Antimicrobial Resistance: Do Healthcare Workers Contribute to this Burden?

Ahmed A. Mosa1,*, Ameen M. Mohammad2, Nawfal R Hussein3, Jodi Ramadhan Haji2
1 Department of Medical Education, College of Medicine, University of Zakho, Kurdistan Region, Iraq
2Department of Internal Medicine, College of Medicine, University of Duhok, Kurdistan Region, Iraq
3Department of Biomedical Sciences, College of Medicine, University of Zakho, Kurdistan Region, Iraq
* Corresponding author
Corresponding author details
Ahmed A. Mosa
Department of Medical Education, College of Medicine,
University of Zakho, Kurdistan Region of Iraq
Email: ehmad.a.mosa@gmail.com
Mobile number:009647504506689
ORCID: https://orcid.org/0000-0003-1985-6995

Authors details
Ameen M. Mohammad
- Email: doctorammb@gmail.com
- ORCID: https://orcid.org/0000-0001-9093-2319

Nawfal R Hussein
- Email: nawfal.hussein@uoz.edu.krd
- ORCID: https://orcid.org/0000-0002-7813-9198

Jodi Ramadhan Haji
- Email: jodyramadan66@gmail.com
- ORCID: https://orcid.org/0009-0003-7020-0649

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Dear Editor,

The weapon we once used to fight infections is now becoming our greatest enemy. Antimicrobial resistance (AMR) has emerged as a serious global public health threat, jeopardizing the effectiveness of antimicrobial treatments [1]. If no appropriate measures are taken, it's anticipated that by 2050, AMR will contribute to nearly 10 million deaths worldwide. The AMR burden is particularly pronounced in low- and middle-income countries (LMICs) [2]. In this paper, we seek to offer insights into how health systems and healthcare workers contribute to and potentially exacerbate the AMR burden, especially in LMICs.

- **Over-the-counter antimicrobials**: In LMICs, antimicrobials can be easily obtained over the counter from pharmacies, which does not require an official doctor's prescription. This phenomenon, coupled with widespread self-medication, are main driver of this avoidable burden [3].
- **Non-physician-led clinics**: These clinics are widely available in neighbourhoods, and patients sometimes seek care from these clinics. Personnel in these non-physician-led clinics frequently prescribe antibiotics to patients without due consideration. Instead of alleviating the AMR burden, and encouraging patients to seek care from qualified healthcare professionals, they easily prescribe antibiotics for them and portray themselves as good alternatives to qualified physicians. This practice continues in the absence of clear policies preventing the dispensing of antimicrobial agents without a prescription or regulating their use [4].
- **Overloaded health systems**: Physicians are not exempt from AMR burden. In many circumstances, hospital overloads, high patient volume, and patient pressure may lead physicians to prescribe antimicrobials without clear clinical indications, or sometimes just to meet patient expectations. In some hospital settings, encountering a patient case sheet with an unnecessarily prescribed antimicrobial agent has become common.
- **Suboptimal aseptic techniques**: Sometimes due to overwhelming workloads, low availability of resources, or as a habit among healthcare providers, many sterile procedures, such as Foley catheter insertion, are performed under suboptimal aseptic conditions. Consequently, non-indicated use of prophylactic antibiotics has become a routine practice [5].

- **National policy and implementation gaps**: The lack of locally adapted detection and management protocols, and improper implementation of infection prevention and control measures further complicate AMR control efforts. At the policy level, although a growing body of evidence exists; however, utilization of generated evidence and its influence on clinical practice and national health policy remain limited, highlighting a substantial gap between evidence generation, implementation, and policy [6].

In conclusion, health systems, health care workers, and medical colleges have a part to play in regard to the AMR crisis. We recommend the implementation of policies prohibiting the dispensing of antimicrobials without a prescription, and initiatives to enhance health care workers'

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awareness of AMR threats. Moreover, medical colleges should not underestimate AMR; instead, they should graduate students who prioritize sterile techniques and responsible antimicrobial prescribing. Finally, implementation of One Health policy that connects human, animal, and environmental health is crucial in addressing AMR. Collaborative initiatives between healthcare, veterinary medicine, agriculture, and environmental sectors are essential for improving infection control measures and strengthening AMR surveillance.

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