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Opinion

Antimicrobial Resistance: How Healthcare Professionals and the General Public can make a Difference

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Antimicrobial resistance (AMR) has been reported in all regions throughout the world and it still remains a global threat to public health. This problem is also compounded by the limited antimicrobial drugs (antibiotics or antibacterial, antiviral, antifungal, antimalarials and anthelmintics) under development. Among all antimicrobials, antibiotics tend to be the most frequently prescribed drugs in primary healthcare. Antibiotics which have previously been referred as miracle drugs have revolutionized medicine and saved millions of lives from infectious diseases. For decades, antibiotics have played a pivotal role in treating bacterial infections such as pneumonia, meningitis, diarrhea, and tuberculosis. However, resistance to all classes of antibiotic has emerged compromising the ability of these drugs to treat life-threatening infections [1]. Modern medicine depends on effective antibiotics to treat and prevent infections; without these wonder drugs it would be difficult or too risky to perform surgeries, cancer chemotherapy, or organ transplants [2].

Antibiotic resistance may be caused or driven by several factors including over-the-counter, overuse and misuse of antibiotics. WHO has recommended five main strategies that many countries are adopting and implementing in order to curb antibiotic resistance [3]. Some of these strategies such as strengthening the knowledge of AMR through surveillance and research are still difficult to implement due to limited resources especially in developing countries. Identifying and developing new classes of antibiotics is vital, but are there other ways that can be implemented in order to control or halt the spread of drug resistant bacteria even in countries with limited resources? Whilst we are trying to find new antibiotics, it is important to guard the ones that we currently have so that they can remain effective. In the United States alone, more than 2.8 million antibiotic-resistant infections occur every year resulting in more than 35,000 deaths [4]. If nothing is done about this global crisis more people will die every year due to AMR infections.

Antimicrobial resistance is a very big and complex problem involving humans, animals, agriculture, and the environment [4]. Humans have an essential role to play in combating AMR and this could be done effectively through awareness, education, and engagement. For instance, resistant bacteria may spread in healthcare-related and community settings due to poor hygiene. Therefore, there is a role that health care professionals (HCPs) and the general public need to play in order to curb AMR given that awareness, education and engagement come at a low cost and may be implemented successfully despite having limited resources in developing countries.

HCPs are responsible for combating AMR in various ways including through antibiotic stewardship. However, there is a need for HCPs to be educated and trained on AMR so that they can make good decisions in the future. HCPs should also be aware of the AMR trends and treatment guidelines recommended in their communities (of course these may not be available in all countries) and they should make sure that these are strictly followed [5]. Lack of awareness and knowledge on AMR among HCPs should be concerning as they are in the front line of curbing AMR. They need to take appropriate actions and may have to drive awareness and teach patients about AMR and the importance of using antibiotics appropriately. However, it is more worrying when the HCPs themselves have limited knowledge on antibiotic stewardship and

AMR. Some HCPs are not aware of the treatment guidelines whereas some do not follow the treatment guidelines at all. Health care practitioners can be tempted at times to over prescribe antibiotics to cut cost, for example when antibiotics are approaching their expiry date [6].

Controlling or combating the AMR crisis requires collective effort from society, including the general public and authorities. HCPs have the responsibility to educate patients on the appropriate use of antibiotics and AMR. However, HCPs cannot do much regarding the spread of AMR in the communities, therefore, the citizens or the general public should be educated on proper antibiotic use and AMR. In addition, optimal hygiene practices in the communities should be encouraged as this will help to prevent the spread of drug resistant bacteria in the communities. However, this may be a challenge in countries where there is no access to resources required for optimal hygiene practices.

Improving awareness and understanding of antimicrobial resistance by both healthcare professionals and the general public is warranted. Currently, the world is aware of the novel corona virus (COVID-19) and there has been measures communicated to the general public on how they can minimize the spread of the virus. In a similar way, awareness and understanding of AMR can be communicated to people and to make this more effective this should be communicated in all local languages especially in countries with more than one official language.

Conflict of Interest

The author is currently a GlaxoSmithKline employee and declares no conflict of interest.

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