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A MANIFESTO FOR TACKLING THE SILENT PANDEMIC OF AMR

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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. Most countries understood in 2020 the clear and present danger of COVID-19, forcing governments, including India's, to respond with speed and accuracy. The rapidly rising AMR rates also need an accelerated, multisectoral, global and national response. In recent decades, while new drugs have revolutionized human health care, health experts have been struggling with disease-causing microbes that have become resistant to drugs. Global public health response has been threatened due to rising misuse and overuse of antibiotics in humans and animals.

AMR risk and Global concerns

Microbial resistance to antibiotics has made it harder to treat infections such as pneumonia, tuberculosis (TB), blood-poisoning (septicaemia) and several foodborne diseases. AMR also imposes a huge health cost on the patient in the form of longer hospitalisation, health complications and delayed recovery. It puts patients undergoing major surgeries and treatments, such as chemotherapy, at a

greater risk. Many times, patients recover from advanced medical procedures but succumb to untreatable infections.

In 2019, AMR was associated with an estimated 4.95 million human deaths. A 2018 report by the Organisation for Economic Co-operation and Development (OECD) warned of a phenomenal increase, by 2030, of resistance to back-up antibiotics (second and third-line).

AMR adds to the burden of communicable diseases and strains the health systems of a country. 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. An Indian Network for Surveillance of Antimicrobial Resistance (INSAR) study indicated a high rate of resistance to commonly used drugs such as ciprofloxacin, gentamicin, cotrimoxazole, erythromycin and clindamycin.

India and the Muscat conference

As the current G20 president, and as a country vulnerable to this silent pandemic, India's role is critical in ensuring that AMR remains high on the global public health agenda. India's commitment to the cause was evident at the Third Global HighLevel Ministerial Conference on Antimicrobial Resistance (November 24-25, 2022) held in Muscat, where 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. It also recognised the need to address the impact of AMR not only on humans but also on animals, and in areas of environmental health, food security and economic growth and development.

What is antimicrobial resistance?

It is a condition where disease-causing germs such as bacteria, viruses become resistant to drugs. Medicines and antibiotics are no longer able to kill them. Microbial resistance is a threat to life. As the resistance of microbes is increasing, doctors increase the dosage. Potent dosage kills germs. But they also affect the cells of the human body. And the organs start to deteriorate. The human body cannot take antibiotics after a certain level.

GLASS-AMR

- WHO launched the GLASS in 2015 to continue filling knowledge gaps and to inform strategies at all levels. GLASS-AMR provides a standardized approach to the collection, analysis and sharing of AMR data by countries and seeks to support capacity development and to monitor the status of existing or newly-developed national AMR surveillance systems.
- GLASS-AMR is designed to be implemented in five-year cycles followed by revision and further development based on lessons learnt and best practices identified during each of these periods. The first phase, defined as early implementation of GLASS, covered the period 2015–2019. The key objectives of this phase have been to launch the global surveillance system and provide guidance and technical support to countries about the development of an effective national AMR surveillance system.

The conference focused on three health targets:

1. Reduce the total amount of antimicrobials used in the agrifood system at least by 30-50% by 2030.
2. Eliminate use in animals and food production of antimicrobials that are medically important for human health; and
3. Ensure that by 2030 at least 60% of overall antibiotic consumption in humans is from the WHO "Access" group of antibiotics.

In her address, India's Union Minister of State for Health and Family Welfare, Dr. Bharati Pravin Pawar, said that AMR was a serious global health threat and could not be "overshadowed by other competing public health priorities". India has committed to strengthening surveillance and promoting research on newer drugs. It also plans to strengthen private sector engagement and the reporting of data to the WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS) and other standardised systems.

High levels of resistance

WHO has increasingly expressed concern about the dangerously high levels of antibiotic resistance among patients across countries. Take the example of ciprofloxacin, an antibiotic commonly used to treat urinary tract infections. According to WHO, resistance to ciprofloxacin varied from 8.4% to 92.9% for Escherichia coli (E. coli) and from 4.1% to 79.4% for Klebsiella pneumoniae (a bacteria that can cause life-threatening infections such as pneumonia and intensive care unit related infections). The global epidemic of TB has been severely impacted by multidrug resistance— patients have less than a 60% chance of recovery.

The Muscat Manifesto appears to respond to the AMR crisis by setting these three ground-breaking targets. The manifesto encourages countries to prioritise their national action plans for AMR keeping the One Health approach. The One Health approach requires all stakeholders to work together towards an integrated programme linking challenges of humans, terrestrial and aquatic animal, plant health, food and feed production and the environment. This approach will enable the world to effectively prevent, predict and detect the health crisis induced by AMR. Tackling AMR requires constant monitoring of antibiotic consumption, identifying the types and quantities of antibiotics being used.

There is also an urgent need to reduce the usage of antimicrobials in the agrifood system. Scientific evidence suggests that the less antimicrobials are used, it is less likely that there will be an emergence of drug resistance. Countries such as the Netherlands and Thailand have decreased their usage by almost 50%. In China, the consumption of antibiotics in the agricultural sector has fallen substantially. The use of antibiotics in healthy animals to boost growth has also been reduced in the last decade in many countries.

From policy to the ground level

The National Action Plan on Antimicrobial Resistance (2017-21) 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 government has also attempted to increase community awareness about healthier and better food production practices, especially in the animal food industry. The National Health Policy 2017 also offered specific guidelines regarding use of antibiotics, limiting the use of antibiotics as over-the-counter medications and banning or restricting the use of antibiotics for growth promotion in livestock. It also called for scrutiny of prescriptions to assess antibiotic usage in hospitals and among doctors. Everything in these policies now needs strong implementation on the ground.

The various G20 health summits spread through 2023 offer an opportunity for India to ensure that all aspects of AMR are addressed and countries commit to progress. Some key areas for action are:

- Surveillance— both phenotypic and genotypic— of priority pathogens and sharing of data, including through WHO's GLASS platform.
- Regulatory and policy action to stop use of antibiotics that are important for human health in animals.
- No use of antibiotics for growth promotion in animals.
- More government investment in research and innovation for new antibiotics.
- Explore use of vaccines to prevent certain infections due to AMR organisms in humans and animals.
- Special focus on combating TB and drug-resistant TB.

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Expected Question

Que. With reference to Antimicrobial Resistance (AMR), consider the following statements-

1. It is a condition where disease-causing germs such as bacteria, viruses become resistant to drugs.
2. The human body cannot take antibiotics after a certain level.

Which of the above is/are side effects of AMR?

(a) 1 only

(b) 2 only

(c) 1 and 2 both

(d) Neither 1 nor 2

Answer : C

Mains Expected Question & Format

Que.: What is Antimicrobial Resistance (AMR)? Discuss in detail the ongoing efforts at world level including India to deal with this problem.

Answer Format :

- Explain antimicrobial resistance (AMR).
- Mention the danger of AMR and the ongoing efforts to combat it.
- Give a balanced conclusion considering its risk.

Note: - The question of the main examination given for practice is designed keeping in mind the upcoming UPSC mains examination. Therefore, to get an answer to this question, you can take the help of this source as well as other sources related to this topic.