The need for Urgent Antimicrobial Governance Implementation in Iran

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According to WHO, Iran is the first user of antibiotics in terms of defined daily dose per 1000 inhabitants (DDD) among 65 recruited countries in 2023 (1). This is not just a rank (although an astonishing one), but it implies many important and threatening consequences.

In addition to monitoring of antimicrobial consumption, there are 2 different systems of surveillance by which antimicrobial resistance (AMR) is monitoring across the country in Iran. One is called INIS which stands for "Iran Nosocomial Information System" and monitors the trends of hospital acuired infections together with their antimicrobial resistance status in more than 1000 hospitals in the country from different sectors including both public and private ones. The other one is based on Global Antimicrobial Surveillance System (GLASS) guideline. Iran has joined to GLASS since 2016 and now 14 hospitals are collecting and reporting the results of Antimicrobial Sensitivity Tests (ASTs) for both hospitalized and non-hospitalized admitted patients. According to the latest reports which are published by Iran Ministry of Health and Medical Education in 2023 and 2024, prevalent resistances have been observed in under observed priority bacteria including Acinetobacter spp, Klebsiella pneumonia, E. coli and Staphylococcus aureus. For instance, according to the later surveillance system, about 91.9% (95% CI: 90.3%-92.3%) of isolated Acinetobacter spp group were resistant for Imipenem in 2023 in 14 participating hospitals among the recruited patients (2). In a systematic review aimed to estimate the prevalence of Extended-Spectrum Beta-Lactamases-Producing ESBL) E. coli in Iran by meta-analysis in 2020, it has been revealed that about 45% (95% CI: 36%-55%) of isolates, were producing the related gene (bla_{ctx-m}) (3). The situation is even more terrifying in animal sector. According to Pourhossein et al, about 89.8% of 206 isolated E. coli from cloacal swabs of chickens in the north of Iran, were resistant to at least one antibiotic (4). This may spread the AMR phenomena more rapidly among general population

All of the expressed findings show the need of urgent implementing antimicrobial governance in both human and animal sectors using "one health" approach. It seems the AWaRe (5) guideline be a promising tool for such an implementation at least in human sector. These approaches may help the country to combat the expanding dilemma. However, an important issue is the fact that all stakeholders including both different sectors of the state and even ordinary people shall be engaged for implementing such comprehensive strategies. Another aspect necessary to be noticed in the process of combating against AMR, is the knowledge and practice of clinicians who are in charge with antibiotic prescription. It seems necessary to pay more attention to continuous medical education programs with this regard

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Rahnamaye Farzami M. & Kamali K: provision of appropriate references and contribution to interpretation of evidences.

Ethical Considerations

Not applicable.

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Conflict of Interests

The authors declare that they have no competing interests.

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