

A qualitative study exploring health workers and patient caregivers' hand hygiene practices in a neonatal unit in Blantyre, Malawi, implications for controlling outbreaks of drug resistant infections

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Background: Neonatal sepsis is responsible for a considerable burden of morbidity and mortality in sub-Saharan African countries. Outcomes from neonatal sepsis are worsening due to increasing rates of antimicrobial resistance. Sub-optimal Infection Prevention and Control (IPC) practices of health care workers and caregivers are important drivers of infection transmission. The Chatinkha Neonatal Unit at Queen Elizabeth Central Hospital, Blantyre, Malawi has experienced multiple outbreaks of neonatal sepsis, associated with drug resistant *Klebsiella pneumoniae*. We aimed to understand the barriers to implementation of optimal IPC focusing on hand hygiene practice.

Methods: We used a qualitative research methodology to meet the study aim. Combining participant observation (PO) over a seven-month period with semi structured interviews (SSI) to provide an in-depth understanding of activities relating to hygiene and IPC existing on the ward.

Results: While most staff and some caregivers, had a good understanding of ideal IPC and understood the importance of good handwashing practices, they faced substantial structural limitations, and scarce resources (both material and human) which made implementation challenging. For staff, the overwhelming numbers of patients meant the workload was often unmanageable and practicing optimal IPC was challenging. Caregivers lacked access to basic amenities, including linen and chairs, meaning that it was almost impossible for them to maintain good hand hygiene. Limited access to soap and the erratic water supply for both caregivers and healthcare workers further worsened the situation. Communication challenges between different cadres of staff and with patient caregivers meant that those handling neonates and cleaning the wards were often unaware of outbreaks of drug resistant infection.

Conclusion: For IPC to be improved, interventions need to address the chronic shortages of material resources and create an enabling environment for HCWs and patient caregivers.