Brief Report

Clinical pharmacy practice in developing countries: Focus on India and Pakistan

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ABSTRACT

Clinical pharmacy practice is undergoing unprecedented changes as standard profession of pharmacy practice by means of pharmaceutical care. Although, the clinical pharmacy is well recognized in developed countries, but the implementation of clinical pharmacy practice is still at nascent stage in developing countries. Hence, this article is focused on the variations in implementation of clinical pharmacy education and practice in developing countries, specially focusing on highly populous countries like India and Pakistan perspectives.

INTRODUCTION

Clinical pharmacy is a branch of pharmacy that provides patient care by optimizing the medication therapy and promoting health, wellness, and disease prevention by means of pharmaceutical care.[1] The major transition in pharmacy practice took place in 1989, with the introduction of the term "Pharmaceutical care" by Hepler and Strand. Pharmaceutical care comprises of responsible provision of drug therapy for the purpose of achieving positive outcomes that improve a patient's quality of life.[2] With the gradual progress in pharmacy practice, the concept of pharmaceutical care has emerged globally as the standard provision of patient care in the pharmacy organizations and academia. In 2000, the concept of "Seven Star Pharmacist" was initiated by International Pharmaceutical Federation and introduced by WHO, in its policy statement titled "good pharmacy education practice."[3] Clinical pharmacists are specialized in therapeutic knowledge, experience, and skills that can helpful in ensuring desired patient outcomes by applying the best available clinical evidence and interventions in collaboration with the healthcare team.[4]

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CLINICAL PHARMACY IN DEVELOPING COUNTRIES

In developing countries, the pharmacy practice models significantly vary based on implementation of clinical pharmacy and practice. In India and Pakistan, there are more number of registered pharmacists. The profession is more industry oriented rather than patient oriented and the role of clinical pharmacist is still unclear among the healthcare professionals and community.[5,6]

Looking from the perspective of African countries like Ethiopia, there seems to be an acute shortage of pharmacists. Only 1088 pharmacists are serving 80 million people which is equal to 0.14/10,000 people. In 2007, the number of licensed pharmacies were 463, consisting of 143 hospital pharmacies, and 320 community pharmacies.[7] The new clinical pharmacy program was established in 2007 with an objective of training patient centered pharmacy practitioners by extending the 4 years of undergraduate pharmacy

program to 5 years of clinical pharmacy program with clerkship.[8]

In Saudi Arabia, the Saudi Council for health specialties advanced the clinical pharmacy program by adopting a residency program, which comprises of 2 years accredited training with board certification for clinical pharmacy to the graduates passing the final exam.[9]

CLINICAL PHARMACY PROGRAM IN INDIA AND PAKISTAN

With advances in clinical pharmacy, many pharmacy schools have expanded their pharmacy curriculum to a 5- or 6-year program that issues a doctorate of pharmacy degree (Pharm. D). In 2005, the Pakistan Pharmacy Council (PPC) upgraded the B. Pharm program to 5 years Pharm. D program.[10] Even though higher education commission and PPC started the Pharm. D program with great expectations, it attracted criticism as its inception itself and one of the major reasons was the lack of clinical aspects in curriculum and others were related to unnecessary transformation of B. Pharm program to Pharm. D. In addition, the graduating Pharm. D's are now facing challenges to acquire hospital jobs due to their poor acceptance in the health care setup.[11,12]

In India, the JSS College of Pharmacy started a postgraduate program in clinical pharmacy in 1996 which brought momentum to clinical pharmacy education.[13] The goal of the program was to prepare the pharmacist for providing direct patient care. After a decade of clinical pharmacy education in India, the value of clinical pharmacy services is not well-recognized at the national level. In 2008, the Pharmacy Council of India introduced the Pharm. D program with an objective of producing clinically oriented pharmacists with rigorous training in clinical aspects for providing pharmaceutical care to patients.[14] The majority of institutes (private) offering Pharm. D program are located in southern India, which reveals the lack of interest in other parts of India. Further, apprehensions are being raised every now and then regarding inadequacies within the Pharm. D program.[15,16]

OVERVIEW OF PHARMACY DEGREE EDUCATION IN INDIA AND PAKISTAN

The Pharm. D course in India is of 6 years (5 academic years of study + 1 year internship in specialty units) with an annual intake of 30 seats per approved institution. Admission criteria include successful completion of the higher secondary examination with physics, chemistry, biology, and mathematics or the Diploma of Pharmacy (D. Pharm) program. Further, to focus on clinical care, the practical training of at least 50 h in hospital and 200 working days in each academic year starts from the 2nd year onwards. In the 5th year, students spend half a day attending ward rounds on a daily basis as part of clerkship, coupled with 6 months of project work related to pharmacy practice (community, hospital and clinical oriented covering drug utilization review, pharmacoepidemiology, pharmacovigilance or pharmacoeconomics). During the 6th year, students independently complete clinical pharmacy internship or residency (6 months in general medicine and 2 months each in three other specialty departments such as surgery, pediatrics, gynecology and obstetrics, psychiatry, skin and VD and orthopedics). Institutions running Pharm. D program must possess a hospital recognized by the Medical Council of India with minimum 300 beds.[17] The core subjects that must be taught include pharmacotherapy, pharmacoepidemiology, clinical pharmacy, clinical toxicology, pharmacoeconomics, clinical research, clinical pharmacokinetics, therapeutic drug monitoring, etc.

In Pakistan, the 5 years of the Pharm. D program includes academic study and clerkships with an annual intake of 100 seats. Admission criteria includes intermediate science (F.Sc) or equivalent education obtained from any Pakistani University with biological sciences.[18] In the 4th and 5th year, students undergo clerkship of 75 credit hours spreading over 17 weeks in each semester and a total of 300 credit hours by the end of the final year.[19] Further in the 5th year, students get involved in various academic research projects in community pharmacy. The clinical pharmacy training is conducted in teaching/district head quarter hospitals. The core subjects include pharmacology and therapeutics, pharmaceutics and clinical pharmacy, etc.

CHALLENGES OF PHARMACY DEGREE IN INDIA AND PAKISTAN

The Pharm. D graduates are expected to provide clinical pharmacy services to millions of patients as well as to implement professional clinical pharmacy practice in the Indian healthcare system. In the present scenario, Indian Pharm. Ds are facing significant barriers in achieving the desired goals due to lack of skilled faculty, poor pharmacy practice setups, lack

of awareness, absence of proper governance, presence of multiple courses without a clear objective of their role and responsibilities, privatization of education and high course fees.[20]

In Pakistan, the hospital pharmacy/clinical pharmacy is still at its gross-root level and due to this reason the involvement of the pharmacist in direct patient care is limited and this is also the main reason for the lack of a clinical component in the Pharm. D syllabus. The Pharm. D syllabus provides limited didactic and practical exposure with deficiencies in the content of the curriculum, anomalies in examination pattern, lack of expert consultation, lack of synchronization between course content and learning objectives, prevalence of misconceptions among health professionals and an absence of the regulatory framework.[12,21] In a letter published in AJPE, the author points out that developing countries like India and Pakistan have not paid much attention in providing enough facilities for students in their local institutions and health care settings for implementing their theoretical knowledge.[22]

For the survival of clinical pharmacy and its grow; it must get acceptance by the medical professionals and community as a whole. Moreover, more effort is needed to expand and improve the clinical pharmacy program in developing countries so that its benefits can be reaped by the local people. Strengthening the Pharm. D curriculum by providing more training and practical skills, establishing ideal pharmacy practice setups, applying the practical experience gained in academic settings by interning in existing clinical initiatives, implementing clinical care based interventions during ward rounds, tailoring models like problem based learning and "pharmacy curriculum development and validation model" are some of the recommendations that can enable pharmacy educators to produce ideal pharmacists that can provide direct patient care.[23]

CONCLUSION

Clinical pharmacy is in its nascent stage in developing countries, especially in highly populous countries like India and Pakistan with the number of hospitals, drugs and chronic diseases increasing gradually. Given the current situation, clinical pharmacy services can provide a significant benefit to millions of patients. Professional authorities/associations in developing countries should move together resolving the issues that prevent the standardization of clinical pharmacy practice.

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