

The misuse of antibiotics

Lax supervision and lazy habits are compromising our ability to prevent – and manage – infection. Shima Gyoh spells out the implications



Antibiotics have contributed enormously to the effectiveness of medical interventions in health and to the life expectancy of Homo sapiens. However, it has not been easy. The infective organisms are forever 'learning' how to resist antimicrobial agents. If we are careful and follow the guidelines of good prescription, the emergence of resistant strains is relatively slow and the development of newer more effective antibiotics can cope. However, if prescribers do not follow the principles of good prescription, it becomes very difficult to keep pace with the rapid emergence of resistant strains. It is unfortunate that in developing countries we have to suffer two major evils with regards to antibiotics: substandard antibiotics in which the preparation contains less than the stated dose and inappropriate use by all, particularly health workers. These are the surest and quickest ways of inadvertently breeding resistant strains.

It is shocking that health professionals, who should know better, often participate in the careless use of antibiotics, taking or prescribing them for uncomplicated colds, and even when appropriate, for shorter than the ideal period of proper therapy, often in inadequate doses. Nearly all pharmacist shops will sell you antibiotics without prescription. Itinerant drug vendors sell them, and it is common to hear them advertising the drugs through loud-speakers on the streets, in the market place, or in any crowd. People often take a tablet, a capsule or two to stop a cough, a cold, or a feeling of malaise. This results in the resident bacteria of their skin, and respiratory and gastro-intestinal tracts becoming resistant to all the antibiotics abused, and this resistance can be transferred to usually sensitive pathogens thus making them more deadly.

We use old military language in talking about the prescription of antibiotics. There are first-, second-, and third-line defence antibiotics. We start with the first line while we send for culture that indicates the most appropriate drug. It is bad prescription to start the battle with third-line drugs. For the villager who has not abused antibiotics in the past, first-line antibiotics will almost

always cure his infection.

Doctors are the worst offenders of inappropriate prescription. Most young doctors seem to think they are cutting corners to cure by prescribing the most powerful (usually more costly and more toxic) antibiotic in their arsenal. Antibiotics are often given when the diagnosis is not known. Consequently, most infections contacted in our hospitals are resistant to most antibiotics. The situation is so bad that very often the neglected and forgotten first-line drugs become the most effective.

The routine use of prophylactic antibiotics for everyone going for operation is another mortal sin doctors regularly commit. When asked, they say 'because we do not know the situation in the operating theatre!' My answer is that in that case, you have no right operating in that theatre! Conditions in theatre are deliberately created by the surgical staff, and anyone who operates should be very familiar with them. We have long since abandoned antiseptic surgery, we now practise aseptic surgery. The method of getting the operating theatre clean and observing the aseptic rituals in that environment should be well known and seriously practised. It is hard work and requires discipline and meticulous attention to detail, and cannot be replaced with routine prophylactic antibiotic regimens.

Routine prophylactic antibiotics for surgery ends up increasing the rate of infection, often with tough, resistant organisms. It unnecessarily increases the cost of operations. If we continue with this habit, we shall eventually find that most of the antibiotics available would become ineffective, and the morbidity and mortality of infections will rise above accepted levels.

Even in developed countries where doctors dare not indulge in such indiscipline because of better supervision by consultants and the danger of litigation, superbugs – organisms resistant to nearly all available antibiotics – do occasionally emerge. Superbugs often lurk in our hospitals unrecognised because of minimal or non-existent supervision of junior staff, many of whom professionally grow up to become senior doctors with bad habits. The colleges responsible for training postgraduate doctors and the medical schools should pay more attention to teaching drug prescription, particularly of antibiotics.

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