The role of pharmacologists: Present and future

Since the introduction of formal medical education in India, pharmacologists in both medical institutions and industrial organizations have had two basic functions. These are teaching and research. Pharmacologists have not played an active role in the delivery of patient care. In addition, they have not been involved in deciding the national drug policy or in the planning of various health programmes. They have also not been a part of the advisory committee of institutions, such as, the FDA. More active and purposeful interaction with clinicians in the daily delivery of patient care is required. Professor B.B.Gaitonde expressed a similar idea as early as 1984, "pharmacologists ought to play the role of consultants to physicians and to the society alike, in order to improve the quality of medical care in the community." This is a necessary paradigm shift that has to be achieved soon and is endorsed by Dr. Satoskar. In 1986 he stated in his paper The expanding role of Pharmacologists in the Indian scene, "a pharmacist can contribute a lot, not only by doing research, but also by helping the government in formulating the drug policy, in orienting the teaching programmes so as to make the students aware of the social responsibility, and in educating the community regarding the use and the abuse of drugs so as to achieve better health care...."

Today, the pharmacist, the physician, and the drug industry function independently without necessary coordination and collaboration. Although professors Gaitonde and Sastoskar perceived the need to change the role of the pharmacologist two decades ago, nothing has been achieved in this direction.

To redefine the role of the pharmacologist, a panel discussion was conducted during the thirty-eighth annual IPS conference held in Chennai between December 28 and 30, 2005. This panel consisted of pharmacologists, physicians, researchers, and industrialists (The list of panelists is given at the end). It discussed various areas in which the pharmacologists should assert their roles and the need for rescheduling the teaching of pharmacology to the pre-final or final year from the second year, for the reasons discussed below.

The objectives of teaching pharmacology, to students of medicine, as stipulated by various universities in India are:

At the end of the pharmacology course the student should be able to

a) rationally prescribe drugs for common diseases.
b) calculate the dosage depending upon the age, sex, and prevailing health status of the individual.
c) administer the drug through the appropriate route.
d) identify adverse drug reactions and drug interactions.

Can we attain these objectives if pharmacology is taught during the second year of the MBBS course?

Pharmacology is the study of drugs and covers their sources, uses, metabolism, excretion, adverse effects, interactions, and contraindications. A sound knowledge of pharmacology is mandatory for doctors to rightly prescribe drugs for any disease.

Today, the teaching of pharmacology is primarily theoretical, without clinical correlation. Furthermore, during the second year, students do not have required knowledge of the diseases (clinical features, natural course, and pathophysiology) for which various drugs are prescribed. One has to learn about drugs for a particular disease when one is clinically studying a patient with that disease. A medical student can independently prescribe drugs for a particular illness only after proper medical qualification and registration. There is a gap of about three years between learning and prescribing. During these three years, the medical student learns several subjects other than pharmacology.

Prescribing drugs is an essential and an integral part of any medical treatment. Unless pharmacology is simultaneously learnt along with the clinical condition, it would be difficult for the students to correlate the drugs with the diseases. For example, when students study a patient with bronchial asthma, they should learn about the pharmacology of various drugs used in bronchial asthma. Therefore, it would be appropriate if pharmacology is taught during the pre-final or final year, to effectively achieve the above mentioned objectives.

The clinicians who participated in the panel suggested that there should be a continuous interaction between the clinicians and the pharmacologists at the level of teaching of pharmacotherapy, and pharmacology should be taught along with the clinical teaching. Both the panelists and the participants agreed on rescheduling the teaching of pharmacology to the pre-final or final year. They suggested that a clinical examination on pharmacotherapy should be conducted during the final year. A written examination may be included.

The panel discussed other issues and arrived at the following recommendations:

The pharmacologist should attend mortality meetings and drug audit meetings of all the hospitals, including district level hospitals.

The clinical pharmacy should have a pharmacist.

The pharmacologist should be included in the drug purchase committee of the hospital.

Any drug related clinical trials or health programmes should be carried out in consultation with the pharmacologist.

The various drug related bodies like the national drug policy advisory committee, the FDA advisory committee, and other official bodies like the ICMR and the IMA should include a pharmacologist in consultation with the IPS.

Although the panel recommended that a drug research institute at the state level should be established to monitor and guide the drug trials conducted by both government and private institutions, it was not approved by the forum.
Many new drugs are introduced by different pharmaceutical companies and the pharmacologists are unaware of these drugs. Therefore, it was suggested that pharmaceutical companies report to the IPS about the introduction of new drugs so that the IPS could publish a list of these drugs.

To summarise:
Pharmacologists should reschedule teaching of pharmacology to the pre-final year, and they should extend their role in
- collaborating with the clinicians in the day-to-day delivery of patient care.
- deciding purchase of drugs for the hospitals.
- national drug policy meetings.
- implementation of drug related health programmes.
- the activities of the institutions, such as, the FDA, the ICMR, and the IMA.

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References

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6. Dr. PV Diwan, IICT, Hyderabad.
7. Dr. Ezhilarasan, Dr. Reddy’s laboratory, Hyderabad.
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The American Association of Government College of Pharmacy (Bangalore) Alumni (AAGCPA), New York, USA, has established in the year 2004, the annual STARS (Sri Subbaraya Setty Teacher And Research Students) awards to recognize and further encourage research activity in pharmaceutical sciences carried out at teaching institutions in Karnataka. Part one of this activity is the STARS Award for Teachers. It is an annual award for academic research recognizing an academically active researcher-teacher from a Pharmacy institution in Karnataka state, performing outstanding (in comparison to other applicants) research in a given calendar year.

All eligible candidates are requested to file their application electronically with all the necessary documents on or before 1 June 2006.

Rules and regulations governing this award and the application form can be obtained from:

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