Awareness on antibiotics use is critically low among consumers, pharmacists, and clinicians: Study by Toxics Link

- *The majority of consumers dispose of expired antimicrobials in household trash or flush them into sewage systems.*
- *57% respondent believe that it's okay to share antibiotics with their friends and family*
- *Clinicians list patient pressure as a primary driver of antibiotic misuse in the clinical setting*
- *Over-the-counter antibiotic sales are still a prevalent practice in the surveyed states Delhi, Madhya Pradesh, Andhra Pradesh and Haryana.*
- *Socioeconomic factors such as income, education and gender influence antibiotic consumption practices*

New Delhi, January 23, 2026: Antimicrobial resistance (AMR) occurs when microorganisms survive and multiply despite exposure to antimicrobial drugs designed to inhibit or kill them. The World Health Organisation warns drug-resistant diseases could cause 10 million deaths annually by 2050, worsening the treatment of HIV, tuberculosis, malaria, pneumonia and other illnesses, costing the economy up to US$412 billion (Lancet study, 2024). Such economic losses would disproportionately burden lower- and middle-income countries such as India. The country is already noted for having one of the highest rates of drug-resistant infections globally, with the ICMR noting a surge in resistant cases of common infections such as pneumonia and urinary tract infections.

Prime Minister Shri Narendra Modi, citing an ICMR report in his December 2025, warned that the indiscriminate use of antibiotics is driving antimicrobial resistance, stressing that antibiotics are not a quick fix and should be taken only on a doctor's advice.

In 2017, the Government of India launched its National Action Plan on AMR containment (NAP AMR), outlining six strategic priorities with defined interventions, activities, and outputs. The document paved the way for states to design their own plan, depending on the state's specific needs and governance structures. Nearly a decade later, on 18 November 2025, the Government of India introduced the second National Action Plan on AMR (NAP AMR 2.0) to address gaps in the earlier plan to minimise the risks associated with antimicrobial resistance.

The Toxics Link report *"Understanding Antibiotics Use"* is based on a study conducted across five states to assess the level of understanding and information among diverse citizen groups. The study surveyed 223 respondents, including consumers, pharmacists and doctors, to evaluate the gaps by assessing the knowledge, attitudes, and practices surrounding antibiotic use. The results revealed a fundamental lack of information about antibiotics, self-medication and mounting incidences of over-the-counter antibiotic sales.

"Misinformation and misconceptions drive cases of self-medication, while the ease of availability of antibiotics over-the-counter creates challenges for the containment of the AMR", suggests Vidhi Mathur, Senior Programme Officer, Toxics Link.

Key Findings

- Andhra Pradesh leads in over-the-counter antibiotic sales at 45.5% and consumption as high as 90%.
- Over-the-counter sales in Kerala were not observed in the study.
- A key driver for antibiotic overuse and misuse in clinical settings is the pressure from patients to prescribe antibiotics, says clinicians
- Antibiotic knowledge and practices were largely influenced by income, education and gender
- Pharmacists are aware of Schedule H1 and red-line regulations, however compliance remains inconsistent, with gaps in prescription-only dispensing, record-keeping, and safe disposal of expired antibiotics.
- Notably, pharmacists in states without SAP, such as Andhra Pradesh and Haryana, have a higher probability of not keeping records of their antibiotic sales.

India faces multiple challenges, like over-the-counter sales of antibiotics, overprescription in hospitals and overconsumption in the animal food sector. Lack of awareness among the general public and healthcare professionals exacerbates the problem, with many patients demanding antibiotics even for viral infections. This scenario is compounded by socio-economic factors such as economic vulnerabilities and education, which often lead individuals to self-prescribe or seek medications from untrained providers.

***"The challenge of Antimicrobial Resistance lies not just in resistant microbes, but misuse of antibiotics, and lack of information at the different strata of society. Tackling Antimicrobial Resistance requires investment in antimicrobial stewardship training for all stakeholders who directly engage with consumers—clinicians, pharmacists, and healthcare workers—along with strong regulations and informed communities"* says Satish Sinha, Associate Director, Toxics Link.**

The report recommends:

- Implementation of a State Action Plan for the containment of AMR
- Adopting the One Health approach to the policy framework, e.g. antimicrobial use and surveillance in animal husbandry and the environment
- Establishing a proper disposal channel for antibiotic wastes from households
- Antimicrobial stewardship training for healthcare workers and encouraging more research and innovation
- Developing a monitoring and surveillance mechanism for antimicrobial sales
- Comprehensive public awareness campaigns especially for socio economic vulnerable group.

About Toxics Link

Toxics Link is an Indian environmental research and advocacy organisation set up in 1996, engaged in disseminating information to help strengthen the campaign against toxic pollution, provide cleaner alternatives, and bring together groups and people affected by this problem. Toxics Link's Mission Statement - "Working together for environmental justice and freedom from toxins."
More at: www.toxicslink.org

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