



CURRENT SCENARIO OF PHARM.D PROGRAM OF INDIA

Ankit Gaur¹., Kanad Deepak^{2*}., Ravi Ranjan³., Mandeep Kaur⁴ and Tanpreet Kaur⁵

Department of Pharmacy Practice ISF College of Pharmacy, Ghal Kalan, Ferozpur GT Road,
Moga, 142001, Punjab

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ABSTRACT

The Pharm.D program in India was introduced in 2008 by Pharmacy Council of India (PCI) under the legal framework of Pharm.D Regulation 2008. It is an Pre-PhD post graduate doctoral program. Pharm.D is different in its course content from the undergraduate B.Pharm and the postgraduate M.Pharm course. The conventional B.Pharm was an all-embracing course with footprints in the industry, teaching, research and community pharmacy. However, it was more leaning towards pharmaceutical industry than clinical practice. This gap was meant to be fulfilled by the Pharm.D programme. The idea was to educate and train pharmacy students in India to meet the shortage of pharmacists in Indian hospitals and to match the entry-level Pharm.D curriculum in the United States. Also the major goal of introducing the Pharm.D program was to put the pharmacy education in heights and to provide better services to the citizens on health needs. In our article we tried to shed some light on the current scenario of Pharm.D programme in India and its pros and cons as well as its comparison with Pharm.D programme of other countries.

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INTRODUCTION

Pharm.D (Doctor of Pharmacy) meaning in New Latin Pharmaciae Doctor is a professional doctorate degree in pharmacy. In some countries, it is a first professional degree, and a prerequisite for licensing to exercise the profession of pharmacist¹. The Pharm.D program in India was introduced in 2008 by Pharmacy Council of India (PCI) under the legal framework of Pharm.D Regulation 2008. It is an Pre-PhD post graduate doctoral program which is divided in to two programs. First is Pharm.D (Regular) course which has duration of 6 years for students taking admission after completing their 10+2 or D.Pharm. The course is divided in two Phases. Phase I – consisting of First, Second, Third, Fourth and Fifth academic year. Phase II – consisting of internship or residency training during sixth year involving posting in speciality units. Another program is known as Pharm.D (Post Baccalaureate) which has duration of 3 years and divided in two Phases. Phase I – consisting of First, Second academic year. Phase II – consisting of internship or residency training during sixth year involving posting in speciality units.) This course is for students who are graduated in B.Pharm². This course is akin to Doctor of Medicine (MD) for doctors and Doctor of Dental Sciences (DDS) for dentists. The Pharm.D is different in its course content from the undergraduate B.Pharm and the postgraduate M.Pharm course it includes the whole syllabus of B.Pharm course subjects in first three years theory and practical hours and for the next two years major subjects like Pharmacotherapeutics,

Biopharmaceutics & Pharmacokinetics, Biostatistics & Research Methodology, Clinical Toxicology, Clinical Pharmacy, Hospital Pharmacy, Clinical Research, Clinical Pharmacokinetics & Pharmacotherapeutic, Therapeutic Drug Monitoring, Pharmacoepidemiology and Pharmacoeconomics, Clerkship and Project work of six months duration followed by internship for six months in general medicine ward and two-two months in three different specialties³. The conventional B.Pharm was an all-embracing course with footprints in the industry, teaching, research and community pharmacy. However, it was more leaning towards pharmaceutical industry than clinical practice. This gap was meant to be fulfilled by the Pharm.D programme. The idea was to educate and train pharmacy students in India to meet the shortage of pharmacists in Indian hospitals and to match the entry-level Pharm.D curriculum in the United States⁴. Also the major goal of introducing the Pharm.D program was to put the pharmacy education in heights and to provide better services to the citizens on health needs⁵.

Activites of Pharm.D Students in Hospitals: The activities that Pharm.D students carries out in the hospital are:

Drug Information Services: The health care professional involved in drug prescribing, dispensing and administering needs reliable and unbiased drug information such as dose, route, strength, frequency, dosage form, precautions, contraindications, drug-drug interactions, drug-food interactions, side effects, dose adjustment in geriatrics, pediatrics, patients with renal or hepatic impairments, pregnant

*Corresponding author: Kanad Deepak

Department of Pharmacy Practice ISF College of Pharmacy, Ghal Kalan, Ferozpur GT Road, Moga, 142001, Punjab

and lactating patients. The Pharm.D students are trained to work as a drug information pharmacist to provide information on a drug query using various software's and databases such as Micromedex, INTOX DMS etc and through critical appraisal of medical literature.

Pharmacovigilance Activities: Their another hospital activity to carry out pharmacovigilance activities by detection, assessment, reporting, prevention of adverse drug reactions in hospital.

Patient Counseling Services: The responsibilities of counseling the patient falls on the shoulder of doctors however they have limited time. This is where the Pharm.D students steps in they provides counseling to the patient or their representatives at the time of discharging regarding the drugs, disease and clears their doubts regarding it.

Participation in Ward Rounds: They participate in the teaching and unit chief ward rounds where their main responsibility is to provide consultation to the matters pertaining to the patient's drug therapy, Also to make pharmacist's intervention and give more emphasis on non - pharmacological treatment.

Pharmaceutical Care Services: According to pharmacy practice regulations "Pharmaceutical care" means the provision of drug therapy and other patient care services intended to achieve outcomes related to the care or prevention of a disease, elimination or reduction of a patient's symptoms, or arresting or slowing of a disease process. The Pharm.D students have the responsibility to identify drug related problems and provide solutions to those problems and deliver these services.

Medication History Interview: They take the medication history interview to ensure whether the patient has been on medication or what kind of medicines he was consuming. Sometimes patient's take multiple medications from multiple prescribers which is known as the concept of Poly-pharmacy this is commonly seen in geriatrics and also sometimes patient take different medication of different systems of medicine such allopathic medicines along with ayurvedic medicines these kind of practices can result in harm to the patient and it is important for a clinical pharmacist to find out about them.

Prescription Order Review/Medication Chart Review: The medication chart contains all the information regarding the therapy that is being given to the patient. The Pharm.D students undertakes the responsibility to review the medication chart for checking the Irrational Drug Use (IDU), underdose, overdose, right selection of route, right diluents for the drug, dose without indication and also to undertake antimicrobial stewardship to ensure the safe and rational drug use.

Poisons Information Service: The poison information services involves providing the information to management of poisoning cases to the healthcare professionals using various trusted sources of information such as software and databases as well as through critical appraisal of medical literature on the similar lines of drug information.

Medication Error Monitoring: The process through which the drug reaches to the patient involves three major steps that are prescribing, dispensing and administering. The errors that can occurs on any of these three steps are known as medication error that lead to harm to the patient. These error are needed to be identified and prevented before they reach to the patient

hence the students undertakes the task of medication error monitoring which is an integral part of clinical pharmacist responsibilities.

Therapeutic Drug monitoring: There are certain medications with narrow therapeutic window which are known as high risk medications. The therapeutic drug monitoring refers to optimize therapy for the drugs for which there is known relationship between therapeutic effect and measured concentrations⁶.

The responsibilities of Pharm.D students are similar to the activities that they carry out in the hospital⁷.

By considering the current scenario we tried to shed some light on pros and cons of Pharm.D program in India

The pros of Pharm.D program in India are

- The Pharm.D graduates can practice as a clinical pharmacist in another countries after clearing certain Licentiate exams such as NAPLEX or PEBC and registering themselves with the respective authorities that regulates the profession of pharmacy.
- There is no saturation in the field hence the competition is minimum for the jobs such as in field of academics and research in pharmacy practice.
- The Pharm.D program equips the graduates with sound therapeutic knowledge and hospital exposure which equips them in providing clinical pharmacy services independently.
- In India Pharm.D is an pre-PhD post graduate doctoral degree as compared to the United states where it is an Undergraduate degree the Pharm.D graduates can go for PhD programs as the course has been recognized by the University Grants Commission (UGC).
- The Pharmacy Council of India has amended the Pharmacy Act 1948 to register themselves as a pharmacist in state pharmacy council and practice as a community pharmacist, senior or chief pharmacist in hospital pharmacy as mentioned in Pharmacy practice regulations (PPR-2015)⁸.
- Pharm.D graduates can play a major role in Indian health care system. This course gives an opportunity to pharmacists to work more prominently in Indian health care system⁹.

Cons of Pharm.D programme in India are

Dual control of Pharm.D program: Though initially introduced and regulated by Pharmacy Council of India (PCI) but the programme is now being controlled by both All India Council of Technical Education (AICTE) and Pharmacy Council of India (PCI). After its formation AICTE controlled B.Pharm and M.Pharm in India citing that these courses are technical in nature. Only D.Pharm and Pharm.D was regulated by PCI. However the AICTE recognized this course and took control of this course along with the PCI. The control can be beneficial for the Pharm.D students because now they will be eligible for the scholarships and grants that are being provided to the M.Pharm Students but on the cost of labeling the course as technical in nature¹⁰. This will have impact on the foundations on which the course stands and also dual control is now leading to the confusion among colleges and universities over. Who regulates the course? Who will grant them approval? Who will formulate the course Curriculum?

Lack of Job opportunities: There are 233 colleges approved by the PCI to run Pharm.D programme in their premises so far they have produced overall 20,000 graduates and approximately 9000 are graduating each year. They are facing the challenge of getting placed after completion of their course⁴. Only handful of private hospitals are now offering job as a clinical pharmacist on low pay grade. This forces them to work in non-conventional fields such as medical writing, medical coding instead of practicing their profession due lack of opportunities in government hospitals. Organizations such as Doctor of Pharmacy Association (DPA) is now demanding to the Government of India to create a new cadre of clinical pharmacist¹⁰.

Underutilization and lack of recognition: The Pharm.D graduates holds the sound knowledge of therapeutics even after that they are now underutilized. As per the figures available with the MCI, the doctor to population ratio in India is 1 per 1598 persons or 62.5 doctors per 100,000 population¹¹. The students face lack of recognition due to wrong perception of the health care professionals towards them. They think that these pharmacy doctors are taking up their tasks and soon replace them. The underutilization can be addressed by letting these graduates to work in rural areas where the doctors don't want to go¹². Similar to the lines of other countries where pharmacist are empowered to prescribe drugs for the acute illnesses. They can also be utilized in strengthening the immunization programs across the country.

Low quality of education: Most academicians teaching the Pharm.Ds are not from the field of pharmacy practice they are from field of animal pharmacology, hospital pharmacy, pharmaceuticals and so on. Lack of infrastructure is also an major issue for these students. The course was supposed to be introduced by the MCI in the recent address to the lower parliament by the Union health minister Mr. J.P Nadda¹⁰. These drawbacks not just lowers the quality of education but also lowers the self esteem of the students to undertake tasks that they are supposed to take care of in the hospital setting during their internship or residency.

Non recognition as a basic qualification: In most of the countries Pharm.D is considered as a basic qualification for the practice of pharmacy profession while in India D.Pharm is the basic qualification for the practice of pharmacy profession.

Lack of Board of Speciality: India doesn't have any board of speciality similar to the lines of Board of Pharmacy Specialties (BPS) of united states that offers residency in several specialties and certifies them in it. This hinders the students for gaining expertise in certain speciality.

Difference between indian pharm.d program and pharm.d program of other Countries

In most of the countries Pharm.D is considered as a First professional degree for practice of pharmacy profession. In Pakistan, Taiwan, Thailand, France, Jordan, Iran, Qatar, Israel, Morocco, UAE, Saudi Arabia, South Africa, Tunisia, Canada the Pharm.D program is of Six years duration and is considered as a postgraduate doctoral degree, While in Nigeria it is considered as a six years undergraduate programme and in the united states it is considered as an undergraduate degree in which the students can enroll after completing the required prerequisites or obtaining a transferable bachelor's degree, pharmacy school is another four years. In general, the total

collegiate timeline to become an entry level pharmacist is six to eight years; three to four years undergraduate prerequisite work/bachelor's degree then three (accelerated tract) to four years professional doctorate. In countries such as Nepal it is offered as a three year post baccalaureate course and in Philippines it is offered as a two years post baccalaureate course. The major difference between the Indian Pharm.D and Pharm.D program of other countries is that countries such as U.S.A or France offers residency for two to three years to develop expertise in certain specialties while Indian Pharm.D program doesn't have such provision for residency after completion of their internship.

CONCLUSION

The Pharm.D program in India can be a major support for the Indian health care system and can help to address many loop holes and issues persisting in India if utilized properly however a tough and bumpy road is ahead for the Pharm.D graduates.

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