

Pharmaceutical Education and Pharmacy Practice: A Historical Perspective

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Abstract

The Pharmacy Council of India has shifted its focus to Pharm.D. programme, the norms for which have been notified.¹⁶ This is a 5+1 years of clinical and community based course. In a way it is good that this course is solely directed at pharmacy practice, with intensive training in the subject. However, this leap frogging from D.Pharm. to Pharm.D. raises issues which require to be addressed.

The inception of modern pharmaceutical education in India is traced to later part of the nineteenth century. The credit for this goes to the Madras Medical College.

A pharmacy class was started at the College in 1860, but it was not for producing professional pharmacists but for providing instructions in the subject to the students qualifying for medical diploma, medical degree, apothecary grade, and hospital assistant grade.^{1,2} The apothecaries and hospital assistants had medico-pharmaceutical functions and were not practising pharmacists.^{3,4} At the College, at the time there was no provision for training chemists and druggists, but there was a plan, in existence since 1852, for examination of any chemists and druggists who might have been desirous of presenting themselves for the purpose.²

The term 'chemist and druggist' was borrowed from Britain where the title was in use. There, by the middle of the nineteenth century these professionals were scientifically trained. It did not take too long for creation of the chemists and druggists' class at the Madras Medical College. It is not possible, however, to commit upon the exact year of its start.

I have carefully researched at the Tamil Nadu Archives at Chennai and the Oriental and India Office

Collections of the British Library at London where a lot of material on Madras Medical College is available, but I have been unable to ascertain a definite year of start of this class; it is certain, however, that the class was instituted during 1870s.² In an undocumented article by Srinivasa Varadan, it was surmised that the course started 'round about the year, 1874.⁵ In the absence any other evidence we may accept 1874 as the year of inception of the class at Madras.

In the chronological order the start of the pharmaceutical education at Goa may have preceded. At this stage, the only available source of information is an undocumented article by Cordeiro, wherein it was stated that 'with the doctors coming from Portugal, there was always a pharmacist. In the year 1846 a Medical School was opened and in the same school there was a School of Pharmacy.⁶ For confirming veracity of this general statement, there is a need for in-depth research about the state of the profession and education in pharmacy in the Portuguese possessions in colonial India. The same also requires to be done for French colonial possessions of the time. I would have liked to do it but my lack of knowledge of the Portuguese and French languages comes in the way of my studies on the subject.

Coming back to the chemists and druggists' course at the Madras Medical College, it may be noted that the course was modeled on similar course which had been run by the Pharmaceutical Society of Great Britain; that was in line with regard to the disciplines in general the prototypes of which came to us from Britain for scientific, technological and professional developments in colonial India. For the pharmaceutical developments also the country looked to the British experiences. During the colonial period British India came to be ruled by direct executive authority of the viceroy, and rest of the country made up of princely states was ruled indirectly. The lineage of the different institutions is counted from when they got to be established in the main stream India. The Portuguese and French possessions constituted only minuscule segments of the Indian subcontinent. The standard of pharmacy practice and training in Goa was no doubt better than rest of India. However, it had little impact on rest of the country, but for supplying better trained 'Goanese' compounders for employment by private dispensaries in Bombay Presidency.⁷ As such there is strong enough a case to credit the Madras Medical College for being the pioneer in the introduction of pharmaceutical education in the country. It was the first institution to provide education for pharmacy practice. The Madras Presidency

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gave the lead. In 1937, the chemists and druggists' class was also started at the Medical College, Vishakapatnam, in present Andhra Pradesh, which was then largely in Madras Presidency.

In the country the pharmacy practice mainly remained in the hands of ill-prepared compounders.⁸ Their number during the pre-independence period was nearly 27,000. The Health Survey and Development Committee (1943-45) of the Government of India brought out that there were only 75 qualified pharmacists in India for a population of 300 million.⁹ Apparently, the compounders were not considered to be proficient enough to be counted as pharmacists.

In the name of pharmacy practice, the above is all what we inherited from the colonial rule. The scope of the two B.Pharm. courses which became operational during the twilight decades of the British rule is discussed a little later.

A question arises that when the medical profession flourished in the colonial India why the pharmacy did not develop? One reason can be that the health care developments were guided by the Indian Medical Service personnel and they did not pay the necessary attention to pharmacy component. The other reason is that the pharmacy profession in the Britain itself was in the process of evolution. In the historical perspective it has been observed that the Britain had stood isolated from the developments in professional pharmacy in continental Europe. The major countries of Europe were more advanced with regard to status and standard of pharmacy. It has been noted that 'A profession based entirely on the art of pharmacy, with the purpose of developing the professional and social standards of its members did not exist in England, Wales and Ireland before the 19th century and in Scotland before the 18th century. In this respect Britain differs significantly from the other large European cultural zones.¹⁰ The pharmacy practiced in Portugal must have been on a better footing and that

is reflected in the pharmacy in Goa, a Portuguese possession, having been ahead of the pharmacy then in the rest of India.

The Banaras Hindu University was the first institution in the country to start B.Pharm. course in 1937. The course provided for studies in pharmaceutical chemistry, pharmacy, pharmacognosy, pharmaceutical economics and German.¹¹ Human physiology and pharmacology were not included. The graduates generally preferred to go for jobs in pharmaceutical manufacturing and analysis. It was later that human physiology and pharmacology got to form part of the syllabus at the BHU.

The University of the Panjab, Lahore, which came next to institute the degree course in pharmacy in 1944, aimed at producing manpower particularly for professional pharmacy. Dr Khem Singh Grewal was the founder of pharmaceutical education at the Panjab University, the nucleus he created now stands as the famous University Institute of Pharmaceutical Sciences of the Panjab University at Chandigarh.¹²

A brief introduction to the life and contributions of Dr Grewal is in order before coming to his concept and creation of the B.Pharm. course. Grewal started his academic career at the Department of Materia Medica at the King Edward Medical College, Lahore. His grooming as a pharmacologist really started through his working with Col. Ram Nath Chopra at the Calcutta School of Tropical Medicine (1925-27). Later, he was at the University of Cambridge where he associated with distinguished Walter Earnest Dixon for his Ph.D. degree (1931). During the summer of 1929, Grewal worked with another doyen of pharmacology Joshua Harold Burn at the Pharmacological Laboratory, Pharmaceutical Society of Great Britain. Grewal became an accomplished pharmacologist. As Professor of Pharmacology he headed the Department of Pharmacology at the K. E. Medical College (1940-47).



Dr. Khem Singh Grewal
1894-1965

Grewal had deep interest in pharmaceutical developments, which apparently was triggered through his association with Col. R. N. Chopra and stay at the laboratory of the Pharmaceutical Society of Great Britain. He joined the United Provinces' Pharmaceutical Association, later changing to the Indian Pharmaceutical Association. He continued on the editorial board of the *Indian Journal of Pharmacy* for several years. On enforcement the Drugs Act and Rules from 1st April 1947, while at Lahore Grewal had additional duty of Drugs Controller, Punjab. In later years he became member of the Drugs Technical Advisory Board and Drugs Consultative Committee. He was a member of the pharmacology subcommittee for the 1955 Pharmacopoeia of India.

While working on the B.Pharm. curriculum, Dr Grewal was influenced by the kind of education given at the College of Pharmaceutical Society (University of London), later getting called the School of Pharmacy. Dr. J. H. Burn with whom Grewal had worked later became Dean of the College (1933-37). Burn stood 'for a close integration between pharmacy and medicine.' As the Dean he 'drew the first syllabus, which included pharmacology in the curriculum of pharmacists, raising the level of pharmaceutical training to full University standards.'¹³

For want of the relevant papers, it is not possible to comment on what Grewal visualized and to what extent the syllabus he proposed was modified. It is certain, however, that the direction towards professional pharmacy was not overlooked. The B.Pharm. students were required to go in for three months' dispensary training as part of the studies.

It can be said that when the focus of the higher level pharmaceutical instructions gets primarily centered around professional pharmacy, which we now call pharmacy practice, as is the case world over, the credit for first having such a vision in India will go to Dr Khem Singh Grewal.

The dawn of independence brought a new hope for regulation and practice of pharmacy with the enactment of the Pharmacy Act 1948. Without losing much time the minimum standard of education for qualification of a pharmacist was defined by the Pharmacy Council of India constituted under the Act.¹⁴ The Education Regulations 1953 were framed for the purpose. These regulations laid training for two academic years for matriculates, or those having equivalent qualification, with science as one of the subjects. A provision was made for students with intermediate in science qualification to directly join second year of the course. The course contents were revised but overall structural pattern of 10+2 and 10+2+1 continued in the 1972 and 1981 revisions of the Education Regulations. The Education Regulations 1991 require a total schooling of 10+2+2 years. The diploma holders (D.Pharm.) have remained the mainstay of the pharmacy practice.

During 1990s, efforts were made for making a degree course in pharmacy as the minimum qualification for practice of pharmacy. The draft of the proposed education regulations for the purpose was the traditional mix of training both for pharmacy practice and pharmaceutical technology. My participation in the debate on the subject was minimal. *I have held the*

view that there need to be separate degree courses of education for pharmacy practice and pharmaceutical technology. It is the former which should be the concern of the Pharmacy Council of India to meet the statutory objective of regulation and practice of pharmacy. To resolve the stalemate which arose because of lack of consensus in favour of a degree course in general, it was proposed that a midway measure of introducing a statutory 10+2+3 qualification for practice of pharmacy be considered.¹⁵ At the time, the PCI was so much occupied with its drive for the new education regulations with the traditional degree course format that the proposal for a three-year degree of pharmacy practice did not get examined. If this 1996 proposal had been accepted as the base and deliberated upon for processing new Education Regulations by the Pharmacy Council of India, by now the change over to ER with B.Pharm. course of 4 years in pharmacy practice could have been affected.

Of recent the Pharmacy Council of India has shifted its focus to Pharm.D. programme, the norms for which have been notified.¹⁶ This is a 5+1 years of clinical and community based course. In a way it is good that this course is solely directed at pharmacy practice, with intensive training in the subject. However, this leap frogging from *D.Pharm.* to *Pharm.D.* raises issues which require to be addressed. *A medico-pharmaceutical statute enacted by the Parliament aims at providing for better health care to the masses within the country. The accrual of any other benefit, say the trained manpower qualifying for an access to greener pastures elsewhere, can be incidental and not the objective of a statutory exercise. The profession may like to be educated about the projections for making the higher quality pharmaceutical care available to an average citizen through the Pharm.D. pharmacy practitioners. How long the D.Pharm. will stay before it is phased out and will there be a statutory B.Pharm. degree in pharmacy*

practice in place during the interim period?

References and Notes

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