

Pharmacy Education and Practice in Pakistan: Are They Affecting our Healthcare System

Zaheer Ud din Babar

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Healthcare education has a significant impact on the health of the community and on improving services for the patient. It also instills fundamental values and directs specific attitudes in the healthcare professionals. In most of the world, pharmacy education enables pharmacists to deal with the safe and effective use of drugs, primary healthcare, preventative medicine and health promotion. It also emphasizes on the research and development of pharmaceuticals and the production of new drugs. The World Health Organization has also recognized the role of pharmacists in the health care system in a report issued by a WHO consultative group. The meeting was held in New Delhi in 1988.

In Pakistan, pharmacy education was already there when it came into existence but it has been neglected and has failed to contribute significantly to national healthcare. In the last 5 years, there has been a rise in the number of pharmacy institutions in the country; currently about 17 universities are imparting pharmacy education. Though, the number of institutions has almost doubled, the change is more quantitative than qualitative. In 2004, the Higher Education Commission (HEC) of Pakistan revised the pharmacy syllabus and changed the 4 year Bachelor of pharmacy (B.Pharm) degree to a 5 year Doctor of Pharmacy (Pharm. D.). The Syllabus was revised but it still shows insufficiencies and shortcomings and does not meet international standards.

It is informative to look at the evolution of Pharm. D. In the US in the early 1960s, pharmacy practice changed its focus from Industrial and compounding pharmacy towards patient oriented and hospital based practice. Gradually practice-based programmes were renamed as Pharm. D. (Doctorate of Pharmacy). One of the early institutions to start this practice was the University of California at San Francisco. This clinical and community based pharmacy model was largely welcomed in all parts of the world and later adapted by the UK and some other European countries. In the Mid 80s and 90s Asian and Middle Eastern countries such as UAE, Kuwait and Saudi Arabia also started recognizing the patient oriented role of the pharmacist. Malaysia and Hong Kong were early countries to include clinical and social aspects of pharmacy in their syllabi and later they started Master's programmes in clinical pharmacy. Soon other Asian countries such as Korea, Taiwan, Japan, and China also realized the need of the hour and reshaped their syllabi and subsequently started post graduate studies in clinical pharmacy. Thailand has recently implemented a Pharm.D. programme and has established a college of pharmacotherapeutics. An analysis of all these programmes shows that these are clinical oriented and similar with the US model.

The purpose of practice based or Pharm. D. models in these countries was to focus on patient care and to include a societal perspective to pharmacy. But Pharm. D. in Pakistan is only slightly related to these models. A detailed evaluation of Pharm.D. syllabus on the HEC website has shown that the clinical and social aspects of pharmacy have been largely ignored. The content and the subjects in the final year (fifth year) are just an extension of the first four years.

Areas such as pharmacogenomics (how an individual's genetic makeup affects the body's response to drugs), pharmacoinformatics (drug information) and the usage of traditional medicines have been mostly ignored. The syllabus also does not include other areas such as drug abuse, geriatric pharmacy, patient counselling, patient compliance, research methods and evidence based medicine. Subjects such as pharmacoconomics (economic evaluation of drugs) and pharmacoepidemiology (drug utilization studies), public health pharmacy and drug policy have also been largely undermined. Some subjects have been named as clinical pharmacy but the substance and content have little relation with clinical pharmacy concept and practice. There is no hospital attachment and training, which is indeed central to this concept. The syllabus in the current

context seems to be a shadow of the original Pharm. D. as the real essence is being taken away by largely ignoring a practice based component. The syllabus overly emphasizes quality control, pharmaceutical chemistry, pharmaceutical analysis, pharmaceuticals and other physical and biological sciences, which have been cut down not only in Western countries but also in some of the Asian countries.

This debate also raises two fundamental questions: first, why was there a need for a Pharm. D.? What was the purpose of changing the curriculum to 5 years? Was it to embark upon on a practice-based model? A possible explanation to the first question is that our graduates were facing difficulties in obtaining jobs in the Middle East and Europe with the four-year programme. This argument is absurd as still many countries including UK, Singapore and Australia have four-year programmes. But let's say this is correct then why was our Pharm. D. started without a clear vision, objectives and policy?

The shortcomings and pitfalls in the syllabus can largely be explained by the composition of the HEC curriculum committee. The overwhelming majority of the committee members belong to the old school of thought, having expertise in pharmaceutical chemistry, pharmaceuticals, microbiology and other basic sciences. Their qualification and experience might not be relevant in making recommendations for a clinical and community oriented syllabus. The same dilemma could also be seen with not having properly qualified lecturers to teach clinical pharmacy and drug policy issues. The academicians' only source of inspiration and guidance could be textbooks without much substance of reasoning, thinking, scholarship and debate.

The weakness in pharmacy education has marginalized the pharmacy profession and hindered pharmacists from consolidating their role. As a result Pharmacy practice has been affected and subsequently posing adverse effects on the country's healthcare sector. One of the consequences is that the pharmacist's role is not protected, for example a pharmacy assistant can also open a pharmacy and can dispense the drugs. As a result of this practice the public is subject to untrained drug traders and quacks. Most of the clinical and administrative pharmacy services such as Total Parenteral Nutrition (TPN), Therapeutic Drug Monitoring (TDM) and Ward Pharmacy Services are non-existent at the majority of the public hospitals. There are no independent drug information services at public hospitals and this provides opportunities for drug detailers and medical representatives to disseminate biased drug information to doctors. Medication errors and adverse drug reactions go unreported because of the lack of pharmacy support services. The pharmacist's role in public hospitals is mere storekeepers and they are hardly involved in decision-making processes.

The overwhelming majority of our citizens use traditional medicine to cater for their health needs but the safety and efficacy of these medicines are not taught. Healthcare cost is on the rise worldwide including Pakistan but we don't familiarize our students with the economic evaluation of drugs. Pharmacogenomic - a new key area for improving therapies through biotechnology is absent in our research and development agenda. We don't emphasize drug policy, rational drug usage and medicine promotion and as a result our graduates have a poor knowledge of rational prescribing and pharmaceutical promotion. In almost all the world after gaining a degree in pharmacy, students have to undergo a one-year compulsory apprenticeship either in hospital, industrial or drug regulatory areas. But In Pakistan this is not compulsory and a pharmacist can be registered with the pharmacy council as soon as he passes the exam. This practice needs to be changed, as new graduates are not trained to meet the challenges in the healthcare system.

The Pakistan Pharmacist's Association and the Pharmacy Council of Pakistan (Professional authority responsible for the registration of pharmacists in the country) have shown negligence to the profession in the last few decades and have failed to establish standards of practice in the country. As a result most of the pharmacy graduates in the country are underutilized and have nominal role in the national healthcare policy.

In this scenario starting a Pharm. D. programme without making a substantive change in the curriculum could be futile. The needs of the healthcare system should be identified and pharmacy education and practice must be tailored to fit. There is a need to interlink the institutions of pharmacy education, practice and regulation, namely HEC, Pharmacy Council of Pakistan and the

Ministry of Health. Pharmacy Council of Pakistan should also draft guidelines to improve the professional practice in the country.

The Higher Education Commission is keen to establish and encourage research in the country but without prioritizing areas this exercise could be meaningless. Research projects should be granted on the basis of practical implications such as drug use in society and research and development of new pharmaceutical processes and molecules. The pharmaceutical industry should also be bound by the state to start meaningful collaborative projects with educational institutions. Higher Education Commission should send academics to foreign institutes of higher learning in the above-mentioned deficient areas of pharmacy. Without these steps the future of pharmacy education and practice in the country will be less than they could be.

Source

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