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Antibiotic Resistance: Unless we act soon!

Today, several health-related issues are crying for attention. The spread of HIV infection, the continuing surge of lifestyle illnesses, the perceived threat of bioterrorism, the continuing scourge of malnutrition and infectious diseases afflicting children in the developing countries and the under-privileged sections the world over finding the healthcare system inaccessible, are some of them. Spread of anti-microbial resistance is one such issue that has the potential of diminishing, if not nullifying, the benefits that mankind has reaped through the use of anti-microbial agents.

Resistance is not a new phenomenon. Bacteria are known to develop resistance to an anti-microbial agent within a few years of the agent being cleared for use.1 What is new is the fact that the number of organisms that are becoming resistant to anti-microbial agents and the prevalence of resistant infections are rising enormously.2-5 In the past, nosocomial infections were notorious for being resistant to the routinely used antibiotics. Now, resistant organisms are responsible for an increasing number of community-acquired infections.5-8 Unfortunately, resistant bugs are no more the monopoly of hospitals and healthcare institutes. The factors responsible for the emergence and spread of anti-bacterial resistance have been clearly identified.9,10 Amongst them, overuse and abuse of antibiotics constitutes the most vital factor. Hence, it is imperative that treating physicians take a look at the way they are using these agents and do some introspection. Using antibiotics for non-infectious conditions, using them in the treatment of self-limited conditions, using newer agents when older would do are some of the traits that would make older and newer anti-microbial agents redundant at a rapid pace. There are several factors that induce doctors to use antibiotics when they are not necessary. Every doctor has an innate urge to see that the patient gets better and gets better quickly. He wants to choose the “best” antibiotic so that the patient becomes better without encountering the problem of resistance. It is true that the doctor has a duty to ensure that his patient’s interests are protected and enhanced. But, it is also his duty to see that prescribing practices do not unfavourably affect the interests of the society at large and his future patients.

Several strategies have been employed to combat the menace of antibiotic resistance with varying success. These include rotation of empirical antibiotics in patients admitted to the hospital, use of vaccines to ensure that infections are prevented, use of combination of agents instead of single agent, surveillance of antibiotic resistance to help make informed decisions regarding choice of antibiotic, restriction on the use of antibiotics in veterinary medicine and encouragement of research for the development of new drugs and new vaccines.10 The clinicians should remember that newer anti-microbial agents with novel modes of action against resistant bacteria are nowhere on the horizon and vaccine development is a tedious, time-consuming and resource-intensive process. Hence, we will have to make best use of the agents that we have. It is, therefore, extremely important that we take active steps to preserve the effectiveness of antibiotics.

It is true that there are several issues that have to be addressed by other sectors. For example, it is for the governments to formulate and implement policies regarding curbing “over-the-counter” availability of several antibiotics and it is for the pharmaceutical industry to provide information about new antibiotics in a balanced way. However, healthcare providers cannot absolve themselves of their share of responsibilities. Individually and collectively, they can do a lot.

Large institutions could participate in surveillance of antimicrobial resistance. They should collect, disseminate and exchange data regarding resistance so that “region-specific” data is available, helping clinicians to choose an appropriate agent. Every institution should establish therapeutic committees that would form guidelines regarding antibiotic usage for different conditions. These committees should review and revise their recommendations periodically so that they are in tune with the changing scenario. The guidelines and recommendations should evolve through consensus and once formulated, should be adhered to by all. The committee should, in addition to recommendatory role, have a monitoring function. The clinicians would not like to give up their professional freedom of choosing an agent. However, they could be made to record reasons for deviating from consensus guidelines. Such deviations could then be debated upon. This would result in most clinicians adhering to the guidelines on most occasions. The other desirable fall-out would be that the discussion on non-compliance and reasons behind non-compliant action could help identify lacunae in the guidelines. This would, in turn, result in desirable amendments to and revision of recommendations.

In most countries, majority of practitioners are not attached to large institutions and carry out their practice from their own clinics. Getting them on board is vital as selective use of antibiotics (especially oral antibiotics) by physicians is an important factor in controlling the resistance at the community level.11
Approaching them and encouraging them to get involved in this movement constitute a great challenge. They could be approached through their professional organizations for making them aware of the magnitude of the problem. This would be just the first step. The reasons for “non-rational prescribing” need to be found out and addressed to. Physicians often prescribe outpatient antibiotics out of habit, ignorance or desperation. If it is due sub-optimal diagnostic and prescribing skills, the practitioners would need to be empowered with better skills for diagnosis and more importantly, for choosing the appropriate agent through training programmes. If it is related to drug companies being the main, if not the lone, source of information; alternate avenues of information will have to be developed. Local institutions and professional bodies could take up this role. If aberrant prescribing is related to commercial pressures and inducements, they will need to be addressed differently. Durable benefits would accrue if these measures are implemented on a long-term basis and if medical students, the tomorrow’s prescribers are empowered with skills of rational antibiotic usage.

No doubt, other sectors have a role to play. But, there is no running away from the fact that healthcare providers will have to play a pivotal role. It is better if they begin with analysing their own prescribing behaviour before inviting and goading other sectors to act. Small steps such as changing one’s own prescribing practices and counselling colleagues to adhere to rational practices and guidelines could be the first step. This could be followed with other avenues for action: stimulating professional bodies to actively take up this issue, influencing governments and pharmaceutical industry to provide appropriate framework for encouraging rational therapeutic practices and coordinating inter-sectoral actions. The antibiotic era began seven decades ago. Let us not write its obituary so soon.

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References

Announcement
Golden Jubilee of Journal of Postgraduate Medicine

In the year 2004, the Journal of Postgraduate Medicine is entering into the 50th year of its existence and growth. During the Golden Jubilee of the journal a variety of programs and functions will be organised. This would include a week-long program on medical research, writing and publishing. This international conference will be organised between 20th and 27th September 2004.
For more details, check our forthcoming announcements.
Details will also be available from our website www.jpgmonline.com.