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Ethnographic and participatory approaches to the issue of smoke reduction in rural Malawi

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Globally, air pollution is the "largest single environmental health concern," causing 7 million deaths annually, 94% of which take place in low- and middle-income nations. In Southern Africa, household air pollution from the use of solid fuels for cooking, heating, and lighting, is a significant factor in respiratory infections, which are a leading cause of childhood morbidity and mortality. Our research took a different approach from most 'improved cookstove' trials, starting with efforts to seek communities' perspectives, before applying these lessons, and adding participatory methods, to maximise the contextual relevance and sustainability of the subsequent intervention.

We used ethnographic methods, incorporating participant observation, personal exposure monitoring, and individual interviews, to explore the social and environmental context in which smoke was experienced in a rural community in Malawi. The insights gained, together with reflexive discussions with a local field assistant were taken forward to theatre-based participatory workshops in the village, leading to the development of a context-appropriate village-level intervention.

This work provided deep insights into individuals' lived experiences in the village, with an awareness of how complex structural systems, linked mainly to contextual scarcity, shaped air pollution exposures through the life course. Understanding the centrality of these exposure determinants informed our collaborative approaches to intervention development.

The final intervention was based on locally made, efficient wood-burning cookstoves, supplied to all households in the village. Whilst personal air quality monitoring revealed non-significant changes in personal exposures post-intervention – in keeping with prior evidence – we found intervention cookstoves to be well-liked and almost comprehensively used across the village. The stoves are accessible and affordable for residents of rural communities in Malawi, constituting a sustainable option in this setting.

Our study demonstrates an approach to global health research which places communities at the centre of proposals to improve their health and wellbeing. We advocate a sharing of perspectives from the start, and representation of these views throughout the research process – to the point of intervention evaluation.