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Pharmaceutical Education Vs. Pharmacy Practice: Do We Really Teach What They Need For Practicing?

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Commentary

Due to their specialized training in the provision of pharmaceutical care, pharmacists play a crucial role in the health care system by ensuring the rational use of medicine. To obtain a bachelor's degree in pharmacy/pharmaceutical sciences, the majority of the required coursework consists of assignments, exercises, essays, and practical tasks, followed by written, practical, and oral examinations. Although the duration and content of pharmacy education differs between countries, basic pharmaceutical courses are similar. On the other hand, the pharmaceutical care concept varies with regard to how it is applied in practice from one region or country to another. Fortunately, in 2010, the International Pharmaceutical Federation (FIP) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) signed an agreement to develop a FIP UNESCO-UNITWIN Global Pharmacy Education Development (GPhED) program [1], which will attempt to standardize pharmacy education additionally, continuing pharmacy education is essential for pharmacists to keep up-to-date on the latest developments in treatment guidelines [2].

In medical education the traditional reliance on lecturing is usually insufficient to guarantee clinical competence in students. Most pharmacy students/pharmacists have difficulty in applying their theoretical knowledge of medicine into the actual practice of medicine [3].

Therefore, problem-based learning methods are recommended for clinical implementation and performance [4]. For clinical excellence, not only knowing, but also executing is required. Recently, it has been demonstrated that simulation centres for health professional schools may offer a novel method of teaching and evaluating health care processes at the micro level [5] and that problem-based learning methods can improve dispensing scores of pharmacists [6,7] (Figure 1).

Knowledge is power. However, power needs to be used wisely. In pharmacy schools, we teach students human physiology, the active ingredients of medicines, the analysis or synthesis of these medicines, their toxic effects, and their capacity to combat diseases. However, the capacity to apply this knowledge to a specific patient is much less developed in pharmacy education. To a large degree, pharmacists are "theoretical experts", but lack self-confidence in making decisions when they have to apply their knowledge to the treatment of patients. Thus, they have difficulties with the practice of pharmaceutical care, despite having extensive knowledge about various medicines.

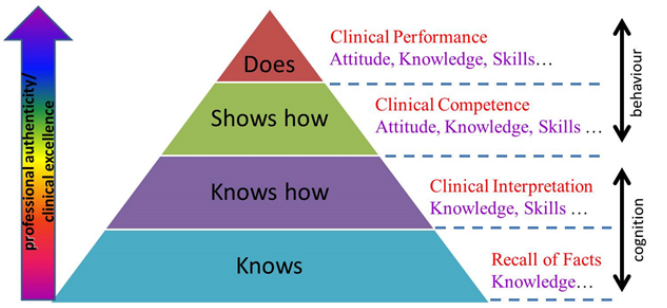

Figure 1: Climbing the pyramid of professional excellence (modified from Miller's (1990)) learning pyramid [4].

Traditional pharmacy practice typically focuses on filling orders (prescription/OTC), received from medical practitioners. In this model, pharmacists provide a service focused on the dispensing of medicine, rather than the provision of individualized care to the patient. However, evidence suggests that patients often receive inadequate care using this traditional model. On the other hand, pharmaceutical care is improved when pharmacists are actively involved in the treatment procedure by fostering the pharmacist–patient relationship and valuing on the clinical outcome of the treatment [8]. Especially in developing countries, pharmacists have a distinct role in in the health care system, especially in developing countries, since many patients in developing countries go to pharmacies for primary care. In such countries, pharmacists are more involved in the treatment process and in patient education.

Given the fact that pharmacists are health professionals rather than businessmen, the goal must be to develop pharmacists who are well educated, responsible, competent and committed to improving the health outcome of patients and society in general. To achieve this purpose, pharmacy schools should prepare a program that is compatible with the changing role of the pharmacist [9]. Pharmacy education should develop critical thinking and problem-solving skills, which enhance decision-making during pharmacotherapy. The student should be trained to create, transmit, and apply new knowledge based on cutting-edge research in the pharmaceutical, social, and clinical sciences; collaborate with other health professionals and learn to how to enhance the quality of life by improving the health of the people in local communities and as well as that of people globally.

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