



Antibiotic Resistance: An upcoming Pandemic

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Antibiotics are medications that are used to both prevent and treat bacterial infections. Antibiotic resistance arises when bacteria adapt to the usage of antibiotics. Antibiotic resistance develops in bacteria rather than in humans or other animals. These germs can infect both humans and animals, and their infections are more difficult to treat than those caused by non-resistant bacteria. Antibiotic resistance causes greater mortality, longer hospital stays, and higher medical expenses. Our capacity to cure widespread infectious illnesses is being threatened by the emergence and worldwide dissemination of new resistance mechanisms. As antibiotics lose their potency, an increasing range of ailments, such as gonorrhoea, blood poisoning, pneumonia, and tuberculosis (TB), become difficult to treat and, in some cases, incurable. In every region of the globe, antibiotic resistance is increasing to dangerously high levels. It poses a serious danger to public health on a global scale, killing at least 1.27 million people and contributing to approximately 5 million deaths in 2019 [1]. More than 4.6 billion dollars a year is the projected cost to treat infections brought on by six multidrug-resistant pathogens that are often seen in healthcare settings. *Escherichia coli* is the pathogen that is most commonly reported in Pakistan (68.8% in 2018) [2, 3].

Antibiotic resistance jeopardizes advances in contemporary medicine. The main issues and concerns in Pakistan are a large number of surplus registered drugs (approximately 50,000), self-medication by more than 50% of the population, and a substantial number of quacks in the country. On average, each patient is given more than three drugs, and antibiotics are given to 70% of patients which is the highest number of prescriptions as compared to rest of the world. General practitioners (GPs) and public hospitals, which favor expensive broad-spectrum antibiotics, are more prone to prescribe these medications impulsively and without consideration [3]. Antibiotic abuse and misuse, as well as inefficient infection prevention and control, all contribute to the rapid spread of antibiotic resistance. Actions can be taken at all societal levels to mitigate the consequences and prevent resistance. Antibiotics should only be used as advised by a licensed healthcare provider. Doctors should only prescribe and give antibiotics when absolutely required, according to current recommendations. To address antibiotic resistance, the government must implement a comprehensive national action plan.

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