

**PHARMACOLOGY- A CENTRAL DEPARTMENT IN SOUTH ASIAN
MEDICAL SCHOOLS?**

P.Ravi Shankar

Department of Pharmacology, Manipal College of Medical Sciences, Pokhara, Nepal.

E-mail: pathiyilravi@gmail.com

Summary

Pharmacology is not a first career option for many medical graduates in South Asia. Pharmacology teaching suffers from many lacunae and pharmacologists mainly concentrate on animal experiments. The pharmacology course should equip medical graduates to use essential medicines rationally. Pharmacologists are beginning to concentrate on teaching rational therapeutics but much greater emphasis is needed. Pharmacologists have varied and important roles to play in teaching hospitals. Promotion of knowledge of this vital discipline among the public is required. We have a wonderful opportunity to build a 'relationship of equals' with doctors from other disciplines.

Key words: Medical schools, Pharmacology, Rational use of medicines

Pharmacologists in South Asia have long suffered from an inferiority complex. Many medical graduates used to take up pharmacology only if they did not qualify for more lucrative and rewarding clinical subjects. To a certain extent, this holds true even today. Money, fame and social status are only the prerogative of clinicians or so goes the popular belief. Pharmacologists coming into the discipline after doing their MPharm or MSc are in a better situation and many of them tend to be more active and less frustrated. For long us, pharmacologists have allowed other disciplines to look at us with disdain. Like the proverbial tortoise, many of us have retreated into our shells and have mainly confined ourselves to animal research. Animal research while undoubtedly important is just one aspect of the large and important discipline of Pharmacology and Pharmacotherapeutics.

Pharmacology teaching in South Asia: In India according to Professor VS Mathur, an eminent Indian pharmacologist, pharmacologists are not generally involved in the teaching of therapeutics. Isolated tissue experiments and the preparation of liniments, mixtures and emulsions continue to be taught in medical schools (1). Till very recently in India pharmacologists were lacking clarity regarding what students are expected to know after completing the pharmacology course. In Nepal, pharmacology teaching is integrated and problem based and emphasizes the rational selection and use of medicines (2,3). However, pharmacology is mainly taught during the first four semesters of the undergraduate medical (MBBS) course and there is no exposure to pharmacology and pharmacotherapeutics during the clinical years of training. In Pakistan, the Ziauddin Medical University has switched over to an innovative self-learning process in pharmacology (4).

After completing the course a student should be able to use essential medicines rationally. As pharmacologists and teachers we should stress on the rational selection and use of medicines so that a MBBS graduate posted in a primary health care facility can use medicines rationally. Creation of Standard treatment guidelines (STGs) and Essential medicines list are two activities in which pharmacologists can play a vital role. Pharmacotherapy teaching should be linked to STGs and essential medicines lists.

Pharmacologists and the therapeutic jungle: In India, many pharmacologists had and some continue to have a rather low opinion of their discipline and hence were not taken seriously by clinical colleagues, policy makers and the general public. More than 100000 formulations exist in the Indian therapeutic jungle. Other countries in South Asia like Sri Lanka, Bangladesh and Nepal have been more successful in restricting the proliferation of brands. Our voices are not getting heard, may be because we are not united, we are not confident or because we find it difficult to add anything productive to the discussion.

Pharmacology in medical schools: Professor K.Weerasuriya from the Essential Drugs and Medicines policy, WHO SEARO had stated that the most important department for medicines is the Pharmacology/Clinical pharmacology department (5).

Over the years pharmacologists in India have let a wonderful opportunity to ensure rational use of medicines slip by. Other South Asian countries have been more successful though to varying extents. It is only now that we are beginning to emphasize on teaching and promoting the more rational use of medicines. Before there were only isolated areas, institutions and individuals working in this vital area. It was a pleasure to find 'reforming the pharmacology curriculum' and the issue of 'medicine prices' being discussed during the recent Indian Pharmacological Society (IPS) conference in Chennai. The Indian Journal of Pharmacology is slowly concentrating on this important area but greater emphasis on pharmacoepidemiology, pharmacoconomics, pharmacovigilance and teaching and learning about rational use of medicines in the journal is required. In Nepal, medical journals routinely publish articles dealing with rational use of medicines and pharmacology teaching.

In many medical schools the pharmacology department continues to be tucked away in an obscure corner where we labour diligently over our organ baths and kymographs. Animal experiments are important but overemphasis should not obscure us from other important roles.

Professor PK Rangachari of McMaster University, Canada states that 'For the aspiring physician and even more for his patients pharmacology is a crucial discipline' (6). The student should be able to appreciate pharmacological principles especially those which are important for therapy. However clinical training continues to focus mainly on diagnostic rather than on prescribing skills (7). The undergraduate years are the ideal time to learn prescribing skills and decreased emphasis may lead to ineffective and unsafe treatment (8).

Pharmacologist- a person of many roles: The pharmacologist has many roles in a teaching hospital. Accompanying and providing support and information to clinicians during ward rounds, operating a drug information centre, coordinating pharmacovigilance programmes, teaching therapeutics to clinical students, interns and medical officers, analyzing prescriptions and providing constructive feedback to clinicians on their prescribing habits are crucial roles. The involvement of a pharmacologist in clinical drug trials is expanding in India. However, clinical trials have not yet taken off in other South Asian countries. A pharmacologist should be a member of the hospital drug and therapeutics committee and should take the lead in promoting rational use of medicines.

Teaching evidence-based medicine and critical appraisal skills: Asking questions, accessing information, appraising it, applying it to a specific patient or setting and assessing the impact of this process on the quality of care have been considered to be the elements of evidence based learning (9). The ability to critically appraise information is a key element of evidence-based medicine (EBM). Pharmacologists during the course of teaching have an important role in inculcating critical appraisal skills (10).

The department should teach students to critically appraise promotional material so that the influence of the pharmaceutical industry on prescribing habits can be reduced.

Pharmacotherapy teaching should be activity based, problem oriented and carried out in small groups. The activity should be continued during the clinical years of training and should be carried out with the support of clinician teachers. A fruitful relationship with clinicians will be possible only if we realize the importance and worth of our discipline. It should be a relationship of equals.

Pharmacology and the general public: The general public in South Asia has only a vague idea of Pharmacology in contrast to other more glamorous clinical disciplines. We have to actively promote our discipline among the public. Networking with non-governmental organizations (NGOs), opinion makers, the press and political leaders is vital to our discipline and to promote rational use of medicines.

A pharmacologist is a man of many hats. With the explosive growth of the clinical research industry and the starting of new medical colleges, clinical research institutes and pharmaceutical and health management programmes, pharmacologists are being assiduously wooed. With increasing strength and presence we have a wonderful opportunity to involve clinicians and other health professionals in ensuring rational use of medicines. Whether we will stay at the periphery of medical education or come to occupy the dynamic centre depends on how we approach our discipline. Pharmacology is a vital discipline. It is time that we took our rightful place in the Sun!

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