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The official podcast of

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TRANSCRIPT

WORLD ANTIMICROBIAL AWARENESS WEEK

Imagine our Earth as a **living forest**, every creature and plant connected by invisible roots. Like *Avatar*'s Pandora, the pulse of nature courses through rivers, trees, and even microbes.) But deep in this lush harmony lurks an invisible threat: microbes evolving **antibiotic resistance**. Just as where enemies adapt, some bacteria and fungi are becoming "shape-shifters," slipping past our medicines. **Antimicrobial resistance (AMR)** happens when bacteria, viruses, fungi or parasites no longer respond to medicines, making infections hard or impossible to cure.

"Imagine getting a simple UTI… but the antibiotic doesn't work."
"Imagine a small cut turning into a dangerous infection."
"Imagine surgeries becoming life-threatening again."
" This is Antimicrobial Resistance — AMR."

Good morning. This is Dr. Lakshmi, Assistant Professor, Department of Microbiology.
Welcome to WAAW Week.

World AMR Awareness Week (WAAW) is a global campaign that is celebrated annually to improve awareness and understanding of Anti-Microbial Resistance. As one of WHO's official health campaigns, WAAW is mandated by the World Health Assembly and is commemorated annually from 18 to 24 November.
The first antibiotic discovered was **penicillin** by **Alexander Fleming** in 1928

through a chance observation of a mold, *Penicillium notatum*, inhibiting bacterial growth on a contaminated petri dish
As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become increasingly difficult or impossible to treat.

The Roots of Resistance

Bacteria adapt naturally over time, but our actions **speed up** this race. The misuse and overuse of antibiotics in people, animals and even plants are the main drivers of AMR.

- Misuse and overuse of antimicrobials are the main drivers in the development of drug-resistant pathogens.
- Lack of clean water and sanitation
- Inadequate infection prevention and control promote the spread of microbes, some of which can be resistant to antimicrobial treatment.
- The misuse of antibiotics during COVID-19 could lead to accelerated emergence and spread of antimicrobial resistance.
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Antibiotics should not be used to treat viral infections, unless bacterial infections are also present
Different antimicrobials work against different types of microorganisms, e.g. antibacterials or antibiotics against bacteria, antivirals against viruses, antifungals against fungi, and antiparasitic against parasites.
Each unfinished antibiotic course or unnecessary pill is like a dose of power to the microbial army

A Global Threat Unfolding
After effects or results of rising AMR?

1. Common infections become deadly
When antibiotics stop working → even simple infections can kill.
2. Longer illness + delayed recovery
3. Longer hospital stays
AMR → patients are admitted longer → ICUs get full → resource burden increases.
Costlier treatment
Doctors have to use **second line**, **third line**, or **last-resort antibiotics**, which are:

- Rare

- Expensive
- Harsh on body
- Available only in hospitals

Families face huge medical bills.

5. Major surgeries become risky

6. Cancer treatment becomes more dangerous

Chemotherapy reduces immunity.
Patients depend on antibiotics to fight infections.
AMR makes cancer care life-threatening.

7. More complications in chronic conditions

8. Spread of resistant organisms in the community

AMR spreads from:

- Person to person
- Hospitals to homes
- Drinking water
- Food (meat/milk)
- Animals
- Environment

One resistant infection → spreads like wildfire.

9. Medical progress gets reversed

Without antibiotics, we go back to the **pre-antibiotic era**:

10. Increased mortality

More deaths occur because antibiotics stop working.
This is why AMR is silently causing **millions of deaths every year**.

- Drug-resistant infections kill **1.27 million people directly** every year.
- Without action, AMR could cause **10 million deaths annually by 2050**.
- Nearly **5 million deaths** were associated with AMR in 2019.

11. Economic burden on families & nation

12. Last-line antibiotics also failing

Colistin, carbapenems — the final weapons — are also becoming useless.
This is **the scariest stage** of AMR.

<u>Securing our future:</u>

- Adequate nutritious food to build resistance
- Isolation in case of respiratory infections

- Take symptomatic treatment

1. Use antibiotics ONLY when prescribed
No self-medication, no pharmacy shortcuts, no using someone else's leftover tablets.

2. Complete the full course
Even if you feel better on Day 2, don't stop. Partial courses create resistant bacteria.

3. Never demand antibiotics for viral infections
Colds, coughs, flu, dengue, viral fever → NO antibiotics.

4. Avoid sharing or reusing antibiotics
Leftovers = danger. Throw them responsibly.

5. Maintain strong hygiene practices
Good handwashing = fewer infections = fewer antibiotics needed.

6. Take vaccines on time
Vaccines reduce bacterial and viral infections → less antibiotic overuse.

7. Safe food & water practices
Prevent infections from contaminated food/water → reduces antibiotic need.

8. Responsible antibiotic use in animals
Support farms and producers who don't misuse antibiotics for growth promotion.

9. Infection prevention in hospitals
Hand hygiene, sterilization, PPE, clean procedures → stops the spread of resistant organisms.

10. Avoid unnecessary broad-spectrum antibiotics
Let doctors choose the right drug, right dose, right duration.

A future without antibiotics is a future where small infections kill, surgeries stop, cancer treatment fails, and modern medicine collapses.

ONE HEALTH & AMR

One Health is a collaborative, multidisciplinary approach that brings together professionals from medicine, veterinary science, agriculture, and environmental sciences to tackle health threats at the interface of humans, animals, and ecosystems. This strategy is vital for AMR because antimicrobials are used not just in human medicine, but also in agriculture, livestock, and even crop production.
AMR is one of the problems which clearly illustrates one health approach.

1. Humans → Antibiotic Misuse
2. Animals → Antibiotics in Farming

Antimicrobial Resistance is not a problem for tomorrow — it is happening **right now**, around us, inside hospitals, homes, farms, and even in our water and food systems. If we do not act today, we risk stepping into a future where minor infections become deadly, surgeries become unsafe, and modern medicine becomes powerless.
This year's theme,

"Act Now: Protect Our Present, Secure Our Future,"
reminds us that every single person has a role.
The way we use antibiotics today decides whether these life-saving medicines will still work for the next generation.

We can be **guardians of the garden of life**. Simple acts help: washing hands, vaccines, and avoiding unnecessary antibiotics. Every responsible choice is like strengthening a section of the great tree's roots. Hospitals set up antimicrobial stewardship teams, farms manage animal waste better, researchers hunt for new drugs. WHO stresses infection prevention, quality diagnosis and innovation as priorities.
Together, we can protect our present —
and secure a safer, healthier future.

Thankyou!!

Signature of the Resource Person

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