

Antimicrobial resistance and India's rapidly ageing society

The world today is grappling with an impending and existential threat of Antimicrobial Resistance (AMR) that has the potential to unsettle medical progress and the very foundations of health systems that have evolved over time. The WHO has declared AMR as being a 'top global public health and development threat,' calling for serious efforts to address the epidemic.

By Allen Prabhaker Ugargol

The term antimicrobials is a broad term that encompasses antibiotics, antivirals, antifungals, and antiparasitics that are used to combat microbes that cause disease in humans and animals. Indiscriminate antimicrobial use ranging from misuse, overuse, inappropriate use or abuse to treat, prevent or control infections in humans, animals, and plants make antimicrobials ineffective as bacteria supersede their efficacy and make treatable infections incurable – a sequelae termed antimicrobial resistance (AMR).

The world today is grappling with an impending and existential threat of Antimicrobial Resistance (AMR) that has the potential to unsettle medical progress and the very foundations of health systems that have evolved over time. The WHO has declared AMR as being a 'top global public health and development threat,' calling for serious efforts to address the epidemic.

India has one of the highest AMR rates across the world, with fatal outcomes being associated with over 300,000 deaths directly due to AMR and over a million linked to AMR. It is increasingly being recognised that gender and age are important determinants of AMR, and more evidence is required to understand these.

India is ageing rapidly, and the demographic transition is leading to an increased proportion of older adults – currently around 10.5 per cent of the total population and expected to rise to become one-fifth of the total population by 2050. Two emerging phenomena of interest here – AMR and a rapidly ageing society, are intersecting and have the potential to affect medical progress and health system preparedness to respond.

AMR and a rapidly ageing society are on course to challenge the United Nation's call for a Decade of Health Ageing (2021-2030) - one that offers a broad framework that celebrates longevity and envisages a just and equitable longevity society. AMR and the sequelae are expected to significantly impact vulnerable populations such as women, the debilitated, the immune-compromised, and older adults.

The very antibiotics that offered society the gift of longevity through treating infections early and completely are today offering the weakest link in ensuring a healthy and productive life

for older adults. Knowing the virulent nature of AMR, the situation warrants that immediate efforts are made before it escalates into a widespread epidemic that renders healthy aging and the gains of longevity futile.

Routine and innocuous medical procedures performed on older adults can carry the risk of turning into untreatable medical complications due to antimicrobial resistance. Hence, the surefootedness of the medical fraternity in being able to ward off infections both prior to and post-surgical interventions is slowly coming under threat. Prescribing antimicrobials without a clear clinical rationale and the risk of antibiotics being available over the counter are concerns that need to be addressed.

Older adults are seen to be harbouring 'antibiotic resistance' due to their long-term exposure to antibiotic treatment for several of their medical conditions. On the other hand, the inability to treat presenting infections due to antibiotic resistance to the preferred line of treatment is leading to untreated infections among older adults and is a crisis in making for the longevity dividend.

Without turning prescriptive here, naturally, this is a problem that warrants urgent solutions. It is recognised that creating greater awareness and public health messaging on the appropriate use of antibiotics can help minimise the indiscriminate use of antimicrobials and reduce the spread of AMR.

In line with the WHO's Global Action Plan, there is a need for greater effort and investment to promote public understanding of AMR. Secondly, it is crucial to appropriately infuse AMR into the medical and healthcare education curriculum such that students of medicine and healthcare sciences are exposed to the concept of AMR and recognise their role in mitigating AMR.

Further, continuing education and re-training of current medical practitioners and care professionals on AMR are relevant. Antimicrobial stewardship committee-led monitoring of prescription practices and efforts to prevent access to over-the-counter antimicrobials will be useful interventions.

Encouraging antimicrobial stewardship committees and supplementing them with evolving evidence on AMR are promising interventions in clinical settings. Shrinking innovations in the drug discovery space are drying up the antimicrobial pipeline, and this is going to impact the ability to treat drug-resistant and emerging infections.

A long-term vision of incentivising drug-discovery research that is innovative and cost-efficient is crucial. Understanding why clinicians prescribe the way they do is an equally essential aspect that deserves exploration in inquiry and deliberation.

Supportive to the longevity society, it is imperative for the State to look at impending challenges of long-term care needs, palliative care, and end-of-life care, given that AMR is challenging the way the normal life course progresses for an older adult in India. Mainstreaming AMR into clinical guidelines for geriatric care and older adult policies can significantly influence the prospect of healthy ageing within a longevity society.

The article is written by Prof. Allen Prabhaker Ugargol, Faculty, Public Policy, IIM Bangalore