process refers to individuals or groups discovering their capacity (power-within); use their ability to act (power-to); and work together to achieve common goals (power-with) (VeneKlasen and Miller, 2007). Power is constituted, exercised, contested, or resisted in visible, invisible, or hidden

ways at different levels within society – from the individual, partnership, family, community to societal and global levels (VeneKlasen and Miller, 2007).

Contemporary power structures are shaped by historic processes (Omanga and Ndlovu-Gatsheni, 2020). Kenya's history as a British colony and the legacies of colonialism underly current power dynamics (Quijano, 2000, Lugones, 2010, Bertolt, 2018). The emergence of informal settlements in Nairobi is closely related to its colonial history. Founded as a railway depot in 1899 by British officials, Nairobi's population has risen from 13,000 in 1907 to 4.4 million in 2019 (KNBS, 2019b, Ogot and Ogot, 2020). Racial segregation characterised colonial urban planning, accommodating European and Indian populations on prime land and excluding the African majority (Ogot and Ogot, 2020). African settlements sprung up spontaneously. A 'native location' (opened in 1922) was soon insufficient for the African population (Ogot and Ogot, 2020). Nairobi's inequities remain. More than half its population lives in informal urban settlements, characterised by lack of improved water and sanitation, poor security of tenure, threats of eviction, limited durability of housing, and insufficient living area (UN-Habitat, 2016).

Nairobi was not only founded and planned by men but has attracted, and until recently accommodated, more males than females (KNBS, no date, KNBS, 2019b). Since the first all-male Municipal Committee, in 1917, men continue to hold more elected positions in the county assembly than women (Kinyanjui, 2022). Women's economic opportunities have lagged too. Women's main income opportunities in the early days of Nairobi involved brewing alcohol and sex work (Ogot and Ogot, 2020). Domestic service remains women's main employment today (KNBS et al., 2015a). Like housing, education and health services were segregated, initially by race and later by class with poorer education and health outcomes among people in informal settlements. Informal settlements today experience high population density, poor access to education, water, and sanitation, unmet need for family planning, teenage pregnancy, and high fertility rates among others (APHRC, 2014).

Despite the linkages between HIV and IPV epidemics, studies commonly investigate HIV or intimate partner violence in isolation and target a single population, often adolescent girls and young women who account for significant number of new HIV infections (UNAIDS, 2021b). However, research has been criticised for lack of attention to social forces influencing individual behaviour and for limited involvement of affected populations (Mannell et al., 2019), including informal settlement dwellers. We nested our study within ARISE, an international research consortium working in partnership with poor, marginalised people living in informal urban settlements to collect, analyse and communicate experiences of inequities, wellbeing, health, and governance. In Kenya, ARISE partner LVCT Health, a Kenyan non-governmental organisation specialising in HIV and gender-based violence (GBV), had

established research *partnerships with informal settlement communities across Nairobi* and was simultaneously implementing the DREAMS programme in the study community. DREAMS is a comprehensive HIV prevention intervention for adolescent girls and young women (age 10-24 years) targeting behavioural and structural factors through mentoring, education and economic opportunities, GBV prevention, and HIV services (Saul et al., 2018). We sought to develop a nuanced understanding of the social, economic, and political forces underpinning power relations in the informal urban settlement and of the ways in which different people navigate them.

5.4 Methods

We chose a participatory research approach (Abma et al., 2019, Springett et al., 2011) and worked with a diverse group of community co-researchers who are lay members of the research team and equal partners in the research process. This enabled us to draw attention to connections between theory and action, both the use of knowledge to challenge and change inequalities in everyday life and the formation of theory through practice by marginalised groups (Collins and Bilge, 2020). We wanted to avoid research being a closed space in which people living in informal settlements are invited to participate as informants but are otherwise excluded. Such research runs the risk of being irrelevant to those it seeks to serve, while potentially reproducing unequal power structures (Stone and Priestley, 1996). We adapted the ALIV[H]E framework for our participatory approach (Salamander Trust et al., 2017). ALIV[H]E is shorthand for 'action linking initiatives on violence against women and HIV everywhere.' It provides a step-by-step approach for generating nuanced understanding of the intersections of VAW and HIV in order to strengthen IPV and HIV prevention and response (Salamander Trust et al., 2017). We selected ALIV[H]E because it facilitates the assessment of unequal power relations, encourages community involvement, and promotes empowerment. ALIV[H]E focusses on four dimensions for guiding research and change: (1) internalised values, attitudes, and practices; (2) access to and control over private and public resources; (3) social beliefs, norms, and practices; and (4) laws, policies, and resource allocations.

We complement the ALIV[H]E framework with an intersectionality lens. As an analytical tool, intersectionality as an analytical tool allows for multiple axes of power to be explored, the interconnectedness of oppression to be examined, and complex social hierarchies to be revealed (Collins and Bilge, 2020). Using an intersectional lens helps mitigate against monolithic representation of African women and men, in accordance with recommendations by African scholars (Bakare-Yusuf, 2004, Ratele, 2008, Shefer, 2016). Our understanding of intersectionality builds on Kimberlé Crenshaw's (1991) work which demonstrated neither gender nor racial discrimination sufficiently explain Black women's risks and experiences of violence in the US. It also resonates with African scholars who interrogate the impact of colonialism on gender power relations, considering multiple,

intersecting axes of power (Thiam, 1986, Lewis, 2004, Steady, 2004). Intersectionality has been applied in health equity research in African contexts, illustrating the temporal and spatial structures and processes shape health behaviour and how gender power relations are intertwined with other power dynamics such as age or type of work (McCollum et al., 2019, MacPherson et al., 2020).

5.4.1 Study site

Our study was conducted in Korogocho, a densely populated informal settlement 11 kilometres North-East of Nairobi's city centre, near Nairobi's main dump site in Dandora and the industrial areas of Kariobangi and Babadogo. The settlement started in the 1960s and grew as the government settled people there from other parts of Nairobi. Korogocho's population (growing from 30,000 in 2003 to 37,000 in 2019) is squeezed on to 0.9 km^2 between Mathare and Nairobi Rivers (KNBS, 2019b) – a sevenfold higher population density than the Nairobi average (42,401 vs 6,247 persons/km^2) (KNBS, 2019b). While the male population (19,000) still outnumbers the female population (18,000), the settlement's demographic profile has changed from a predominantly younger male population to an age-sex distribution more typical of an established community (Wamukoya et al., 2020). People in Korogocho face multiple challenges. Most households (85%) live below the international poverty line (USD 1.90 per day) although many own a phone (87%), radio (69%) or television (55%). The majority rent their property (82%) (Wamukoya et al., 2020). The one-room structures, tend to be built on cement floors with mud and timber walls and waste tin cans as roofing material with no access to piped water nor flush toilets. Despite improvements, female and male education levels lag behind average educational attainment in Nairobi (APHRC, 2014). Unemployment is high, especially among women (37% among women vs 12% among men) (Wamukoya et al., 2020), and many rely on casual employment (Emina et al., 2011).

Public institutions and non-governmental organisations provide a variety of services in Korogocho. The Senior Chief, a national government officer supported by assistant chiefs and village elders, is tasked with maintaining order and preventing crime (*Chiefs' Act (Kenya). CAP. 218*). Chiefs and village elders also oversee development programmes, including recruitment or vetting of participants (Sarnquist et al., 2018). His office is at the Chief's camp and accommodates community halls, NGOs and community radio station. Korogocho has a Police Station, including a team of policewomen investigating reported GBV, referred to as the 'GBV desk'. The public health facility offers free HIV testing, counselling, care, and treatment and GBV services for general and key populations. Several private not-for-profit health facilities offer specialist health services including for HIV and Tuberculosis.

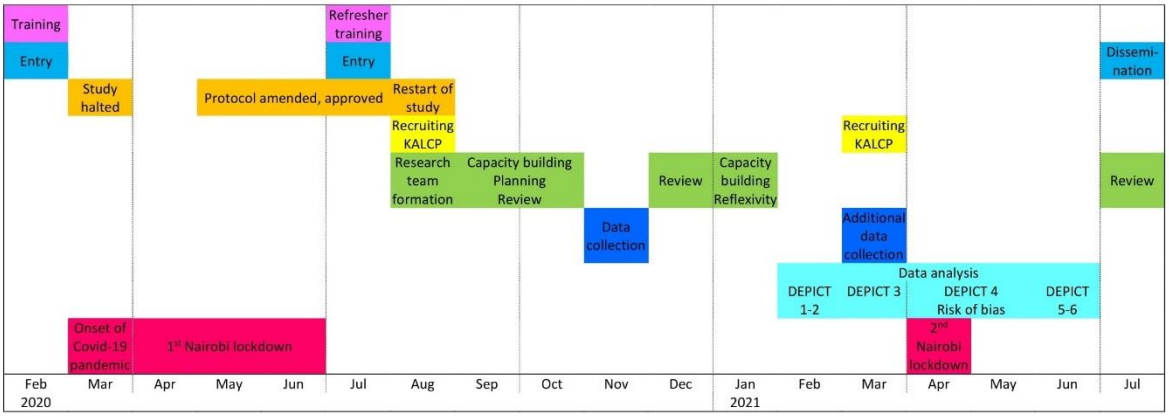
Korogocho comprises nine villages and we concentrated on Gitathuru village for its ethnically diverse population and distinct characteristics. Surrounded by a tarmac road and divided by a web of narrow

footpaths it is buzzing with businesses, market stalls and street kitchens. There is a public water point, managed by the local youth group; multiple churches and mosques, serving as community schools on weekdays; and numerous *chang'aa* dens where hard liquor is distilled and consumed.

5.4.2 Research team

We conducted the participatory study, after some delay due to the COVID-19 pandemic, from August 2020 to July 2021 (Figure 27). BR initiated and led the study, drawing on her background in social education and global health, IPV and HIV programmes and research. She designed the study in collaboration with LVCT Health and formed a research team involving three Kenyan researchers (FM, MM, and VM) and 11 community co-researchers from Korogocho. The research team met weekly face-to-face in Korogocho.

Figure 27. Study timeline



Note. Study timeline, exclusive of additional analysis from September 2021 to March 2022 and validation of findings in May 2022. Training = training of researchers. Entry = County, sub-county, and community entry. KALCP = Korogocho ALIV[H]E local community partners, the name community co-researchers chose for themselves.

The four researchers, educated at graduate (FM, MM, VM) and postgraduate (BR) levels, had 4 to 17 years of experience in health research (BR, FM, MM, VM) and participatory work (BR, FM, VM) in East Africa and Kenya (Table 16). Researchers lived in formal settlements. BR trained researchers, including an initial 3-day training on community-based participatory research, the ALIV[H]E framework, reflexivity, positionality, and power theories; and additional training in research ethics, safeguarding, conflict management and academic writing. The researchers in turn facilitated and documented research team meetings and decision-making, data collection and analysis, and dissemination. The researchers trained the co-researchers, with an initial 3-month period of group formation, development of problem definition and preparing data collection. Researchers debriefed after each activity and monthly as a group with a psychologist.

Table 16. Background and roles of research team members

Domain	Community co-researchers (n=11)	Researchers (n=4)
Initials	AK, FN, JK, LM, MK, MM, MN, MW, NN, WL, ZO	BR, FM, MM, VM
Background		
Age (years)	Range: 21-56y Mean: 33y	Range: 30-45y Mean: 40y
Gender	8 women, 3 men	4 women
Education	1 Primary, 7 Secondary, 2 Post-secondary	1 Diploma, 2 Bachelor, 1 Master
Ethnicity	All Kenyan: 1 Borana, 1 Kamba, 6 Kikuyu, 1 Maasai, 1 Luhya, 1 Luo	1 German, 3 Kenyan
Religion	10 Christian, 1 Muslim	4 Christian
Research experience	No experience: 3 Some experience: 8 (including mobilisation, data collection, community advisory board)	Qualitative data collection: 4 Documenting, reporting: 4 Transcribing, translating: 3 Qualitative data analysis: 4 Participatory research/work: 3
Roles		
Research team meetings	Participating, decision-making, planning, reviewing, reflecting	Facilitating, listening
Tools	Piloting, validating	Designing, updating
Sampling	Selecting participant groups, identifying, and approaching participants, key informants	Facilitating sampling, approaching key informants
Data collection	Co-facilitating FGD, co-interviewing key informants	Facilitating informed consent, facilitating discussion and visual methods, interviewing key informants
DEPICT data analysis	Dynamic reading, engaged codebook development, inclusive reviewing and summarizing of categories, collaborative analysing, translating	As co-researchers plus planning and facilitating data analysis, documentation
Documentation	Taking photos	Note taking, report writing, photos
Dissemination	Planning, mobilising, moderating, presenting, evaluating	As co-researchers, plus documenting
Finances	-	BR
Administration	-	BR

Note. DEPICT = six-step participatory data analysis comprising of dynamic reading, engaged codebook development, coding, inclusive reviewing and summarizing of categories, collaborative analysing, translating.

Community co-researchers were recruited, with support from community health assistants and DREAMS programme staff, to represent community volunteers and selected target populations. We started with five female and three male co-researchers and a female lay translator. Two additional co-researchers were recruited in March 2021. We included more women deliberately. Over time, the translator took on additional roles and effectively became co-researcher. When joining the project, co-researchers were 21 to 56 years old (Table X), had diverse levels of formal education, worked and/or lived in Gitathuru, and resided in Korogocho. Co-researchers developed a contingency plan and referral directory, participated in data collection and analysis, and disseminated study findings to community stakeholders. Co-researchers were compensated for their long-term commitment and time with a stipend (Ksh2,000/US$18 per month), equivalent to recommended stipends for community health volunteers in Kenya, and transport refund (Ksh500/US$4.50 per activity).

5.4.3 Participant sampling and recruitment

We were primarily interested in community views and used a combination of focus group discussions (FGDs) and key informant interviews (KIIs) as this enabled us to explore the topic from multiple perspectives. We engaged 56 women and 32 men in FGDs (Table 16) and interviewed ten key informants. As women and men lacked opportunities to talk about sexual health with each other we organised mixed-sex FGDs with additional safety measures (see 5.4.4 and 5.4.7). Although gender is non-binary, the study's spatial focus on one village limited our ability to involve intersex, transgender, or non-binary persons.

We used a two-stage purposive sampling strategy for FGDs. First, co-researchers ranked risk of IPV and HIV for different groups of people in the community to identify social characteristics, perceived be associated with IPV and HIV. Based on the findings, we selected priority populations (maximum variation sampling) as target groups for FGDs, as indicated in Table 17. Second, co-researchers then identified potential participants from their social networks and by snowball sampling based on a set of inclusion criteria (i.e., at least 18 years old; live or work in Gitathuru; speak English, Swahili, or Sheng - a mixed language which emerged in multilingual Nairobi informal settlements and is mainly spoken by young people). Co-researchers approached potential participants face-to-face and gave invitation letters outlining the FGD purpose and details.

We selected key informants based on expertise and role in HIV and/or IPV prevention and approached them face-to-face or via phone. We interviewed representatives from local administration (n=2), law enforcement (n=1), and community-based organisations (n=2), as well as youth leaders (n=3) and facility-based HIV health care providers (n=2).

Table 17. Characteristics of focus group participants

Domain	Characteristics
Age (years)	Range: 18-72y Median (interquartile range): 26y (23-37.5y)
Gender	• Female: 56 • Male: 32
Education	• None: 3 • Primary: 28 • Secondary: 37 • Post-secondary: 11
Ethnicity	7 Kamba, 35 Kikuyu, 14 Luhya, 13 Luo, Other (6) (incl. Boran, Digo, Embu, Gabbra, Garre, Kisii, Meru, Swahili)
Religion	78 Christian, 10 Muslim
Characteristics as primary basis for recruitment for separate FGDs	• Female sex workers (n=8) • Men who have sex with men (n=8) • People living with HIV (n=9) • People who use drugs (n=8) • Persons with disability (n=10, incl. hearing, physical or visual impairment) • Women who have sex with women, known as 'Lele' (8) • Young people who married early (n=10) • Young women (n=9) • Community-based organisation (CBO) (n=10) • Community health volunteers (n=8)

5.4.4 Data collection

We conducted 11 FGDs and 8 key informant interviews (KIIs). We use an IPV definition jointly developed by the research team and refer to IPV as any behaviour within an intimate relationship causing emotional, physical, sexual, or economic harm. Co-researchers considered the addition of economic harm to the widely used WHO definition an important dimension of IPV within their community. Our definition also spelled out the different intimate relationships considered like heterosexual dating, cohabiting, marital, extra-marital, and transactional relationships, as well as romantic and transactional same-sex partnerships. FGD and KII topic guides included questions modified from ALIV[H]E dimensions (described in 5.4) focused on HIV and IPV, in combination with group exercises using visual methods during FGDs. We piloted topic guides with co-researchers who confirmed relevance of questions, exercises, and visual methods. We piloted topic guides with co-researchers. We used their recommendations and explored the impact of COVID-19 on HIV and IPV through a group discussion (instead of a visual method) during FGDs and changed the flow of KII questions.

We held FGDs at community halls in the Chief's camp. Sessions were conducted in Swahili and Sheng and lasted two to four hours. Facilitators encouraged physical distancing, introduced the study, facilitated informed consent, and agreed group norms. Participants explored views on IPV and HIV visually, placing stickers along a line representing a spectrum of views from "IPV is normal part of life" to "IPV is not acceptable at all". They then assessed IPV and HIV risk using spider diagrams, showing factors (as spider legs) influencing risk among women or men (drawn as the spider's body). This exercise was done in single sex groups to ensure women and men could express themselves freely before presenting and discussing results together. Group discussion explored views on the impact of the COVID-19 pandemic on IPV and HIV. FGDs were closed with a breathing exercise for relaxation and self-affirmation. A researcher (VM or FM) facilitated the focus group with two co-researchers (AK, JK, LM, MK, MM, MN, or WL), while FM or an LVCT Health research assistant took notes in English. Discussions were audio recorded and charts photographed with participant consent. We provided bottled water during FGDs, refreshments after FGDs, and transport refund (Ksh500/US$4.50) for participants.

We realised the need for two additional focus groups during the course of data collection: (1) We engaged professional sign language interpreters for a separate FGD with the hearing impaired; and (2) Since *Lele* (women who have sex with women) are a hidden population in Korogocho, we concluded their effective involvement required representation and recruited a co-researcher from the *Lele* community who helped organise a focus group with fellow women.

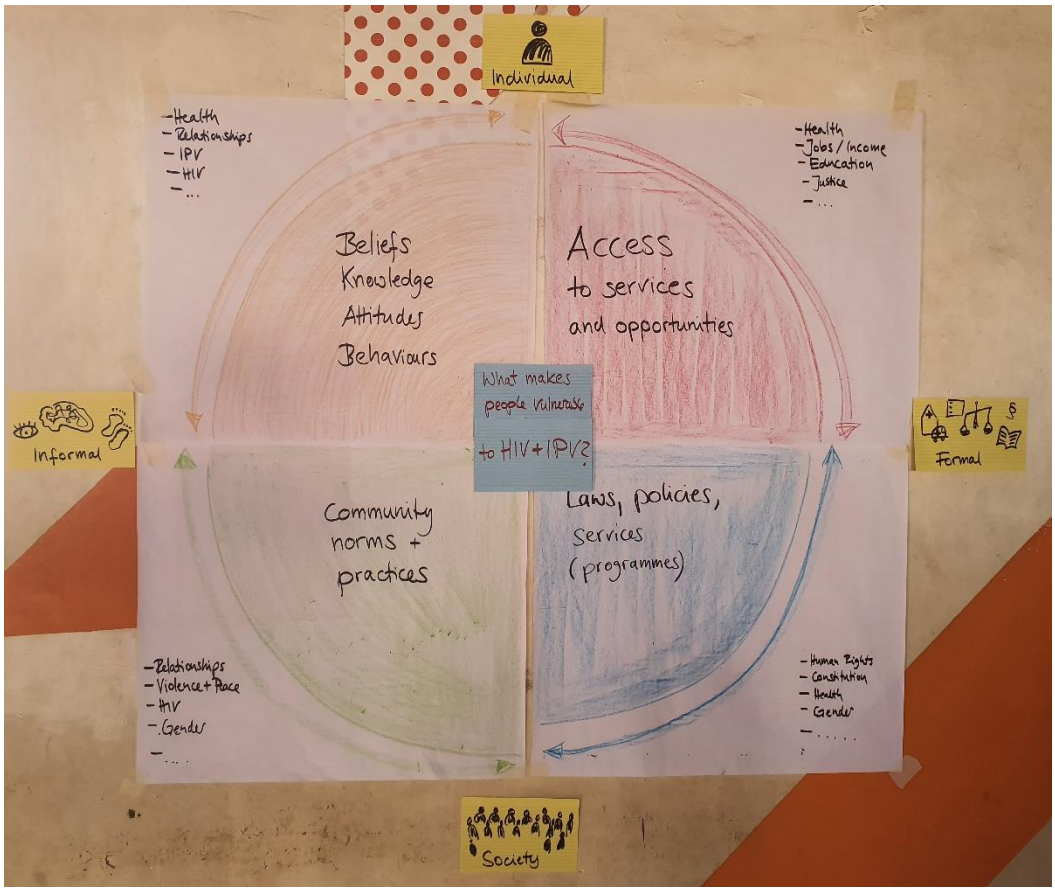
BR and a co-researcher (FN, MK, or LM) interviewed key informants at their place of work or another convenient location. Co-researchers asked questions and aided with translation if key informants preferred to speak in Swahili. Interviews were audio recorded and BR took notes. Most interviews were done in English and lasted 45-90 minutes. Interviews were paused when key informants needed to attend to clients or answer phone calls.

5.4.5 Analysis

We incorporated established power theories and frameworks in our analysis, building on the ALIV[H]E matrix (Figure 28), distinguishing controlling and positive forms of power (Rowlands, 1997), different processes of power (Mufune, 2015), and intersecting systems of power and oppression (Collins and Bilge, 2020). For focus group data, we adapted the DEPICT analysis steps (Flicker and Nixon, 2015) and used inductive and deductive approaches in participatory data analysis: (1) Dynamic reading: We read two focus group transcripts in pairs and highlighted main issues on hard copies. (2) Engaged codebook development: BR transferred main issues to MS Word and clustered related topics to identify codes. Codes were structured considering the main topic discussed and the domains of the ALIV[H]E matrix.

Co-researchers validated the analytical framework, reviewed the draft codebook, and rephrased and added codes. (3) Coding: BR coded data manually and organised in MS Word tables. (4) Inclusive reviewing and summarizing of categories: Co-researchers independently summarised data code-by-code on flipcharts in small groups. BR and MM typed and managed summaries. Researchers reviewed and complemented summaries using outsider perspective. (5) Collaborative analysing: We reviewed the summaries together, identified emerging issues, and agreed cross-cutting themes. (6) Translating: The research team prioritised stakeholders and platforms and developed drama and artwork to disseminate findings.

Figure 28. Analytical Framework



Note. Power matrix adapted from ALIV[H]E (Salamander Trust et al., 2017)

BR did additional analysis, including the analysis of data from key informant interviews. She tested and refined the existing codebook, then coded, extracted, and summarised data, comparing emerging themes with FGD data. Views from key informants were incorporated when adding information and insights not covered in FGDs. BR, MT, and RT reviewed and clustered initial themes, identified four overarching power dynamics which underly HIV and IPV, and interpreted them within the historic and spatial context. In May 2022, VM and MM presented process and findings of the additional analysis to co-researchers who discussed and validated the findings.

5.4.6 Quality assurance

Being a diverse research team of insiders and outsiders enabled us to incorporate multiple perspectives throughout the research process. We took several steps to mitigate the effects of unequal power relations among and between participants, co-researchers, and researchers due to differences in age, education, gender, profession, and residence among others. We set and reviewed group norms, developed a joint understanding of a safe space, and assessed individual wellbeing and group dynamics. The researchers role-modelled core values such as respect for diversity and involved co-researchers in decision-making. We discussed power theories and reflected on our own social power. We embedded learning in the data collection process through regular debriefing. We used Swahili and Sheng, facilitation techniques, visual methods, and group work to maximise participation, stimulate discussion, involve female and male voices, and amplify 'silent' voices. Before commencing data analysis, we reflected on our own social positions and potential biases in analysis. We used the children's book "*Handa's Surprise*" (Brown, 1994)[23] to discuss how our multiple identities shape how we see the world and determine levels of privilege and power, including in data analysis (Chowdhury et al., 2021, p. 21). Co-researchers validated data and findings as did stakeholders in dissemination meetings. Co-researchers presented new and emerging issues, which we considered in our analysis. We discussed unexpected findings, outliers, and silences in the data to ensure we do not neglect minority or critical voices. We used an intersectional lens to distinguish universal experiences, mentioned by various populations, from those specific to certain groups.

5.4.7 Ethics

The study was registered and approved by the Kenya National Commission for Science, Technology & Innovation (NACOSTI/P/19/1568 and NACOSTI/P/21/8210), AMREF Health Africa Ethics & Scientific Review Committee (P670/2019), and LSTM Research Ethics Committee (Study 19-065). Nairobi County and Ruaraka sub-county Health Management Committees, and local government authorities endorsed the study. We adopted evidence-based measures to mitigate risk of COVID-19 infections. Participation was voluntary and co-researchers and participants gave written informed consent, including for audio recording and photographs (some participants declined to be photographed). We discussed confidentiality at various time points with co-researchers (e.g., initial one-on-one meetings, during group reflections) and participants (e.g., recruitment, consent procedure). To mitigate against unintentional disclosure, FGDs were designed to involve priority populations separately and were held

[23] This children's book tells the story of Handa who lives in a fictional village in south-west Kenya. Handa carries a basket of different fruits as a gift to her friend Akeyo. Along the way, various wild animals pick fruits from the basket, one after the other. At the end, Handa is surprised to find the basket filled with tangerines, Akeyo's favourite fruit.

on different days. Co-researchers spoke with potential participants about risk of unintentional disclosure and gave them time to consider their participation. Although we diverted from WHO (2001) safety protocols by inviting women and men together, we ensured they were not from same households. To mitigate re-traumatisation and adverse events, co-researchers collected oral feedback from participants after FGDs using a short questionnaire and informed participants about on site and toll-free hotline counselling services.

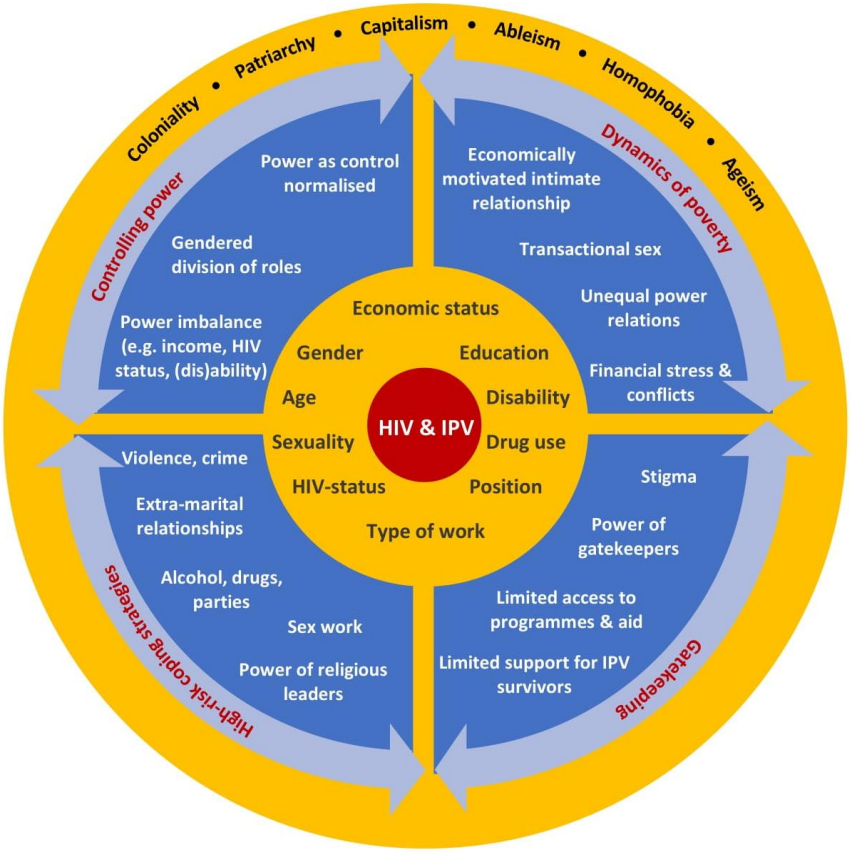
5.5 Results

The people we spoke with are aware of HIV and IPV, ways of acquiring and preventing HIV, and the relevant services. However, some service providers reported HIV myths persist alongside official information, as this participant stated, *"sensitisation has been done, but there are some people who still believe it (HIV) is a curse,"* (FGD10, CBO representatives). When introducing the IPV definition developed by the research team, we learned study participants mainly understood IPV to be physical violence. Participants appreciated learning about emotional, economic, and sexual IPV and felt these resonated with community experiences. While IPV is to some extent normalised (see Theme 1), many participants are aware of the harm IPV causes within current and future families, as this quote illustrates,

> *"Children are affected by the fighting. When the parents fight, children think that violence is okay….When those children get married, they will also be abusive with their spouses,"* (FGD06, persons with disability).

The risk of experiencing IPV and/or HIV occurs alongside many other challenges in informal settlements. Figure 29 visualises our understanding of the complex processes of power and poverty (segmented circle) shaping HIV and IPV intersections (inner circle) in the informal settlement. We consider the impact of the social, economic, and political structures (outer circle) as structural forces of power and pay attention to the multiple axes of power influencing people's social locations based on their multiple identities (second circle from inside). In all conversations, unequal power relations among partners, within the family and community frequently emerged as underlying drivers of IPV and HIV despite widespread awareness and availability of HIV and IPV services.

Figure 29. Conceptual framework for IPV and HIV intersections in an informal settlement in Kenya



5.5.1 Theme 1: Controlling power

IPV and HIV risk arises not only from the unequal power relations but from the ways in which those with greater degree of power "*use power wrongfully*" (as co-researchers summarised) for their own material or symbolic benefit. It is seen as normal within partnerships, families, and the community that those who are privileged by their social and/or economic position use power to exercise control over people and resources.

Heterosexual marriage and family are an ultimate life goal in the study community. Pressure from family and friends is one reason why young people marry, mostly within Korogocho, and have children, as a participant explained, *"your friends also will pressure you to marry because they are also married,"* (FGD03, young people who married early). With little guidance and support to navigate marriage and family life successfully, many aim to fit normative patriarchal gender norms and division of labour. The man, as head of the family, needs to provide financially, while the woman is responsible for domestic chores and childcare. Such gender norms condone use of IPV, including as a way of showing love, as explained by a young woman, *"if a man has not beaten you, you are not loved,"* (FGD03, young people who married early). The patriarchal role involves a man's perceived right to sex within marriage, as illustrated below.

"You can be raped by your husband or boyfriend and people will not believe you when you tell them. They will ask you, how can your husband rape you?" (FGD06, Persons with disability).

Women's disadvantage in gender relations is likely amplified by men's greater economic status and physical strength. Money is an important marker of manhood, power, and importance; therefore, "*people with money get it their way,*" (as co-researchers summarised). Intimate partners use economic advantage to dictate partnership terms and control financially dependent partners, including through violence. Financially dependent women in heterosexual partnerships frequently experience physical and sexual IPV. They are also at risk of HIV because of their limited influence on decisions over sex and their likely exposure to more frequent and unprotected sex. Men, on the other hand, more often experience emotional and physical IPV, especially when they do not live up to gendered expectations, as the quote below illustrates.

"Let's say he did not find work but has looked the whole day. He comes home with no money. She wants money, but she does not want to hear the story. She will shout and even throw his things outside," (KI08, youth leader).

Some women challenged the narrative of women's economic and social dependence on men. The female community health volunteers and Lele stood out for challenging the notion of power as control in general, instead stressing women's agency, as stated here, *"in Koch (Korogocho) there is strength of a woman,"* (FGD11, *Lele*). When women take on the role of fully or partly providing for the family, they can contest and resist male dominance and influence decisions in their partnership and family, as the quote below shows.

"A man with no money has to listen to the wife or the mother if she is the one that provides for him. But a man who has money has the power over his house," (FGD04, young women).

The impact of income on the IPV and HIV nexus is complex. In some cases, women use their economic advantage to control male partners, including through violence (see Theme2). In other cases, women's work income triggers IPV by male partners and exposes women to HIV (see Theme 3).

We found *Lele* live independently from men, as this woman states, *"you only need a man when you need to make a baby,"* (FGD 11, *Lele*). The division of roles and power in same-sex partnerships of women and men follow patterns of heterosexual partnerships, involving a provider (sometimes called 'father' in *Lele* relationships) and a dependent (sometimes called *'wife'* in homosexual relationships of men). Although IPV happens in some *Lele* partnerships, *Lele* tend to praise their female partners for meeting each other's basic needs, sexual desires, and even emotional needs, an aspect of well-being rarely mentioned in other FGDs. This is particularly common among *Lele* who had previously had

abusive intimate partnerships with men. On the contrary, financially dependent men who have sex with men are vulnerable to IPV, as illustrated by this quote, *"If you are there because of money, then there is no love there. That is why there is violence when conflict happens, because there's no love,"* (FGD 5, men who have sex with men).

HIV and disability-related disadvantages amplify gender or income-related vulnerabilities in intimate relationships or limit advantages from those. Persons with disability face challenges earning a living and finding a partner, increasing their risk of HIV and IPV, as this quote illustrates, *"because you feel no one will ever love you, you will be with whoever is available. Even if you don't know her status,"* (FGD06, persons with disability). Among HIV discordant couples, the person living with HIV is vulnerable because the HIV-negative partner can refuse sex or withdraw from the relationship; or (threaten to) separate, take the children away, or disclose their partner's HIV status to family and neighbours.

5.5.2 Theme 2: Dynamics of poverty

The dynamics of poverty, underpin intimate relationships and relationship conflict, creating or exacerbating IPV and HIV risk. Employment opportunities are limited and/or exploitative. Many survive on daily income, informal employment, and small businesses with low and unstable revenues. Experiences of poverty are frequent and include food insecurity, and lack of money to pay rent, school fees or medical bills.

Many young women and men see intimate partnerships as their way out of poverty. Both heterosexual and same-sex relationships are financially motivated. Women and men, aspiring to escape poverty, take IPV and HIV risks, as this quote explains, *"marrying someone without knowing their status because of lack of money, this will cause increase in HIV infections," (FGD09, CBO representatives)*. Partnerships are characterised by unequal power relations and are transactional in nature, as the quotes below illustrate.

> "*It's a contract. When the money stops coming in, you leave them*," (FGD 11, *Lele*)

> *"If the wife doesn't have sex with the husband, then he doesn't give her money for upkeep. So, it's usually a give and take relationship,"* (FGD02, young people who married early).

The wish to find a financially stable partner creates competition among young women for the supposed good husbands whilst also pulling or pushing them into intimate relationships with supposedly better off men. Some men use economic advantage to initiate intimate relationships and sex with young women or girls through gifts, like phones or money. Some friends and parents put pressure on young women and girls to engage in intimate and transactional relationships, especially

during the COVID-19 pandemic and particularly first-born daughters who are expected to take care of the family.

> *"Some parents are pushing underage girls to go to a man's house. This man in turn provides for the family. Especially in this COVID era, a lot of girls will not go back to school because of this,"* (FGD03, young people who married early).

The financial burden of sustaining a family creates psychological pressure on couples. Married women, pressed by poverty, resort to transactional relationships to meet the family's basic needs, exchanging sex for money, food, shelter, school fees or scholarships, or transportation, as this quote highlights, *"if you haven't paid rent, you sleep with landlord because your husband cannot pay rent,"* (FGD03, young people who married early). Also, unmarried women and men who have sex with men have transactional relationships with men, called *sponyo*. Young men have sex with financially stable women, called *sugar mummies*. Financially dependent persons in transactional relationships face similar experiences of powerlessness across groups. For example, it is nearly impossible to demand protected sex in transactional relationships, heightening risk of HIV, while negotiating safe sex can trigger IPV, as the quotes below illustrate.

> *"When a man gives you money to help your family, he will want to have sex without protection. If you refuse, he will beat you up,"* (FGD04, young women).

> "*She (sugar mummy) has money, she provides you with everything. Because you are poor, you will feel powerless because she is the one to provide everything*," (FGD 3, young people who married early).

> *"They (*sponyo*) are free to do what they want because they have money. You have to respect them to get money from them. They have a lot of power,"* (FGD 5, men who have sex with men).

Poverty, especially food insecurity, causes stress and conflict among intimate partners, with the potential to escalate into IPV. The COVID-19 lockdown caused loss of income and jobs, exacerbating experiences of poverty and subsequent risk of IPV and HIV, as this quote illustrates, *"because there are no jobs, the husband is home, and he will stress the wife because he is also stressed because of lack of work,"* (FGD09, CBO representatives). Conflicts arise not only when there is not money, but also when men spend money on alcohol and extra-marital relationships. In response, women often hide money from male partners, so they can take care of the children and themselves. *"When the men get money, they won't even come home that night. So that is why women hide their money,"* (FGD03, young people who married early).

5.5.3 Theme 3: High-risk coping strategies

So far, we have shown gendered experiences of power and poverty, sometimes combined with other forms of discrimination, underly IPV and HIV intersections in Korogocho. In addition, we found people trying to mitigate the impact of poverty resort to strategies that accelerate their exposure to IPV and/or HIV.

With money being an important marker of manhood, young men, who have limited influence because of age, experience unemployment and material deprivation as particularly disempowering. In addition, men risk female partners responding with emotional or physical IPV to their inability to live up to gendered expectations (as discussed above). Young men may also resort to violence, including IPV against female partners, to overcome feelings of powerlessness and affirm their masculinity as well as theft and crime as means to gain income and status. This in turn may put the life, health, and well-being of female partners at risk.

> *"If a policeman knows my husband is a thief and always arrests him every time, then I will have sex with him so that he can stop arresting my husband,"* (FGD02, people who use drugs).

Extra-marital relationships with a *mpango wa kando* (which means side plan) is another coping strategy. *Mpango wa kando* relationships are socially accepted or even expected among married men. Married women have *mpango wa kando* relationships too, especially when husbands don't meet women's emotional needs. Concurrent sexual partnerships increase chances of exposure to HIV. Some young women protect themselves by taking HIV pre-exposure prophylaxis when they have extra-marital or transactional relationships or suspect partner's infidelity. Nonetheless, suspected or known *mpango wa kando* relationships of either partner can trigger conflict, including about husband's perceived conjugal right to sex, and IPV.

People use alcohol and drugs to cope with stress caused by poverty and other hardships. Alcohol and drugs are cheaply available in the informal settlement, albeit illegally and unregulated. Generally, young people prefer *bhangi* (marijuana), while middle-aged consume *chang'aa.* Many feel the use of alcohol and drugs is common, as expressed here, *"drugs are used freely and it's a normal thing. Everyone at some point tries it,"* (FGD03, young people who married early). However, others highlight drug use amplifying HIV and IPV risk, including through aggression, high-risk sex, or neglecting antiretroviral medication when intoxicated.

Alcohol and drug use and addiction increase the vulnerability of young women. Men offer women drinks or drugs in exchange for sex – either agreed or forced when intoxicated. A *Mama Pima*, owner of a *chang'aa* den, benefits from transactional sex between her (often young) female waiters and male

customers as the men pay the *Mama Pima* a commission. Male drug dealers use their power to demand sex from female and male consumers or their partners, as shown by the following quotes.

> *"When you don't have money, you sleep with them to get the drugs,"* (FGD03, young people who married early).

> *"They (drug dealers) also have money, so you can call them when you need help. Either money or drugs. If you are addicted, you are under their control. If you don't have money for the drugs, you have to sleep with them,"* (FGD05, men who have sex with men).

Alcohol, peer pressure, and norms entrenched in a party culture, called *bash*, expose young people to HIV risk. Marriages and dating relationships are suspended during the party, and partygoers are permitted to have sex with anybody at a *bash*. For many young people bash rules are fair, as this participant tells, *"when you go to the bash, anybody can court you, even if you go with your husband, wife. It's a fair game,"* (FGD03, young people who married early). Going to a *bash* can trigger IPV because of partners' *bash*-related financial pressure (from the needed contributions or outfits) or because of what partners did at the *bash*. Community members blaming girls and young women for attending such parties (but not young men) signals they are transgressing female gender roles and norms meant to control female sexuality.

Although the boundaries between transactional sex and sex work as a coping strategy are blurred, sex work exacerbates exposure to HIV and IPV, by mutually reinforcing each other. Male partners of female sex workers use violence to affirm authority, demand money or sex, or bar them from sex work.

> *"A man may refuse to work, just use drugs and alcohol. When you work, get your own money, he takes the money. Then he still wants to sleep with you at night. And he does not want to provide for you. He wants to sleep with you by force,"* (FGD08, female sex workers).

Restrictions imposed during COVID-19 (including bar closure, lockdown, and curfew) increased vulnerability of female sex workers who resorted to meeting a client at the client's home and having to stay there for the night. *"There are clients who will take you home and bring their friends to sleep with you. The agreement however was one person,"* (FGD08, female sex workers). Those who chose to meet clients at their own home during the day risked being stigmatised. Community members worried about more frequent sexual activities of sex workers within their congested neighbourhood during daytime. Community members who believed children observing sex become sexually active themselves blamed female sex workers for causing early sex among children.

Despite working in an environment in which men use power as control over women, female sex workers stress their agency. They value their income as a source of power and use female condoms to mitigate HIV risk, as one explains in this quote, *"If the client refuses to wear a condom, you can wear a female condom. By the time he finds out you are wearing one, he is done,"* (FGD08, female sex workers).

Religious practices and institutions play a complex role because of power imbalances between community members, mainly women, and religious leaders, including *Japolo* (traditional healers), mainly men. On the one hand, pastoral and spiritual services help couples overcome challenges and conflicts. On the other, interventions by religious leaders can trigger IPV when husbands see leaders as threats to own authority. Several religious leaders and *Japolo* expose followers to HIV by discouraging HIV testing and medication or demanding sex as therapy or fees, as the case below shows.

> *"Women really believe them (pastor) so much to an extent whereby if a woman can't conceive, the pastor can tell her that he will have sex with her as he prays for her so that she can conceive, and she agrees,"* (FGD02, people who use drugs).

5.5.4 Theme 4: Dynamics of gatekeeping

So far, our focus has been on intimate partners. Economic, social, and political power structures also ascribe privileges to individuals or groups to act as gatekeepers. In the community, gatekeepers control access to opportunities and resources and play a critical role in alleviating, reinforcing, or aggravating social and material circumstances of individuals and groups.

Chiefs and village elders, mainly men, oversee aid and development programs and are commonly entrusted with recruitment. Community members see the power of local government officials as gatekeepers, as stated here, *"they (village elders) are the ones that decide who gets help in projects. You can't be rude to them because he will not help you next time,"* (FGD04, young women). In addition, NGOs and religious leaders have power to select participation in programmes. When we collected data, just after the COVID-19 lockdown, experiences of poverty and the start of social protection programmes aimed at mitigating the pandemic's impact were vividly evoked. Community members across all groups shared their dissatisfaction with unfair selection procedures and lack of accountability mechanisms.

People living with HIV and persons with disability stress that aid does not reach those it is meant for and most in need, leaving them more vulnerable. Persons with disability regularly miss out on

education, employment, and social protection opportunities, even if they are meant for them, as the quote below illustrates.

> *"When projects come, they ask for names and photos. When you look for your name later on, you won't find it. You also pay for the form. We paid 150 (KSh/US$1.40) so the process is hurried. But in the end, all these names were removed,"* (FGD06, persons with disability).

They feel their abilities are overlooked, underrepresented in unpaid and paid positions in the community, and services, including for the prevention of HIV and IPV, do not cater for their interests and needs.

Male and female community members wonder why HIV and IPV-related prevention and empowerment programmes in Korogocho predominantly target adolescent girls and young women and largely exclude males. Critical views range from a backlash against women's empowerment among those who fear such efforts result in men losing power, to those who think the impact of one-sided empowerment is limited, stating *"the same boys are the ones that will marry our girls and then the cycle will continue. So, we would have done zero work,"* (FGD07, community health volunteers). Young men expressed fellow women are better informed about HIV prevention. While health providers and the police conduct male-specific HIV and IPV outreach activities; most were suspended during COVID-19, as the quote below shows.

> *"We used to test bigger numbers. But due to COVID, we have lower numbers. Now, we target contacts. We don't do community mass testing,"* (KI07, health care provider).

Experiences of men who have sex with men, *Lele,* and sex workers are affected by the laws criminalising same-sex relationships and sex work in Kenya and the policies defining them as HIV key populations. They know government and law enforcement officers have power over them, since *"they (police) know your lifestyle is against the law,"* (FGD05, men who have sex with men). Many refrain from seeking help for IPV from local government and law enforcement agencies to avoid harassment, abuse, and extortion, as the quote below illustrates.

> *"He (police officer) may laugh at you or harass you. You may be taken to counselling. Or they say they want to test your HIV status,"* (FGD05, men who have sex with men).

They also feel NGOs have power over them as they can set the conditions for programme participation.

> *"You also have to test for HIV. If you don't agree to the test, they will not help you"* (FGD08, female sex workers).

> *"They have the authority to kick you out of the program if you don't attend. They can refuse to pay school fees….. You have to do what they say"* (FGD08, female sex workers).

Women who undergo IPV face multiple barriers to accessing help and support. Families encourage them to stay with their abusive partners to protect their marriage. Neighbours and others are hesitant to intervene because they fear being injured or accused of being the victim's *mpango wa kando*. Also, many expect partners to get back together despite IPV. Women who separate from their (abusive) partners are stigmatised, as this quote illustrates, "*when you decide to leave your marriage and stay single, you are called a prostitute*," (FGD 7, community health volunteers).

Community members appreciate NGOs handling IPV with confidentiality and explained cases reported and followed up through NGOs are investigated more diligently by police. Many think local authorities do not take IPV seriously, as stated here, *"a husband can rape his wife at home. It happens a lot. She can't report to the police because the police will tell her that's her husband,"* (FGD07, community health volunteer). Chiefs and village elders are perceived as being partial when handling IPV and relationship conflict. Policemen are mistrusted and can use their power to demand money or sex from complainants, accept bribes to release suspects, and arrest people.

> *"Policemen are official sponsors. They have money and position. If they arrest you, you can sleep with them to be freed,"* (FGD03, young people who married early).

Overall, we observed gatekeepers in privileged positions recognise their lack of power within systems of power but not the privileges they gain from the same systems. Similarly, community members who experience inequalities themselves tend to be judgemental about the behaviour of others, unaware of the barriers others face.

5.6 Discussion

We applied an intersectional health equity lens to gain a nuanced understanding of the power dynamics that influence IPV and HIV intersections among different groups of women and men in the informal settlement in Nairobi. Intersectionality enabled us to explore the complex and dynamic intersections of HIV and IPV and the various layers of social inequalities that shape them. We found the IPV and HIV nexus is rooted in the daily struggle for cash and survival of women and men in the informal settlement where lucrative livelihoods are scarce, power is used as control, and a few gatekeepers regulate access to opportunities and programmes. Economic and gender inequalities are interrelated with disadvantages due to age, disability, HIV-status, alcohol and drug use, sexuality, and sex work creating complex and dynamic power relations that underly IPV and HIV intersections.

Our findings highlight the economic and social disadvantages people living in informal urban settlements face. We have summarised the common power dynamics as controlling power, dynamics of poverty, high-risk coping strategies and dynamics of gatekeeping. These dynamics mutually reinforce each other with spiralling effects on vulnerabilities underlying IPV and HIV intersections. As shown in Introduction, the systematic inequities dating back to the early days of the city have remained, despite improvements from slum upgrading programmes. These include women's widespread poverty, challenges to employment and income, and their dependency on brewing alcohol and sex work for survival.

The narratives from community members confirm women's disproportionate exposure to HIV and IPV. Many women have limited control over own safety and sexuality in marital and transactional relationships, mainly due to gender inequality and financial dependency. Our findings illustrate women in the informal settlement are not a homogenous group but diverse with varied social locations and experiences of power. Poverty, young age, and disability exacerbate women's gender-based disadvantages while coping strategies such as substance use, transactional sex, and sex work increase women's vulnerability, all of which make exposure to IPV and HIV more likely. At the same time, we found various accounts of women's agency within the limitations of patriarchal environments.

Although male and female condoms are recognised for their potential to protect simultaneously against HIV, sexually transmitted infections, and unintended pregnancy (Ministry of Health [MOH] et al., 2021), our findings are less optimistic about the uptake of condoms due to unequal power relations and individual preferences. Unintended pregnancies remain disproportionally high in the informal settlement (APHRC, 2014). Since young women take up innovative HIV prevention methods that give them greater control over their own health, we suppose women in informal settlements might benefit more from innovations like implants and vaginal rings for simultaneous HIV infection and pregnancy prevention. However, women's reliance on such strategies also indicates that overarching power dynamics persist, and technological methods need to be accompanied by interventions targeting underlying social and economic inequalities.

Our approach stands out as we involved female and male views and experiences, in contrast with studies targeting a particular group, like adolescent girls and young women. Our findings confirm evidence of women's exposure to HIV through intimate partners who are behaviourally vulnerable to HIV (Heise and McGrory, 2016), but beyond that offer insights into the experiences of men that are useful for programming. Young men's challenges resonate with Ratele (2008), who showed how age and unemployment critically shape male experiences of manhood and power. Findings suggest

relationship conflicts and IPV are triggered by situations when realities within partnerships clash with the ideals of the male provider and marriage as an exclusive sexual relationship, in the absence of alternative models of power, gender and partnership. We suggest men's experiences of marginalisation offer entry points for their greater involvement in HIV and IPV prevention efforts. However, male engagement should not be at the expense of programmes and services that benefit women and girls who bear the brunt of HIV and IPV.

Our data also include views from women and men in same-sex relationships. Their narratives highlight similar patterns of power, as observed among heterosexual partners. The exchange of sex and money, shelter, or food characterise romantic and transactional same-sex relationships. Social power attached to different roles within romantic relationship are reinforced economically. Individual vulnerability is amplified by structural barriers of the legal and social environments which criminalise and marginalise people with same-sex partners and normalise HIV. IPV and HIV prevention interventions should target multiple levels, combine different approaches, and be led by gay men and women (Swendeman et al., 2009, WHO, 2013, Bekker et al., 2015). Community-led initiatives combining different empowerment strategies and addressing power dynamics and risk environments have shown to effectively boost the impact of health education and services on HIV-related prevention outcomes (Swendeman et al., 2009).

The Government of Kenya committed to global targets to end HIV by 2030 (SDG 3) (Government of Kenya, 2021) and eliminate all forms of GBV by 2026 (SDG 5) (NACC, 2021). Our results show HIV and IPV intersect with various other problems, all of which negatively affect well-being. These include poverty (SDG 1); food insecurity (SDG 2); inequitable opportunities to education and learning (SDG 4); hazardous living conditions (SDG 10); social, economic, and political exclusion (SDG 11); weak institutions, violence, and injustice (SDG 16). We call for an approach to integration which promotes, creates, and maintains linkages across sectors. Kenyan health policies and frameworks that cater for person-centred approaches, combination prevention, and integration of HIV and GBV services (Ministry of Health [MOH], 2018b) are merely a first step in that direction. Frameworks like ALIV[H]E (Salamander Trust et al., 2017) and RESPECT (WHO, 2019) offer guidance for strategic linkage between initiatives.

Given that power as control is a fundamental issue affecting all populations in the informal settlement, strategies seeking to prevent IPV and HIV (and any other social problem) need to address the underlying power dynamics. Interventions promoting respectful and peaceful relationships through the transformation of social attitudes, beliefs, and norms and the promotion of positive power are needed. Our approach demonstrates people from diverse backgrounds can work together to create

safe spaces for dialogue among different members of the community, as a starting point for addressing power imbalance. During FGDs, people with disabilities demanded space for self-representation and self-organising, young men recognised own lack of knowledge about HIV prevention methods, young people realised the limitations of poor partner communication to mention a few. These are potential entry points for creating new spaces in the informal settlement for people to experience and practice positive power. Future initiatives in this direction can learn from decades of self-organising within federations of 'slum dwellers' (Lines and Makau, 2018).

5.6.1 Strength and limitations

Our approach of investigating IPV and HIV intersection among women and men in heterosexual and same-sex partnerships simultaneously enabled us to analyse diverse and interconnected HIV and IPV experiences and underlying inequities. We describe distinct features of female and male risk of HIV and IPV, while highlighting how their vulnerabilities reinforce each other and exacerbate women's exposure. Through intersectional processes and analysis, we interrogated various axes of power, guarding against risk of a monolithic representation of informal settlement population.

As a diverse research team of insiders and outsiders, we were able to incorporate multiple perspectives. Although our study did not involve persons undergoing IPV, we worked with the assumption that potentially everybody could have experienced IPV or other forms of violence. In order to mitigate against potential stigmatisation of participants and mitigate against reporting bias, we informed participants that in focus groups confidentiality could not be guaranteed and recommended they do not share personal experiences or present these as those of a friend. Research partners were trained to identify signs of distress and provide psychosocial first aid. Even though we collected cross-sectional data, our long-term engagement with the community enabled us to consider emerging issues during analysis and seek clarifications during writeup. Our participatory research design facilitated learning among researchers and co-researchers as well as participants who reported to have gained knowledge from FGDs.

Our study had several limitations. Although our definition of IPV was broad and jointly developed with co-researchers, participants frequently brought other forms of violence into the discussion. The isolated focus on one form of violence, although common in research, seems artificial to a community dealing with a spectrum of related forms of violence. The onset of the COVID-19 pandemic disrupted community entry, delaying the start of research activities in the community. We used evidence-based measures to mitigate risk of infection and limited the number of participants and stakeholder engagements to conduct research activities in-person. The pandemic amplified inequalities we may not have observed otherwise.

We were unable to capture the views and experiences of other priority populations, including refugees, people who are homeless or male sex workers, and key informants, like religious leaders, teachers or dedicated SGBV and key population clinics outside Korogocho, due to budget and time constraints. Additional research should explore their views for the development of targeted interventions. As participation is time-consuming, yet critical for the quality of the study and findings, we faced trade-offs between speed and participation. For example, co-researchers took on smaller roles in FGDs as time-constraints limited our ability to provide the depth of training co-researchers needed to facilitate group exercises. Since each of the nine villages in Korogocho has a unique history and social structure, our focus on one village may be a limitation. Nonetheless, the intensive community involvement allowed us to explore depth, potentially enhancing transferability.

5.6.2 Conclusions

The structural forces operating in informal urban settlements create and sustain systems of power as control and unequal power relations, amplified by gatekeeping. The complex dynamics of power, poverty, and marginalisation are conducive to IPV perpetration and HIV transmission. Consequently, HIV and IPV prevention interventions need to address underlying inequalities as to maximise and sustain effects of biomedical, behavioural, and empowerment strategies.

Chapter 6: Critical reflection on power in a researcher-led, time-bound participatory study in an informal settlement in Nairobi, Kenya

6.1 Chapter overview

This chapter helps answer **objective three; to provide critical reflection on experiences of power within a researcher-led participatory study on IPV and HIV in an informal urban settlement in Nairobi, Kenya.** It is structured as an article like previous Results chapters (4 and 5). The article's Introduction summarises participatory approaches to health research (presented in 3.2) and outlines recent discussion and research regarding power in participatory health research. This discussion builds on the ecological model of power (introduced in 2.3.4). After introducing a concept of the levels of reflexivity, I elaborate individual and group reflection practice during the research and explain my role in the analysis, from which this chapter emerged (6.3). Then follows an intersectional reflection on context, team, and process (6.4). As part of this, I elaborate emerging power issues, summarise them in a diagram, and explain our steps in mitigating the impact of power issues. This sets the scene for the discussion of lessons on power, participation, and empowerment (6.5), followed by conclusions (6.6).

This article which makes up this chapter is being prepared for submission to *BMJ Global Health*. As outlined in the manuscript title page (next page), I have been leading the process from conceptualisation and administration of the study to writing and revising the manuscript. I planned individual and collective critical reflection process and activities and conducted these together with the research team (3.5.3). Other authors were engaged in critical reflection, analysis and/or manuscript writing in line with their role as supervisors, research partners, or project partners (3.3). As research partners, Veronicah Mwania, Mary Muthoki, and Faith Munyao played a greater role than other authors. They participated in critical reflection throughout the study and manuscript writing, influencing, challenging, and validating emerging lessons. Rachel Tolhurst and Miriam Taegtmeyer had a greater role in the development of the manuscript than other authors given their responsibility as academic PhD supervisors.

Critical reflection on power in a researcher-led, time-bound participatory study in an informal settlement in Nairobi, Kenya

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Patient and public involvement: This research did not involve patients. Members from the study community were not involved in the initial design of the study, but participated as lay investigators in the conduct, reporting, and dissemination of this research.

Patient consent for publication: Not applicable.

Ethics approval: The study was registered and approved by the Kenya National Commission for Science, Technology & Innovation (NACOSTI/P/19/1568 and NACOSTI/P/21/8210), AMREF Health Africa Ethics & Scientific Review Committee (P670/2019), and LSTM Research Ethics Committee (Study 19-065). Nairobi County and Ruaraka sub-county Health Management Committees, and local government authorities endorsed the study.

Data availability statement: Data used in our article involves researcher diaries, transcripts of research team meetings, and notes from debriefing and counselling sessions. Since pseudonymised data may compromise confidentiality and lay-researchers' privacy, we are unable to share data supporting this article.

6.2 Abstract

Power-sharing between researchers and people affected by the research topic, often involved as lay-researchers in the study, is a key characteristic and goal to strive for in participatory health research and equitable partnerships in global health more broadly. However, doctoral research project, usually researcher-led and time-bound, provide limited space for participation and power-sharing. We critically reflect on experiences of power within our researcher-led collaborative study on the intersections of HIV and IPV in an informal settlement in Nairobi, Kenya. In the first part of this article, we explore interrelated power dynamics operating at the individual, interpersonal and structural levels by drawing on social ecology and intersectionality of power frameworks. We provide a framework for intersectional power analysis in participatory health research based on emerging power issues in our research. In the second part of this article, we discuss insights and lessons on power, participation, and empowerment. Individual and collective reflection on processes and power during and after the study enabled us to better understand how existing, mainly controlling power structures shape and limit our expectations, lens, and knowledge of realities; to see and use

opportunities for action and change throughout the study, not as its distant product; and to observing experiences of empowerment and collective power as well as limitations of our study, potentially reinforcing existing power imbalances. We share our lessons to promote power-sharing in health research, especially in smaller, doctoral, researcher-led, and/or time-constrained studies, and to encourage collaborative reflection on power within research teams.

6.2.1 Summary Box

What is already known?

- Community participation and power-sharing between researchers and community as goals of participatory health research are more difficult to achieve in small, doctoral, researcher-led and/or time-constrained studies.
- Whilst recommendations and tools for reflection on power dynamics in participatory research teams exist, its practice is less common.

What are the new findings?

- We found intersectionality and social ecological power frameworks helpful for identifying emerging power issues related to knowledges of power, expectations, values and practices, authentic dialogue, faces of power, and safe space.
- We explain what we did to mitigate against impact of emerging power issues in our researcher-led collaborative study.
- Power structures and social locations subconsciously shape our expectations and lens as researchers and lay-researchers, even within participatory spaces.
- Participation has the potential for embedding change within research processes whilst empowerment through research can be limited and potentially reinforce power imbalances.

What do the new findings imply?

- Community participation and power sharing are possible within small, doctoral, researcher-led and/or time-constrained studies but requires time and space for research teams to reflect collectively and openly on participation and power.

6.3 Introduction

Participatory approaches in health research were developed to overcome ethical and methodological limitations resulting from power imbalances in conventional research (Cornwall and Jewkes, 1995, Loewenson et al, 2014). Unequal power relations are legacies of colonial knowledge production (collection of information from colonies, theory-building at imperial centre, and distribution of knowledge to colonies) and racial segregation of knowledges (superiority of European and academic knowledge and inferiority of African and experiential knowledge) (Hountondji, 1995, Quijano, 2000). Notions of 'power over' (Rowlands, 1997) underpin how power is constituted and exercised in research. Power imbalances between the active creators of knowledge and the passive providers or consumers of information enable a small group of experts to control knowledge creation and dissemination (Freire, 2005, Oliver, 1992). Unequal power relations in research limit dialogue, hinder critical thinking, shape thoughts, undercut sense of self-worth, and hence can reproduce and reinforce existing inequalities (Freire, 2019, Abma et al., 2019, Stone and Priestley, 1996).

In contrast, the participatory research paradigm builds on notions of power as process focussing on self-awareness, productive and collaborative power (power within, power to, and power with) (Rowlands, 1997, VeneKlasen and Miller, 2007). Andrea Cornwall and Rachel Jewkes (1995, p. 1667) argue "*the key difference between participatory, and conventional methodologies lies in the location of power in the research process*." Participation of people affected by the research topic as lay investigators in the research process is the defining feature of participatory health research (ICPHR, 2013). Commitment to equal partnerships between researchers and community for mutual exchange of knowledge, skills, and capacity underpins all participatory health research approaches, despite their diverse origins and methodologies (ICPHR, 2013, Israel, et al., 1998, Loewenson et al., 2014). Authentic dialogue, joint decision-making, and power-sharing are indicative for the quality of participatory research processes (Springett et al., 2011).

In recent years, power in participatory health research gained attention. Maria Roura (2020) coined the social ecology of power in research, providing researchers with a framework to reflect and act on disruptive power dynamics operating across the individual, interpersonal, and structural levels. The framework considers self-reflexivity, cultural humility, and commitment to power-sharing at micro level; project governance, reward systems, techniques for dialogue, structures of representation, and associational landscape at meso level; and power and resource distribution, historical and economic factors, and democratic quality at macro level. Beatrice Egid and colleagues (2021) involved researchers and other professionals virtually in participatory workshops to reflect on power in participatory health research globally. They identified various actions and tools to address power dynamics at micro, meso, and macro levels and balance power in research partnerships.

Intersectional power analysis draws attention to the overlap of various forms of exclusion or disadvantage. Intersectionality provides a critical lens to assess interrelated systems and axes of power within historic and geographical context and offers a framework for contesting power and thereby linking theory to practice (Cho et al., 2013, Sokoloff, 2008, Collins and Bilge, 2020). Complex patterns of disadvantage result from social structures that give both unearned advantage and disadvantage. Applying intersectional frameworks in reflexivity, help researchers understand unearned advantage, which can be more difficult to see than unearned disadvantage (Nixon, 2019).

Individual and collective reflection are critical for understanding and addressing power dynamics underlying research partnerships (Roura, 2020, Chambers, 2017). Critical reflexivity is a challenging undertaking in participatory research and requires training and practice (Alexander et al., 2020, Springett et al., 2011). Researchers do not necessarily discuss issues of power with their lay researcher partners (Egid et al., 2021). Doctoral research projects are an opportunity develop skills to critically reflect power dynamics in research individually and collectively (Ozano and Khatri, 2018, Sultana, 2007). Space for participation and power-sharing can be limited in researcher-led and time-bound doctoral research project. We conceptualise participation and power-sharing as goals to strive for in research (Israel et al., 1998) and provide critical reflection on experiences of power within a researcher-led participatory study.

As a doctoral student, I (BR) conducted a community-based participatory study on the intersections of HIV and IPV in an informal settlement in Nairobi, Kenya. I designed the study with input from LVCT Health (LO) and supervisors (RT, MT, LD). The study protocol laid out study topic; participatory research methodology and team; potential data collection and analysis methods; ethical and safeguarding measures. This constitutes a researcher-led collaborative study characterised by "*professionals allowing the involvement of lay people in the research activities of the professional under prescribed conditions*" (Baxter et al., 2001, p. 49). From August 2020 to July 2021, I conducted the study together with Kenyan researchers and community members from Korogocho. Additional activities for validation and dissemination were conducted in May and June 2022. We use the term 'co-researchers' to refer to lay members of the research team who actively participating in the research process. We refer to the Kenyan researchers as 'research partners' since the term 'research assistant' does not reflect their expertise and does not capture their critical role in the study (Kerubo et al., 2020).

Our critical reflection on power and participation in researcher-led collaborative health research is based on individual and group reflections across three different levels of reflexivity (Alexander et al., 2020), shown in Table 18. All reflections were documented and labelled in reports (research team

meeting) and notes (debriefing, counselling, self-reflection) to keep track of processes and decisions. I actively shaped the reflection and lessons presented in this article through my intellectual activity building on previous reflections (Ringwald, 2021, Ringwald et al., 2021). I was involved throughout the study and was immersed with the data. My reflection and lesson development were iterative processes: I reviewed part of the data to develop a coding frame, coded all data, reviewed data by codes, and identified recurrent and unique issues related to power and participation. I collated and clustered issues; reflected on patterns and connections; developed names and maps of themes; and revised them. Engaging with concepts of power and participation in participatory health research literature and discussing ideas with research partners and supervisors was helpful for clarifying themes. My involvement in the study and my background as a White, German woman married with one child and an extended family in Uganda; a first-generation PhD student with training in social education and global health; and extensive experience in facilitating participatory learning processes influenced the identification and framing of issues and lessons.

Table 18. Levels of reflexivity

Level of reflection and aim	Activity	Focus
Reflexivity in action with the aim of improving action while doing it	Researchers debriefing after each activity Regular group reflection by research team	Events, emotions, self, group, process, topic, and environment during action
Reflexivity on action with the aim of evaluating action completed	Research team meetings designated for reviewing tasks achieved Researchers' monthly counselling sessions with a psychologist	Experiences, lessons, good practice of completed action, and adjustments of future action.
Reflexivity underlying action with the aim of questioning power dynamics and imbalances	Capacity strengthening Individual and group reflection	Power concepts, sources and axes of power, social locations, and positionality

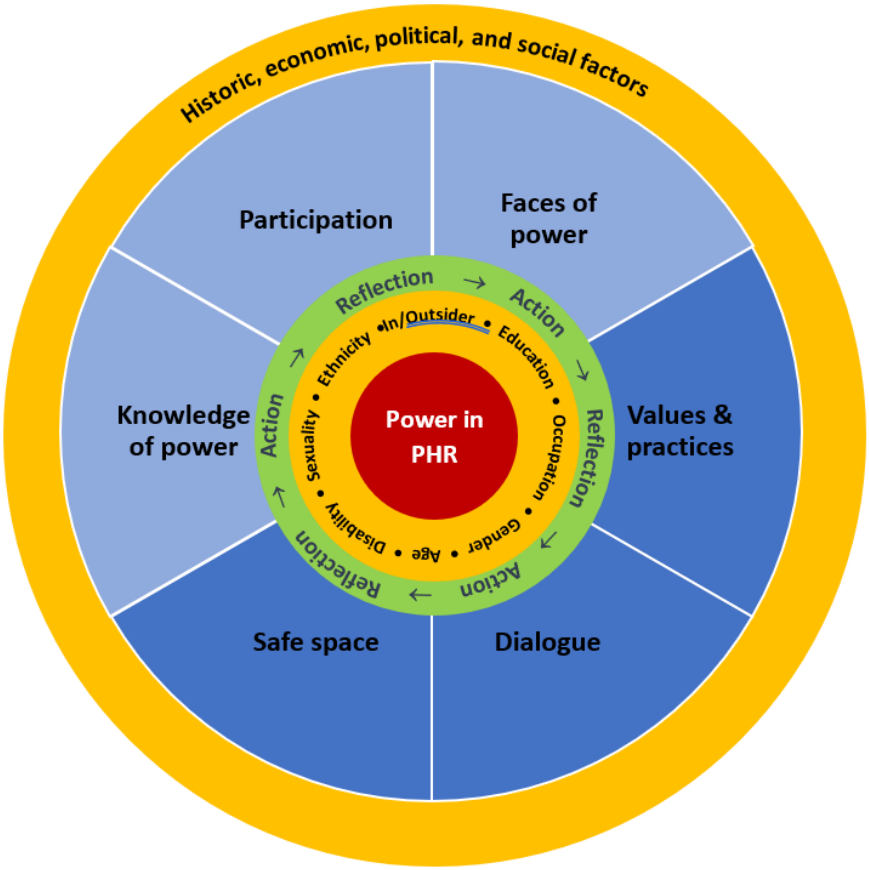
Note. Typology of reflexivity adapted from Alexander et al. (2020). In practice, reflexivity also took place spontaneously in more informal conversations and levels of reflection were interconnected, with reflections on concrete action leading to insights at deeper levels.

6.4 Intersectional reflection on context, team, and process

Our reflection builds on the social ecology of power by Roura (2020) using an intersectional lens to investigate interrelated power dynamics operating at the individual, interpersonal and structural levels (Figure 30). We have structured the reflection in the following way: First, we critically reflect on structural factors of the research context (Figure 30, outer circle), positionalities of research team members (Figure 30, second circle from inside), research activities (Figure 30, green circle), and

emerging power issues (Figure 30, segmented blue circle). Second, we critically discus insights and lessons regarding power and participation.

Figure 30. Diagram summarising critical reflection on power and participation



Note. Conceptual framework of power dynamics in researcher-led participatory health research: Emerging power issues (segmented blue circle) were shaped by positionalities of research team members (second circle from inside) and research activities (green circle) and structural factors of the research context (outer circle). PHR = participatory health research.

6.4.1 Research context (structural level)

Our study was conducted in Gitathuru, one of nine villages in Korogocho, a densely populated informal settlement 11 kilometres North-East of Nairobi's city centre. Gitathuru started as a settlement for quarry workers in the 1970s (Ogot and Ogot, 2020). A detailed description of the study site is provided in Chapter 5 (see 5.4.1). Power dynamics and relations in Korogocho are rooted in the legacies of colonial power systems characterised by divide and rule tactics (race, gender). Our findings, reported in Chapter 5, suggest controlling power dominates social relations and gatekeepers control access to opportunities, resources, and services. Lack of community consultation and involvement undermine relevance and delivery of services (Kimani-Murage et al., 2020). Community participation in

interventions has been limited because gatekeepers controlled communication about activities and selection of participants (Cifuentes, 2010). Residents who are not involved in participatory processes feel excluded and less confident about interventions (UN-Habitat, 2012).

6.4.2 Positionalities (individual level)

The research team involved community co-researchers (n=11) and researchers (n=4). Co-researchers were purposively selected to represent community members perceived to be affected by the study topic (n=4) and people who interface directly with community members and issue at hand (n=4) (Cargo and Mercer, 2008). Two additional co-researchers were recruited in March 2021 when we saw the need to reach additional populations. The lay translator from Korogocho took on additional roles and effectively became co-researcher. Researcher partners (FM, MM, VM) who had previously supported LVCT Health as freelancers in HIV and gender-based violence research worked with me, an academic researcher.

Members of the research team varied by age (range=21-56y); gender (3 men, 11 women); formal education (1 Primary, 8 Secondary, 5 Post-secondary); nationality and ethnicity (13 Kenyan (1 Borana, 3 Kamba, 6 Kikuyu, 1 Maasai, 1 Luhya, 1 Luo), 1 German); religion (13 Christian, 1 Muslim); and disability (2 persons with physical impairment); and research experience (none: 3, enumerators: 8, data collection, management, analysis: 4). All co-researchers worked and/or lived in Gitathuru and resided in Korogocho. There were, however, patterns of female and male co-researchers' identities; all men spoke English fluently and were generally older than women. In contrast with co-researchers, we (researchers) lived in formal settlements in or outside Nairobi, were advantaged by formal education and research experience, and were older than most co-researchers. All but one (VM) had not worked in Korogocho before.

6.4.3 Action and Reflection (interpersonal level)

We (research team) jointly conducted multiple iterations of participatory action and reflection cycles (see Figure 17 in section 3.5.3). In line with participatory research practice (Loewenson et al., 2006), co-researchers played an active role in decision-making, data collection, analysis, and dissemination. Research partners facilitated activities, took notes, and compiled transcripts. I provided overall guidance and facilitation; identified and proposed participatory methods; handled administration and financial management. We actively participated in activities aimed at building relationships, sharing experiences, and evaluating action (Chowdhury et al., 2021). We conducted weekly research team meetings in Swahili to promote co-researchers' full participation. Because I relied on translation due to my limited knowledge of the local language, I listened and observed more during meetings. Although our decision to meet in Korogocho was driven by budget constraints, proximity and

familiarity of meeting location was beneficial for co-researchers, while helping us immerse ourselves in the context. The ground rule exercise was the first opportunity for joint decision-making and demonstrating our commitment to participatory ways of working. We discussed power with co-researchers drawing on academic and experiential knowledges to develop shared understanding and basis for critical reflection.

Table 19 shows emerging power issues and our steps in mitigating their impact. These are in clusters as summarised in our conceptual framework of power dynamics in researcher-led participatory health research (Figure 30 above): (1) knowledges of power, (2) expectations, (3) values and practices, (4) authentic dialogue, (5) faces of power, and (6) safe space. Faces of power refers to distinctions between observable decision-making (visible power), agenda setting behind the scenes (hidden power), and control of thoughts and perceptions (invisible power) (VeneKlasen and Miller, 2007, Lukes, 2005).

Table 19. Emerging issues of power and response

Domain	Emerging power issues	Action
Knowledges of power	• Different levels of understanding, knowledge of power (micro) • Experiences of power shaped mainly by power-over (micro, macro) • Power identified and discussed as main driver of IPV and HIV (meso, macro)	• Power discussed as a topic • Drew on academic and experiential knowledges • Used symbols, diagrams to break down complex issues • Reflection on own social location, power, and positionality
Expectations	• Co-researchers expected to play supportive roles (micro) • Co-researchers expected researchers to give directions, provide tools for "fieldwork" (meso) • Community involvement in research limited (Macro level)	• Built research capacity • Clarified roles together • Promoted participation and dialogue (see below) • Involved co-researchers in decision-making • Group and self-reflection
Values and practices	• Inconsistent implementation of laws and policies (macro) • Persons in position of power do not adhere to laws and policies (macro)	• Jointly developed, reviewed, and updated group norms • "Ground rules" poster • Role modelled values • Group and self-reflection
Authentic dialogue	• Diverse experiences and needs of co-researchers (micro) • Risk of coerced, unintentional disclosure of personal information (meso)	• Careful method selection • Adapted participatory visual methods • Designed new methods fit for purpose • Facilitation techniques

	• Methods designed for people in middle-class, stable jobs, formal settlements (macro) • Methods not inclusive of persons with disability (macro)	• Reflection on power imbalances
Faces of power	• Co-researchers' sense of self and acceptance of their own inferiority (invisible power) (micro) • Co-researchers' participation in discussion unbalanced (meso) • Co-researchers' involved self in discussion as voice of others or team (meso) • Agenda setting behind the scenes; co-researchers shared ideas, concerns with researchers during group work, tea break, waiting time (hidden power) (meso) • Power-over dominated outside study (macro)	• Joint decision-making (e.g., IPV definition, target groups, themes, outputs) • Stopped co-researchers from deciding for team, reminded to speak for self • Involved quiet persons • Identified and debriefed hidden power issues • Resisted immediate response to hidden power • Raised and discussed issues with research team • Group and self-reflection
Safe space	• Co-researchers' ideas and solutions outside standard practice (meso) • Risk of coerced, unintentional disclosure of personal information (meso) • Involved co-researchers and participants from priority populations or whose activities are criminalised (e.g., people who use drugs, female sex workers, men who have sex with men, women who have sex with women) (meso, macro) • HIV and IPV were stigmatised (macro)	• Defined conditions of a safe space • Emphasised confidentiality • Careful selection of methods (e.g., gender-specific group work followed by gender-mixed discussion) • Put in place additional safeguarding measures (e.g., follow up of participants) • Developed contingency plan • Provided psycho-social counselling (based on need) • Reflected on social locations and power

6.5 Discussion of lessons

We discuss in this section insights gained about power, participation, and empowerment through individual and collective critical reflexivity.

6.5.1 Lessons on power

6.5.1.1 Conventional research influenced assumptions

Common distribution of roles and power in cross-cultural research shaped consciously and subconsciously our assumptions although I had deliberately chosen a participatory research approach,

clearly communicated the nature of community involvement (verbally, study brief), and carefully planned participatory processes and methods. Initially, co-researchers assumed they played supportive roles (Table 20, Q1). Those with low levels of formal education often referred to themselves as "not learned" and questioned the value of their contributions (Q2). Over time, co-researchers gained confidence in own views and role as co-researchers (Q3-Q5). Subconsciously, we also held on to expectations of being in charge of the research process and outputs. At times, we recognised feeling surprised or uneasy when co-researchers took on more active roles and responsibilities (Q6). When I could not fully understand what was discussed or agreed by the research team due to language barrier, I could feel some kind of "loss of control". During debriefing and group reflection sessions, we could talk about and reflect on our feelings. Providing space for co-researchers and research partners to talk about negative experiences from previous research (Q7-Q8) helped build trust and increase my awareness about my responsibility as researcher from Europe.

6.5.1.2 Researchers' incomplete knowledge of realities

Despite having developed good working relationships with co-researchers and in-depth understanding of the context, we remained outsiders. Each meeting made us discover something new about the research topic and community. The longer the study lasted, the more we recognised the limitations of our knowledge and views. Our assumptions about co-researchers' understanding, experiences, and knowledge often did not match with the realities (Q9-Q11). For instance, the re-opening of schools after the lockdown was a relief to us but stressful for co-researchers. Risks of life in the informal settlement were distant and invisible to us (Q12). Personal background, cognitive lenses, experience, interest, and preferences are sources of bias resulting in unbalanced, distorted or incomplete view of realities (Chambers, 2017, Oliver, 1992). Critical self-reflection is practiced to increase awareness of own biases and balance power relations (Chambers, 2017, England, 1994). We found practice and impact of reflexivity relied fundamentally on the honest and open dialogue with the other. Listening to my Kenyan team members was especially important for me as the White outsider. It helped me see and question power dynamics in research and global health (including my role) which self-reflection would not have revealed.

6.5.1.3 Co-researchers' incomplete knowledge of realities

We recruited co-researchers (and participants) from multiple priority populations to explore experiences of IPV and HIV from a variety of perspectives. Diversity of our research team made power relations more complex. Questions about whose power, whose voice, whose realities was not simply about outsiders (researchers) and insiders (co-researchers). Attention to power imbalances between co-researchers, facilitation techniques, and methods were needed to minimise domination of some

co-researchers and enable equal participation (Table 18). No one co-researcher had complete knowledge of the community or problem studied. Co-researchers themselves were surprised and, at times, shocked about the experiences and knowledge of others (Q13-Q14). Everyone had something to contribute to the discussion of unexpected findings during data analysis. Co-researchers faced challenges reaching out to social groups if they did not belong and suggested to recruit additional co-researchers. We recruited two people from populations not represented in the research team.

Table 20. Lessons on power

Subtheme	Q	Illustrative case or quote
Conventional research influenced assumptions	1	"*In the beginning, co-researchers were waiting for the action, waiting to be told what to do. They kept wondering, 'Is this all?' Then, they realised that researchers came to stay*" (Notes, researcher evaluation meeting, July 2021).
	2	"[Name of co-researcher] *asked if contributions are important. It shows how much damage is being done by emphasising importance of formal education while excluding people from formal education or accepting that they are excluded… Great responsibility to do no harm… to do research in a way that it empowers people and does not increase their insecurity and feeling less worth… to choose methods and language sensibly to not do harm*" (BR, research diary, September 2020).
	3	"*Everyone is useful in their own way*" (co-researcher, research team evaluation meeting, July 2021).
	4	"*We (co-researchers) are a team with skills*" (co-researcher, research team evaluation meeting, July 2021).
	5	"I am useful even though *[personal characteristic removed]* because of the knowledge I have after the research" (co-researcher, group reflection, May 2021)
	6	"*With the mobilization being done by co-researchers, researchers realised that they give away power and control to co-researchers. This is new to researchers. Continue to reflect on issues of power*" (Notes, researchers debriefing, October 2020).
	7	"*You are getting used to being used* (as local research assistant in the research sector)" (researcher, researchers counselling session, January 2021).
	8	Experiences of conventional research reported by co-researchers in research team meeting: "*(1) The same people are asked the same (or similar) questions all over again without impact on or improvement of situation; and (2) enumerators are sent to homes to collect data from vulnerable populations without anything although it is against the culture to visit a home empty-handed*" (activity report, research team meeting, August 2020).

Table 20. Lessons on power (continued)

Subtheme	Q	Illustrative case or quote
Researchers' incomplete knowledge of realities	9	Researcher reflecting on co-researcher and researchers' divergent ideas about the roles of mobiliser and co-facilitator during data collection: *"What is clear to me/us, is not necessarily clear to co-researchers. We make basic assumptions and realise that they (co-researchers) don't know,"* (BR, research diary, November 2020).
	10	Researchers' reflection on the impact of COVID-19 pandemic and re-opening of schools on parents: "*Co-researchers' worries about the future of own children (school drop-out, drug use, gangs, and teenage pregnancy) were more substantial than those of researchers (academic performance, missing friends). The reopening of schools in January 2021 after the ten-months closure freed time for work among researchers. On the contrary, sending children back to school was stressful for co-researchers and the wider community where many lost jobs and income during the pandemic. Instead of accelerating, we needed to slow down*" (Oral presentation, October 2021; see (Ringwald et al., 2021)).
	11	Reflection on validation meeting with co-researchers where research partners presented intersectional and historic lens used for used for synthesising preliminary findings that were generated with co-researchers for validation. Contrary to researchers' expectation, discussions revealed co-researchers had limited knowledge of the colonial history of Kenya and the historic roots of racial, class and gender segregations in Nairobi. "*It blew our minds that the history of Nairobi which we consider general knowledge is completely unknown to the community members*" (notes, researchers debriefing, May 2022)
	12	Research team group reflection on positionality using the storybook "Handa's Surprise" (described in 5.4.6): "[Co-researcher] *thought about the lion.* [Co-researcher] *thought it was good that there is no lion in the story. The lion would be the hooligans in our community. Others confirmed that they had thought about the lion too. That it was lucky she did not meet a lion who would have eaten Handa, not the fruits"* (activity report, research team meeting, January 2021). The invisible lion became our metaphor for risks in the informal settlement that researchers could not see: "*In co-researchers' narratives the invisible lion was a metaphor for risk, including risks that living in an informal settlement entail. The reflections on risk made us as researchers aware of our own privilege, represented by the absence of an invisible lion in our daily lives, and limitations to understand the study context*" (reported in Chowdhury et al., 2021, p. 21).
Co-researchers' incomplete knowledge of realities	13	"*At the beginning of the study, we understood little about IPV… our understanding of IPV has changed. We learned so much on the way. When we did the focus groups, we were not surprised with some topics that came up but surprised about other things the participant talked about*" (co-researcher, group reflection, January 2021).

Table 20. Lessons on power (continued)

Subtheme	Q	Illustrative case or quote
	14	The research team updated referral directory: "*Some co-researchers were surprised how many NGOs co-researchers in more privileged social positions knew, continuously commenting on how many NGOs* [ID of co-researcher] *knows*" (notes, researchers debriefing, February 2021).

6.5.2 Lessons on participation

6.5.2.1 Benefits and challenges

Co-researchers involvement in decision-making was beneficial because their views complemented and broadened ours, enhancing relevance of research. Our jointly developed IPV definition considered additional forms of IPV based on local context (Table 20, Q15). Co-researchers influenced approaches (Q16) and developed solutions to emerging issues; for example, safeguarding measures tailored to specific participant groups to enhance confidentiality and openness. However, inviting ideas from co-researchers was not without challenge because their approaches and ideas did not necessarily follow standard research practice. For example, after realising women and men lacked opportunities to talk about sexual health with each other, co-researchers suggested to invite women and men from selected priority populations together to focus group discussions to facilitate dialogue among them. We were concerned for ethical, quality, and safety reasons. The gender-mixed research team itself showed meaningful and safe dialogue between genders was possible. We put in place methodological and safety measures (Table 19) and conducted gender-mixed focus group discussions. Feedback during individual follow-up of participants was positive (Q17-Q19); no harm was reported.

6.5.2.2 Everything happens at the same time

While participatory research toolkits describe planning, action, and evaluation as subsequent phases or steps, in our study everything seemed to happen at the same time instead: Co-researchers applied newly gained knowledge and skills from the beginning throughout the study in their various capacities as parents, friends, community (health) volunteers, peer educators, religious leaders among others (Q20). In addition, data collection never really ended with new data becoming available as life in the community continued (Q21). We found, as Paulo Freire (2005, p. 128) states, there is "*no dichotomy by which this praxis could be divided into a prior stage of reflection and a subsequent stage of action. Action and reflection occur simultaneously."* Co-researchers influenced study processes, identified own lessons from research and communicated their findings. ICPHR (2013) describes participatory health research as a dialectic and nonlinear research process characterised by messiness, which resonates with our experience. Messiness, not to be confused with carelessness, refers to the

complexity of participatory research process involving diverse techniques and views for creating new ways of seeing and acting (ICPHR, 2013). Co-researchers saw any step in the research process as an opportunity for initiating dialogue and stimulating change. Our deliberations were time-consuming but fruitful as they opened new ways of comprehending research steps and activities.

Table 21. Lessons on participation

Subtheme	Q	Illustrative case or quote
Benefits and challenges	15	Jointly developed IPV definition: IPV refers to any behaviour within an intimate relationship causing emotional, physical, sexual, or economic harm. We considered intimate relationships to include hetero sexual dating, cohabiting, marital, extra-marital, and transactional relationships, as well as romantic and transactional same-sex partnerships.
	16	"*Co-researchers come up with ideas on how things should be done*" (notes, researchers debriefing, September 2020).
	17	"*(Participants of FGDs) felt appreciated and asked for more discussions coz (because) they learned something they don't know (intimate partner violence)*" (co-researcher, group reflection, December 2020).
	18	"*Some participants said they have realised they can help/assist someone with information*" (co-researcher, group reflection, December 2020).
	19	"*Those people from Gitathuru that were in the focus groups went out and talked to other people about effects of IPV. Now people are more informed and are able to be more open talking about IPV*" (co-researcher, group reflection, May 2022).
Everything happens at the same time	20	"*I am feeling good about the study. I like the diagrams and charts; they are very informative. I can tell the difference between IPV and GBV. I apply the knowledge that I gain from the study in the DREAMS programme*" (co-researcher, group reflection, November 2020).
	21	"*Data collection never stops until the study ends. Life goes on and new issues emerge. Co-researchers add new stories, aspects and interpretations during data analysis as new things happen in the community*" (notes, researchers evaluation meeting, July 2022).

6.5.3 Lessons on empowerment

We found co-researchers were open and interested in talking about power, including own experiences of power or powerlessness, in contrast with reports from colleagues in other settings (Egid et al., 2021). They articulated how the study raised their self-confidence (Table 22, Q22) and helped them learn about intersections of power, poverty, IPV, and HIV. Knowledge was regarded for being a source of power (Q23) and enabling them help others in the community (Q24).

Batliwala (2007) defines empowerment as a process of transforming the relations of power between individuals and social groups by challenging the ideologies; creating access to resources; and

transforming the institutions. Co-researchers applied knowledge and skills gained from the research within their social networks; for example, encouraged respectful communication with children and partners (Q25), and extended community health services to additional populations and locations (Q26). Co-researchers were eager to present findings to community stakeholders themselves. From the confidence and courage co-researchers showed when presenting findings to leaders and service providers and challenging their attitudes and practices we learned once more to see co-researchers' capacity – this time, the ability to skilfully navigate complex power relations. Stakeholders' interest in study findings and perceived improvement of IPV services afterwards encouraged co-researchers (Q27-28). Due to time and budget constraints, we were not able to evaluate impact of the study in the community. Research activities ended with community dissemination events.

Individual empowerment bears the risk of reinforcing existing power structures if empowerment processes enable people to gain positions of power and capacity to participate within structures of society (Rowlands, 1997). We selected a few community members through gatekeepers and trained them as co-researchers. Co-researchers acted as gatekeepers themselves when they sampled and recruited participants for data collection (Q29). This was not an easy task since demand was greater than what we had planned for (Q30). All co-researchers received a certificate for their involvement in the study. These helped co-researchers in more privileged social positions gain access to further opportunities and projects (Q31-32) potentially due to social structures distributing advantages unequally (Nixon, 2019).

Nonetheless, we facilitated experiences of alternative, positive forms of power and participation guided by our 'ground rules' (Q33-Q34). Although jointly developing principles of participation can build trust and relationships (Israel et al., 2018), it was probably more important that we valued and adhered to the agreement ourselves. By illustrating ground rules, adding and reviewing ground rules, and role modelling group norms, we expressed respect for our team agreement and culture. This contrasted with common experiences unequal application and implementation of rules; for instance, disregard of Kenya's two-third rule, meant to guarantee fair gender representation in parliament (Wasuna, 2021), or low rates of prosecution and conviction under the Protection Against Domestic Violence Act (CEDAW, 2017).

Table 22. Lessons on empowerment

Q	Illustrative case or quote
22	"*(I) felt honoured and humbled to be included in the research team. It built up my self-esteem and confidence. Thank you*" (co-researcher, group reflection, December 2020).
23	"*Power can be used positively… Unity is power, when we are united we can bring about positive change. Knowledge is power, we didn't know about the relationship between IPV and HIV before now. But we can relate them so well together now*" (co-researcher, group reflection, May 2022).
24	"*I understand IPV more now. I know who to contact when it happens. I know how to help people. I have been educating people on how to communicate with each other as well. I wish more researchers would involve us when doing research because we would be left helping more people with the information we gain*" (co-researcher, group reflection, May 2022).
25	"*I learnt about IPV and communicating in the group, and I have been talking to them (neighbours) about how to communicate with their children and spouses. Some are abusive when talking to children and I'm teaching them to mind how they speak to them and when not to speak about certain issues in front of children*" (co-researcher, group reflection, May 2022).
26	"*I distribute condoms to sex workers now that I have this information. Because of IPV I know they are at risk. I also educate them about it. I always go back, and they ask for more*," (co-researcher, group reflection, May 2022).
27	"*Stakeholders are interested. I saw that stakeholders are willing to help when we ask them*" (co-researcher, research team evaluation meeting, July 2021).
28	"*Police are now making arrests where IPV is concerned. They are more empathetic towards the victims. The dissemination we did reached them*" (co-researcher, group reflection, May 2022).
29	"*It was a good experience of having an opportunity of including someone who is mostly left out in the most community activities included in one and give a chance to speak out her views*" (co-researcher, group reflection, December 2020).
30	**"***The number was too small, and our people were too many, all wanted to attend the classes (focus group discussions)*" (co-researcher, group reflection, December 2020)
31	"*Because of what I have learnt in these meetings, I'm able to apply myself better to the community that I work with. The certificate I was given helped me get more projects to serve the community*" (co-researcher, group reflection, May 2022).
32	"*I felt useful after the project because of all that I have been able to learn. Most researchers come to the area and just call us to find the respondents. None of them have ever involved us in the research. Now when they come back, I can tell them that I have some experience in the research area and I can help more*" (co-researcher, group reflection, May 2022)
33	"Relationship amongst us as co-researchers has been good, great love, unity and equality" (male co-researcher, evaluation, July 2021)
34	"Co-researchers and researchers have good relationships. We bonded well. I have seen that it is better to work together" (female co-researcher, evaluation, July 2021).

6.6 Conclusions

We invited community members to participate as co-researchers in our study and embedded participatory methods at all research phases. Regular reflection on participation and power enabled us to learn from each other and about ourselves. Collaborative reflection and action with co-researchers strengthened our understanding of historic, spatial, structural, and intersectional forces causing inequitable research practice. These reflections did not only shape our study but also changed us as researchers and persons. We offer a conceptual framework for intersectional power analysis in participatory health research by extending ecological models of power in participatory research with an intersectionality lens considering multiple intersecting axes of power. We share our lessons on power, participation, and empowerment to encourage collaborative reflection on power within research teams and promote power-sharing in health research, especially in doctoral, researcher-led, smaller, and/or time-constrained studies.

Chapter 7: Discussion

7.1 Chapter overview

In the final chapter of the thesis, I integrate the findings generated by the different research strands and relate them to existing evidence. To reduce duplications with Discussion sections of the respective Results chapters, this discussion focusses relevance and implications for research and programmes seeking to address the intersections of IPV and HIV. I briefly summarise the research problem, aim, objectives, methods, and findings to draw attention to the reader about the main issues (7.2). Then follows a discussion of the meaning and relevance of key findings for HIV and IPV prevention and response (7.3). In section 7.4, I describe the original contributions of the thesis to the state of scientific knowledge, methodology, and theory. I then discuss the trade-offs and limitations of the research (7.5). The chapter concludes with recommendations for research and response to IPV and HIV (7.6) and final conclusions (7.7).

7.2 Summary of main concepts and findings

In **Chapter 1**, I summarise numerous economic, health, and social inequities, including disproportionally high rates of HIV, affecting people in informal urban settlements in Kenya. I highlight limitations of (1) IPV studies which have not reliably quantified the burden of IPV in informal settlements in Kenya; and (2) HIV and IPV studies which commonly investigate these issues in isolation with a focus on individual behaviour. In addition, research often targets a single population and, by engaging participants as informants, provide limited space for community participation. I set out to explore and expand how different groups of women and men in the informal settlement understand the intersections of HIV and IPV in order to strengthen IPV and HIV prevention and response in the community.

In **Chapter 2**, I outline key concepts related to well-being, informality, power, coloniality, and intersectionality. These concepts are applied to discuss existing evidence on IPV, HIV and linkages between them. I formulate the thesis conceptual framework by integrating and blending models of power and intersectionality with the ALIV[H]E matrix.

In **Chapter 3**, I explain and justify epistemological and methodological choice of matching a participatory health research approach with intersectionality and ALIV[H]E practice. I describe methods of the quantitative and qualitative research strands, which I conducted concurrently and independently of each other.

In **Chapter 4**, I report intra-urban variation of current IPV experience among women and men in Kenya, indicating gendered and spatial patterns, with women in informal urban settlements bearing the brunt of IPV.

In **Chapter 5**, I explore the power dynamics influencing IPV and HIV intersections in an informal urban settlement in Nairobi. The chapter illustrates how gender power imbalance intersects with other axes of power to shape complex dynamics of power, poverty, marginalisation, and gatekeeping in the informal settlement, which together create a web of unequal power relations that are conducive to IPV and HIV.

In **Chapter 6**, I provide critical reflection and lessons on power in researcher-led participatory health research in an informal urban settlement in Nairobi. The chapter suggests involving community members as co-researchers in collaborative reflection and action was key to power-sharing; created opportunities for learning, change, and empowerment; and strengthened research process and findings.

7.3 Discussion of main findings

In this section, I expand the discussion of findings presented in the respective Results chapters to focus on HIV and IPV prevention and response. First, I explore the meaning of findings and lessons regarding ALIV[H]E framework and approach (2.8 and 3.2.4). Second, I discuss the meaning of findings vis-à-vis the common strategies for addressing IPV and HIV, presented in the Literature review (2.7). Based on findings and lessons, the discussion focuses on both 'what' could be done to prevent HIV and IPV and 'how' this should be done.

7.3.1 Adapting ALIV[H]E

In my research, intersectionality theory and practice played a critical role in adapting and operationalising the ALIV[H]E framework. The intersectionality approach made it possible to engage different groups of women and men and explore intersections of IPV and HIV from their diverse perspectives. Findings and lessons (presented in Chapters 5 and 6) resonate with and complement other studies which used ALIV[H]E. Authors of these studies found the approach, values, and change matrix useful for working with different groups of women (like women living with HIV, women with disability, sex workers, women who use drugs, lesbian and bisexual women) to enhance understanding of IPV and HIV intersections and develop tailored HIV and violence prevention and response frameworks (AIDS Legal Network et al., 2019).

7.3.1.1 Considering multiple intersecting social categories

ALIV[H]E acknowledges diversity among women and promotes the involvement of women in all their diversity (Salamander Trust et al., 2017). In this study, intersectionality theory and practice aided in engaging with people living in the informal urban settlement in their diversity. Intersectionality's notion of 'intersecting social categories' underpinned the sampling, data collection and analysis approaches of the Koch ALIV[H]E study. It facilitated the identification and prioritisation groups of people whose chances of being exposed to IPV and HIV were perceived to be high. At the same time, it equipped the research team with a critical lens that made it possible to engage with the diversity and complexity of IPV and HIV linkages and to resist to universalise experiences of women and men. The thesis complements previous studies that applied ALIV[H]E with an intersectional lens. For instance, the ALIGHT study in Botswana documented experiences of violence among women with disability, identified contextual drivers, and proposed strategies to address violence against women with disability (AIDS Legal Network et al., 2019). By working with women with disability, the study created opportunities for women with disabilities to lead research and advocacy (AIDS Legal Network et al., 2019). Persons with disability have been overlooked in IPV prevention research (as shown in 2.7.1) and their capacity is continuously overlooked as thesis qualitative findings studies show (Chapter 5). The thesis expands evidence on IPV and HIV linkages generated by previous ALIV[H]E-related studies in that it considered urban informality as an axis of power and explored contextual drivers in informal urban settlements.

7.3.1.2 Exploring HIV and IPV among women and men

Previous studies involved women and maintained a focus on VAW and HIV linkages, in line with ALIV[H]E's original purpose (AIDS Legal Network et al., 2019). This thesis adapted the framework to investigate intersections of IPV and HIV among both women and men. The disproportionally high rates of IPV and HIV among women and men in informal urban settlements (1.2.2) encouraged and justified the adaptation of ALIV[H]E to focus on IPV and HIV observed among women and men. This thesis is not the first study to involve men in IPV research. Studies, evaluating community mobilisation and gender and economic empowerment strategies, have engaged women together with their male partners. Results suggest regular participation of women together with male partners could increase intervention effects (Starmann et al., 2017, Gupta et al., 2013). Although my research did not evaluate an intervention, it adds new knowledge about male involvement. Research commonly involves men with respect to women's experiences of IPV and HIV (e.g., SASA!, SHARE, REAL presented in 2.7). My research engages with men's views on IPV and HIV among women and men in heterosexual and same-sex relationships. First, spatial and social patterns of female-to-male IPV (Chapter 4), men's views on female-to-male and male-to-male IPV, and unemployment, poverty, gender expectations, and social

norms underpinning vulnerability among young men (including to alcohol and drug use, IPV and HIV as shown in Chapter 5) provide relevant insights for future research and programming.

7.3.1.3 Involving women and men

The thesis provides a case study on how to use intersectionality theory and practice to navigate the challenges that can emerge when investigating IPV against women and men. Intersectionality's focus on multiple intersecting social categories and axes of power, including gender, provides room for diverse experiences of women and men. It prevented the study from getting stuck in gender symmetry discussions, a contested issue among IPV researchers (Johnson, 2006, Straus, 2011). The thesis methodology demonstrates how to investigate IPV against women and men while adhering to recommendations by feminist organisation stressing the importance of distinguishing between the drivers of violence against women and the causes of violence against men (Coalition of Feminists for Social Change, 2018). The study used a pragmatic feminist approach to meaningfully engage women and men while continuously re-centring women, for example, through the composition of the research team, study sample, type and sequencing of methods, training of researchers and co-researchers, and the intersectional lens. By blending intersectionality and ALIV[H]E frameworks, the study was able to explore gender differences in the magnitude, manifestations, and drivers of IPV while interrogating how these intersect with other layers of disadvantage.

7.3.2 Empowerment

7.3.2.1 Individual empowerment

Economic and gender empowerment strategies are widely applied for the prevention of IPV and HIV. My research considers multiple intersecting axes of power and provides useful insights for empowerment strategies regarding the unjust power structures and unequal power relations as drivers of IPV and HIV in informal urban settlements. Quantitative results indicate rates of IPV are socially structured, by gender and urban residence, as well as education among women. Complementary qualitative data found men's dominance over women to be a main driver of IPV and HIV among women in the informal urban settlement. These results resonate in general with current approaches of economic and gender empowerment strategies which prioritise women and girls. My results, showing women's gender disadvantage and economic dependency are closely related, suggest combined gender and economic empowerment strategies are needed in informal urban settlements. Combined interventions were also found to yield greater prevention effects than stand-alone economic empowerment programmes (Arango et al., 2014).

Qualitative findings suggest people in the informal settlement would appreciate economic and gender empowerment programmes for young men (5.5.4). Promising evidence for these kinds of interventions suggests they have the potential to prevent HIV and IPV. In addition, discussions with co-researchers and key informants also highlighted people in Korogocho lacked opportunities to engage in healthy recreational activities. Alcohol and drugs were widely available and helped relax and escape from stress, whilst exposing people to HIV and IPV (5.5.3). Co-researchers and key informants felt young people, especially young men, would engage in healthy, recreational activities like sports and men's self-help groups if these were available. In addition, triggered by co-researchers' role play during the dissemination meeting (3.5.6.2), healthcare providers recognised the need for integrating psychological counselling and support in the IPV and HIV response. Psychological counselling and support should be available for both people seeking services and people providing services.

Results further show opportunities for women in the informal settlement are shaped by multiple axes of power – gender in combination with economic status, age, disability, education, occupation, sexuality, and social role. Not all women experience the same levels of oppression and marginalisation. Axes of power are interrelated in ways that reinforce, exacerbate, or alter the gendered nature of IPV and HIV. Women affected by multiple layers of disadvantage are faced with limited opportunities to protect themselves against IPV and HIV, while women privileged by layers of advantage may exercise power over to control other women and men. Women who are more disadvantaged may be excluded from economic and gender empowerment interventions because women who are better connected tend to benefit when gatekeepers are entrusted with participant selection (5.5.4). That people who are meant to benefit from economic empowerment interventions are not reached or aware is not uncommon. Examples include Kenya's cash transfers during the COVID-19 pandemic and the affirmative action funds (Tanui-Too and Chelang'a, 2021, Human Rights Watch, 2021). Priority populations might be overlooked when programmes are designed by outsiders due to their incomplete understanding of the context (6.5.1). The Korogocho ALIV[H]E study demonstrates how to mitigate such challenges through an intersectionality-informed community-based selection process. Facilitating a structured process in which the community prioritises social groups for participation has the potential to enhance targeting, acceptance, and ownership of interventions, outsiders' understanding of the context, and relationships among stakeholders.

7.3.2.2 Community empowerment

Women empowerment strategies, designed for women as individuals or groups, are underpinned by an assumption that women will be able to exercise newly gained power in ways that will be beneficial

to the family, community, and society – just as a widely cited proverb goes "*educate a girl, empower a nation*" (Choto, 2015). Without disregarding the importance and benefits to individuals, families, and communities that the empowerment of women and girls can bring (Gibbs and Bishop, 2019), as I myself a woman who has privilege of pursuing a PhD can tell, there is need to remind that empowerment is complex processes often within difficult contexts (Batliwala, 2007, Kabeer, 1999). If empowerment strategies focus narrowly on the provision of access to external resources, assets, or services, they are at risk of lacking the "*methodologies that will create spaces for people to build confidence and self-esteem*" (Gita Sen, 1997 cited in Cornwall, 2016, p. 356). In addition, empowerment of individuals without substantial changes in the underlying power structures can be limited (Rowlands, 1997, VeneKlasen and Miller, 2007); newly 'empowered' individuals in otherwise unchanged oppressive systems may themselves exercise power as control themselves or have privileges given to them later withdrawn (Rowlands, 1997).

Qualitative thesis findings suggest some women who wield greater degrees of power due to their age, income, or other social characteristics may exercise power as control over other women and men within exploitative environments of informal settlements. In our study, women who owned *chang'aa* dens were reported to exercise power-over. This resonates with findings from studies, exploring the complex power relations between women using the case of domestic workers in Nairobi:

> "*As a predominantly female profession, not only are domestic workers exposed to sexual abuse from male members of their employer's family, they also face particularly harsh treatment from their female employers. In fact, it is almost always female employers who act as immediate supervisors to their domestic staff and who are frequently responsible for their mistreatment*" (Agler et al., 2006).

The wider economic and social contexts influence empowerment processes, including specific interventions and their outcome, as qualitative findings from the Stepping Stones and Creating Futures study in South Africa shows: The hierarchical and didactic situations in education and work environments influenced how facilitators defined their role in and success of the group empowerment sessions (Gibbs et al., 2015). Facilitators, who focussed on participants attending regularly, providing 'right' answers, and meeting quantifiable outcome indicators, missed opportunities to foster dialogue and critical thinking, which were vital to the participatory empowerment strategy (Gibbs et al., 2015). The social context also limited project's outcomes among young men. First, peer pressure made it difficult for young men to move away from a youthful hypermasculinity. Second, the social environment lacked alternatives to the masculinity that centres around establishing, maintaining, and providing for a heterosexual household.

To mitigate against potential shortcomings of individual empowerment approaches, economic, gender and social empowerment programmes involving individuals as well as other HIV and IPV prevention strategies should be embedded within a community empowerment approach. Existing examples are often clustered under an umbrella of interventions seeking to transform social norms, although they involve numerous other activities, like SASA! or SHARE (2.7.5). What these interventions demonstrate is a community-wide approach to prevention – involving women and men, service providers, and other stakeholders. SASA! has the additional advantage of using the expressions of power concept (2.3.2), which facilitates the continuous reflection on power regarding topic and process. The collective reflection on power is important in the study context since stakeholder in positions of power explicitly mentioned experiences of powerlessness and talked less often about their own power (5.5.4). The invisibility of own social privileges and power, elaborated in the coin model, hinders social change (Nixon, 2019). SASA!'s revised version – called SASA! Together – includes new topics regarding relationship skills, at the expense of the HIV module (Michau and Namy, 2021). The development of SASA! and other community-based interventions also highlight the long-term partnerships with communities that are needed to develop interventions that are useful and suitable to the community (CUSP, 2017).

Our findings suggest people in informal settlements consult health care providers as well as religious leaders with regards to health. Findings indicate practices of religious leaders can be harmful to the health of women, but also show formal health services do not cater for people's spiritual health needs. Therefore, community empowerment strategies which use faith as an entry point could be useful for complementing health interventions and advancing accountability of religious leaders. An example is SASA! Faith which uses the original content and process for use by religious communities (Raising Voices, no date).

7.3.3 Integration of services and interventions

Findings of the thesis indicate the intersections of IPV and HIV experienced by women and men living in informal settlements are tied to systemic disadvantages in other sectors like education and employment. Quantitative data suggests correlations between women's education level and experience of IPV are the underlying driver for the observed association between women's informal settlement residence and experience of IPV. I argue (in section 4.6) that women's low education levels as drivers of male-to-female IPV in informal urban settlements cannot be separated from the structural barriers which impede access to school education among girls and young women in informal urban settlements (more than in other urban settlements). Qualitative data add to this by revealing how IPV and HIV intersect with multiple other inequities related to education, employment, income, food security, health care, disability, and sexuality among others.

Qualitative data illustrate multiple complex linkages between IPV and HIV in the informal settlement, generally supporting proposed integration of GBV, HIV, and other health services as outlined in the Ministry of Health's framework. However, integration is not a quick process, as the case of post-rape care services in Kenya illustrates: The 2009 guidelines make HIV testing and prevention services part of Kenya's standard post-rape care package (MOPHS and MOMS, 2009). The provision of post-exposure prophylaxis to survivors of sexual violence remains inconsistent. Records of 2015 from two referral hospitals (level 4 and 5 outside Nairobi) show 1 in 6 survivors of sexual violence missed out on post-exposure prophylaxis (Gatuguta et al., 2018). Health facilities in Korogocho provide post-exposure prophylaxis, but this thesis did not assess service coverage. Integrating IPV screening in HIV testing and care services would certainly provide additional opportunities to identify persons who undergo IPV. However, screening interventions alone are ineffective in reducing IPV and need to be accompanied by comprehensive support and care (Taft and Colombini, 2017). Integrating health care services requires a system-wide approach in which all health sectors elements are involved in a coordinated way (leadership and governance; protocols and guidelines; qualified health workforce, training, and supervision; adequate health infrastructure; coordination; and financing) (Colombini et al., 2017).

Because health services tend to focus on women, the integration of existing health, GBV, and HIV services may bring more opportunities and benefits for women than men. Kenyan men are less likely to test for HIV and know their status compared to Kenyan women (NASCOP, 2020), partly because women have more opportunities to receive health care due reproductive, maternal and child health needs. Also, male survivors of IPV are less likely to seek health care (KNBS et al., 2015a, Gatuguta et al., 2018). Service providers in the study community reported conducting outreach activities to deliver HIV testing and prevention services (e.g., condom provision) or GBV awareness messages to men. Coordination across sectors may offer opportunities to combining and sequencing activities and advocacy to better integrate IPV and HIV services and information. Key informants from Korogocho recommended better coordination among service providers and expressed interest in regular cross-sector meetings and working groups involving public and civil society actors.

Most of the integration ideas proposed by the WHO are set within the health sector and undoubtedly have benefits as suggested by the strong or promising evidence on their effects for preventing IPV and HIV (2.7.3). But this kind of integration may not sufficiently meet the diverse needs of women and men affected by IPV and/or HIV in informal settlements, nor their prevention needs. Thesis qualitative data show people living with or at risk of HIV and/or IPV are faced with disadvantages in many areas of life. The struggle for survival in the informal settlement is characterised by lack of opportunities, marginalisation, disempowerment, poverty, and unhealthy coping strategies, which reinforce each

other. To disrupt these vicious cycles, additional support is needed, beyond health and judicial services. The integration of health services needs to be complemented by coordination of services across sectors (including education, housing, justice, labour, transport among others). Integration as an intersectoral agenda resonates with the sustainable development agenda and other frameworks. As highlighted in section 5.6, many of the 17 SDGs target problems underpinning and intersecting with IPV and HIV epidemics in informal settlements. Coordination among sectors and actors should happen at all levels – national, county, and the community. Since existing systems tend to concentrate power on individuals, a multi-sectoral approach for addressing IPV and HIV needs to cater for the effective participation of communities (7.3.2.2).

7.3.4 Promoting and implementing laws and policies

The importance of an enabling legal environment for achieving global HIV and IPV targets is undisputed. The 2010 Constitution of Kenya is commonly described as progressive (e.g., Kiriti-Nganga and Mogeni, 2020) for its equality and non-discrimination provisions. In line with these, Kenya has undertaken legislative reforms and policy changes (described in 2.7.2) to accelerate progress towards gender equality. Despite Kenya's legal reforms, rates of IPV in the country remain high especially in settlements faced with compounded disadvantage like informal urban settlements as demonstrated by the thesis quantitative results. However, data analysed by this study was collected only four years after the new constitution and one year before the domestic violence legislation was passed. While evidence on the effects of legal and policy intervention for preventing IPV and HIV is limited (as described in 2.7.2), future KDHS will, over time, provide evidence on their impact on the country's IPV burden.

Qualitative data collected for this thesis identified several issues that could undermine the implementation and impact of legislations. Focus group discussions conducted among young people reveals IPV remains normalised and IPV-related legislations are not known in the informal urban settlement. Furthermore, many people in the informal urban settlement mistrust government institutions and service providers, especially law enforcement agencies. This kind of mistrust is rooted in the oppressive ways in which Kenyans, especially people in informal urban settlement, have been treated by colonial and government officers historically and recently (Shadle, 2012, Lines and Makau, 2018, Gathara, 2020, Office of the High Commissioner for Human Rights, 2020). The brutal manner in which the Police enforced COVID-19 pandemic control measures provides a recent example ('Six killed by Kenyan police enforcing coronavirus curfew: HRW,' 2020). Although Kenya's HIV programme provides specific services for sex workers and people in same-sex relationships, legislations criminalising them have remained in place and continue to undermine their access to services and justice.

Long-term data from Nicaragua, where IPV is more common in urban than rural areas, suggest a cross-sectoral multi-pronged approach is needed to effectively reduce IPV (Ellsberg et al., 2022). Surveys conducted in León in 1995 and 2016 indicate the level of current physical IPV experienced by women declined drastically (from 28% to 8%) (Ellsberg et al., 2020). The long-term reduction can be attributed to coordinated actions of government and civil society, including efforts of Nicaraguan women's movements to increase women's access to justice and comprehensive violence services, as well as subsequent cohort effect among young women who reported more education and more gender equitable norms (Ellsberg et al., 2020, Ellsberg et al., 2022). Kenya's legislative and policy reforms provide the foundation for actions required to prevent IPV and HIV. In addition to removing existing legal barriers, concerted action of government and civil society is needed to promote and implement existing laws and policies.

While Kenya's Constitution and (most) legislations provide the foundation needed for rights-based HIV and IPV prevention and response, these will have minimal effect without building trust. People's mistrust in the institutions that exist to protect and support them is a main barrier to the implementation of laws and policies. The mistrust is not unfounded as discussed above. Respect for and commitment to the constitutional rights of every person need to become concrete in service providers' relationships with the community, services for the community, and accountability to the community. This includes efforts by service providers to reflect on own power and respect diverse genders, abilities, sexualities, and vulnerabilities.

7.4 Research contributions

Building on the discussion of approach and findings, I highlight here the original contributions of the thesis to the empirical, and methodological, and theoretical literature.

7.4.1 Contributions to specific literature

The thesis makes significant contributions to the state of knowledge on HIV and IPV collected through a mix of methods and from diverse perspectives. The study stands out for applying an intersectional approach to involve diverse voices and perspectives – including but not limited to women. The thesis adds to the IPV literature as it provides quantitative and qualitative evidence on the magnitude, manifestations, and drivers of IPV in urban settings in Kenya. The scope of this research was wider than other studies, focussing mainly on male-to-female IPV among heterosexual partners, and contributes evidence on female-to-male IPV within heterosexual partnerships and IPV within same-sex partnerships. Through the stratification of quantitative data (by gender and residence) and FGD sample (by different markers of power), the thesis elaborates commonalities and differences in IPV experience between and within groups of women and men.

Furthermore, the participatory study makes a unique contribution to ALIV[H]E literature and state of knowledge on HIV and IPV linkages through its comprehensive application of intersectionality – not as a tool for comparing different categories but as a critical power analysis framework. The Korogocho ALIV[H]E study findings elaborate how intersections of HIV and IPV emerge within the economic, political, and social manifestations of historic and spatial inequities. My work contextualises behavioural vulnerability to HIV and IPV of people in informal urban settlements and considers the structural forces operating in the informal urban settlement and how structural drivers limit or influence individual behaviour and choice.

7.4.2 Methodological contributions

The thesis adds to literature regarding participatory approaches in HIV, IPV, and global health research in general. In contrast with many IPV and HIV studies, which engage a homogeneous population as informants, this research involved persons from different populations from the informal settlement as participants and co-researchers during data collection and throughout the research process, respectively. The study did not only exemplify how women and men can safely be involved together in research on IPV and HIV. It also suggests gender-mixed approaches may entail additional opportunities for better data and potential solutions.

The thesis main methodological contribution to intersectionality and participatory health research literature lies in the experience gained by combining participatory and intersectionality epistemology and methodology. First, I clarify and exemplify the relevance of intersectionality for the Kenyan context (2.3) since intersectionality theory and practice were coined in and have spread from the US-context. Second, my research provides a unique case for how to engage with power throughout the study at different levels. Intersectionality was applied as an analytical framework to interrogate drivers and manifestations of the intersections of IPV and HIV from a variety of perspectives. For this purpose, various power theories, multiple interrelated axes of power, and the interplay of structural, interpersonal, and individual power issues were considered. Finally, power was located within historic, geographic, social, political, and economic context of Kenyan informal settlements.

Another methodological contribution to the participatory health research literature involves the innovation and adaption of and critical reflection on participatory methods and tools by this research. Over the course of the study, I adapted existing and developed new methods and tools for data collection, discussion, communication, capacity building, and reflexivity, some of which have been published elsewhere (Chowdhury et al., 2021). Finally, the thesis demonstrates ways of applying evidence-based measures for prevention of infection to develop risk mitigation protocols (Appendix

12) and amend participatory methods and tools (section 3.5) to comply with pandemic control guidance and their application during a global pandemic (like COVID-19).

7.4.3 Theoretical contributions

As an intersectionality study, the thesis adds a case study to intersectionality literature and contributes to theory building on HIV and IPV linkages. The study illustrates that IPV and HIV do not occur randomly, but within the context of other inequities related to housing, education, employment, and/or income. The thesis contributes to evidence on IPV and HIV disparities. Quantitative results show IPV experience varies within urban areas, while the qualitative findings elaborate diversity of HIV and IPV experience within the informal settlement of Kenya. These findings illustrate that vulnerability to IPV and HIV does not emerge at random but within complex, interrelated systems of power and oppression, which result in the unequal distribution of compounded advantage and disadvantage within Kenyan cities and within informal urban settlements in Nairobi, Kenya. Study findings further suggest vulnerability to IPV and HIV in urban Kenya does not occur suddenly but in the context of the legacies of colonialism. Power structures established during the colonial era devalued and destroyed social, political, and economic arrangements of native Kenyan communities and instead defined and enacted economic, social, and political realities – considered 'modern' – establishing highly unequal power relations based on race, ethnicity, gender, and class.

The thesis expands theories about IPV and HIV linkages by providing an intersectionality framework on intersections of IPV and HIV among women and men. My study created and applied a new conceptual framework, which considers health, well-being, informality, power, and empowerment to be processes (not fixed conditions) to gain insight into evolving and dynamic intersections of HIV and IPV. Women and men are exposed to IPV and HIV as they navigate complex processes of power and poverty, which operate in visible, hidden, and invisible ways within the informal settlement context. The experiences of IPV and HIV intersections as well as the likelihood of being exposed to the same are unique and depend on one's multiple identities and social location.

My study contributes to the HIV and IPV prevention literature. It provides new insights about the intersectionality of IPV and HIV linkages in an informal settlement in Nairobi, Kenya to both the community where the study was conducted as well as to policy makers, practitioners, and the scientific community. It also exemplifies ways of meaningfully involving communities in research and programming to advance the prevention of HIV and IPV in countries like Kenya.

7.5 Trade-offs and limitations

Without repeating limitations stated in results chapters (4.6.2 and 5.6.1), I discuss here limitations and trade-offs complementing these.

Engagement of community stakeholders: The global outbreak of COVID-19 in 2020 delayed the start of the participatory study and limited the engagement with stakeholders. Initially (between July and November 2020), I met community stakeholders bilaterally to seek input and support for the study. At the end of the study (July 2021), the research team disseminated findings to community stakeholders working with priority populations who were engaged in the study. It is anticipated that community stakeholders' involvement in designing the study and more frequent collective engagement could have been favourable for the sustainability of study findings. However, due to time and budget constraints, it was not possible to follow-up stakeholders at a later point and assess ownership, uptake, and sustainability of research findings outside the research team.

Study endpoint: Because of the participatory study design, the endpoint of the study could not be fixed, as in conventional research. Initially, I anticipated to reach an action stage at which concrete steps in improving, strengthening, or expanding existing HIV and IPV prevention interventions at the community level would be tested. Defining the study endpoint involved balancing and negotiating: There was a trade-off between the potential benefit of meaningful involvement of community co-researchers in terms of the quality of the participatory process and study findings versus the time need (including for negotiating the terms of collaboration, capacity building, feedback, and reflexivity). Another trade-off emerged around the depth and ownership of the research process and findings and reaching action phase.

7.6 Recommendations

In this section, I gather and harmonise the recommendations made throughout the thesis Results and Discussion chapter.

Future research

- Quantitative and qualitative health research, including on HIV and IPV, is recommended to apply an intersectoral lens to assess multiple intersecting social categories.
- Health research should consider involving diverse views and experiences by engaging multiple groups of people within the community.
- Future research should be better prepared to explore HIV and IPV linkages among intersex, non-binary, and transgender people.

- Quantitative health research, including on HIV and IPV, needs to collect better-disaggregated urban data.

Prevention interventions addressing HIV and IPV linkages

- IPV and HIV prevention programmes are recommended to address overarching power dynamics.
- IPV and HIV prevention interventions should target multiple levels, combine different approaches, and be led by communities.
- Integration approaches are recommended to coordinate interventions across sectors, beyond HIV and GBV.
- Prevention interventions should create space to practice positive power and promote respectful and peaceful relationships.

Approaches to research and programming

- Research and programmes need to create opportunities for the meaningful involvement of communities in planning, decision-making, implementation, evaluation, learning, and solution seeking.
- Research and programmes are recommended to create platforms and space for mutual learning, capacity strengthening, and critical reflection on power and participation collectively with community stakeholders.
- Researchers and other professionals should reflect regularly on own positionality, assumptions, and views – individually and with others including research assistants and co-researchers.
- Researchers engaging in participatory research and programme processes should be prepared to be transformed too.

7.7 Final reflections

The critical lesson from this thesis is the complex power dynamics underlying HIV and IPV epidemics. Research on the same need to be equipped to explore, understand, and interact with the complexities of the social, economic, political, and physical environments shaping human health and life. The co-researchers played a key role in ensuring problem definition, sampling criteria, data collection tools, findings, and dissemination of this study resonated with the complexities of the informal settlement reality.

The research findings call for interventions to address HIV and IPV linkages. They also highlight prevention efforts need to be person-centred, multi-layered, and well-coordinated across sectors and

actors. Single methods, tools, or interventions need to be embedded within community-based and multi-sectoral approaches addressing the underlying power structures.

This research has enriched and challenged me in many ways. The people of Korogocho welcomed me in their community. During the one-year journey relationships and trust grew within the research team and participants shared with us the challenges of their everyday life. While I became more aware of my privileges as an outsider, I became also eager to represent the community voices in a true and fair way. I have deep respect for the passionate action community members, including the co-researchers, take in supporting their community.

The collaboration with co-researchers has increased my understanding of empowerment as a process – not an intervention. Community empowerment is a long-term process in which outsiders, like me, can act as catalysts to facilitate empowerment processes within and by communities themselves. To my understanding, the current funding, planning, and decision-making cycles in global health research and programming are inadequate to provide communities with the type of funding, timelines, power, and roles required for community-led prevention strategies and empowerment processes. It requires trust and power-sharing.

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Appendix 1. Approval of research by ethics and scientific review boards

Study 1: Waiver for secondary data analysis of 2014 KDHS data (Objective 1).

LSTM
LIVERPOOL SCHOOL OF TROPICAL MEDICINE

Pembroke Place,
Liverpool, L3 5QA, UK
Tel: +44(0)151 705 3100
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www.lstmed.ac.uk

Ms Beate Ringwald
Liverpool School of Tropical Medicine
Pembroke Place
Liverpool
L3 5QA

Tuesday, 24 September 2019

Dear Ms Ringwald,

Re. Research Protocol (19-067) ***Spatial analysis of the variation in intimate partner violence prevalence in Kenya based on publicly available data***

On behalf of LSTM Research Ethics Committee, it is acknowledged that LSTM REC approval is not required for the above-named study. The study includes data which is largely publicly-available, and all fully anonymised. As such, the Chair is content that the research can proceed without formal REC review.

Should you wish to contact LSTM REC in relation to this study in the future, please contact Lindsay Troughton, Secretary, Research Ethics Committee at lstmrec@lstmed.ac.uk.

Yours sincerely,

Yours sincerely,

Professor Graham Devereux
Chair
Research Ethics Committee

Study 2: LSTM approval of participatory study (2019) and amendments in the context of COVID-19 (2020) (Objectives 2 and 3).

Ms Beate Ringwald
Liverpool School of Tropical Medicine
Pembroke Place
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Thursday, 05 September 2019

Dear Ms Ringwald,

Re. Research Protocol (19-065) Strengthening community health systems to address IPV and HIV intersection in Korogocho, Nairobi, Kenya

Thank you for your letter providing the necessary in-country approvals for this project. I can confirm that the protocol now has formal ethical approval from the LSTM Research Ethics Committee.

The approval is for a fixed period of three years and will therefore expire on 4th September 2022. The Committee may suspend or withdraw ethical approval at any time if appropriate.

Approval is conditional upon:

- Continued adherence to all in-country ethical requirements.
- Notification of all amendments to the protocol for approval before implementation.
- Notification of when the project actually starts.
- Provision of an annual update to the Committee.
  Failure to do so could result in suspension of the study without further notice.
- Reporting of new information relevant to patient safety to the Committee
- Provision of Data Monitoring Committee reports (if applicable) to the Committee

Failure to comply with these requirements is a breach of the LSTM Research Code of Conduct and will result in withdrawal of approval and may lead to disciplinary action. The Committee would also like to receive copies of the final report once the study is completed. Please quote your Ethics Reference number with all correspondence.

Yours sincerely

Professor Graham Devereux
Chair
LSTM Research Ethics Committee

Ms Beate Ringwald
Liverpool School of Tropical Medicine
Pembroke Place
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Tuesday, 04 August 2020

Dear Ms Ringwald,

Re. Research Protocol (19-065) Strengthening community health systems to address IPV and HIV intersection in Korogocho, Nairobi, Kenya

Thank you for your correspondence of 3rd August 2020 providing the LSTM Research Ethics Committee and LSTM Research Governance Manager with details of your study Risk Assessment: COVID-19

This has now been reviewed, noted and accepted on the behalf of the Committee. Please continue to adhere to the conditions of approval and to update us of any further changes to the study that may arise.

Yours sincerely,

Professor Graham Devereux
Chair
LSTM Research Ethics Committee

Yours sincerely,

Ms Denise Watson
LSTM Research Governance Manager
LSTM Research Governance and Ethics Office

Study 2: In-country ethical approval of participatory study (2019) and amendments in the context of COVID-19 (2020) (Objectives 2 and 3).

amref health africa

Amref Health Africa in Kenya

REF: AMREF – ESRC P670/2019

August 29, 2019

Beate Ringwald
Liverpool School of Tropical Medicine
Pembroke Place, Liverpool, L3 5QA, UK
Tel: +447401318642
Email: beate.ringwald@lstmed.ac.uk

Dear Beate Ringwald,

RESEARCH PROTOCOL: STRENGTHENING COMMUNITY HEALTH SYSTEMS TO ADDRESS INTIMATE PARTNER VIOLENCE AND HIV INTERSECTION IN KOROGOCHO, NAIROBI, KENYA

Thank you for submitting your protocol to the Amref Ethics and Scientific Review Committee (ESRC).

This is to inform you that the ESRC has reviewed and approved your protocol. Your application approval number is P670/2019. The approval period is from August 29, 2019 to August 28, 2020 and is subject to compliance with the following requirements:

a) Only approved documents (including informed consents, study instruments, advertising materials, material transfer agreements etc.) will be used.
b) All changes including (amendments, deviations, violations etc.) are submitted for review and approval by Amref ESRC before implementation.
c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the Amref ESRC within 72 hours of notification.
d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to Amref ESRC within 72 hours.
e) Clearance for export of biological specimen must be obtained from the relevant government authorities for each batch of shipment/export.
f) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
g) Submission of an executive summary report within 90 days upon completion of the study to the Amref ESRC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and innovation (NACOSTI) https://oris.nacosti.go.ke/ and obtain other clearances needed.

Please do not hesitate to contact the ESRC Secretariat (esrc.kenya@amref.org) for any clarification or query.

AMREF - ESRC
6 AUG 2019
P.O. Box 27691 - 00100, NAIROBI

Yours sincerely,

for

Prof. Mohamed Karama
Chair, Amref ESRC

CC: Samuel Muhula, Monitoring & Evaluation and Research Manager, Amref Health Africa in Kenya.

REF: AMREF – ESRC P670-2019

July 24, 2020

Beate Ringwald
Liverpool School of Tropical Medicine
Pembroke Place, Liverpool, L3, 5QA, UK
Tel: +447401318642
Email: beate.ringwald@lstmed.ac.uk

Dear Beate Ringwald,

RESEARCH PROTOCOL: STRENGTHENING COMMUNITY HEALTH SYSTEMS TO ADDRESS INTIMATE PARTNER VIOLENCE AND HIV INTERSECTION IN KOROGOCHO, NAIROBI, KENYA

Thank you for submitting your protocol to the Amref Africa Ethics and Review Committee (ESRC).

This is to inform you that the ESRC has reviewed and approved the annual renewal of your protocol with the following amendments;

1. Change of co-investigators with the removal of Dr Jordan Kyongo and addition of Anne S. Wangui Ngunjiri, Senior Technical Advisor – GBV, LVCT Health as co-investigator.
2. Modification of the protocol to accommodate infection control measures during COVID 19 pandemic

The approval period is from July 24, 2020 to July 23, 2021 and is subject to compliance with the following requirements:

a) Only approved documents (including informed consents, study instruments, advertising materials, material transfer agreements etc.) will be used.
b) All changes including (amendments, deviations, violations etc.) are submitted for review and approval by Amref ESRC before implementation.
c) Death and life-threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the Amref ESRC within 72 hours of notification.
d) Any changes, anticipated or otherwise, that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to Amref ESRC within 72 hours.
e) Clearance for export of biological specimen must be obtained from the relevant government authorities for each batch of shipment/export.
f) Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
g) Submission of an executive summary report within 90 days upon completion of the study to the Amref ESRC.

Prior to commencing your study, you will be expected to obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke/ and obtain other clearances needed.

Please do not hesitate to contact the ESRC Secretariat (esrc.kenya@amref.org) for any clarification or query.

Yours sincerely,

Prof. Mohamed Karama
Chair, Amref ESRC
CC: Samuel Mutula, Monitoring & Evaluation and Research Manager, Amref Health Africa in Kenya

P O Box 30125-00100 Nairobi, Tel: +254 (0)20 699 4000, Fax: +254 (0)20 699 2531. www.amref.org

Study 2: In-country scientific approval of participatory study (Objectives 2 and 3).

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **131311**

Date of Issue: **23/October/2019**

RESEARCH LICENSE

This is to Certify that Ms.. Beate Ringwald of Liverpool School of Tropical Medicine, has been licensed to conduct research in Nairobi on the topic: Strengthening community health systems to address intimate partner violence and HIV intersection in Korogocho, Nairobi, Kenya for the period ending : 23/October/2020.

License No: **NACOSTI/P/19/1568**

131311

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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REPUBLIC OF KENYA

NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **693465**

Date of Issue: **11/January/2021**

RESEARCH LICENSE

This is to Certify that Ms.. Beate Ringwald of Liverpool School of Tropical Medicine, has been licensed to conduct research in Nairobi on the topic: Strengthening community health systems to address intimate partner violence and HIV intersection in Korogocho, Nairobi, Kenya for the period ending : 11/January/2022.

License No: **NACOSTI/P/21/8210**

693465

Applicant Identification Number

Director General
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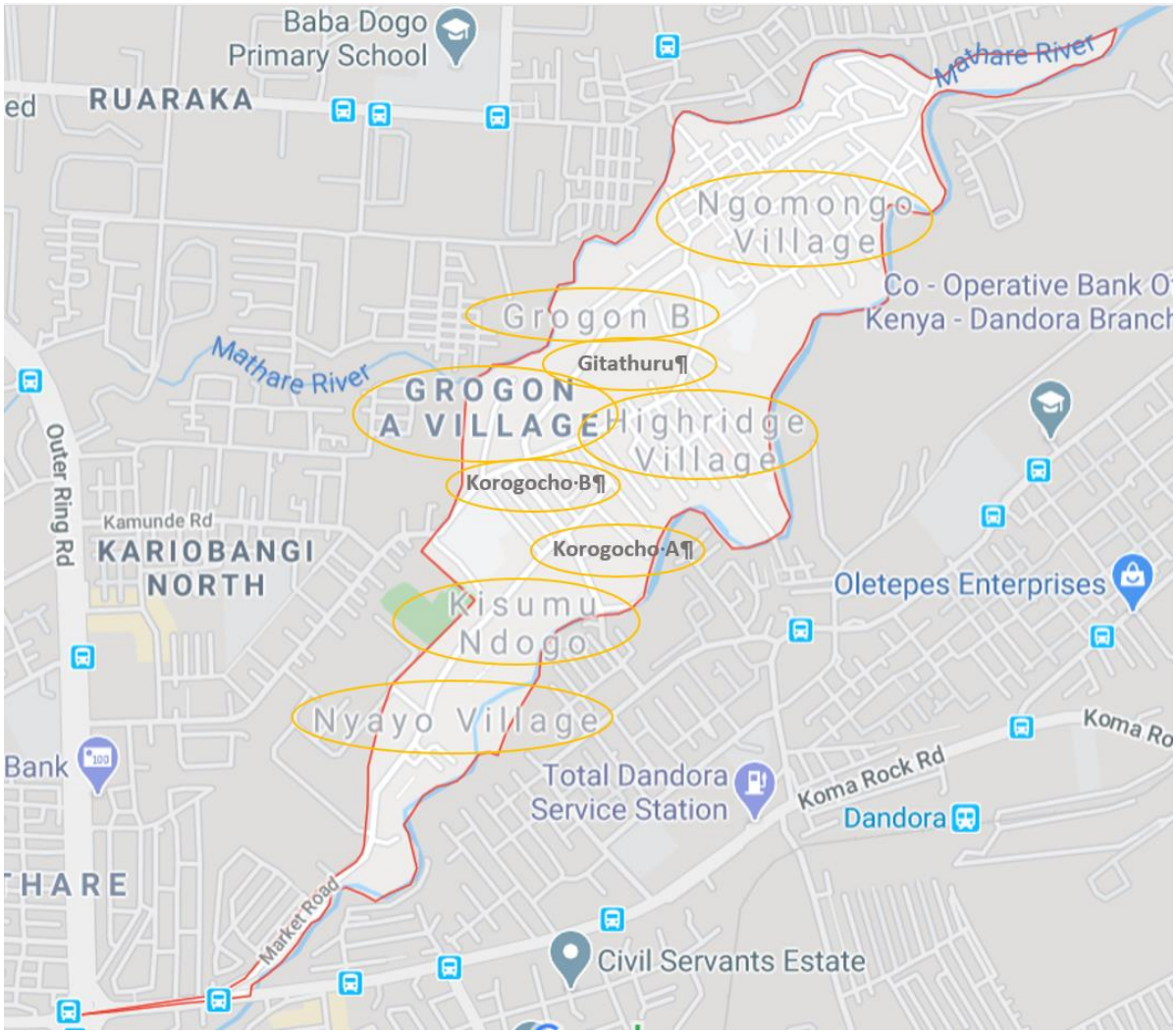
Appendix 2. Comparison of Revised Conflict Tactics Scales and 2014 KDHS domestic violence instrument

The Revised Conflict Tactics Scales (CTS2)	**2014 KDHS Domestic Violence instrument**
List of situations presented to female and male respondents to assess actions that the respondent and the partner took to settle differences. The alternatives were presented to the respondents with the question 'how many times did you do each of these things in the past year, and how many times did your partner do them in the past year.'	List of situations presented to female and male respondents to assess experience of intimate partner violence in the past 12 months. The alternatives were presented to the respondents with the question 'did your current/former spouse/partner…'
Negotiation scale	**N/A**
Measuring actions taken to settle a disagreement through discussion.	Not measured.
Psychological aggression scale	**Emotional IPV**
Insulted or swore at partner	Insult you or make to feel bad about yourself
Shouted at partner	-
Stomped out of room	-
Threatened to hit or throw something at partner	Threaten to hurt or harm you or someone close to you
Destroyed something of partners	-
Did something to spite partner	-
Called partner fat or ugly	Say or do something to humiliate you in front of others
Accused partner of being a lousy lover	-
Physical assault scale	**Physical IPV**
Kicked, hit, or punched partner	Kick you, drag you, or beat you up
Beat up partner	
Slapped partner	Slap you
Hit partner with something	Punch you with fist or hit with something that could hurt you.
Choked partner	Try to choke you or burn you on purpose
Burned or scalded partner on purpose	
Slammed partner against wall	-
Grabbed partner	-
Pushed or shoved partner	Push you, shake you or throw something at you
Threw something at partner that could hurt	

Used knife or gun on partner	Threaten or attack you with a knife, gun, or any other weapon
Twisted partner's arm or hair	Twist your arm or pull your hair
Sexual coercion scale	
Used force to make partner have sex	Physically force you to have sexual intercourse with him/her even when you did not want to.
Used threats to make partner have anal sex	Force you with threats or in any other way to perform sexual acts you did not want to
Used threats to make partner have sex	
Used force to make partner have anal sex	Physically force you to perform any other sexual acts you did not want to
Insisted on anal sex (no force)	-
Insisted on sex (no force)	-
Insisted on sex without a condom (no force)	-
Injury Scale measures partner-inflicted physical injury	**Injuries due to IPV**
The Injury scale measures partner-inflicted physical injury (e.g., partner was cut or bleeding; partner went to doctor for injury) separately from physical assault scale.	Injury indicators were not used to establish occurrence of physical and/or sexual IPV but to measure consequences of IPV, including cuts, bruises, aches, eye injuries, sprains, dislocations, burns, deep wounds, broken bones, broken teeth, or other serious injuries.

Source: (KNBS et al., 2015a, Straus et al., 1996)

Appendix 3. Map of Korogocho



Note. Google Maps, Screenshot, 18/02/2020.

Appendix 4. Profiles of villages in Korogocho – rapid mapping

Village	Ethnic composition	Health care providers	Institutions	Infrastructure	Economic, social activities
Gitathuru	Mixed	3 health facilities for lung health (n=2) and HIV (n=1); chemist; functioning CHU	Churches; mosque; community schools	Surrounded by tarmac road, footpaths within the village; poor housing	Small businesses along main road; chang'aa dens; bhang sellers
Grogon A	Predominantly Kikuyu (some Kamba, Luo, Luhya, Somali)	Functioning CHU		Short tarmac road, mainly footpaths; poor housing	Little economic activity
Grogon B	Predominantly Kikuyu (some Kamba, Luo, Luhya)	Functioning CHU	Police station; Centre for children with disability	Short tarmac road, mainly footpaths; poor housing	Youth group (gardening); little economic activity
Highridge	Predominantly Somali	1 maternal healthcare facility; chemist; functioning CHU	Churches; mosque	Numerous tarmac roads; more durable housing	Crime low
Kisumu Ndogo	Predominantly Luo	Chemist; functioning CHU	Youth groups; churches; community school	Tarmac road; bar	Chang'aa dens; bhang sellers
Korogocho A	Predominantly Kikuyu (few Luo, Luhya)	Chemist; functioning CHU	Schools; churches; children's home	Several tarmac roads; CBO-run community garden; public toilet	Small businesses, trade Chang'aa dens
Korogocho B	Predominantly Kikuyu, Luhya (few Luo, Kamba)	Public health facility; chemist; functioning CHU	Chief's camp; NGOs (incl. LVCT Health); community radio; churches	Korogocho stadium; several tarmac roads	Chang'aa dens
Ngomongo	Predominantly Luo	Chemist; functioning CHU	St John Catholic church, other churches, mosque Social Justice Centre	Several tarmac roads; more durable housing (more durable)	High social control; 2008 post-election violence
Nyayo	Mixed	Functioning CHU	Nursery school	Smallest village; Nyayo market	Trade, market; bhang sellers

Note. LVCT Health staff, Slum Dwellers International Kenya, Senior Chief, and Community Health Assistants, and SASA! volunteers were consulted for rapid mapping of Korogocho in 2020. CHU = Community health unit (level 1 of the health system).

Appendix 5. Topic guides for first contact with community co-researcher candidates

Objectives	Topic guide
• Introductions	• Everyone introduces her/himself
• To introduce the study	• Together with people who live and work in Gitathuru we want to explore ways of strengthening community capacity to address the intersection of intimate partner violence and HIV. • Violence between intimate partners and HIV are related health problems. Interventions focus often on one at a time. • The Kenya Ministry of Health promotes the integration of HIV and gender-based violence programmes and services. DREAMS and SASA! are examples for integration, but do not reach everyone in the community and may not address all drivers. Other examples of good practice are needed. In workshops and focus groups we want to learn what is already being done and explore how that can be strengthened. • We call the study Korogocho ALIV[H]E. • Korogocho ALIV[H]E is a PhD research project and is part of a wider study, called ARISE.
• To answer all questions	• Do you have any questions?
• To inform about role of local partners (co-researchers)	• We would like you to take part in this study as a local partner. • As a local partner you will be part of the research team that carries out this study. • The research team will involve residents and community health providers and activists of Korogocho as well as academic researchers from Kenya and Germany. • The research team will work together over a period of about 12 months. • The research team will meet regularly for half day workshops, e.g. once every week in the beginning. • The research team will collect and analyse data, make and implement plans. • The research team meetings will take place in the community hall within the chief's camp.
• To inform about eligibility of someone to be a local partner	• To participate, you must be at least 18 years old and live or work in Gitathuru. • Do you plan to move away? You cannot participate if you plan to move away from Korogocho in the next 12 months. • How long have you lived in Gitathuru?
• To answer all questions	• Do you have any questions?
• To explain voluntary participation	• Your participation in this study is voluntary, you can choose to take part in the study or not.

	• Also, if you do choose to participate, you are free to answer certain questions or not answer them. • You are also free to withdraw from the discussion or study at any time. • You will not be penalised in any way for not participating or withdrawing.
• To answer all questions	• Do you have any questions?
• To explain risks and benefits • To talk about confidentiality and limited control over confidentiality	Benefits: • We cannot promise that the study will help you. • We hope that you will gain knowledge, learn new skills and strengthen your (work) relationships with other people in Gitathuru. • We also hope that your participation will help improve community-based services to prevent intimate partner violence and HIV in Gitathuru and Korogocho. Risks: • The study is done in the community and may draw attention. If you participate you may be asked questions by other people in the community. • There is a risk that you may share some personal or confidential information by chance. • For the safety of everyone, confidentiality is important. We will emphasise the importance of confidentiality in the meetings. However, we have limited control over confidentiality. There is a risk that other members of the group share information about you. • How do you usually protect your identity and yourself? Do you have any concerns? • This study is about intimate partner violence and HIV. There is a risk that we might ask questions that might make you feel uncomfortable. There is a risk that discussing issues of violence might be stressful or touching. However, we do not wish for these to happen. You can always choose not to answer questions, and not to take part in discussions and activities. • We will also offer support through the counsellor of LVCT Health if needed
• To inform about reimbursement	• We will reimburse you for your time and effort of participating in the research team with a stipend of KSh2,000/US$18 per month. • We won't compensate you for your time when attending research team meetings, but you will be reimbursed towards your transport and refreshments cost at the rate of KSh500/US$4.50.
• To answer all questions	• Do you have any questions?
• To get feedback on the study and involvement	• What do you think about this study? • What do you think about your participation?

• To discuss concerns about the study and own involvement	• Do you have any concerns about your participation?
• To invite to first research team meeting	• Would you like to be a local partner in the study? • We will call you and let you know when the first meeting will be.
• Conclusion	• We thank the person for his/her time and interest in the study.

Appendix 6. Participant information sheet and consent form (example)

Addressing intimate partner violence & HIV: Local Partner Consent Form (English)

Project title: Strengthening community health systems to address intimate partner violence and HIV intersection in Korogocho, Nairobi, Kenya.

Researcher	Role	Institution	Contact
Beate Ringwald	Principal Investigator	Liverpool School of Tropical Medicine	Tel: (020) 2646692 / 2633212

This Informed Consent Form has two parts:

- **Part 1: Information Sheet (to share information about the study with you)**
- **Part 2: Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form (ICF)

Part 1: Information Sheet

Introduction

Good morning/afternoon. My name is …….
I work for LVCT, a Kenyan organization that provides HIV testing and counselling as well as seeks to find solutions to key health-related concerns affecting communities.

I would like to invite you to take part as a local partner in our study on addressing intimate partner violence and HIV. Before you decide, I would like you to understand why this study is being done and what it would involve for you. I will go through the information sheet with you and answer any questions you have. This should take about 10 minutes. Ask me if something is not clear.

Purpose of the study

Liverpool School of Tropical Medicine (LSTM) and LVCT Health are currently conducting this study which aims to learn about intimate partner violence and HIV prevention services in Korogocho and to help improve the linkages between these interventions. This study will be done in partnership with women and men in Korogocho.

Background

Intimate partner violence and HIV were found to be related in different ways. For example, people who experience violence by an intimate partner are also at greater risk of acquiring HIV; people living with HIV experience intimate partner violence, for example when they tell their partner about their HIV status; some people find it difficult to regularly take HIV treatment when they live with a partner who uses violence against them.

Why is this study important?

Because intimate partner violence and HIV are related, it makes sense to coordinate prevention and services for the two health problems. Together with people in Korogocho, this study wants to explore how intimate partner violence and HIV intersect, and how to strengthen linkages of community-based services that seek to prevent intimate partner violence and HIV.

About 180 people will be asked to participate in the study. Your views, opinions and experiences as well as those of others are important to find out how to improve linkages of community-based programmes for preventing intimate partner violence and HIV in the future.

Who can participate?
You must be 18 years old and live or work in Korogocho. You cannot participate if you plan to move away from Korogocho in the next 12 months. We regret that our team is not equipped to include people with learning difficulties.

Do I have to take part?
Your participation in this study is voluntary. You do not have to participate.

If you choose to participate, you will be asked to sign two copies of this consent form and hand a copy back to us. Please be assured that this form will not be linked to your answers.

If you choose to participate, but prefer not to answer certain questions, take part in certain discussions or activities, you are free to do so. You are free to withdraw at any time, without giving a reason.

If you do not want to participate or withdraw from the study, you will not be penalised, and it will not affect or influence the quality of care you will receive from LVCT Health.

What is involved in this study?
The main goal of this study is to prevent IPV and HIV through strengthening community health systems' capacities to address IPV and HIV intersections in Korogocho, Nairobi, Kenya.

The research objectives are:

1. To map institutions that offer community or facility-based IPV and HIV services in Korogocho.
2. To describe IPV and HIV intersection and linkages in Korogocho.
3. To identify strategies and plan community-based intervention for strengthening HIV and IPV linkages in Korogocho.
4. To implement and monitor community-based intervention for strengthening HIV and IPV linkages in Korogocho.

What will happen to me if I take part?
You are asked to take part in this study as a local partner. You will be part of the research team that carries out this study.

The research team will involve residents and community health providers and activists of Korogocho as well as academic researchers from Kenya and Germany. The research team will work together over a period of about 12 months. The research team will meet regularly, e.g. once every two weeks, for half day workshops. The research team meetings will take place in a safe space within the chief's camp.

The main questions that we would like to discuss with you and others are:
1) Who are the most vulnerable to IPV and HIV in the community?
2) What are the underlying causes of IPV and HIV in the communities?
3) What is already being done to prevent IPV and HIV?
4) Where is our current focus in addressing IPV and HIV intersection in the community?
5) How can community-based interventions that address the IPV and HIV intersection be strengthened?

Being a local partner in the research team means that together with other local partners and academic researchers you will be involved in the following tasks:

- Attending research team meetings
- Taking part in discussions and group work during meetings

- Interviewing other people in the community
- Analysing information collected through interviews and discussions
- Discussing and giving meaning to the findings
- Planning a community health activity related to intimate partner violence and HIV prevention
- Implementing the activity
- Presenting results of this study in the community and elsewhere
- ……
- ……

(*Strikethrough all tasks that the local partners did not want to take on when discussing their roles as local partner during the research team formation)*

Since the discussions at the meetings are very important to us, apart from taking notes we would like to audio record them. This will help us in ensuring we get everything that is being said. There are no wrong or right answers; we just want your opinion.

In addition, we would also like to take photographs to document meetings, activities and the results of discussions and group work.

If you choose to take part, we will ask you to also sign separate consent forms for authorizing audio recording and photographing.

If changes are made to the study or new information becomes available, you will be informed

How long will the project last?
This study takes place over 12 months.

What are the risks?
The study is done in the community and may draw attention. If you participate you may be asked questions by other people in the community. You may also face a risk of other members of the group sharing information about you to others even though we will request them to maintain confidentiality.

This study is about intimate partner violence and HIV. There is a risk that you may share some personal or confidential information by chance. There is a risk that we might ask questions that might make you feel uncomfortable. There is a risk that discussing issues of violence might be stressful or touching. However, we do not wish for these to happen. You can always choose not to answer questions, and not to take part in discussions and activities. Should you face any discomfort as a result of the questions asked during this study, you may excuse yourself and will be referred to a counsellor you can talk to.

By taking part in this study, you will discuss with other people problems around intimate partner violence and HIV in Korogocho. There is a risk that this might be frustrating or stressful, especially when issues cannot be fixed quickly. Should you face any discomfort or stress as a result of the study, we will refer you to a counsellor you can talk to.

What are the benefits?
We cannot promise that the study will help you. We hope that you will gain knowledge, learn new skills and strengthen your (work) relationships with other people in Korogocho. Your participation will help improve community-based services to prevent intimate partner violence and HIV.

COVID-19 prevention
You will be provided with a face mask and information on the use of face masks. We will provide hand washing facility at group activities, like research team workshops and focus groups. We will ensure

that the seating arrangement during group activities follows physical distancing recommendations of 1.5m between participants. We will observe that everyone wears a face mask during research activities.

Will my taking part in this study be kept confidential?
All the information about you will be handled in confidence, stored securely in cabinets and on password protected computers.

Only researchers from LSTM and LVCT will view your responses from the recordings and notes of research team meetings.

Your name or other identifying information will not appear anywhere on the discussion record.

Data Protection Notice
LSTM is the Sponsor for this study based in Kenya. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. LSTM and LVCT will keep identifiable information about you until December 2020.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information at https://www.lstmed.ac.uk/privacy-statement.

LSTM Data Protection Officer can be contacted if you have any concerns about the collection or storage of your personal data: dataprotection@lstmed.ac.uk

If you have any complaints about the handling of your personal data, you can contact the UK Information Commissioners Office: https://ico.org.uk/make-a-complaint/

If you do not have internet access, please ask your doctor or research study liaison to assist you in making a complaint.

What will happen with the results?
We plan to hold a meeting with residents of Korogocho to present the results of the study, and to share findings within and outside the country through reports, articles in academic journals and presentations at conferences.

Can I refuse to participate or withdraw from the study?
Your participation in this study is voluntary. You do not have to participate. If you do choose to participate, but prefer not to answer certain questions, you are free to do so. You are also free to withdraw from the discussion or study at any time. You will not be penalised in any way for withdrawing.

What will happen if I don't want to carry on with the study?
If you withdraw from the study, we will delete your personal data, but we will keep anonymised data. If you withdraw from the study, information collected may still be used.

Conduct of the Study
The Sponsor is ultimately responsible for the safe conduct of the study and the well-being of participants. Any unforeseen circumstances will be reported to the Sponsor and dealt with appropriately.

Sponsorship and Funding
This research has been reviewed and been approved by LSTM Research Ethics Committee and Amref Health Africa Ethics & Scientific Review Committee. This study is carried out under the Doctoral Training Partnership in Global Health (Medical Research Council, United Kingdom) and funded by LSTM and the National Institute for Health Research, United Kingdom.

Compensation
We will reimburse you for your time and effort of participating in the research team at a rate of Kenya Shillings 2,000 per month. We won't compensate you for your time when attending research team meetings, but you will be reimbursed towards your transport and refreshments cost at the rate of Kenya Shillings 500.

Who can I contact?
If you have any questions, you can ask anyone from our team now or later.

If you have questions during the course of the study, you may contact:

Beate Ringwald
Principal Investigator
PhD candidate, LSTM
Tel: (020) 2646692 / 2633212

Robinson Karuga
Research Manager
LVCT Health
Tel: (020) 2646692 / 2633212

Dr Rachel Tolhurst
Academic Supervisor
Reader, LSTM
Email:
Rachel.Tolhurst@lstmed.ac.uk

In case of any safeguarding concern, you can also contact:

Linet Okoth,
Safeguarding Lead
Senior Technical Advisor, LVCT Health
Tel: (020) 2646692 / 2633212

If you have questions about your rights as a research participant, you may contact:

The Research Officer
Amref Health Africa in Kenya
Wilson Airport, Lang'ata Road, P.O Box 30125-00100, Nairobi.
Office Tel: +254 20 6994000, Mobile No: 0795746777, Fax: +254 20 606340

Do you have any questions at this time?

Addressing intimate partner violence & HIV: Local Partner Audio Recording Consent Form (English)

Project title: Strengthening community health systems to address intimate partner violence and HIV intersection in Korogocho, Nairobi, Kenya.

Researcher	Role	Institution	Contact
Beate Ringwald	Principal Investigator	Liverpool School of Tropical Medicine	Tel: (020) 2646692 / 2633212

This Informed Consent Form has two parts:

- **Part 1: Information Sheet (to share information about the study with you)**
- **Part 2: Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form (ICF)

Part 1: Information Sheet

You have already given consent to take part as a local partner in the study on addressing intimate partner violence and HIV conducted by the Liverpool School of Tropical Medicine and LVCT Health Kenya in Korogocho.

As part of the consent process, I would like to ask your permission to audio record meetings and discussions.

Why audio recording?
Since the discussions at the meetings are very important to us, apart from taking notes we would like to audio record them. This will help us in ensuring we get everything that is being said. There are no wrong or right answers; we just want your opinion.

Do I have to agree?
You may refuse to authorize audio recording of meetings and discussions.

If you choose to consent, you will be asked to sign two copies of this consent form and hand a copy back to us. Please be assured that this form will not be linked to your answers.

Will audio records be kept confidential?
All the information about you will be handled in confidence, stored securely in cabinets and on password protected computers. Audio records will be transcribed and translated into English.

Only researchers from LSTM and LVCT will view your responses from the recordings and notes of research team meetings. We will assign you a number instead of using your name. Your name or other identifying information will not appear anywhere on the discussion record.

We will delete audio files at the end of the study. We will store the anonymized transcripts and translations.

We will not share information about you to anyone outside of the research team.

Part 2: Certificate of Consent

My signature confirms that I have been told about audio recording of discussion. I have had the opportunity to ask questions. I understand that I can choose not to be audio recorded and can request the audio recording to be stopped at any time.

I will receive a signed copy of this consent form.

Print Name of Participant (forename & surname)	
Signature of Participant	
Date (DD/MM/YYYY)	

For participants who are illiterate, blind or partially sighted.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has authorized audio recording freely.

The participant will receive a signed copy of this consent form.

Print Name of Participant (forename & surname)	
Thumb/Foot print of Participant	
Signature of Witness[2]	
Date (DD/MM/YYYY)	

Statement by the researcher/person taking consent

I confirm that the participant was given an opportunity to ask questions about audio recording, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent (forename & surname)	
Signature of Researcher/person taking the consent	
Date (DD/MM/YYYY)	

[2] A literate witness must sign and should be selected by the participant and MUST have no connection to the research team.

Addressing intimate partner violence & HIV: Local Partner Photographing Consent Form (English)

Project title: Strengthening community health systems to address intimate partner violence and HIV intersection in Korogocho, Nairobi, Kenya.

Researcher	Role	Institution	Contact
Beate Ringwald	Principal Investigator	Liverpool School of Tropical Medicine	Tel: (020) 2646692 / 2633212

This Informed Consent Form has two parts:

- **Part 1: Information Sheet (to share information about the study with you)**
- **Part 2: Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form (ICF)

Part 1: Information Sheet

You have already given consent to take part as a local partner in the study on addressing intimate partner violence and HIV conducted by the Liverpool School of Tropical Medicine and LVCT Health Kenya in Korogocho.

As part of the consent process, I would like to ask your permission for us to take photographs of meetings, activities and results.

Why taking photographs?
Since the research process and results are very important to us, apart from taking notes we would like to take photographs to document meetings, activities and the results of discussions and group work.

Do I have to agree to being photographed?
You may refuse to be photographed during the study:

- Photographs of you being taken for purpose of documenting meetings, discussions and group activities.
- Photographs of you and work that you produced (alone or with others) being taken for purpose of documenting groupwork results.

You may refuse that photographs showing you being published or presented during or after the study:

- Photographs that show you be shown in presentations in relation to this and related studies.
- Photographs that show you be published online in relation to this and related studies.
- Photographs that show you be published in reports, thesis and academic papers in relation to this and related studies.

If you choose to consent, you will be asked to sign two copies of this consent form and hand a copy back to us. Please be assured that this form will not be linked to your answers.

How will photographs be stored?
Photographs will be stored on password-protected computers. Your name and other data will not be kept with the photo.

Part 2: Certificate of Consent

My signature confirms that I have been told about taking and using photographs. I have had the opportunity to ask questions. I understand that I can choose not to be photographed and photographs that show me not to be published at any time.

I will receive a signed copy of this consent form.

Print Name of Participant (forename & surname)	
Signature of Participant	
Date (DD/MM/YYYY)	

For participants who are illiterate, blind or partially sighted.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has authorized being photographed and publishing photographs that show him/her freely.

The participant will receive a signed copy of this consent form.

Print Name of Participant (forename & surname)	
Thumb/Foot print of Participant	
Signature of Witness[3]	
Date (DD/MM/YYYY)	

Statement by the researcher/person taking consent

I confirm that the participant was given an opportunity to ask questions about photographs, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent (forename & surname)	
Signature of Researcher/person taking the consent	
Date (DD/MM/YYYY)	

[3] A literate witness must sign and should be selected by the participant and MUST have no connection to the research team.

Appendix 7. Focus group discussions: Topic guide and exercises (English)

Arrival & Registration

Good morning. We are happy to see you this morning.

We want everyone to be safe and healthy, especially at times of Korona virus. We have some basic information for you about Korona virus and how to prevent infection ***Action: Give COVID factsheet***.

We provide you with a facemask and ask you to wear it while you are here. ***Action: Give facemask.***

Because fever is a common symptom for Korona virus, we would also like to take your temperature. May I take your temperature? ***Action: Take temperature; continue if below 37.5C.***

Thank you.

We will pay transport refund of Ksh 500 through M-Pesa. M-Pesa will be paid through the back and you will get it next week. For registration and transport refund, may I request you to kindly sign the attendance form and the M-Pesa form. ***Action: Give a pen and the lists.***

Do you need any assistance?

Thank you. You may take a seat. We will start soon.

WELCOME & OPENING PRAYER (10 MIN)

We want to thank all of you for taking the time to participate in this focus group discussion.

The purpose of this discussion is to learn about vulnerability to intimate partner violence and HIV among people in Gitathuru.

We would like to start with a word of prayer. May I ask someone to volunteer. **Action: Wait for someone to volunteer.** *(After the prayer)* Thank you …… (name of participant) for the prayer.

INFORMED CONSENT (40 MIN)

Before we start with the discussion, we would like to tell you about the study and the focus group discussion. Then you can decide whether to participate or not. ***Action: Read the consent form to participants.***

Do you have any questions? ***Action: Answer questions.***

If you wish to participate, kindly sign the 3 consent forms. ***Action: Sign consent forms.***

INTRODUCTIONS (10 MIN)

We will spend this morning together. It would be good to get to know each other. I would like to ask you to introduce yourself. Tell us your name. ***Action: Look out for a volunteer to start with introductions.*** I now hand over to …….. (*name facilitator for next session*).

GROUND RULES (10 MIN)

The study is done by a group of researchers and a group of community members, called the Korogocho ALIV[H]E Local Community Partners. We have been working together since August to prepare the study.

We set rules for our group. We want to use these rules for our focus group this morning too.

Action: Read out the rules from the poster.

- Begin and end with prayer
- Keep time
- Phone silent
- Reduce movements during meeting
- Every answer is correct
- Respect each other's opinion
- Active participation
- Listen to each other
- We are equal and diverse
- We are representatives of the community
- Confidentiality
- Everyone needs to be safe
- Overcome stigma and marginalisation

Do you have any question? ***Action: Answer questions.***

Do you agree with these rules? ***Action: Wait for feedback.***

Thank you.

ENERGISER (5 MIN)

We have talked a lot. Let us get energised for the discussion. May I ask someone to do an energizer. ***Action: Wait for a participant to volunteer. (If nobody is willing to volunteer do "Writing Korogocho" energizer.)***

(After the energiser) Thank you for the wonderful energizer.

I now handover to Vero to tell us what we mean by intimate partner violence.

WORKING DEFINITION OF IPV (5 MIN)

As a group, we discussed how we understand intimate partner violence in Gitathuru.

When we talk today about intimate partner violence, we mean this:

Action: Read aloud the definition of IPV *(don't read the explanations in brackets)*:

Intimate Partner Violence is any behaviour that causes emotional, physical, sexual, economic or other harm to those in the relationship.

Do you have questions? ***Action: Answer all questions.***

SPECTRUM LINE (10 MIN)

Instructions

We have prepared several exercises to help us discuss vulnerability to intimate partner violence and HIV.

We want to start by asking you three questions (Action: point to the three charts). Instead of answering them verbally, we want you to put a sticker for your answer. (Action: show some stickers).

Question 1 *(Action: point to the chart with Question 1)*: How much control do people who…… *(name social group that is present)* have over their own health & well-being?

Your answer can be "full control", or "no control", or somewhere in between. **Action: Demonstrate on the chart.**

Question 2 *(Action: point to the chart with Question 2)*: What do people in our community think about intimate partner violence?

Your answer can be "It is normal part of life", or "It is not acceptable at all", or somewhere in between.

Question 3 *(Action: point to the chart with Question 3)*: What do people in our community think about HIV?

Your answer can be "HIV can be prevented," or "HIV cannot be prevented," or somewhere in between.

Do you have any question? **Action: Answer all questions.**

Please get 3 stickers from …… (name person who gives out stickers) and put one sticker on each of the charts. You can put at the extremes (either side) or somewhere in between along the line.

Action: Give out stickers. Assist participants who need help.

Discussion

Kindly come back again. ***(Action: Bring all charts to the main presentation wall)***

Thank you for your responses. I see… ***(Action: describe what you see.)***

SPIDER DIAGRAM (50 MIN)

Instruction

People's health and well-being, including intimate partner violence and HIV, are embedded in power relations within the community.

We want you to discuss factors that make you, as a group, vulnerable to intimate partner violence and HIV. We would like to work in two groups, (in groups with men and women:) one male group and one female group; and document your results in a spider diagram.

At the centre of the flipchart draw a circle that represents you as a group of people; that is the body of the spider.

Add legs of the spider. Each leg represents factors, which influence the risk to intimate partner violence and HIV. This can be groups of people or an institution that exercise power in your lives. This can also be other factors like access to services, or norms and policies.

You can ask yourselves:

- Who exercises power over you?
- How is your access health information and services? Who controls access to health information and services? How is the quality?
- How is your access to other opportunities like education, work, participation? Who controls access?
- How do norms and beliefs, laws and policies affect you? Who are the gatekeepers?

Do you have any questions about the exercise? ***Action: Answer all questions.***

Action: Give each group a flipchart and markers and the guiding questions. Help each group get organised at a table.

Action: During the exercise, go to groups, check progress and provide support if needed.

Presentation & Discussion

Action: Ask groups to finish their group work and come together again with their flipchart.

Kindly present your results to the group. Who would like to start?

Action: Help group to stick their flipchart on the wall.

(After the presentation) Thank you for your presentation. Does the other group have any questions?

Let's hear from the other group.

(After the second presentation) Thank you for your presentation. Does the other group have any questions?

(After questions,) Thank you for your presentations.

What do you observe? What is similar? What is different?

Action: Use probing questions to explore sections (1-4) that were not mentioned.

IMPACT OF COVID-19 (30 MIN)

Thank you for your contributions and the discussion. We have seen a variety of factors and power relations that affect intimate partner violence and HIV risk.

Over the last months, Korona virus has influenced our lives and community. How has Korona virus affected vulnerability to HIV and intimate partner violence?

After the first people tested positive for Korona in March, schools and churches were closed, and a curfew from 7pm to 5am were put in place. In April, movement in and out of Nairobi was restricted. In June, the curfew was adjusted, 9pm to 4am. In July the Nairobi lockdown was lifted and churched opened. In September, curfew was relaxed further, 11pm to 4am. In October, schools opened for candidates. In November, curfew was changed again, 10pm to 4am.

How did the pandemic and the control measures influence people's risk to intimate partner violence and/or HIV?

Can you name events or changes that influenced vulnerability?

Action co-facilitator: Document responses on a flipchart. A note taker records on a flipchart the issues that participants mention. Indicate relationships between issues with lines.

Action - facilitator: Probing.

MINDFULNESS EXERCISE

Thank you very much for the discussion and your contributions.

We know that the topic is difficult, and our reflections have been intense.

Before we have tea and then go home, we would like to do a breathing exercise with you to send you off with good energy and feelings.

You can close your eyes if you wish or have them open.

Sit comfortably. Take a deep breath in, hold for a second and breathe out. Breathe in (pause) and out.

Now, get your right hand and spread the fingers. Hold the thumb of that hand with the fingers of the other hand. Keep breathing in and out. As you breathe out, let go of all anxiety.

(After about 30 seconds) Let go of your thumb and hold the pointer finger. Keep breathing in and out. As you breathe out, let go of all fear.

(After about 30 seconds) Let go of your pointer finger and hold the middle finger. Keep breathing in and out. As you breathe out, let go of all anger.

(After about 30 seconds) Let go of your middle finger and hold the ring finger. Keep breathing in and out. As you breathe out, let go of all sadness.

(After about 30 seconds) Let go of your ring finger and hold the pinkie (small finger). Keep breathing in and out. Nurture yourself with positive thoughts:

- I feel powerful and full of energy
- I am a unique individual, with many special talents.
- I am attractive and confident.
- I am worthy of great things in my life.
- I like myself just the way I am.

CLOSING

We have come to the end and would like to thank you very much for the discussion and your contributions.

Do you have any final question or comment?

We will have another focus group at the beginning of next year. Would you like to join the next focus group?

We would like to invite you for some tea before you go home.

May I ask someone to pray to bless our tea and close our meeting.

Action: wait for a volunteer.

Thank you for the prayer. Enjoy your tea and have a good day.

Appendix 8. Focus group discussions: Topic guide and exercises (Swahili)

ARRIVAL & REGISTRATION

Habari za asubuhi. Tunafurahi kukuona asubuhi ya leo.

Tunataka kila mtu awe salama na mwenye afya, haswa wakati wa virusi vya Korona. Tuna habari za msingi kwako kuhusu virusi vya Korona na jinsi ya kuzuia maambukizi Hatua: Peana makaratasi yalio na jumbe kuhusu COVID.

Tutakupa barakoa na tunakuuliza uvae ukiwa hapa. Hatua: Peana Barakoa.

Kwa sababu kuwa na joto ni dalili ya kawaida kwa virusi vya Korona, tungependa pia kupima joto. Je! Ninaweza kupima joto? Hatua: Pima joto; endelea ikiwa iko chini ya 37.5C.

Asante.

Tutarejesha malipo ya usafirishaji wa Ksh 500 kupitia M-Pesa. M-Pesa italipwa kupitia benki na utaipata wiki ijayo. Kwa usajili na urejeshwaji wa usafirishaji, naomba uweke sahihi fomu ya mahudhurio na fomu ya M-Pesa. Hatua: Peana kalamu na fomu.

Je! unahitaji msaada wowote?

Asante. Unaweza kuketi. Tutaanza hivi karibuni.

WELCOME & OPENING PRAYER (10 MIN)

Tungependa kuwashukuru nyote kwa kuchukua muda kushiriki katika majadiliano haya ya kikundi.

Madhumuni ya majadiliano haya ni kujifunza juu ya hatari ya dhuluma kati ya wapenzi na Virusi vya ukimwi kati ya watu anaoishi Gitathuru.

Tungependa kuanza na maombi. Naomba mtu ajitolee. Hatua: Subiri mtu ajitolee.

(Baada ya sala) Asante ……(jina la mshiriki) kwa sala.

Sasa namkabidhi Vero kutuelekeza kuhusu mchakato wa idhini.

INFORMED CONSENT (40 MIN)

Kabla ya kuanza majadiliano, tungependa kuwaeleza kuhusu utafiti na majadiliano ya kikundi. Halafu unaweza kuamua ikiwa utashiriki au la.

Hatua: Soma fomu ya idhini kwa washiriki.

Je! mna maswali yoyote? Hatua: Jibu maswali.

(Usisome: Baada ya maswali yote kujibiwa) Ikiwa ungetaka kushiriki, weka sahihi fomu 3 za idhini.

Hatua: Saini fomu za idhini.

INTRODUCTIONS (10 MIN)

Tutakuwa pamoja asubuhi ya leo. Itakuwa nzuri kujuana. Ningependa kuwauliza mjitambulishe. Tuambie jina lako. Hatua: Angalia atakayejitolea kuanza na utangulizi. Sasa nakabidhi ……. (*jina la anayeogoza majadiliano wa kikao kifuatacho*).

GROUND RULES (10 min)

Utafiti huo unafanywa na kikundi cha watafiti na kikundi cha wanajamii, kinachoitwa Korogocho ALIV[H]E Local Community Partners. Tumekuwa tukifanya kazi pamoja tangu Agosti kuandaa mradi.

Tuliweka sheria kwa kikundi chetu. Tungependa kutumia sheria hizi pia kwa kikundi chetu asubuhi ya leo.

Hatua: Soma sheria kutoka kwenye bango.

Anza na umalize na maombi

kuja kwa mkutano kama hujachelewa na pia majadiliano yachukue muda unaostahili.

Simu ziwe kimya (bila sauti)

Punguza harakati za kutoka na kuingia wakati wa mkutano

Kila jibu ni sahihi

Heshimu maoni ya kila mmoja

Shiriki kikamilifu

Sikiliza anayetoa maoni

Sisi ni sawa na tofauti

Sisi tunawakilisha jamii

Usiri

Kila mtu anahitaji kuwa salama

Shinda unyanyapaa na kutengwa

Je! mna swali lolote? Hatua: Jibu maswali.

Je! mnakubaliana na sheria hizi? Hatua: Subiri maoni.

Asante.

Sasa nakabidhi …….. (*jina la anaogoza majadiliano kwa kikao kifuatacho*)

ENERGIZER (5 min)

Tumezungumza mengi. Wacha tufanye kitu tupate nguvu kwa majadiliano. Naomba nimuulize mtu atuongoze kufanya kitu ambacho kitatupa nguvu. Hatua: Subiri mshiriki ajitolee. *(Ikiwa hakuna mtu aliye tayari kujitolea fanya kitia nguvu cha "Kuandika Korogocho".)*

(Baada ya kitia nguvu) Asante kwa kitia nguvu kizuri.

Sasa namkabidhi Vero kutuambia tunachomaanisha na dhuluma dhidi ya wapenzi.

WORKING DEFINITION OF IPV (5 min)

Kama kikundi, tulijadili jinsi tunavyoelewa dhuluma kati ya wapenzi huko Gitathuru.

Tunapozungumza leo juu ya dhuluma kati ya wapenzi, tunamaanisha hivi:

Hatua: Soma kwa sauti ufafanuzi wa IPV *(usisome maelezo katika mabano):*

Dhuluma kati ya wapenzi ni tabia yoyote inayosababisha madhara ya mhemko, fizikia, ngono, uchumi au madhara mengine kwa wale walio kwenye uhusiano. Katika kijiji cha Gitathuru, Korogocho, uhusiano wa karibu wa wanawake unaweza kuhusisha mume, mpango (mpenzi wa ngono wa ziada), sponyo (mwanamume ambaye ni mkubwa kiumri na anamsaidia mwanamke kifedha na wanabadilishana kingono), rafiki, jirani, mwenye nyumba, mwajiri, meneja kwenye kampuni, mwenye duka, anayeuza nyama, mtu wa nduthi (anaye endesha pikipiki), japolo (mganga wa kienyeji / kitamaduni), bounza (mlinzi wa baa, vilabu), na afisa wa polisi; na uhusiano wa karibu wa wanaume unaweza kuhusishwa mke, suria na mpango *(mwenza wa ngono wa kike)*, rafiki, jirani, mama mwenye nyumba, na Mama Pima (*mwanamke anayetengeneza pombe*).

Una maswali? Hatua: Jibu maswali yote.

Sasa nakabidhi…… .. (jina la anayeogoza kikao kifuatacho) kutupitisha kwenye zoezi la kwanza.

SPECTRUM LINE (10 min)

Maagizo

Tumeandaa mazoezi kadhaa kutusaidia kujadili mazingira hatari ya dhuluma kati ya wapenzi na Virusi Vya Ukimwi.

Tunataka kuanza kwa kukuuliza maswali matatu (Hatua: onyesha chati tatu). Badala ya kujibu kwa maogezi, tunataka uweke stika kwa jibu lako. (Kitendo: onyesha stika kadhaa).

Swali la 1 (Hatua: onyesha chati kilicho na Swali 1): Je! Watu ambao …… *(taja kikundi cha kijamii kilichopo)* wana mamlaka juu ya afya na ustawi wao?

Jibu lako linaweza kuwa "udhibiti kamili", au "hakuna udhibiti", au hapo katikati. Hatua: Onyesha kwenye chati.

Swali la 2 (Hatua: onyesha chati chenye Swali la 2): Je! Watu katika jamii yetu wanafikiria nini kuhusu dhuluma kati ya wapenzi?

Jibu lako linaweza kuwa "Ni sehemu ya kawaida ya maisha", au "Haikubaliki hata kidogo", au hapo katikati.

Swali la 3 *(Hatua: onyesha chati chenye Swali la 3):* Je! Watu katika jamii yetu wanafikiria nini kuhusu Virusi Vya Ukimwi?

Jibu lako linaweza kuwa "Virusi Vya Ukimwi vinaweza kuzuiwa," au "Virusi Vya Ukimwi haviwezi kuzuiwa," au hapo katikati.

Je! mna swali lolote? Hatua: Jibu maswali yote.

Tafadhali pata stika 3 kutoka …… (taja mtu anayepeana stika) na uweke stika moja kwenye kila chati. Unaweza kuweka uko kando (upande wowote) au mahali pengine katikati.

Hatua: Peana stikas. Saidia washiriki ambao wanahitaji msaada.

Majadiliano

Tafadhali rudi tena. (Hatua: Leta chati zote kwenye ukuta mkuu wa uwasilishaji)

Asante kwa majibu yako. Ninaona… (Hatua: eleza kile unachokiona. Unaweza kutumia hali zinazowezekana hapo chini. Ongea kwa kifupi.)

Majibu yanayowezekana kwa hali tofauti:

Mfano "udhibiti mdogo na wa wastani + kuhalalisha IPV na Virusi Vya Ukimwi": Tunaona ukosefu wa udhibiti wa afya yako wakati IPV na Virusi Vya Ukimwi ni kawaida kwa sehemu ya maisha. Katika zoezi letu linalofuata, tunataka kuona jinsi haya yanahusiana na ni nani aliye na nguvu juu ya na kudhibiti afya na ustawi.

Mfano: "udhibiti wa wastani na udhibiti kamili na kuhalalisha IPV na Virusi Vya Ukimwi": Tunaona kwamba kuna makubaliano kwamba watu wanadhibiti afya zao. Walakini, IPV na Virusi Vya Ukimwi ni kawaida na kuonekana kama sehemu ya kawaida ya maisha. Katika zoezi letu linalofuata, tunataka kuelewa uhusiano wa nguvu unaoruhusu kudhibiti afya wakati hatari ya IPV na Virusi Vya Ukimwi vinaonekana kuendelea.

Mfano: "Udhibiti mdogo hadi wastani + kutohalalisha IPV na Virusi Vya UKimwi ": Tunaona ukosefu wa udhibiti juu ya afya yako mwenyewe. Wakati huo huo kuna ufahamu kwamba IPV na Virusi Vya Ukimwi vinaweza kuzuilika na shida za kiafya katika jamii hazikubaliki. Katika zoezi letu linalofuata, tunataka kuona ni nani anaye na nguvu na kudhibiti afya na ustawi katika hali ambayo watu wanajua hatari ambazo IPV na Virusi Vya Ukimwi huleta.

Mfano "udhibiti wa wastani na kamili + kutohalalisha IPV na Virusi Vya Ukimwi ": Tunaona kwamba kuna makubaliano kwamba watu wanadhibiti afya zao na wanajua kuwa IPV na Virusi Vya Ukimwi vinaweza kuzuilika na hazikubaliki. Hii inatia moyo. Katika zoezi letu linalofuata, tunataka kuelewa uhusiano wa nguvu ambao huathiri hatari ya IPV na Virusi Vya Ukimwi katika muktadha huu.

SPIDER DIAGRAM (50 min)

Maagizo

Afya na ustawi wa watu, pamoja na dhuluma kati ya wapenzi na Virusi Vya Ukimwi, vimejumuishwa katika uhusiano wa nguvu katika jamii.

Tunataka mjadili sababu zinazowafanya nyinyi, kama kikundi, muwe katika hatari ya dhuluma kati ya wapenzi na Virusi Vya Ukimwi. Tungependa kufanya kazi katika vikundi viwili, (katika vikundi na wanaume na wanawake :) kikundi kimoja cha kiume na kikundi kimoja cha kike; na muandike matokeo yenyu kwenye mchoro wa buibui.

Katikati ya chati chora duara inayowakilisha nyinyi kama kikundi cha watu; huo ni mwili wa buibui.

Ongeza miguu ya buibui. Kila mguu unawakilisha sababu, ambazo huathiri hatari ya dhuluma kati ya wapenzi na Virusi Vya Ukimwi. Hii inaweza kuwa vikundi vya watu au taasisi inayotumia nguvu katika maisha yetu. Hii inaweza kuwa sababu zingine pia kama ufikiaji wa huduma, au kanuni na sera.

Mnaweza jiuliza:

Ni nani wanaotumia nguvu juu yenu?

Je! Habari na huduma zenyu za kiafya zikoje? Ni nani anayedhibiti upatikanaji wa habari na huduma za afya? Je! Ubora ukoje?

Je! Ufikiaji wenyu wa fursa zingine kama elimu, kazi, ushiriki ni vipi? Ni nani anayedhibiti ufikiaji?

Je! Kanuni na imani, sheria na sera zinawaathiri vipi? Ni akina nani wanaofanya uamuzi?

Je! Mna maswali yoyote kuhusu zoezi hilo? Hatua: Jibu maswali yote.

Hatua: Patia kila kikundi chati na kalamu za wino na maswali elekezi. Saidia kila kikundi kujipanga kwenye meza.

Hatua: Wakati wa zoezi, nenda kwenye vikundi, angalia maendeleo na utoe msaada ikiwa inahitajika.

Uwasilishaji na Majadiliano

Hatua: Uliza vikundi wamalize kazi yao ya vikundi na warudi tena pamoja na chati yao kubwa.

Tafadhali wasilisha matokeo yenyu kwa kikundi. Nani angependa kuanza?

Hatua: Saidia kikundi kubandika chati kwenye ukuta.

(Baada ya uwasilishaji) Asante kwa uwasilishaji wako. Je! Kikundi kingine kina maswali yoyote?

Hebu tusikie kutoka kwa hicho kikundi kingine.

(Baada ya uwasilishaji wa pili) Asante kwa uwasilishaji wako. Je! Kikundi kingine kina maswali yoyote?

(Baada ya maswali,) Asante kwa mawasilisho yenyu.

mnaona nini? Je! Ni nini kinachofanana? Ni nini tofauti?

Hatua: Tumia maswali ya uchunguzi kuchunguza sehemu (1-4) ambazo hazikutajwa.

Probing questions (*Note. The probes were not translated as probing was done by the bi-lingual research partner*).

IMPACT OF COVID-19 (30 min)

Asante kwa kuchangia kwenyu na majadiliano. Tumeona sababu anuwai na uhusiano wa nguvu ambao unaathiri dhuluma kati ya wapenzi na hatari ya Virusi Vya Ukimwi.

Katika miezi iliyopita, virusi vya Korona vimeathiri maisha yetu na jamii. Je! Virusi vya Korona vimeathiri vipi kuathiriwa kwa Virusi Vya Ukimwi na dhuluma kati ya wapenzi?

Baada ya watu wa kwanza kupatikana na Korona mnamo Machi, shule na makanisa yalifungwa, na amri ya kutotoka nje kutoka 7:00 hadi 5 asubuhi iliwekwa. Mnamo Aprili, harakati za kuingia na kutoka Nairobi zilizuiliwa. Mnamo Juni, amri ya kutotoka nje ilibadilishwa kutoka saa 9 usiku hadi 4 asubuhi. Mnamo Julai, kizuizi cha Nairobi kiliondolewa na kufunguliwa kwa makanisa. Mnamo Septemba, amri ya kutotoka nje ililegezwa zaidi, saa 11 usiku hadi 4 asubuhi. Mnamo Oktoba, shule zilifunguliwa kwa watahiniwa. Mnamo Novemba, amri ya kutotoka nje ilibadilishwa tena, saa 10 usiku hadi 4 asubuhi.

Je! Janga na hatua za kudhibiti zilishawishi vipi hatari ya watu kwa dhuluma dhidi ya wapenzi na / au Virusi Vya Ukimwi?

Je! Unaweza kutaja matukio au mabadiliko yaliyoathiri mazingira hatari?

Hatua kwa anayesaidia aneyeongoza majadiliano: Andika majibu kwenye chati. Anayeandika hurekodi kwenye chati maswala ambayo washiriki wanataja. Onyesha uhusiano kati ya maswala na mistari.

Hatua – anayeongoza majadiliano: Ana chunguza.

MINDFULNESS EXERCISE

Asante sana kwa majadiliano na kuchangia kwenyu.

Tunajua kuwa mada ni ngumu, na tafakari zetu zimekuwa mingi.

[*Note. The mindfulness exercise was not translated as it was delivered by the bi-lingual research partner who had practiced delivering the exercise in Swahili before.*]

Before we have tea and then go home, we would like to do a breathing exercise with you to send you off with good energy and feelings.

You can close your eyes if you wish or have them open.

Sit comfortably. Take a deep breath in, hold for a second and breathe out. Breathe in (pause) and out.

Now, get your right hand and spread the fingers. Hold the thumb of that hand with the fingers of the other hand. Keep breathing in and out. As you breathe out, let go of all anxiety.

(After about 30 seconds) Let go of your thumb and hold the pointer finger. Keep breathing in and out. As you breathe out, let go of all fear.

(After about 30 seconds) Let go of your pointer finger and hold the middle finger. Keep breathing in and out. As you breathe out, let go of all anger.

(After about 30 seconds) Let go of your middle finger and hold the ring finger. Keep breathing in and out. As you breathe out, let go of all sadness.

(After about 30 seconds) Let go of your ring finger and hold the pinkie (small finger). Keep breathing in and out. Nurture yourself with positive thoughts:

I feel powerful and full of energy

I am a unique individual, with many special talents.

I am attractive and confident.

I am worthy of great things in my life.

I like myself just the way I am.

CLOSING

Tumefikia mwisho na tungependa kuwashukuru sana kwa majadiliano na kuchangia kwenu.

Je! mna swali lolote la mwisho au maoni?

Tutakuwa na kikundi kingine mwaka ujao ukianza. Je! mgependa kujiunga na kikundi kijacho?

Tungependa kuwaalika kwa chai kabla ya kwenda nyumbani.

Naomba nimuombe mtu aombe kubarikisha chai na kufunga mkutano wetu.

Hatua: subiri mtu ajitolea.

Asante kwa maombi. Kunywa chai kwa raha na muwe na siku njema

Appendix 9. Key informant interview: Semi-structured questionnaire

Note. The semi-structured questionnaire shows the main questions (without probes and guiding instructions for interviewers). The questionnaire was not translated because all research partners who conducted interviews with the lead researcher could read and speak English and Swahili. Prior to the key informant interviews, we practised the interviews together to familiarise ourselves with the tool and understand the purpose of each question.

INTRODUCTIONS

Good morning/ afternoon. My name is ……. I work for LVCT, a Kenyan organisation that provides HIV testing and counselling services and does research on key health-related concerns affecting communities.

(*Ask other co-interviewers to introduce themselves.*)

The Liverpool School of Tropical Medicine (LSTM) and LVCT Health are currently conducting a study which aims to learn about intimate partner violence and HIV prevention services in Korogocho and to help improve the linkages between these interventions. This study is done in partnership with women and men in Korogocho.

As …… (*position/ role, e.g. "the Chief"*), we would like to interview you. We would like to talk to you about vulnerability to intimate partner violence and HIV in the community, underlying causes of intimate partner violence and HIV, existing violence and HIV prevention services and programs and their linkages.

The interview will take about 40-60 minutes. Kindly read through the participant information sheet and let us know if we may proceed.

INTRODUCTIONS & BACKGROUND

1) Tell us about yourself. What is your name?

2) Tell us about your work. What is your position?

IPV & HIV

Our study focusses on prevention of intimate partner violence and HIV. The study site is Gitathuru village in Korogocho. While we ask about the situation in Gitathuru, we understand that this is one out of nine villages and your responses may refer to the entire Korogocho.

As a research team, we developed a working definition of intimate partner violence for the study. When we talk about intimate partner violence, we refer to “any behaviour that causes emotional, physical, sexual, economic or other harm to those in the relationship.

3) Please tell us, how common is intimate partner violence in Gitathuru?

4) From your understanding, how prevalent is HIV in Gitathuru?

5) In your view, how are intimate partner violence and HIV related?

VULNERABILITY TO IPV & HIV

6) Who are the most vulnerable to intimate partner violence and HIV in Gitathuru?

ATTITUDES AND VALUES

7) What do people in Gitathuru think about intimate partner violence?

8) What do people in Gitathuru think about HIV?

SOCIAL AND CULTURAL NORMS AND PRACTICES

9) What cultural norms and practices in Gitathuru place women and men at risk for acquiring HIV or experiencing violence?

POLICIES AND LAWS

10) What laws and policies increase or reduce vulnerability to HIV and/or intimate partner violence in Gitathuru?

PREVENTION SERVICES

11) What is currently being done to prevent IPV and HIV in Gitathuru?

12) Who is being reached by IPV and HIV prevention services and information?

13) To what extend do the prevention services meet the different needs of different people in the

QUALITY OF SERVICES

14) In which ways do the intimate partner violence and HIV prevention programmes and services protect or undermine human rights?

15) How do the existing intimate partner violence and HIV prevention programmes and services promote gender equality?

SERVICE PROVIDERS

16) Who provides intimate partner violence & HIV prevention services in Gitathuru?

LINKAGES

17) How are the prevention activities, programmes, services linked or integrated?

18) How do existing programme activities generate knowledge and evidence?

19) How could the existing IPV and HIV prevention programmes and services be improved?

CLOSING

We have come to the end of the interview. We **thank you** very much for your time.

Appendix 10: Code book

Code book outlining categories, codes and sub-codes:

- Text highlighted blue = amendments after review with co-researchers (version 06/03/2021)
- Text highlighted green = additional codes for analysis of KII data (version 17/09/2021)

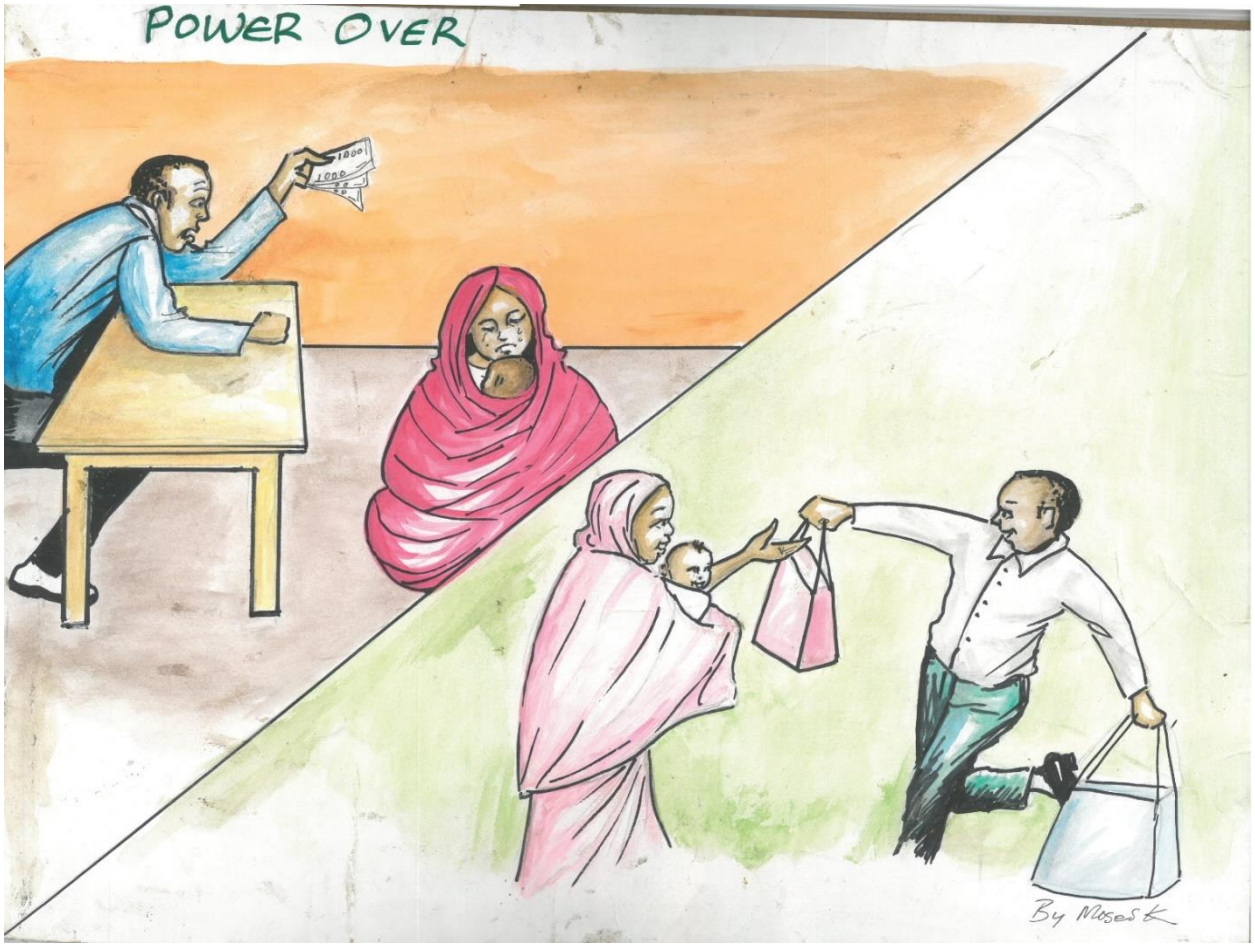
Categories, Codes & Sub-codes
1. Data collection process
1.1 Mobilisation
1.2 Setting
1.3 Participation of individuals
1.3.1 Consent
1.3.2 Participation
1.3.3 Observations
1.3.4 Self-introduction [added for KII data]
1.4 Group dynamics
1.4.1 Ground rules
1.4.2 Participants-participants interaction
1.4.3 Participants-research team interaction
1.5 Facilitation
1.6 Translation
1.7 Reporting
1.8 Feedback from participants
2. Control over own health & wellbeing
2.0 Control over own health & wellbeing
2.1 Individual believes, attitudes, behaviours
2.2 Access to and control over opportunities, resources, and services [rephrased].
2.2.1 Experiences of access and control [added]
2.2.2 Barriers to access and control [added]
2.2.3 Facilitators to access and control [added]
2.3 Community norms, practices around health and well-being
2.4 Laws, policies, services
2.4.1 Existing laws, policies, services [added for KII data]
2.4.2 Implementation of existing laws, policies, services [added for KII data]
2.4.3 Lack of laws, policies, services [added for KII data]
3. Views on IPV
3.0 Defining IPV
3.1 Experiences of violence
3.1.1 Experiences of IPV
3.1.2 Experiences of other forms of violence
3.2 Individual attitudes, believes, values, behaviour
3.2.1 Perceived nature of IPV

3.2.2 Perceived effects of IPV
3.2.3 What victims do
3.3. Access to services and support
3.4. Community norms & practices
3.4.1 Intimate relationships [definition of sub-code clarified]
3.4.2 Acceptance of IPV
3.4.3 Community response to IPV [definition of sub-code clarified]
3.4.4 Family response to IPV
3.5. Policies, laws, services
3.5.1 Existing laws, policies, services [added for KII data]
3.5.2 Implementation of existing laws, policies, services [added for KII data]
3.5.3 Lack of laws, policies, services [added for KII data]
4.1 Individual knowledge, believes, behaviours around HIV
4.1.1 Knowledge on ways of acquiring HIV [definition of sub-code clarified]
4.1.2 Knowledge on ways of prevention HIV
4.1.3 Believes around HIV [definition of sub-code clarified]
4.1.4 HIV-related behaviours
4.3. Access to HIV services and support
4.4. Community norms and practices
4.5. Policies, laws, services
5. Power and IPV/HIV risk
5.0 Overview of factors, power relations
5.1 Individual vulnerability
5.1.1 Beliefs, attitudes
5.1.2 Characteristics
5.1.3 Behaviours
5.1.4 Economic and financial issues [definition of sub-code clarified]
5.1.5 Whom one relates with [definition of sub-code clarified]
5.2 Intimate partners
5.2.1 Male heterosexual intimate partner
5.2.2 Female heterosexual intimate partner
5.2.3 Same-sex relationships
5.3 Family
5.4 Community members
5.4.1 Friends, neighbours and workmates
5.4.2 Elders
5.4.3 Men in the community
5.4.4 Headteachers and Teachers
5.4.5 Women working in drinking places and sex work
5.4.6 Peddlers and gangsters
5.4.7 Businesspeople [definition of sub-code clarified]

5.4.8 Religious leaders [definition of sub-code clarified]
5.4.9 Others
5.5 Service providers
5.5.1 Health care providers
5.5.2 NGOs
5.5.3 Employer, Supervisor [definition of sub-code clarified]
5.6 Authorities
5.6.1 Government
5.6.2 Administrators
5.6.3 Politicians
5.6.4 Law enforcement [definition of sub-code clarified]
6. Impact of COVID-19
6.1 Issues arising from the *Korona* pandemic
6.2 Issues arising from the response to the *Korona* pandemic
6.3. Effects of pandemic-related IPV [definition of sub-code clarified]

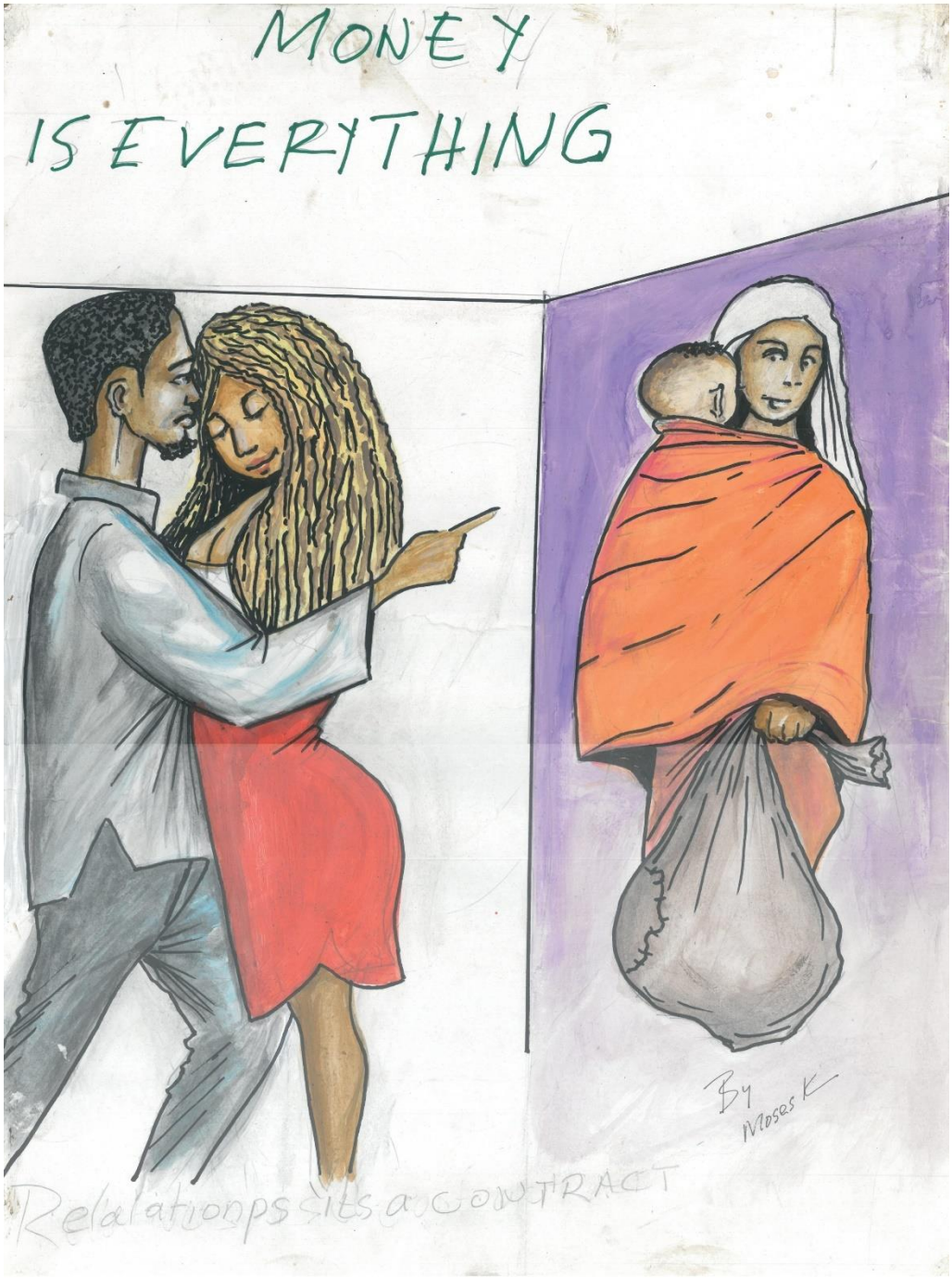
Appendix 11: Illustrations representing initial themes

Theme 1: Power over: Power wrongfully used[24]



[24] 'Power over' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme 2: Money is everything[25]



[25] 'Money is everything' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme 3: Marriage as a social requirement – sub-theme lack of communication causes conflict and violence[26]

[26] 'Marriage as a social requirement: No talk about sex' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

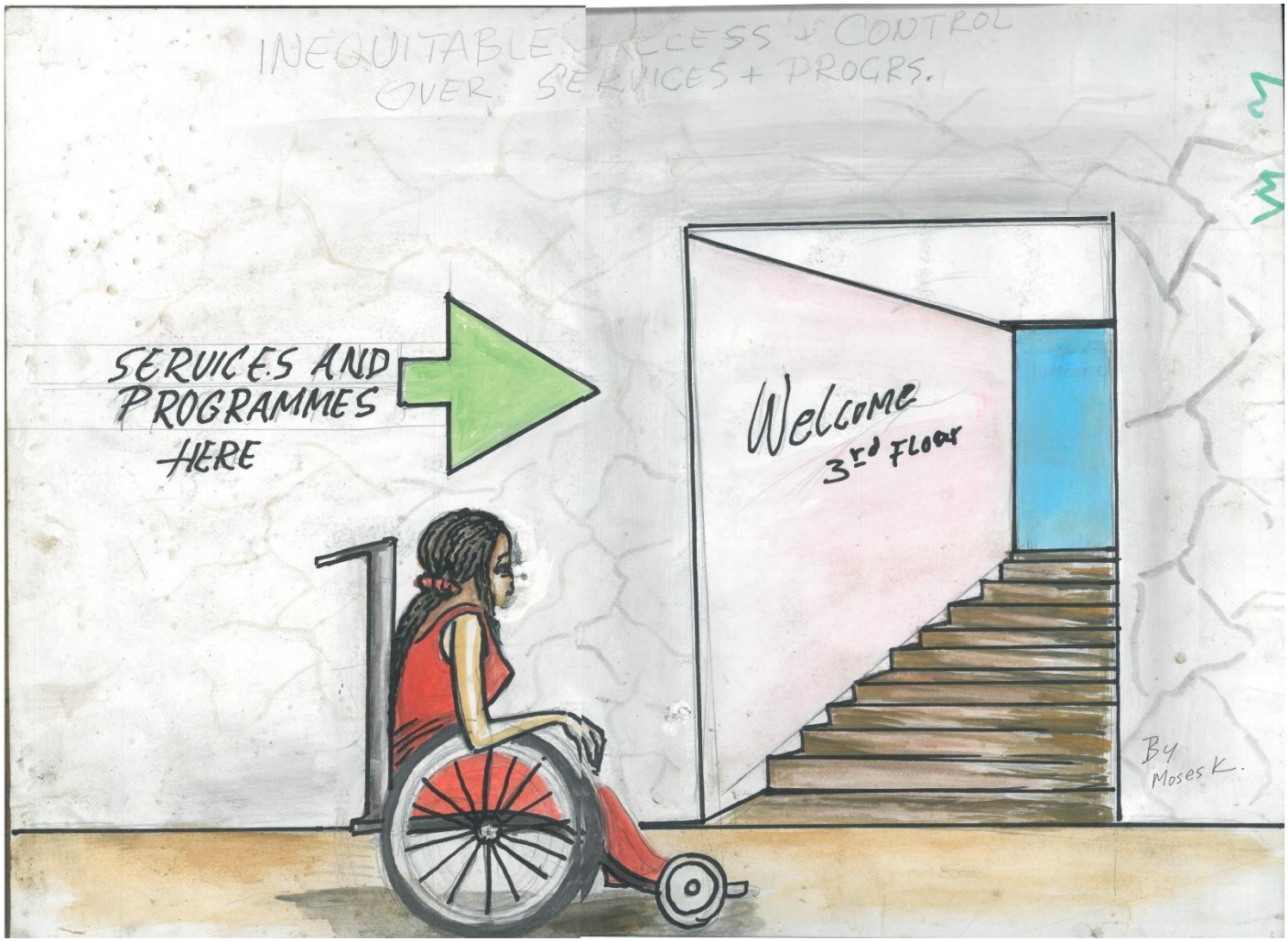
Theme 3: Marriage as a social requirement – sub-theme intimate partner violence normalised[27]

[27] 'Marriage as a social requirement: IPV is normalised' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme 4: Education and information as sources of power[28]

[28] 'Education and information as sources of power' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Themes 5 and 6: Access to programmes, services and justice limited[29]



[29] 'Access to programmes & services is limited' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme 7: Power of religious leaders: "Pastor says"[30]

[30] 'Power of religious leaders' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme 8: Alcohol, drugs & parties: High costs of stress relief & peer pressure[31]

[31] 'Alcohol, drugs & parties' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Theme9: COVID-19 pandemic made everything worse[32]

[32] 'COVID-19 pandemic made everything worse' by 'LVCT Health Kenya (Korogocho ALIV[H]E study) and Moses K. Art Works' is licensed under CC BY-NC-SA 4.0.

Appendix 12: Safety and security plan

This safety and security plan was developed following the safety and security toolkit for strengthening the implementation of HIV programmes for and with key populations that was created by the International HIV/AIDS Alliance (2018).

Safety and security issues	**TYPE 1: PREVENTION AND PLANNING** Strategies to prevent or plan for safety and security challenges	**TYPE 2: IMMEDIATE RESPONSE** Strategies to mitigate or stop safety and security challenges that are actively occurring	**TYPE 3: LONGER-TERM RESPONSE** Strategies to document safety and security challenges and build an enabling and protective environment
GENERAL			
General safety and security measures	▪ Prioritise safety and security ▪ Conduct risk and security assessments (e.g., for activities, locations; with researcher, research assistants, local partners) ▪ Adhere to organisational safety and security plans and practices ▪ Develop and review safety and security plans for the study, activities ▪ Establish incident reporting system and forms ▪ Include safety and security issues and plans in training of research assistants ▪ Discuss safety and security issues and plans with local partners ▪ Provide training to enhance knowledge and skills within research team as needed	▪ Inform LVCT co-investigators and supervisors via phone or WhatsApp groups ▪ Provide or facilitate emergency support to the people targeted ▪ Report incident to police (where applicable) ▪ Coordinate with others (incl. local leaders) ▪ Review safety and security plans with LVCT, research assistants, local partners ▪ Modify practical safety and security measures ▪ Make immediate changes to working practices ▪ Document incident ▪ Feed incident documentation into ARISE study safety and security incident data base	▪ Compiling evidence: Systematically documenting safety and security incidents ▪ Assess potential impact of safety and security incidents on study implementation and outcomes ▪ Document good practices ▪ Feed (above) evidence on safety and security into ARISE study safety and security incident data base ▪ Inform and coordinate with local authorities

	▪ Provide list of internal contacts and establish WhatsApp groups to share information in case of an incident (e.g. LVCT, academic supervisors, research team); safe numbers on phone and encourage research assistants, local partners to do so. ▪ Provide researchers, research assistants, local partners with IDs ▪ Inform LVCT co-investigators about research activities, time, venues and researchers involved ▪ Create directory of organisations that can be called upon when safety and security challenges occur (and update every 6 months). ▪ Contingency budget (e.g. allocate Kenyan Shilling 50,000 as emergency response budget and develop system for use; keep and update list of organisations providing emergency funds)		
COVID-19 prevention	▪ Training research assistants and participants on COVID-19, ways of infection, infection prevention, including hand hygiene, physical distancing and proper use of masks in accordance with Kenya Ministry of Health guidelines.	▪ Referring research assistants or participants with COVID-19 symptoms via call to 719 or to the nearest health facility. ▪ Support contact tracing in case of laboratory confirmation of COVID-19 among researcher, research assistant or participant	▪ Compiling evidence: Systematically documenting COVID-19 incidents ▪ Document good practices ▪ Feed (above) evidence on COVID-19 incidences into ARISE and LVCT Health data base ▪ Inform and coordinate with local authorities

	▪ Providing research assistants and local partners with re-usable facemasks and hand sanitisers. ▪ Providing research participants will be provided with disposable facemasks. ▪ Assessing space and ventilation at venues prior to activities. ▪ Providing hand-washing facility at research meetings that involve groups. ▪ Encouraging no-handshake policy ▪ Observing physical distance of 1.5m between participants during research activities. ▪ Enforcing wearing facemasks during meetings and research activities. ▪ Tell researcher assistants and local partners to stay at home in case they are unwell. ▪ Conduct virtually connected meetings of small groups instead of big group meetings ▪ Observing the Kenya Ministry of Health Interim Guidance for Health and Safety in the Workplace. ▪ Constantly review the situation, revise and strengthen further in line with national recommendations.	▪ Follow self-isolation guidelines in case researcher, research assistant or participant were in contact with researcher, research assistant or participant with laboratory confirmed COVID-19 or symptoms	

INDIVIDUAL LEVEL			
Verbal abuse and intimidation; physical attack (e.g., beating); sexual harassment and assault by individuals (e.g. strangers, clients/ patients, partners or family members of clients/ patients)	▪ Conduct risk and security assessments (e.g. for activities, locations) ▪ Conduct activities always in pairs ▪ Carry mobile phones along when conducting activities ▪ Inform LVCT co-investigators about research activities, time, venues and researchers involved ▪ Hold meetings during daytime and end meetings in time ▪ Hold meetings at venues that are safe	▪ Provide or facilitate emergency support (e.g., medical care, safe space, legal advice, counselling) to the people targeted ▪ Report incident to LVCT and supervisors ▪ Document incident	
Violence against local partners by spouse or family members of local partners	▪ Discuss involvement and information of partners and family members of local partners in research team meeting ▪ Agree times for meetings that align with local partners' duties, schedules ▪ Meet in venues that are safe and convenient for local partners (e.g. distance from home) ▪ Organise childcare if needed ▪ End meetings in time	▪ Provide or facilitate emergency support (e.g., medical care, safe space, legal advice, counselling) to the people targeted ▪ Report incident to LVCT and supervisors ▪ Document incident	
Defamation of researchers, local partners; hate campaigns (e.g. online, offline)	▪ Introduce study and team to relevant authorities and forge good working relationships ▪ Provide researchers, research assistants, local partners with IDs	▪ Provide or facilitate emergency support (e.g. safe space, legal advice, counselling) to the people targeted ▪ Report incident to LVCT and supervisors	

	▪ Use consistent messages about the purpose of the study (e.g. develop and use statement for introducing the study and FAQ about the study (in English, Swahili, and other local languages if necessary)) ▪ Discuss use of social media with research team	▪ Document incident	
Breach of confidentiality (e.g. discussions, interviews overheard)	▪ Conducting risk assessments (e.g. for activities, locations) ▪ Include confidentiality in training of research assistants ▪ Discuss confidentiality with local partners ▪ Discuss and agree ground rules for each activity with the people involved (e.g. confidentiality)	▪ Report incident to LVCT and supervisors ▪ Report to LSTM data protection officer immediately ▪ Provide or facilitate support to the people affected	
Intimidation, harassment by authorities and opinion leaders	▪ Introduce study and team to relevant authorities and forge good working relationships ▪ Use consistent messages about the purpose of the study (e.g. develop and use statement for introducing the study and FAQ about the study (in English, Swahili, and other local languages if necessary)) ▪ Provide researchers, research assistants, local partners with IDs ▪ Inform LVCT co-investigators about research activities, time, venues and researchers involved	▪ Provide or facilitate emergency support (e.g. safe space, legal advice, counselling) to the people targeted ▪ Report incident to LVCT and supervisors ▪ Document incident	

Theft of property; extortion	▪ Discuss with local partners how compensation be paid (e.g. cash or otherwise) ▪ Don't leave equipment, bags etc unattended	▪ Provide or facilitate emergency support to the people targeted ▪ Report incident to LVCT and supervisors ▪ Report to LSTM data protection officer immediately, in case there is risk of loss of data, breach of confidentiality ▪ Document incident	
Accidents, incl. road accidents	▪ Use trusted means of transport (e.g. LVCT health vehicles and drivers, registered taxi operators) ▪ Avoid insecure roads ▪ Travel during daytime	▪ Provide or facilitate emergency support (e.g. medical care) to the people involved ▪ Report incident to LVCT and supervisors ▪ Document incident	
Food poisoning	▪ Use trusted caterers for provision of refreshments ▪ Drink bottled water	▪ Report incident to LVCT and caterer ▪ Change provider	
STUDY LEVEL			
Equipment damaged, stolen or confiscated	▪ Don't leave equipment, bags etc unattended ▪ Keep track of equipment (e.g. who, when, where, purpose)	▪ Report to LSTM data protection officer immediately, in case there is risk of loss of data, breach of confidentiality ▪ Report incident to LVCT and supervisors	
Email systems/ social media hacked	▪ Use password protected computer ▪ Use LSTM-email account ▪ Select passwords that cannot be identified easily; don't share passwords; make sure nobody can see when passwords are typed.	▪ Report to LSTM data protection officer immediately ▪ Report incident to LVCT and supervisors	

Physical and online records destroyed	▪ Backup data ▪ Lock physical records ▪ Keep and backup soft copies of physical records	▪ Report to LSTM data protection officer immediately ▪ Report incident to LVCT and supervisors	
Defamation of study, organisation's reputation	▪ Provide researchers, research assistants, local partners with IDs ▪ Develop consistent messages about the purpose of the study (e.g. statement for introducing the study and FAQ about the study (in English, Swahili, and other local languages if necessary))	▪ Report incident to LVCT and supervisors	

Appendix 13: Alternative topic guide

Note. This topic guide was prepared for the event of a non-participant entering a research activity (i.e. research team meeting, focus group discussion). The facilitator would switch topic from IPV and HIV to asking questions related to source of drinking water, a less sensitive topic, to ensure confidentiality and safety of participants.

Introduction

- Welcome
- Kindly introduce yourself

Source of drinking water

- Where do you get your water for drinking and cooking from?

Cost of drinking water

- How much do you pay for water?
- How much do you spend for transport of water?
- How expensive is water (relative to your income)?

Safety of drinking water

- How clean do you think the water is?
- Do you treat the water before drinking? What do you do?

Appendix 14: COVID-19 information handout

COVID-19: Brief

What is a coronavirus?

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases s

What is COVID-19?

COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. COVID-19 is now a pandemic affecting many countries globally.

What are the symptoms of COVID-19?

Most common symptoms of COVID-19:

- Fever
- Dry cough
- Tiredness

Other symptoms of COVID-19:

- aches and pains
- nasal congestion
- headache
- conjunctivitis (pinkeye)
- sore throat
- diarrhoea
- loss of taste or smell
- rash on skin

Some people become infected but only have very mild symptoms. Most people (about 80%) recover from the disease without needing hospital treatment. Around 1 out of every 5 people who gets COVID-19 becomes seriously ill and develops difficulty breathing.

What should I do if I have COVID-19 symptoms?

Call 719 or Dial *719#

How does COVID-19 spread?

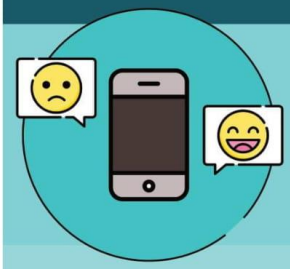
People can catch COVID-19 from others who have the virus. The disease spreads primarily from person to person through small droplets from the nose or mouth, which are expelled when a person with COVID-19 coughs, sneezes, or speaks. People can catch COVID-19 if they breathe in these droplets from a person infected with the virus. This is why it is important to stay at least 1 meter away from others. These droplets can land on objects and surfaces around the person such as tables, doorknobs and handrails. People can become infected-by touching these objects or surfaces, then touching their eyes, nose or mouth. This is why it is important to wash your hands regularly with soap and water or clean with alcohol-based hand rub.

How can we protect others or ourselves if we don't know who is infected?

- When possible maintain at least a 2-meter (2-3 steps) distance between yourself and others. This is especially important if you are standing by someone with flu-like symptoms (e.g. coughing or sneezing).
- Wash your hands with soap and running water or use an alcohol-based hand sanitizer.
- Avoid shaking hands, hugging or kissing with people, especially with people with flu-like symptoms.
- Wear a mask when you are in public spaces.
- Stay at home and avoid travel when you have flu-like symptoms.

World Health Organization

Coping with stress during the 2019-nCoV outbreak



It is normal to feel sad, stressed, confused, scared or angry during a crisis.

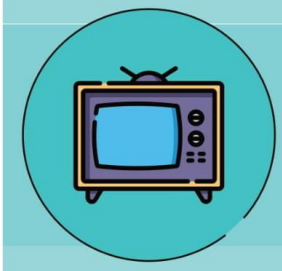
Talking to people you trust can help. Contact your friends and family.

If you must stay at home, maintain a healthy lifestyle - including proper diet, sleep, exercise and social contacts with loved ones at home and by email and phone with other family and friends.

Don't use smoking, alcohol or other drugs to deal with your emotions.

If you feel overwhelmed, talk to a health worker or counsellor. Have a plan, where to go to and how to seek help for physical and mental health needs if required.

Get the facts. Gather information that will help you accurately determine your risk so that you can take reasonable precautions. Find a credible source you can trust such as WHO website or, a local or state public health agency.



Limit worry and agitation by lessening the time you and your family spend watching or listening to media coverage that you perceive as upsetting.

Draw on skills you have used in the past that have helped you to manage previous life's adversities and use those skills to help you manage your emotions during the challenging time of this outbreak.

Appendix 15. Characteristics of the urban female sample (age 15-49) and urban male sample (age 15-54) by residence (Kenya, 2014).

	Females					Males			
	Informal (N=608)	Intermediate (N=796)	Formal (N=209)	Total (N=1,613)		Informal (N=440)	Intermediate (N=681)	Formal (N=200)	Total (N=1,321)
Age (years)					Age (years)				
Median (IQR)	30 (25, 36)	29 (25,35)	30 (26, 35)	29 (25, 36)	Median (IQR)	35 (29, 41.25)	34 (29, 41)	35.5 (30, 42)	35 (29, 41)
Education level					Education level				
No schooling	80 (13.2%)	83 (10.4%)	4 (1.9%)	167 (10.4%)	No schooling	25 (5.7%)	24 (3.5%)	3 (1.5%)	52 (3.9%)
Primary	364 (59.9%)	348 (43.7%)	62 (29.7%)	774 (48.0%)	Primary	273 (62.0%)	267 (39.2%)	40 (20.0%)	580 (43.9%)
Secondary	150 (24.7%)	254 (31.9%)	69 (33.0%)	473 (29.3%)	Secondary	114 (25.9%)	244 (35.8%)	80 (40.0%)	438 (33.2%)
Higher	14 (2.3%)	111 (13.9%)	74 (35.4%)	199 (12.3%)	Higher	28 (6.4%)	146 (21.4%)	77 (38.5%)	251 (19.0%)
Wealth					**Wealth**				
Poorest	159 (26.2%)	11 (1.4%)	0 (0.0%)	170 (10.5%)	Poorest	93 (21.1%)	7 (1.0%)	0 (0.0%)	100 (7.6)
Poor	176 (28.9%)	23 (2.9%)	1 (0.5%)	200 (12.4%)	Poor	132 (30.0%)	28 (4.1%)	0 (0.0%)	160 (12.1)

Middle	138 (22.7%)	85 (10.7%)	0 (0.0%)	223 (13.8%)	Middle	126 (28.6%)	64 (9.4%)	1 (0.5%)	191 (14.5)
Rich	125 (20.6%)	304 (38.2%)	11 (5.3%)	440 (27.3%)	Rich	82 (18.6%)	265 (38.9%)	25 (12.5%)	372 (28.2)
Richest	10 (1.6%)	373 (46.9%)	197 (94.3%)	580 (36.0%)	Richest	7 (1.6%)	317 (46.5%)	174 (87.0%)	498 (37.7)
Marital status					Marital status				
Married	472 (77.6%)	615 (77.3%)	165 (78.8%)	1,252 (77.6%)	Married	373 (84.8%)	614 (90.2%)	181 (90.5%)	1,168 (88.4%)
Cohabiting	46 (7.6%)	60 (7.5%)	12 (5.7%)	118 (7.3%)	Cohabiting	15 (3.4%)	19 (2.8%)	9 (4.5%)	43 (3.3%)
Separated/ Divorced	65 (10.7%)	93 (11.7%)	29 (13.9%)	187 (11.6%)	Separated/ Divorced/ Widowed	52 (11.8%)	48 (7.0%)	10 (5.0%)	110 (8.3%)
Widowed	25 (4.1%)	28 (3.5%)	3 (1.4%)	56 (3.5%)					
Father beat mother					Father beat mother				
No	324 (53.6%)	482 (60.8%)	137 (65.6%)	947 (58.7%)	No	183 (41.8%)	360 (52.9%)	115 (57.5%)	659 (49.9%)
Don’t know	42 (6.9%)	43 (5.4%)	8 (3.8%)	93 (5.8%)	Don’t know	27 (6.1%)	37 (5.4%)	13 (6.5%)	77 (5.8%)
Yes	240 (39.5%)	269 (33.8%)	64 (30.6%)	571 (35.5%)	Yes	229 (52.0%)	284 (41.7%)	72 (36.0%)	585 (44.3%)
Partner’s alcohol use					Partner’s alcohol use				

No alcohol	396 (65.1%)	562 (70.6%)	132 (63.2%)	1,090 (67.6%)	No alcohol	413 (93.9%)	657 (96.5%)	188 (94.0%)	1,258 (95.2%)
Gets drunk often	83 (13.7%)	75 (9.3%)	31 (14.8%)	189 (11.7%)	Drinks alcohol	27 (6.1%)	24 (3.5%)	12 (6.0%)	63 (4.8%)
Gets drunk sometimes	129 (21.2%)	159 (20.0%)	45 (22.0%)	334 (20.7%)					
Current use of physical violence against partner					Current use of physical violence against partner				
No	589 (96.9%)	781 (98.1%)	202 (96.7%)	1,572 (97.5%)	No	349 (79.3%)	622 (91.3%)	178 (89.0%)	1,149 (87.0%)
Yes	19 (3.1%)	15 (1.9%)	7 (3.3%)	41 (2.5%)	Yes	91 (20.7%)	59 (8.7%)	22 (11.0%)	172 (13.0%)

Note. IQR = Inter Quartile Range.

Appendix 16. Estimates from binomial mixed-effects models for any current intimate partner violence against women (age 15-49) and men (age 15-54) in urban areas in Kenya (2014).

	Females					Males				
	Model 1		Model 2			Model 1		Model 2		
Term	OR (95% CI)	p	aOR (95% CI)	p		OR (95% CI)	p	aOR (95% CI)		p
Neighbourhood					Neighbourhood					
Informal	1.92 (1.31, 2.83)	<0.01	1.39 (0.91, 2.13)	0.13	Informal	1.08 (0.68, 1.73)	0.73	0.89 (0.53, 1.50)		0.67
Intermediate	1.1 (0.76, 1.59)	0.62	0.94 (0.62, 1.4)	0.75	Intermediate	0.72 (0.47, 1.1)	0.13	0.79 (0.50, 1.25)		0.31
Education level					Education level					
No schooling			1.41 (0.74, 2.69)	0.29	No/ Primary/ Secondary			0.69 (0.46, 1.04)		0.08
Primary/ Secondary			2.31 (1.49, 3.57)	<0.01						
Father beat mother					Father beat mother					
Yes			1.71 (1.33, 2.2)	<0.01	Yes			1.59 (1.14, 2.22)		0.01
Don’t know			1.54 (0.93, 2.56)	0.1	Don’t know			1.72 (0.89, 3.31)		0.11
Marital status					Marital status					

	Females					Males				
	Model 1		Model 2			Model 1		Model 2		
Term	OR (95% CI)	p	aOR (95% CI)	p		OR (95% CI)	p	aOR (95% CI)		p
Cohabiting			1.22 (0.78, 1.91)	0.38		Cohabiting		1.46 (0.65, 3.29)		0.36
Separated/ Divorced			1.65 (1.1, 2.49)	0.02		Separated/ Divorced/ Widowed		2.71 (1.56, 4.71)		<0.01
Widowed			0.92 (0.46, 1.83)	0.82						
Use of physical violence against partner						Use of physical violence against partner				
Yes			11.32 (4.23, 30.34)	<0.01		Yes		5.76 (3.91, 8.49)		<0.01
Partner's alcohol use						Partner's alcohol use				
Sometimes drunk			1.81 (1.35, 2.42)	<0.01		Drinks alcohol		2.14 (1.11, 4.11)		0.02
Often drunk			5.86 (3.92, 8.77)	<0.01						

Note. Estimates in this table are based on binomial mixed-effects models. Any current intimate partner violence (IPV) = emotional, physical and/or sexual IPV. Residence: Reference level (Ref) = Formal; Models 1: unadjusted. Models 2: adjusted for Education (Ref=Higher), Father beat mother (Ref=No), Marital status (Ref=Married), Use of physical violence against spouse/ partner (Ref=No), Partner's alcohol use (Ref=No alcohol).

Appendix 17. Estimates from binomial mixed-effects models for any current intimate partner violence against women (age 15-49) in urban areas in Kenya (2014).

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Term	OR (95% CI)	p	aOR (95%CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p
Neighbourhood												
Informal	1.92 (1.31, 2.83)	<0.01	1.49 (0.99, 2.23)	0.05	1.79 (1.21, 2.64)	<0.01	1.88 (1.28, 2.78)	<0.01	1.92 (1.29, 2.84)	<0.01	1.87 (1.25, 2.78)	<0.01
Intermediate	1.1 (0.76, 1.59)	0.62	0.93 (0.64, 1.35)	0.7	1.06 (0.73, 1.53)	0.77	1.07 (0.74, 1.55)	0.73	1.12 (0.77, 1.62)	0.56	1.13 (0.77, 1.65)	0.54
Education level												
No schooling			1.56 (0.84, 2.91)	0.16								
Primary/ Secondary			2.48 (1.64, 3.74)	<0.01								
Father beat mother												
Yes					1.82 (1.44, 2.32)	<0.01						
Don’t know					1.45 (0.9, 2.34)	0.12						
Marital status												
Cohabiting							1.19 (0.78, 1.80)	0.42				

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Term	OR (95% CI)	p	aOR (95%CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p
Separated/ Divorced							2.29 (1.58, 3.33)	<0.01				
Widowed							1.06 (0.55, 2.05)	0.86				
Use of physical violence against partner												
Yes									12.17 (4.66, 31.77)	<0.01		
Partner's alcohol use												
Sometimes drunk											1.88 (1.42, 2.49)	<0.01
Often drunk											6.55 (4.44, 9.65)	<0.01

Note. Estimates in this table are based on binomial mixed-effects models. Any current intimate partner violence (IPV) = emotional, physical and/or sexual IPV. Residence: Reference level (Ref) = Formal; Model 1: unadjusted. Model 2: adjusted for Education attainment (Ref=Higher); Model 3: adjusted for Father beat mother (Ref=No); Model 4: adjusted for Marital status (Ref=Married); Model 5: adjusted for Use of physical violence against spouse/ partner (Ref=No); Model 6: adjusted for Partner's alcohol use (Ref=No alcohol).

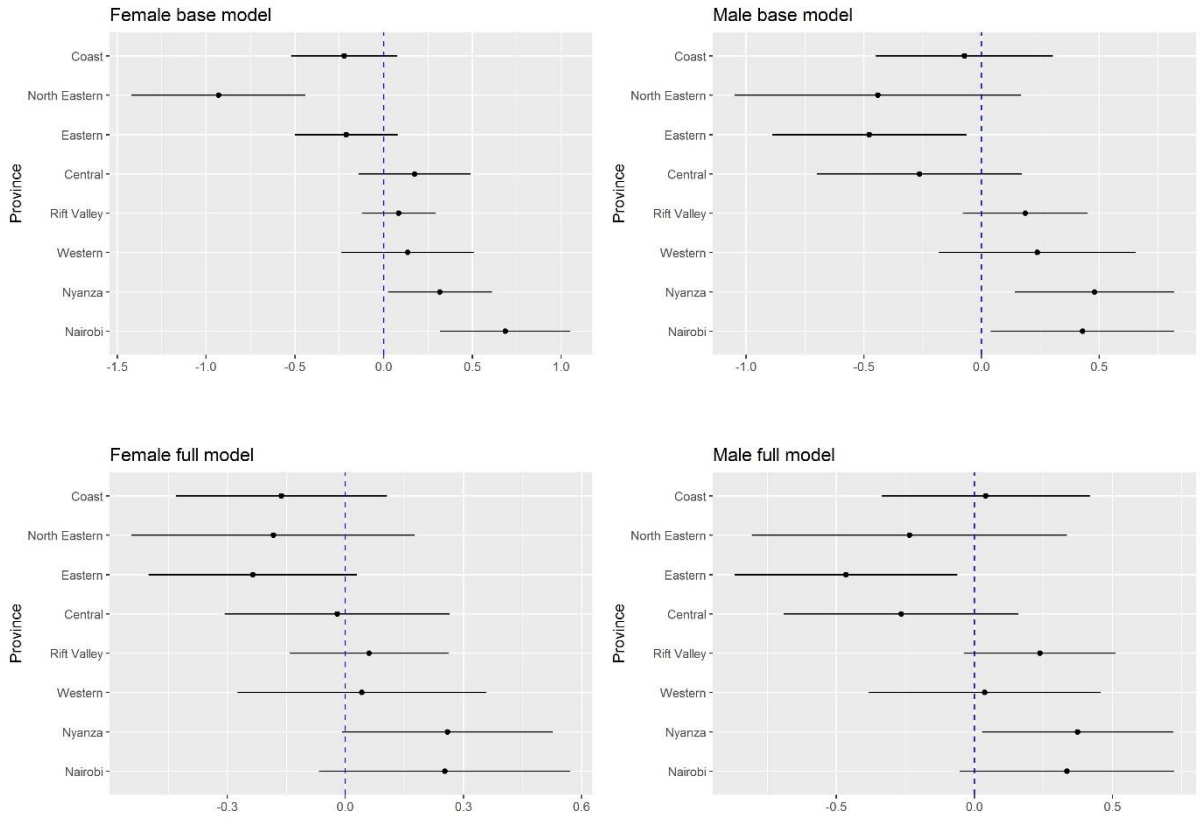
Appendix 18. Estimates from binomial mixed-effects models for any current intimate partner violence against men (age 15-54) in urban areas in Kenya (2014).

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Term	OR (95% CI)	p	aOR (95%CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p
Neighbourhood												
Informal	1.08 (0.68, 1.73)	0.73	1.19 (0.73, 1.95)	0.48	1.01 (0.63, 1.61)	0.97	1.04 (0.65, 1.67)	0.87	0.87 (0.54, 1.41)	0.58	1.08 (0.68, 1.73)	0.74
Intermediate	0.72 (0.47, 1.1)	0.13	0.75 (0.49, 1.17)	0.21	0.7 (0.46, 1.09)	0.11	0.71 (0.46, 1.1)	0.13	0.73 (0.47, 1.13)	0.16	0.74 (0.48, 1.14)	0.17
Education level												
No/Primary/ Secondary			0.77 (0.53, 1.13)	0.18								
Father beat mother												
Yes					1.69 (1.23, 2.32)	<0.01						
Don't know					1.99 (1.09, 3.66)	0.03						
Marital status												
Cohabiting							1.35 (0.62, 2.93)	0.45				

Term	Model 1 OR (95% CI)	p	Model 2 aOR (95%CI)	p	Model 3 aOR (95% CI)	p	Model 4 aOR (95% CI)	p	Model 5 aOR (95% CI)	p	Model 6 aOR (95% CI)	p
Separated/ Divorced/ Widowed							2.3 (1.38, 3.84)	<0.01				
Use of physical violence against partner												
Yes									5.71 (3.92, 8.31)	<0.01		
Partner's alcohol use												
Yes											2.9 (1.6, 5.23)	<0.01

Note. Estimates in this table are based on binomial mixed-effects models. Any current intimate partner violence (IPV) = emotional, physical and/or sexual IPV. Residence: Reference level (Ref) = Formal; Model 1: unadjusted. Model 2: adjusted for Education attainment (Ref=Higher); Model 3: adjusted for Father beat mother (Ref=No); Model 4: adjusted for Marital status (Ref=Married); Model 5: adjusted for Use of physical violence against spouse/ partner (Ref=No); Model 6: adjusted for Partner's alcohol use (Ref=No alcohol).

Appendix 19. Variance of the random effects



Note. Binomial mixed-effects models for any current intimate partner violence against women (age 15-49) and men (age 15-54) in urban areas in Kenya (2014). Random variable = Province. Any current intimate partner violence (IPV) = emotional, physical and/or sexual IPV.