



Glimpse of Pharmaceutical Education in Bangladesh

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Review Article

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Abstract

Pharmacy is the only profession in the world where biological, chemical and physical sciences, been merged so intricately in relation to drug substances that the graduate coming out of such studies is the only person who can confidently and authentically provide information on any aspect of a medicine. The main aim of the study was to discuss regarding various courses i.e. D.Pharm, B.Pharm (Hons.), and M.Pharm, Ph.D (Pharm), Pharm. D and brief history about pharmacy education in Bangladesh.

Keywords: Pharmacy, Bangladesh, Courses, Education.

HISTORICAL PERSPECTIVE

The pharmacy profession was recognized in the country after the promulgation of Bangladesh Pharmacy Ordinance -1976. On that time, the main objective was to promote the study and practice of pharmaceutical education and research. The Department of Pharmacy, University of Dhaka took first initiative regarding this matter. The department started from the academic year 1964-65 with 24 students (20 male and 4 female) for 3 years B.Pharm course. From 1964-66, the pharmacy student's used to share the classrooms and laboratories with the students of the Department of Biochemistry. Professor Kamal Uddin Ahmed was the first Head of the Department of Pharmacy as well as Department of Biochemistry. The first batch was passed out in 1969 and after that the degree was changed to B.Pharm (Honors) course

from B.Pharm. From 1970, the 1 year M.Pharm was started to meet research requirements. From 1996, the B.Pharm (Hons.) programme was upgraded to 4 years (Honors) course with revised curriculum and syllabus. In 2003, the 4 years B.Pharm course has been taken under the control of Dean of the Faculty of Pharmacy and 1 year M.Pharm (Thesis and Non-thesis) has been started with three new departments under the Faculty of Pharmacy, University of Dhaka, Dhaka¹.

ACCREDITATION OF PHARMACY INSTITUTES / UNIVERSITY FACULTIES OR DEPARTMENTS OR SCHOOLS² In Bangladesh:

- They should be affiliated to UGC, a commission created according to the Presidential Order (P.O. No. 10 of 1973) of the Government of the People's Republic of Bangladesh.
- They should be approved by Pharmacy Council of Bangladesh (PCB) under the Ministry of Health and Family Welfare promulgated Pharmacy Ordinance (No. XIII) in 1976 for the purpose of registration of pharmacists. The PCB started 'A grade' registration system for the pharmacy graduates of different universities in 2005 after passed the examination and after that they are eligible to practice Pharmacy in Bangladesh. The PCB provides 'B grade' registration after passing Diploma of Pharmacy (D. Pharm) and no separate examination is arranged to provide registration.
- They should be approved by the animal ethics committee.
- They should be approved by PCB (for 'C grade' pharmacists) who are interested to work in community pharmacy and run their own pharmacies.

➤ Pharmacy Certificate Courses^{3,4}

The candidates who have passed 10th in any group can take three months special courses designed and jointly conducted by Bangladesh Pharmaceutical Society and Bangladesh Pharmaceutical Chemists and Druggists Society can sit for the examination. Those who passed this course are categorized as "C grade" pharmacist by Pharmacy Council of Bangladesh (PCB).



➤ **Pharmacy Diploma (D.Pharm) Courses**¹

The candidates who have passed 10th education in science group are eligible to get admission into 3 years Diploma in Pharmacy course. Presently, three public institutes namely Institute of Health Technology, Dhaka; Institute of Health Technology, Rajshahi; Armed Forces Medical Institutes, Dhaka and thirty one private institutes offering 3 years D.Pharm. Some reputed private institutes are Bangladesh Institute of Medical and Dental Technology, Dhaka; Chittagong Institute of Medical Technology, Chittagong; Institute of Medical Technology, Faridpur; Institute of Medical Technology, Rajbari; Healthways Institute of Medical Technology, Bogra; Jaypurhat Institute of Medical Technology, Jaypurhat; Rajshahi Institute of Medical Technology, Rajshahi; Rumdu Institute of Health Technology, Mymensingh; Bangladesh Institute of Medical Technology, Pabna; Prime Institute of Science and Medical Technology, Rangpur; Professor Sohrab Uddin Institute of Medical Technology, Tangail etc. The PCB provides 'B' grade registration to D.Pharm passed students.

➤ **Bachelor of Pharmacy (B.Pharm-Honors) Courses**¹

The candidates who have passed D.Pharm or 10+2 with Physics, Chemistry, Biology or Physics, Chemistry, Mathematics from recognized council/board are eligible to get admission into 4 years B.Pharm (Honors) course. The 5 years Bachelor of Pharmacy Practice course was introduced by North South University, Dhaka. Presently, the Faculty of Pharmacy, University of Dhaka offered 5 years B.Pharm (Hons) programme, but the authority tried this 5 years course converted to 5 years Pharm. D programme. The seven public universities namely University of Dhaka, Jahangirnagar University, Rajshahi University, Khulna University, Noakhali Science and Technology University, Jagannath University, Jessore University and 22 private universities offering B.Pharm(Honors) course. The oldest private universities are University of Science and Technology, Chittagong; The University of Asia Pacific, Dhaka; Gono Viswavidyalaya, Savar. Out of 22 private universities, 18 are located in the capital city Dhaka and 4 are located in Chittagong.

Now, from 1976 to 2008, the graduate pharmacists have got 'A' grade registration from PCB. The B.Pharm (Honors) may be eligible to get 'A' grade registration from PCB to do practice pharmacy in Bangladesh.

➤ **Master of Pharmacy (M.Pharm)/ Master of Science (Pharm. Tech.)**⁵

The candidates who have passed B.Pharm(Honors) are eligible to get admission 1 year Master of Pharmacy Program which are categorized under Thesis and Non-thesis group. The candidates can choose M.Pharm (Thesis) or M.Pharm (Non-thesis). The thesis group consists of theoretical subjects with thesis (or dissertation) /project. The non-thesis group consists of theoretical and practical both but not thesis/dissertation/project.

The Faculty of Pharmacy, University of Dhaka has been started three departments for M.Pharm:-

- Pharmaceutical Chemistry
- Pharmaceutical Technology (Previously the department name was Pharmaceutics and Pharmaceutical Technology)
- Clinical Pharmacy and Pharmacology

Except University of Dhaka; another reputed M.Pharm public university is Jahangirnagar University, Savar and private universities are East West University, Stamford University etc.

The 1 year Master of Science (Pharmaceutical Technology) course is conducted by the University of Asia Pacific, Dhanmondi, Dhaka. Instead of this, the 1.5 years Master of Pharmacy (Clinical Pharmacy and Molecular Pharmacology) course is conducted by East West University, Mohakhali, Dhaka. Recently, North South University was introduced 1.5 years Master of Pharmacy with two specializations: Pharmaceutical Technology and Biopharmaceutics, Pharmacology and Clinical Pharmacy (also introduced 1st pharmacy practice laboratory in this country).

➤ **M.Phil (Pharmacy) and Ph.D (Pharmacy) Courses**

The candidates who have passed M.Pharm or MS ((Pharmaceutical Technology) are eligible to get admission 2 years M.Phil (Pharmacy) course and the candidates who have passed M.Pharm or MS ((Pharmaceutical Technology) or M.Phil (Pharmacy) are eligible to get admission Ph.D (Pharmacy) courses. The duration of Ph.D (Pharmacy) generally three to five years. In the country, only public universities are conduct this programs. These courses are not available in any private universities. The reputed universities which offer these courses are in the following:

- Faculty of Pharmacy, University of Dhaka
- Jahangirnagar University, Savar

➤ **Pharm. D Course (B.Pharm –Hons. to Pharm.D)**

The universities in Canada, America, Nairobi, Kenya, Nigeria, Tunisia, India, Pakistan, Japan, KSA, Phillipines, Thailand, Czech Republic, Republic Slovakia, France, Hungary, Netherlands, Portugal, Spain, Iran, Jordan, Lebanon, Qatar, Saudi Arab, UAE have introduced Pharm.D programs in various forms.

In this country, the Faculty of Pharmacy, University of Dhaka took the initiative for Pharm. D programme. On 6 November 2007, an Academic Committee Meeting of the Faculty presided by Professor M. A. Rashid, form a sub-committee and thereafter submitted a proposal on 8 April 2008 to the Dean of the Faculty to upgrade the present 4-year B. Pharm.



program to 5-year Pharm. D (Doctor of Pharmacy) with internship in hospitals which duration will be 5 years. The proposal was approved by the academic committee meeting and faculty meeting and was sent to the highest authority of the University of Dhaka for approval. On 25 August 2010, the Academic Council of the University of Dhaka approved a 5-year B. Pharm (Hons.) Program from the academic session 2010-2011 instead of the Pharm. D. program. The Academic Council will reconsider this proposal soon and approve the name of the 5-year B. Pharm (Hons.) Program to Pharm. D. as per the international standard¹.

FOREIGN PHARMACIST CONCEPT

For pharmaceutical education and pharma sector upgradation and development, it is required to organize seminar, workshop, conference, symposium etc. Many foreign pharmacists already delivered their lecture in various universities. They share their views, concept to their respective pharmaceutical field. Sometimes, they take classes as a guest faculty for upgradation of students.

The BGC Trust University Bangladesh, Chittagong (Private University) was first appointed a permanent foreign pharmacist to the pharmacy department for upgradation of the students as well as infrastructure. Dr. Dibyajyoti Saha⁶ (Indian Registered Pharmacist and APP Young Scientist, India) was joined on dated 13th September, 2011 as a Chairman of the Pharmacy Department. He was the first foreign pharmacist Chairman (Department of Pharmacy) in any university of this country.

PHARMACEUTICAL JOURNALS AND SOCIETIES

Pharmaceutical journals are very crucial for publishing review, research articles which must be spreading and promoting the research scholars and academicians. The pharmaceutical journal lists are in the following:

- Bangladesh Journal of Pharmacology
- Bangladesh Journal of Physiology and Pharmacology
- Stamford Journal of Pharmaceutical Sciences
- Dhaka University Journal of Pharmaceutical Sciences
- Bangladesh Pharmaceutical Journal
- International Current Pharmaceutical Journal
- Pharma Mirror Magazine
- Journal of Bangladesh Society for Pharmaceutical Professionals

The main aim of the pharmaceutical societies are to promote social contacts among pharmacists, also promote the study and practice of pharmaceutical research and education, honor eminent professionals engaged for the upliftment of pharmacy profession, publish journals and conduct seminar, symposium, workshop, conference etc. The pharmaceutical societies list is in the following:

- Bangladesh Pharmacological Society

- Bangladesh Physiological and Pharmacological Society
- Pharmaceutical Chemists and Druggists Society
- Bangladesh Pharmaceutical Society
- Bangladesh Society for Pharmaceutical Professionals
- Bangladesh Chemical Society (For Pharmaceutical Chemistry)

Conclusion

Gradually with time with scientific and technological advances took place and newer concept emerged which were desired to be covered in pharmacy; the informatics and biotechnology having the biggest impact. The curriculum change in academic institution imparting pharmacy education was imperative. The curricula were revised both qualitatively and quantitatively. In the exercise, the objectivity was lost, personal preferences, egoistic attitudes, retaining the subject areas of expertise of those at the helm of affairs dominated. A conglomerate emerged. An expression "jack of all trades master of none" was often aired in context of a pharmacy graduate. The lack of objectivity in the training and didactics of a pharmacist resulted in a situation where the product found itself at crossroads⁷. The profession of pharmacy in Bangladesh is at the crossroads once again. "Change" "yes we can" was the slogan with which Barack Obama won the US Presidential election - 2008 but the issue before the pharmaceutical education in Bangladesh is not just the "change from B.Pharm (Honors) to Pharm.D" but change in quality pharmaceutical education to meet the challenges and the needs of the nation in the 21st century⁸.

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AUTHORS' CONTRIBUTIONS

Authors contributed equally to all aspects of the study.

PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.