The Silent Pandemic of Antimicrobial Resistance (AMR)

Why in news?

While the world is emerging from the acute phase of the COVID-19 pandemic, the very harmful but invisible pandemic of Antimicrobial Resistance (AMR) is unfortunately here to stay.

What is AMR?

> *India is the largest consumer of antibiotics in the world.*

Antimicrobial resistance (AMR)

- AMR is the ability of a microbe to resist the effects of medication previously used to treat them.
- Resistant microbes are more difficult to treat, requiring alternative medications or higher doses, both of which may be more expensive or more toxic.
- Microbes resistant to multiple antimicrobials are called **Multi Drug Resistant (MDR)** or sometimes **Superbugs.**

Causes of AMR

- **Usage** - There is an increasing use of antibiotics for human and veterinary purposes in the recent period.
- There is irrational consumption (over usage) of broad spectrum antibiotics.
- **Lack of effective regulation** - The current standards of Central Pollution Control Board do not include antibiotic residues, and they are not monitored in the pharmaceutical industry effluents.
- The existing good manufacturing practices (GMP) under the WHO (2016) framework is restricted to drug safety alone and does not recognise the environmental risk with pharmaceuticals products.
- **Waste Discharge** - The uncontrolled discharge of untreated urban waste is another major source for AMR in many low and middle income countries

> *An Indian Council of Medical Research (ICMR) study in 2022 showed that the resistance level increases from 5% to 10% every year for broad-spectrum antimicrobials.*

Impacts of AMR

- **Treating infections** - Microbial resistance to antibiotics has made it harder to treat infections such as pneumonia, tuberculosis (TB), blood-poisoning (septicaemia) and several food-borne diseases.
    - The global epidemic of TB has been severely impacted by multidrug resistance — patients have less than a 60% chance of recovery.
- **Health cost** - AMR imposes a huge health cost on the patient in the form of longer hospitalisation, health complications and delayed recovery.
- **Affects vulnerable patients** - It puts patients undergoing major surgeries and treatments, such as chemotherapy, at a greater risk.
- **Disease burden** - AMR adds to the burden of communicable diseases and strains the health systems of a country.

*In 2019, AMR was associated with an estimated 4.95 million human deaths.*



What efforts were taken by India to tackle the rising AMR?

- **Muscat Manifesto** - At the Third Global High-Level Ministerial Conference on Antimicrobial Resistance held in Muscat, over 30 countries adopted the Muscat Ministerial Manifesto on AMR.
- The Muscat Manifesto recognised the need to accelerate political commitments in the implementation of One Health Action for controlling the spread of AMR.
- The conference focused on three health targets
    - Reduce the total amount of antimicrobials used in the agri-food system at least by 30-50% by 2030
    - Eliminate use in animals and food production of antimicrobials that are medically important for human health
    - Ensure that by 2030 at least 60% of overall antibiotic consumption in humans is from the WHO “Access” group of antibiotics
- **Reporting to GLASS** - India plans to strengthen private sector engagement and the reporting of data to the WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS).
- **The National Action Plan on Antimicrobial Resistance (2017-21)** – It emphasised the effectiveness of the government’s initiatives for hand hygiene and sanitation programmes such as Swachh Bharat Abhiyan, Kayakalp and Swachh Swasth Sarvatra.
- **The National Health Policy 2017** – It has offered specific guidelines regarding use and limiting the use of antibiotics as over-the-counter medications and restricting their usage in livestock.
- It also called for scrutiny of prescriptions to assess antibiotic usage in hospitals and among doctors.

What is the need of the hour?

- **Reduction of usage in agri-food system** - There is an urgent need to reduce the usage of antimicrobials in the agri-food system.
    - Countries such as the Netherlands and Thailand have decreased their usage by almost 50%.
- **Effective implementation of policies** - The government policies needs strong implementation on the ground.
- **Oppurtunities in G20** - The various G-20 health summits spread through 2023 offer an opportunity for India to ensure that all aspects of AMR are addressed.
- Some key areas for action are
    - Surveillance of priority pathogens
    - Sharing of data, including through WHO's GLASS platform
    - Regulatory and policy action to stop use of antibiotics
    - No use of antibiotics for growth promotion in animals
    - More government investment in research and innovation for new antibiotics
    - Special focus on combating TB and drug-resistant TB

References

1. The Hindu | A manifesto for tackling Antimicrobial Resistance
2. Times of India | AMR

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