

Strengthening gender equality and social inclusion

in anti-microbial resistance intervention and implementation research

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REVIEWING THE EVIDENCE

Insights from a scoping review of the links between gender and antimicrobial resistance in low- and middle-income countries

Antimicrobial resistance (AMR), results in at least 4.95 million deaths per year – a number greater than the total deaths related to HIV and malaria combined – with low- and middle-income countries (LMICs) being hardest hit. AMR develops when microbes such as bacteria and viruses become resistant to the medications used to treat them, resulting in otherwise treatable diseases becoming potentially life-threatening. AMR is driven in part by inappropriate antibiotic use, such as when a person stops taking their medication when they feel better instead of finishing the course, or when antibiotics are taken unnecessarily. AMR is further complicated by gender and intersecting socio-behavioural factors; however, research that considers the impact of gender remains limited. A recent scoping review of studies published between 2017 to 2022, conducted by our team from the Human Sciences Research Council (HSRC) and Mahidol Oxford Tropical Medicine Research Unit (MORU), will inform tools to support researchers in integrating a gender perspective in future AMR research.

We analysed peer-reviewed articles focused on AMR in LMICs, spanning human and animal health. Following PRISMA guidelines for scoping reviews, we identified key ways in which gender norms and roles create different exposure risks to AMR and influence who is able to access and benefit from ways to prevent AMR.

Women have unequal decision-making power

The review found that unequal gender norms at household and community levels hinder women's access to healthcare, including how they access and use antibiotics. In particular, traditional gender norms that assign caregiving tasks to women, such as seeing to the health needs of children and other relatives, put women at the centre of household antibiotic use. Yet, unequal gender norms mean that women often need permission from their husbands to attend a healthcare facility, pay for transport or purchase medication. If they do not have their male partner's support, women are left with fewer options to adhere to guidelines for appropriate antibiotic use, meant to curb the development of AMR. For poor women and women living in rural areas, these risks are even more pronounced.

Women often lack support from their partners to make autonomous healthcare decisions for themselves and their children



The review cites a [study conducted in Tanzania](#) that found that 47% of mothers reported giving their ill children unprescribed antibiotics, often purchased from informal pharmacies in their community, because they do not have money to travel to healthcare facilities.

Rigid gender norms also impact women's roles in caring for livestock, with implications for AMR mitigation in animal health. Women are often responsible for the day-to-day care of livestock, including observing animals for signs of disease and treating sick individuals. However, because men are more likely to make decisions over herd health and financial expenses, women's roles are often overlooked in AMR interventions. Women are [regarded as 'helpers' and not decision-makers or co-owners of livestock](#) and AMR mitigation training resources are directed to the male head of household, detracting from the impact and sustainability of such interventions.

Women's roles in caring for livestock are often overlooked



Unequal gender norms impact men too

Findings from the scoping review highlight how traditional gender norms not only harm women but also increase men's AMR risk. Gendered expectations of men to be strong, healthy and resilient can contribute to their avoiding or delaying treatment-seeking, especially when they perceive health-seeking as demonstrating weakness or vulnerability. When men do seek treatment, they might opt for obtaining antibiotics without a prescription, leaving them without education on appropriate use. The authors of a [community-based study conducted in Nepal](#) describe how social norms about masculinity may contribute to men pressuring health staff to prescribe antibiotics, even if not clinically indicated, since 'strong' antibiotics are associated with recovering more quickly.

Gender-responsive research can improve the impact and sustainability of interventions

There is growing awareness that equity considerations are important in addressing AMR, but the evidence base to inform this is still lacking and AMR studies are often gender-blind. The review findings underscore the value of ensuring that AMR interventions are context-sensitive, including being responsive to local gender dynamics. Having better research evidence on the interplay between AMR and

gender, including intersecting factors such as socio-economic class, can guide more relevant, impactful and sustainable AMR mitigation.

Specific recommendations flowing from the review include stimulating research content focused on how gender shapes AMR risk and vulnerability, including unpacking the role of men in upholding unequal gender relations and exploring instances where restrictive gender norms are challenged and reshaped. This type of research would give insight into how to advance gender-transformative AMR containment and mitigation efforts.

As a first step, our team will develop a set of easy-to-use, practical resources that will equip AMR researchers to integrate gender considerations across all stages of their projects – from study conceptualization to disseminating findings. These resources are intended for AMR researchers across human and animal health settings, with a focus on contextual relevance to LMICs.

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