



Impact of Antibiotic Resistance on Environmental Health

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Description

Anti-Microbial Resistance (AMR) is posing an increasing threat to global public health because it is causing illnesses to take longer to treat, more people to use more expensive antimicrobials, and more people to die from illnesses that could be treated. Antimicrobial abuse and overuse in humans and animals, the unwarranted use of antibiotics as growth promoters in animals, and a general lack of knowledge about how to safeguard antibiotics are some of the known causes of AMR. As a result, resistant organisms are spreading throughout the ecosystem, and it is important to think about the One Health approach to limit the spread of AMR. One Health is essential for preventing the spread of antimicrobial-resistant microorganisms, particularly in low income countries, and reducing the threat that AMR poses to global public health. Environmental health, in particular water, sanitation, and hygiene (WASH), waste management, and food hygiene and safety, are key elements of One Health. The main environmental health practices in the prevention of AMR include adequate WASH through access to and use of safe water; suitable containment, treatment, and disposal of human excreta and other wastewater, including that from healthcare facilities; good personal hygiene practices, such as washing hands with soap at crucial times to prevent the spread of resistant microorganisms and the contracting of illnesses that may require antimicrobial treatment; and proper disposal of soil. Therefore, environmental health is essential for preventing infectious disorders that would otherwise necessitate the use of antibiotics, for halting the spread of resistant organisms, and for minimizing exposure to antibiotic residues. Environmental health practitioners, in collaboration with other One Health specialists,

play a crucial part in preventing the spread of AMR through activities like health promotion, surveillance, law enforcement, and research.

Antimicrobials have helped to decrease the spread of infectious diseases, saving lives and boosting output. However, there is a growing development of Anti Microbial Resistance (AMR), which has grown into a major worldwide health issue, as a result of the widespread abuse of antibiotics in humans and animals. AMR makes it more difficult to control infections, raises the price of therapy, and increases patient mortality risk. Infectious diseases account for more than half of the disease burden globally, and efforts to reduce this high incidence are currently being hampered by rising levels of resistant infections. It is estimated that 700,000 people die each year due to drug-resistant infections world-wide, and the sustained increase in AMR may lead to 10 million deaths each year by 2050. This worry is made worse by the absence of AMR surveillance and current knowledge in populations, which are essential for both preventing and treating resistant diseases.

Antimicrobial stewardship, which encourages the appropriate use of antibiotics in patient management, has received the majority of attention in AMR prevention efforts to date. In fact, there is still a significant amount of improper usage of antimicrobials, including unrestricted drug sales, self-medication, disregard for treatment recommendations and prescriptions, and inappropriate use in crops and animals. This strategy calls for the creation and backing of National Action Plans utilizing a One Health perspective in every nation. This strategy considers the intricate relationships between people, animals, and the environment (including

aquaculture), taking into account both the health and the financial effects of widespread AMR. According to recent data, AMR might push 28 million people into poverty by 2050 and cost low-income countries 5% of their GDP.

Every year, inadequate WASH conditions are blamed for around 827,000 deaths. This accounts for 60% of all diarrheal deaths, which are the second largest cause of death in children under the age of five and are responsible for more than 500,000 deaths in only this age group. Suffer a heavy burden of WASH-related illnesses, such as cholera, dysentery, diarrhea, hepatitis A, and typhoid, which are frequently treated with antibiotics. Although most diarrheal infections

are actually caused by viruses rather than bacteria, most individuals nevertheless self-medicate with antibiotics to treat them. If everyone had access to better WASH services, the usage of antimicrobials might be cut by 60%.

According to WHO estimates, 2 billion people worldwide lack access to basic sanitation facilities like latrines, and 673 million of them may defecate in gutters, bushes, or open bodies of water. The control of infectious diseases, particularly the spread of resistant organisms and antibiotic residues in low-income nations, depends heavily on environmental health. The prevention of AMR can be greatly aided by improvements in WASH, waste management, and food hygiene and safety.