**Preventing antimicrobial resistance**

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Medicines that are used to treat infections are called antimicrobials. These medicines play an important role in fighting infections in people who may be at a higher risk of getting an infection, such as those having surgery or receiving cancer treatment.

Infections are caused by microorganisms such as bacteria, fungi, viruses and protozoan parasites. Widespread use of antimicrobials has been linked to microbes changing and becoming resistant to treatment. This means that the antimicrobials we have available no longer stop all microbes causing the infection. Some survive to cause long-lasting and severe infections. This is known as antimicrobial resistance (AMR). New antibiotic resistance mechanisms threaten our ability to treat common bacterial infections and, without urgent action, we are heading for a post-antibiotic era, in which common infections and minor injuries could once again be fatal. The WHO describes AMR as one of the biggest threats to global public health, stating that ‘the world urgently needs to change the way it prescribes and uses antibiotics. Even if new medicines are developed, without behaviour change, antibiotic resistance will remain a major threat’. It has been well recognised that the threat of AMR in developing countries, such as Pakistan, where a large proportion of the population has limited access to education and healthcare, is significant. In common with the rest of the world, there has been a reported upsurge in infections due to resistant strains in Pakistan. For example, the 2019 WHO report ranked Pakistan amongst the top five countries with the highest number of neonatal deaths caused by resistant bacteria. Pakistan is also the third-highest antibiotic-consuming country among low- and middle-income countries (LMICs).

[Election on vacated Senate seat from Sindh to be held on Dec 8](https://www.nation.com.pk/23-Nov-2022/election-on-vacated-senate-seat-from-sindh-to-be-held-on-dec-8)

There is a desperate need for coordinated action if the prevailing AMR situation needs to be curtailed. Various steps can be taken at all levels of society to reduce the impact and limit the spread of resistance. This includes awareness, prevention, and control at the individual level, as well as at the level of the policymakers, health professionals, healthcare industry, and agriculture, poultry, and husbandry sector. At the individual level, it is essential to understand that one only uses antibiotics that have been prescribed by a certified health professional. Patients should not demand antibiotics from their physicians, since all not infections need antibiotics. The health care professional’s advice must be strictly followed when using antibiotics, especially in terms of dosage and timing. Leftover antibiotics should never be shared or used. Preventing infections is also vital and this can be done by regularly washing hands, practicing cough etiquette, staying home when sick and avoiding close contact with others, and keeping vaccinations up to date.

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At the level of healthcare facilities, antimicrobial-resistant infections are one of the biggest challenges for hospitals in delivering safe and effective health care. Patients with antimicrobial-resistant infections are more likely to experience ineffective treatment, treatment toxicity, recurrent infections, delayed recovery, and in the worst-case scenarios, death. Once again, a key driver of antimicrobial resistance in healthcare facilities is the inappropriate use, or overuse, of antibiotics. Antimicrobial stewardship is a key strategy in local and national programmes to prevent the emergence of antibiotic resistance. It is also an important part of decreasing the number of infections that can be prevented in healthcare settings.

At the Shaukat Khanum Memorial Cancer Hospital and Research Centres (SKMCH&RC) in Pakistan, we support and endorse WHO’s message of preventing antimicrobial resistance. We have an infection prevention and control programme in place along with our tailored infection control guidelines, especially, to cater to the needs of our immunocompromised patients. The emphasis of our robust Antimicrobial Stewardship Programme is on the appropriate selection, dosing, route, and duration of antimicrobial therapy. Access to appropriate diagnosis and treatment remains a top priority to reduce the enormous burden of infectious diseases in the developing world. Accurate diagnosis and timely reporting ultimately reduces the unnecessary use of antimicrobial drugs, which further help in reducing healthcare costs associated with treating resistant infections, reducing the incidence of resistant infections, optimising the use of healthcare resources, and the preserved efficacy of current antimicrobials. As with every other ethical dilemma, the challenge of AMR will only be addressed effectively in policy development and debates through a holistic approach that factors in every stakeholder including patients, pharmaceuticals developers, clinicians and physicians, veterinarians, and the livestock industry, bio-industries, policy-makers—and many others. One thing however is sure: our future health depends on forming an international framework that resolves—or at least substantially reduces—the problem of AMR.