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Editorial

Antimicrobial drug resistance

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INTRODUCTION

The ability of germs to proliferate despite being exposed to antimicrobial agents is known as antimicrobial resistance. As a result, the bacteria persist in the body, causing illnesses to spread to others. Antimicrobial resistance is caused by a number of biological and social factors.

"Microbes" are microorganisms that develop antimicrobial resistance to antibiotics. As a result, the sickness remains in the body, increasing the danger of it spreading to others.

New resistance mechanisms are growing over the world, posing a danger to our ability to treat infectious diseases. This resulted in long-term disease and death. Due to a shortage of effective antimicrobials, medical procedures such as organ transplantation and chemotherapy have become extremely dangerous. Antimicrobial resistance wreaks havoc on one's health, necessitating more severe treatment. It's a prevalent issue that's caused by a number of interconnected circumstances. To tackle antimicrobial resistance, national action plans are required. Antimicrobial drugs and vaccines must be developed.

The World Health Organization also offers countries technical assistance in developing national antimicrobial resistance action plans. It is collaborating with the FAO and the OIE to develop best practises for preventing antibiotic resistance. Antimicrobial resistance refers to a lack of response to medications used to treat illnesses caused by microorganisms such as viruses, fungi, and bacteria. Antibiotic resistance, on the other hand, occurs when bacteria evolve in a way that makes antibiotics less effective. Bacteria, viruses, fungus, and parasites are examples of biological entities that evolve over time. Their main goal is to reproduce, prosper, and expand as soon as possible. As a result, microorganisms adapt to their surroundings and evolve in ways that support their continued existence. If something, such as an antibiotic, prevents them from growing, genetic modifications can occur, allowing the bacterium to survive. This can happen in a variety of ways.

Antimicrobial agents are classified into classes depending on their antimicrobial action mechanism. Inhibitors of cell wall production, depolarizers of the cell membrane, inhibitors of protein synthesis, inhibitors of nucleic acid synthesis, and inhibitors of metabolic pathways in bacteria are the primary classes. Antimicrobial groupings based on pharmacological mechanisms from several groups. With such a diverse set of processes, it would appear that we would have more control over the creatures. Unfortunately, poor antimicrobial stewardship has contributed to the massive resistance problem that we currently face. Increased antimicrobial drug intake, both by humans and animals, and poor antimicrobial therapy prescribing are two factors that have contributed to the rising resistance problem. Many common antimicrobials agents may be overused by physicians since the medicine of choice is based on a combination of low cost and low toxicity. There may also be incorrect antimicrobial medicine prescriptions, such as the first prescription of a broad-spectrum drug that is either unneeded or ineffective for the organism(s) causing the infection. The problem is that human overuse of antibiotics leads to the creation of antibiotic-resistant bacteria. However, earlier use of antimicrobial medications increases the likelihood of infection with a drug-resistant organism, and patients who have had the most antimicrobial exposure are more likely to be infected with resistant bacteria. Antibiotic resistance in bacterial pathogens has increased worldwide, resulting in treatment failures in human and animal infectious diseases. Antibiotic resistance in pathogenic microorganisms is a major concern in both human and animal anti-infective therapy.

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