

General Studies – 1; Issues relating to development and management of Social Sector/Services relating to Health,

Antimicrobial Resistance in India

1) Introduction

- According to WHO, Antimicrobial resistance is resistance of a microorganism to an antimicrobial drug that was originally effective for treatment of infections caused by it.
- It is not a country specific issue but a global concern that is jeopardizing global health security.
- Antimicrobial resistance is one of the major public health problems.
- In India the infectious disease burden is among the highest in the world.

2) Reasons for Antimicrobial resistance

- Easy availability and higher consumption of medicines
- Poor public health infrastructure, rising incomes, a high burden of disease, and cheap, unregulated sales of antibiotics has created ideal conditions for a rapid rise in resistant infections in India.
- Lack of hygiene and poor sanitation
- Over-the-counter, non-prescription sales in India are among the highest in the world.
- Widespread public misunderstanding about antibiotic usage and resistance. WHO survey shows that three quarters (75%) of respondents think, incorrectly, that colds and flu can be treated with antibiotics;
- Discharge of antimicrobial waste into the environment from pharmaceutical industry.
- Growing antibiotic use in the animal sector and increased demand for meat and poultry.
- Nexus between doctors and pharmaceutical companies where doctors routinely receive compensation in exchange for antibiotic prescriptions.
- Lack of new antibiotics being developed.
- Poor infection control in hospitals and clinics.

3) Concerns / Challenges

- Inadequacy of public finance which will result in the conditions favorable for development of drug resistance.
- Antimicrobial resistance will result in difficulty in controlling the diseases in the community and ineffective delivery of the health care services.
- Neonates and the elderly both are more prone to infections and are vulnerable.
- A very significant part of out-of-pocket expenditure on health care is on medicines. The ineffective drugs and/or second line expensive antibiotics is pushing the treatment costs higher.
- WHO has published its first ever list of antibiotic-resistant 'priority pathogens' — a catalogue of 12 families of bacteria that pose the greatest threat to human health and most of these 12 superbugs have presence in India.

4) Steps taken to deal with the menace

- Indian Association of Pediatrics, the Global Antibiotic Resistance Partnership, and the Chennai Declaration have helped build awareness about the problem.
- To prevent over-the-counter (OTC) sales of antibiotics, the Central Drugs Standard Control Organization (CDSCO) order prohibits medical stores from selling 24 key antibiotics without a doctor's prescription

- ICMR has set up National Anti-Microbial Surveillance Network for understanding of mechanisms of resistance
- National Policy for Containment of Antimicrobial Resistance (2011), to address the problem of multi-drug resistance.
- India developed National Action Plan to combat Antimicrobial Resistance as part of India's commitment to the WHO's Global Action Plan.
- 2017 World Hand Hygiene Day slogan is "Fight antibiotic resistance ... it's in your hands", illustrating the relationship between practices like washing your hands and preventing antibiotic resistance.
- WHO guidelines on core components of infection prevention and control programmes which plays a critical role in combating antimicrobial resistance.

5) Solution

- Rationalizing antibiotic use to limit antibiotic resistance in India.
- Improving regulation of drug production and sales
- Better managing physician compensation
- Encouraging behavior change among doctors and patients are of immediate priority.
- Regulation of the medical sector, particularly in the prescription of medicines.
- Improved management of the health care delivery systems, both public and private, will minimize conditions favourable for the development of drug resistance.
- Improved awareness of antimicrobial resistance through effective communication. WHO's World Antibiotic Awareness Week is one such event.
- Reducing the incidence of infection through effective infection prevention and control. As stated by WHO, making infection prevention and hand hygiene a national policy priority.
- Discourage non-therapeutic use of antimicrobial agents in veterinary, agriculture and fishery practices as growth-promoting agents.
- Promoting investments for antimicrobial resistance activities, research and innovations
- Strengthening India's commitment and collaborations on antimicrobial resistance at international, national and sub-national levels.
- Regulate the release of antibiotic waste from pharmaceutical production facilities and monitoring antibiotic residues in wastewater.