

## Towards Pharmaceutical Care Services in Saudi Arabia, Personal Experience

Mohamed Ahmed A. Moustafa\*

Head of Pharmaceutical Chemistry and Phytochemistry Department, Faculty of Pharmacy, King Abdulaziz University, Jeddah, Saudi Arabia

In 1999 G, two pioneer faculty members from the Faculty of Medicine and Allied Science with pharmacy qualifications, have sent a memorandum to HE Rector of King Abdulaziz University (KAU), explaining the importance of establishment of a Faculty of Pharmacy at the University as the second largest University in the Kingdom that serves a wide geographical area, high population density, large economic and service activities, and where, each year, about 10 million non-Saudi Muslims visit Makkah-al-mukarramah region, including Jeddah governance, for pilgrimage and/ or umrah. They also explained that according to data and statistics from Ministry of Health of Saudi Arabia, Saudi pharmacists represent only 15% of total pharmacists working in the Kingdom. For 40 years there was only one Faculty of Pharmacy in the Kingdom at King Saud University providing graduates with Bachelor degree in Pharmaceutical Science. Moreover, the Saudi higher education authorities is planning to implement recent development in pharmacy education, besides the interest of health authorities to increase the number of Saudi pharmacists to cover the pressing needs in hospitals, health centers and government agencies.

Accordingly, in 2000 G a committee for establishing the Faculty of pharmacy of five prominent pharmacy professors working at the Faculty of Medicine has presented a proposal to inaugurate the Faculty of Pharmacy at the University with a study plan adopting the Doctor of Pharmacy (Pharm D) program as a developing educational program in pharmacy. The proposal has identified the main goals and the urgent necessity for the establishment of the Faculty of Pharmacy at KAU to close the gaps in the number of Saudi pharmacists in addition to strengthen scientific research and develop post-graduate programs in pharmacy. The proposal had contained major outlines of the program of the Faculty of pharmacy inspired from the study plans of the Faculty of pharmacy at King Saud University, and several Faculties and schools of Pharmacy in United States and Canada, as Michigan college of Pharmacy, Baltimore school of pharmacy and Iowa school of pharmacy. Additionally, the WHO report on the regional consultation on revising the undergraduate pharmacy curriculum (Beirut, Lebanon, 24-27 June 1997), beside the guidelines of the Accreditation council for Pharmacy Education (ACPE) and Canadian Council for Accreditation of Pharmacy Programs (CCAPP) were examined and analyzed, and considered in the design of the Pharm D program of the Faculty. In 2001G, a royal decree approving the establishment of the Faculty of Pharmacy at King Abdulaziz University was issued, superseded by the Faculty of Pharmacy at King Saud University, highlights the Kingdom's support in promoting health and therapeutic services offered to Saudi citizens. The Faculty of Pharmacy became the first Arabic University adopting Pharm D program.

The Faculty of Pharmacy building is located within the medical center of King Abdulaziz University besides Faculties of Medicine and Allied Science, Dentistry, Medical Technology, King Fahad Medical Research center and King Abdulaziz University hospital. At that time a curriculum committee of the Faculty of pharmacy was established to shape the yearly vertical and horizontal structure of the detailed curriculum of the Pharm D program. Several scientific, academic, economic, health and social aspects were taken in consideration in the

design of a six year program for graduation of "Doctor in Pharmacy" candidates. First, the implementation of the Pharm D curriculum as emerging program in pharmacy education that evolves and expands the pharmacy practice to broader space for the safe, effective and low coast drug therapy management as a part of pharmacist's patient care responsibilities. Thus, the Pharm D curriculum contained prepharmacy prerequisites as organic chemistry, biology, physics, statistics, communication skills, calculus and other biomedical courses as physiology and anatomy and biochemistry. The curriculum contained pharmaceutical sciences as medicinal chemistry, pharmacology, pharmaceutical formulations, and biotechnology, in addition of intensive courses in pharmacotherapy, clinical pharmacokinetics, nutrition, pharmacy administration, hospital pharmacy and ethics. The final sixth year of the program is completely devoted to advanced experiential training through clerkships in various medical settings and community pharmacy. Early experiential training is achieved through summer training after the third year of the program. Second, the Kingdom of Saudi Arabia has wide, versatile and virgin flora which is needed to be explored and exploited, in addition to prevalence of folk medicine that plays a role in the culture of the Saudi community, specially, the use of medicinal plants that needs to be rationalized and optimized. Consequently, the curriculum contains courses in natural products and chemistry of natural secondary metabolites. Third, there exist great economic potential to develop the infra-structure of Saudi pharmaceutical industry to cover the growing needs of society and non-Saudi visitors for medications, and accordingly, a course in pharmaceutical industry is included in the curriculum. Fourth, the deficit in the number of Pharmacists, does not include only pharmacists devoted to pharmaceutical care in different health sectors and community pharmacy, but also academic pharmacy staff and all other domains of pharmacy practice including drug production, quality control laboratories, toxicology and forensic chemistry laboratory, narcotic control and logistic services, drug policy and administration departments. These reasons mentioned, here before, have prompted towards the establishment of a unique pharmacy program consistent with development in pharmacy education and the pressing needs of the Saudi society. On the other hand, one of the major issues that faced the implementation of the Pharm D program was the provision of training sites for the students in the established hospitals and health centers,

\*Corresponding author: Mohamed Ahmed A. Moustafa, Head of Pharmaceutical Chemistry and Phytochemistry Department, Faculty of Pharmacy, King Abdulaziz University, Jeddah, Saudi Arabia, Tel: +966507648478; E-mail: [mmoustafa201099@yahoo.com](mailto:mmoustafa201099@yahoo.com)

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either at the government or private sectors. At the beginning, not all health centres applied pharmaceutical care as few Pharm D graduates with or without residency certificates were available. However, after graduation of the first batch from the Faculty in 2007, distinguished graduates were sent to the States to join residency program to support the Faculty academic structure and/or act as preceptors for the Faculty

students. The Faculty of pharmacy at King Abdulaziz University is a unique example of how a new educational program could be successfully implemented to participate in development and advancement of health services and became a model for all Faculties of Pharmacy established afterwards in the kingdom of Saudi Arabia.