Public Health: Health Protection to Community Development

LBR7455

Topic: Antimicrobial Resistance in Nepal: A Health Protection Perspective

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Introduction

Antimicrobial resistance (AMR) is a major global public health issue, claiming almost 4.95 million deaths each year (World Health Organization, 2023). AMR has become one of the three leading causes of death in Nepal, with 6,400 deaths directly attributed in 2019 and 23,200 where AMR was a contributing factor (World, 2024). The issue lies in the mass self-medication, the sale of non-prescription antibiotics, and the laxity of regulations, with rural populations having limited access to healthcare being the most affected. This study will deal with AMR in Nepal in order to analyse its implications on public health with the view to evaluating the interventions that will influence the behaviour of individuals and mobilise communities to make sustainable changes.

Individual change

In Nepal, antimicrobial resistance (AMR) is an urgent societal health issue, mostly due to inappropriate use of antibiotics, self-treatment, and a lack of regulations, as opined by Murray *et al.* (2024). The reason behind the individual change practice domain should be applied is based on the fact that behavioural decisions, like buying antibiotics over the counter or dropping prescribed courses short, have a direct impact on resistance patterns. In order to address AMR, thus needs interventions that will influence individual perceptions, motivations and behaviours, making this domain central to addressing the issue. In this regard, the *Health Belief Model (HBM)* offers a powerful framework to comprehend how perceptions of susceptibility and severity, benefits and barriers determine the health actions of individuals (Devi *et al.* 2022). It is especially applicable in situations where the cultural dependence on self-medication and inadequate understanding of the issue exacerbates the problem.

It can be stated that HBM assumes that when people have a perception that they are vulnerable to a disease, as well as the belief that the effect of the illness is detrimental, then they are more likely to adopt preventive behaviours. This is not the case in Nepal, where research indicates that a significant number of patients do not fully understand the dangers of antibiotic misuse, and often they fail to recognise that antibiotics are merely a quick-fix solution to common ailments, as argued by Acharya and Wilson, (2019). Such a poor perception of the susceptibility and severity affects the rational use of antibiotics. Moreover, the perceived barriers, including the cost of healthcare visits, distance to clinics, and lack of trust in medical professionals, are the sources of the reliance

on self-medication and OTC purchases. On the other hand, the perceived positive effects of antibiotics, including quick and symptomatic alleviation, strengthen the abuse. The implication of applying HBM is that these perceptions, when combined, maintain behaviours which aggravate AMR (Wang, 2025). Similar trends have been observed in comparative evidence in other low- and middle-income countries, where weak health literacy and easy access to drugs perpetuate their abuse, suggesting that the challenge in Nepal is part of a broader global behavioural problem.

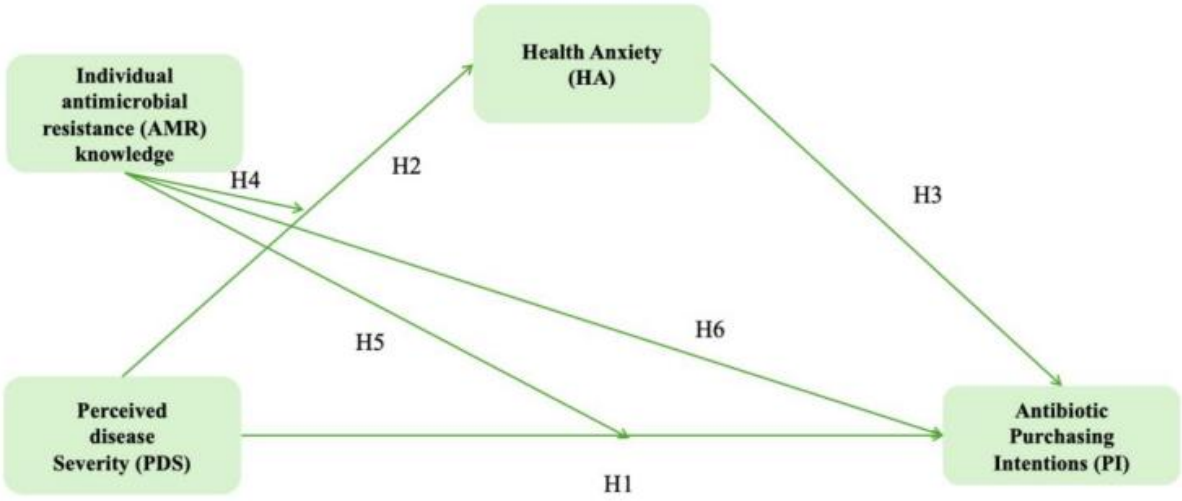

Figure 1: Linkage between AMR and its characteristics

(Source: Wang, 2025)

The case of the *Antibiotic Stewardship Programs* in Nepal, which are designed to educate health care professionals and the general population about the rational use of antibiotics, is relevant in this case (Khanal *et al.* 2023). Such programs utilise awareness programs, prescription programs, and training programs. According to the HBM perspective, this kind of intervention tries to augment the perceived susceptibility and severity by focusing on the dangers of AMR, but at the same time, the benefits of following the prescriptions. For instance, in order to change the perception of severity, campaigns that portray the risk of untreatable infections should be undertaken, whereas stewardship programs that depict improved outcomes in patients should be pursued in order to reinforce perceived benefits. Nonetheless, the implementation is still weak, and the use of antibiotics is still largely unregulated, which cannot be considered the effectiveness of such programs.

Further, ethical dilemmas also make it difficult to apply individual change approaches. The limitation of the availability of antibiotics begs the question of autonomy versus societal safety, which is in line with the view of Adebisi, (2023). On the one hand, the restriction of access to antibiotics protects society against resistance, and, on the other hand, it limits the choice of people, particularly low-income groups, who cannot choose to self-medicate due to financial constraints. The issue of equity also arises since the rural population has less access to healthcare than urban populations, which means the interventions may end up overwhelming disadvantaged groups. On the justice side, the stewardship programs need to strike a balance between the greater good and equitable access to treatment. According to Holland (2022), ethical practice in public health must be able to balance autonomy with beneficence, such that the interventions do not contribute to inequalities. This tension is reflected in Nepal through the dependence on self-medication as a survival strategy in resource-poor environments, in contrast to the population of urban areas, who have greater direct benefits to stewardship initiatives.

Applying the individual change practice domain through the prism of the Health Belief Model, it becomes apparent that AMR sustainability is achieved through low perceptions of susceptibility and severity, high perceived benefits of misuse, and persistent barriers to healthcare access. Although the domain identifies key behavioural drivers of AMR, the limitations of the domain support the importance of integrating the domain with other key community development and policy strategies. Therefore, individual change interventions are needed but not sufficient on their own to significantly decrease AMR in Nepal.

Community development

Community development (CD) in public health is a collective strategies that enable communities to identify, mobilise and use their own resources to address health challenges, which is in line with the view of Morales-Garzón *et al.* (2023). Contrary to the individual change, which implies the concentration on personal perceptions and behaviours, the CD presupposes inclusivity, collaboration, and sustainability through the engagement of communities as active agents instead of passive receivers of interventions. The reasoning behind the application of CD to antimicrobial resistance (AMR) in Nepal is based on the understanding that the concept of resistance is not only a product of individual misuse but also of systemic and cultural practices that are embedded in

communities, as stated by Parajuli *et al.* (2024). In Nepal, due to the widespread dependence on informal drug sellers, traditional medicine, and self-medication practices at the community level, AMR is not effectively addressed without mobilising communities to reform norms, enhance awareness, and co-create solutions. In this way, CD will offer a channel through which AMR interventions can be embedded into social structures to ensure that behavioural and cultural change is achieved in the long term.

The *Asset-Based Community Development (ABCD) model* is especially applicable to AMR in Nepal, as opined by Skhosana, (2025). Instead of pushing external solutions on the community, ABCD focuses on identifying and leveraging the existing community resources, such as local knowledge, institutions, and networks. Its most important parts are identifying the strengths of the community, encouraging the community to participate, enhancing social capital, and promoting shared responsibility. On AMR, ABCD emphasises how communities can be mobilised around hygiene practices, rational drug use, and awareness campaigns by enlisting the services of local schools, health posts, and traditional leaders. For instance, the rural communities tend to have a well-developed social network and cultural practices that could be used to share information about antibiotic misuse. This suggests that the interventions are more sustainable when they are based on these assets instead of being top-down enforced. History in other South Asia settings has shown that the initiatives of the ABCD based on sanitation and vaccination campaigns have been more successful in terms of uptake when communities have been empowered to lead, as argued by Qiaoyu *et al.* (2024).

The case of the *National Action Plan on AMR (2024-2028)* in Nepal, which takes the One Health approach, incorporating human, animal, and environmental sectors, is relevant in this case (Public Health Update, 2025). Although national in scope, the plan will only succeed when there is mobilisation of communities. For instance, local participation in hygiene and sanitation programs, school-based health awareness programs, and activities by health posts in rural areas demonstrate the application of the ABCD principles. The communities are urged to take advantage of their respective networks to enhance the rational use of antibiotics as well as the prevention of infections. Nevertheless, critical analysis shows that the representation is not even, as the voices of rural people are frequently omitted in the process of policy development, and a power imbalance exists between healthcare professionals and community members. There is a lack of transparency

and inclusivity, and urban residents are more likely to enjoy the benefits of awareness campaigns than rural residents. Cultural competence also becomes an issue as the key to traditional medicine practices is often incompatible with the biomedical approach, and it requires careful incorporation instead of over-rejection (Wollie *et al.* 2025). These problems underscore the challenge between the focus on community assets in ABCD and the fact that there are systemic inequities in Nepal.

The issues of ethics are also another problem complicating the application of CD to AMR. The inequalities of power between the professionals and the laypeople can cast doubt on the issues of justice and inclusiveness since the communities may be viewed as passive receivers, but not as equal partners. Considering the applicability of CD in the treatment of AMR in Nepal has its strengths and weaknesses. On the positive side, multisector collaboration through the One Health framework has enhanced surveillance and raised awareness among healthcare professionals. Hygiene and school campaigns led by communities illustrate the potential of ABCD to entrench behavioural change in the social sphere.

Conclusion

The problem of antimicrobial resistance in Nepal requires interventions on both an individual basis and a community-wide basis. The Health Belief Model emphasises the influence of the perception of susceptibility and severity on misuse, but has minimal impact due to gaps in the systemic enforcement. Conversely, Asset-Based Community Development promotes inclusivity and sustainability, mobilising community assets, but the issues of representation and equity still persist. It has been indicated that individual change is required to shift personal behaviours, but that community development is more effective in the long-term, as it entails instilling awareness and responsibility in community structures. The focus of the policy must hence be on community-based approaches, which are reinforced by regulation and fair access to healthcare.

References

Acharya, K.P. and Wilson, R.T. 2019. 'Antimicrobial Resistance in Nepal', Frontiers in Medicine, 6. Available at: https://doi.org/10.3389/fmed.2019.00105.

Adebisi, Y.A., 2023. Balancing the risks and benefits of antibiotic use in a globalized world: the ethics of antimicrobial resistance. Globalization and Health, 19(1), p.27. Available at: https://link.springer.com/article/10.1186/s12992-023-00930-z

Devi, B., Devi, R., Pradhan, S. and Lepcha, N., 2022. Theory at a glance: health belief models in predicting health behaviors. Journal of Bio Innovation, 11(2), pp.410-21. Available at: https://www.researchgate.net/profile/Barkha-Devi-2/publication/360270302_THEORY_AT_A_GLANCE_HEALTH_BELIEF_MODELS_IN_PREDICTING_HEALTH_BEHAVIORS/links/626cf6510df856128f897d12/THEORY-AT-A-GLANCE-HEALTH-BELIEF-MODELS-IN-PREDICTING-HEALTH-BEHAVIORS.pdf

Holland, S., 2022. Public health ethics. John Wiley & Sons. Available at: https://books.google.co.in/books?hl=en&lr=&id=nR6bEAAAQBAJ&oi=fnd&pg=PA1930&dq=ethical+practice+in+public+health+must+be+able+to+balance+autonomy+with+beneficence,+such+that+the+interventions+do+not+contribute+to+the+inequalities.&ots=0nm59yjHGG&sig=vPWsUgHQNwxBUq5WKQDXFH_Vmw0&redir_esc=y#v=onepage&q&f=false

Khanal, Sushil and Acharya, Upasana and Trotter, Andrew and Tripathi, Prashant and Koirala, Sabin and Pahari, Bishnu and Acharya, Subhash. 2023. Challenges and opportunities in the implementation of an antimicrobial stewardship program in Nepal. Antimicrobial Stewardship & Healthcare Epidemiology. 3. 10.1017/ash.2022.359.

Morales-Garzón, S., Parker, L.A., Hernández-Aguado, I., González-Moro Tolosana, M., Pastor-Valero, M. and Chilet-Rosell, E., 2023, April. Addressing health disparities through community participation: a scoping review of co-creation in public health. In Healthcare (Vol. 11, No. 7, p. 1034). MDPI. Available at: https://www.mdpi.com/2227-9032/11/7/1034

Murray, J.L., Leung, D.T., Hanson, O.R., Ahmed, S.M., Pavia, A.T., Khan, A.I., Szymczak, J.E., Vaughn, V.M., Patel, P.K., Biswas, D. and Watt, M.H., 2024. Drivers of inappropriate use of antimicrobials in South Asia: A systematic review of qualitative literature. PLOS Global Public

Health, 4(4), p.e0002507. Available at: https://journals.plos.org/globalpublichealth/article?id=10.1371/journal.pgph.0002507

Parajuli, A., Garbovan, L., Bhattarai, B., Arjyal, A., Baral, S., Cooke, P., Latham, S., Barrington, D.J., Mitchell, J. and King, R., 2024. Exploring community insights on antimicrobial resistance in Nepal: a formative qualitative study. BMC health services research, 24(1), p.57. Available at: https://link.springer.com/article/10.1186/s12913-023-10470-2

Public Health Update (2025) National Action Plan on Antimicrobial Resistance (2024-2028), Public Health Update. [Online] Available at: https://publichealthupdate.com/national-action-plan-on-antimicrobial-resistance-2024-2028/. [Accessed on 4 May 2026]

Qiaoyu, M., Rosnon, M.R., Amin, S.M. and Burhan, N.A.S., 2024. Research on asset-based community development. International Journal of Academic Reserach in Economics and Management Sciences, 13(2). Available at: https://knowledgewords.com/index.php/ijarems/article/view/992/1004

Skhosana, R.M., 2025. Harnessing local strengths: Asset-based community development and sustainable livelihoods in South Africa. Inkanyiso, 17(1), p.151. Available at: https://journals.co.za/doi/full/10.4102/ink.v17i1.151

Wang, Z., 2025. Can Health Anxiety Override Antimicrobial Resistance (AMR) Knowledge?. Available at: https://gupea.ub.gu.se/server/api/core/bitstreams/53ff58de-b436-4f8f-950a-f831937a593b/content

Wollie, A. M., Usher, K., Rice, K., and Islam, M. S. 2025. Challenges and opportunities for integrating traditional healing approaches with biomedical care for mental illness: A scoping review from healers' perspectives. PLOS One, 20(6), e0325353. https://doi.org/10.1371/journal.pone.0325353

World Health Organization (2023) Antimicrobial resistance, World Health Organization. [Online] Available at: https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance. [Accessed on 4 May 2026]

World (2024) Reaching beyond health to accelerate the fight against AMR in Nepal, Who.int. World Health Organization: WHO. [Online] Available at: https://www.who.int/news-room/feature-stories/detail/reaching-beyond-health-to-accelerate-the-fight-against-amr-in-nepal. [Accessed on 4 May 2026]