

## **Antimicrobial Resistance and the next Pandemic**

Dr. Borhan Uddin Ahmed  
Executive Editor,  
Sr. Consultant & Coordinator,  
Department of Internal Medicine  
Evercare Hospital Dhaka.

Physicians worldwide encounter situations when they fail to control infection due to antimicrobial resistance (AMR). AMR now causes more deaths than HIV/AIDS and malaria worldwide according to a new study. It has been considered the next pandemic as it is spreading rapidly. The scary part is it has been happening, keeping most people unaware of it happening.

Penicillin has been discovered in 1928 and we saw many more discoveries which peaked in 1950s. Since then, there was a decline in antibiotic class discovery and the last antibiotic class that has been successfully introduced as treatment was discovered in 1987. Although we did not see new antibiotic classes, we saw modifications of already existing antibiotics that led to many new generations of the old antibiotic classes in the market. Why was the invention of new antibiotic class declining? There is no simple or single answer to it. Pharmaceuticals or other research bodies may gradually have become uninterested because of high investment with a prospect of less profit. As a result, we have access to a limited number of antibiotics and these microbes in their pursuit of existence, developing a way to overcome the effect of these antibiotics. Some of these microbes are even becoming resistant to all available antibiotics, making it a real matter of concern.

As we gradually become aware of this situation's danger, we are now seriously looking for a solution. However, antibiotic resistance problems cannot be solved. It can only be managed by acting wise. We must ask ourselves questions if we are doing something contributing to this development and spread. Misuse and inappropriate use of antibiotics in humans and animals are one of the greatest reasons that led to the development of AMR to this magnitude. Studies now show that there is a significantly high number of patients receiving them, in fact, do not need them at all. Even if they need it many of them are receiving it in inappropriate doses making it easier for the microbes to develop resistance.

Now, with these available facts in our hands, can we do something with our limited resources to combat the situation? Every hospital or any healthcare facility should come forward and develop a culture of prudent use of antibiotics. That culture can only be developed by awareness programs and vigilance. In the hospital environment, an antibiotic stewardship can be established who would monitor antibiotic prescriptions on a regular basis, to communicate and educate if appropriate. This at least can be done locally and in the bigger picture governments and international organizations can do much more which includes more funds for research, development and implementation of national protocols, use of media to improve public awareness etc.

We are three years into a pandemic and while we are about to see a silver lining in it, there is another pandemic lurking in the horizon. We should act now and acting wise it can be kept at bay.