

Review Article

Review of Iranian instruction programs for clinical pharmacy

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Abstract. It is well known that clinical pharmacists could play an important role associated to pharmacotherapy management for each disorder. Therefore, keeping an applied evidence-based-strategy should be considered as instructed program based on awareness toward profession. This study aimed to describe all challenges regarding to clinical pharmacy teaching programs' that Iranian faculty of pharmacy might face with it. In order to attain high excellence, evidence based pharmacotherapy care should be considered as rational developing insight linked to the clinical pharmacy instruction program. Individual experience or expert judgment alone seem to be not sufficient to support final decision for each patient, therefore there is need for inserting packages that included pharmacotherapy strategy associated to monitoring and assessing clinical response. Finally, establishing evidence-based practice is important for pharmacotherapy care in order to be effective, rationalized and applicable to patients' population. For performing a suitable teaching model toward clinical pharmacy courses, Iranian clinical pharmacist tutors must accept and vigorously contribute in the investigation desired to launch the required evidence-base pharmacotherapy care that accompanied by undergraduate and postgraduate pharmacy students.

Keywords: Teaching, pharmacy, clinical, hospital, pharmacotherapy, Iranian instruction

Introduction

Nowadays the worldwide pharmacy career is moving from a product oriented to a patient-centered practice. Actually from the year 1946 the movement toward clinical education in pharmacy programs pointed to be important. Therefore, in order to guide related to this movement international organizations have detailed guidelines in forms of statements. The World Health Organization (WHO) suggested a suitable balance of the following components in curricula: basic sciences, including pharmaceutical and biomedical sciences, and clinical sciences, socioeconomic and behavioral sciences, and practical experience. Moreover, WHO stressed that courses related to the implementation of patient-centered care (e.g. communication skills) should be introduced [1]. Iranian clinical pharmacy training relies largely on the traditional methods of reference texts and clinical pharmacotherapy investigation. In this regard reference texts play an important part in teaching.

It is well known that evidence-based learning is making an accumulative part, backup to problem-based and practical concerned education without placing patients at risk and reimbursing for the reduction in instructor-centered teaching. In Iranian program the extent of

pharmacy-learning-program for Pharm-D and PhD is 5 and 4 years respectively. Related to the detail of future pharmacy practitioners understanding of pharmacy law by students demand a thorough considerate for a consistent pattern of the best way directed toward training. In this regard pharmacist have an opportunity to decrease health-care costs and improve disease management as patients transition from inpatient to outpatient care by leading interventions to develop patient care plans, educate patients and clinicians, prevent adverse drug reactions, reconcile medications, monitor drug levels, and improve medication access and adherence [2-7].

As pharmacy teaching in Iran has been improved considerably, therefore, social reliance, communication or individuals talents, knowing and accepting of feels on the consultation table side should be complemented toward Iranian hospital pharmacy-learning-program. The creation of pharmacy-professionalism and compassion seem to be a factual intelligence need to be improved. Iranian pharmacy challenge teaching and training program, based on hard circumstances related to patients disorders in non-existence of up-dated Iranian-Based-Population evidence. As a result, Iranian pharmacists, residents, researchers and all collaborative people in this area educated securely for adaptive

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skill, connected to tolerance and determination of the most stressful of situations related to solving problems toward Iranian pharmacotherapy policy. The Iranian resident of clinical pharmacy allowed for opportunities for helping colleagues and patients beyond just the obvious issue [1-13].

As a result, this study examines the literature on evaluating clinical teaching, defines the methodology established for the Iranian Faculty of Pharmacy, recognizes some significant areas in pharmacy training, and deliberates the aids and restrictions of the valuation instructions to progress pharmacotherapy education.

Materials and Methods

In order to suggest temptation and attraction promised to teaching strategies, which could be based on technical and non-technical pharmacy training talents within all subcategories of pharmacy the subsequent keyword, "pharmacy teaching and education program; clinical pharmacy teaching and education program" United States National Library of Medicine (PubMed, NLM) was searched. A total of "3086 and 1322" articles from "29 August 2016 to July 1946; 29 August 2016 to September 1968" were documented. Consequently, 33 articles applicable to the selected keyword were preferred, selected, studied and used categorically for this article.

Results

According to previous publications [1-23], programs for training hospital pharmacists should intermediate pharmacotherapy consequence safeties significance, from enhanced patient facts about their medications, its' side-effects, and improved economy, quality and quantity of life as a result of clinical pharmacist-provided care. Al-Quteimat et al., in 2016 confirmed that as any other health care discipline to be effective, pharmacotherapy care needs to be evidence-based practice that is systemic, well planned and efficient. Being systemic indicates input, process and output [24]. Curriculum for pharmacy graduates related to hospital pharmacy should consider their role in screening of several chronic and acute diseases. Due to increase in health burden of kidney, heart and liver disease globally, disease progress could be well-managed or delayed in its early phase [25]. Kouladjian L, et al. in 2016 mentioned that among older adults, recommendations provided by a pharmacist during the medication review are evidence-based and improve outcomes such as adherence and reduction in the number of falls [26]. Regarding to training pharmacists there is need for attendance of pharmacotherapy courses related to children, as Lilley A, in 2016 showed that feedback from the pharmacy teams in general seem to be positive with many stating it was good to be more involved in the care of children's conditions [27]. Taylor A et al., in 2016 confirmed that it is common practice within early pharmacy teaching for clinical supervision to take place at undergraduate, pre-registration and foundation level pharmacist stages [28]. Hospital pharmacist supervision could have a direct impact on patients' safety and final clinical outcome. Tolou-Ghamari in 1999 investigated pharmacotherapy outcome of

tacrolimus in both acute and chronic liver transplant recipients. The conclusion was based on the necessity of recipients of liver for different starting dosage of immunosuppressive tacrolimus immediately after liver transplantation [14].

Evaluating patients' clinical condition and laboratory data could be another option for training clinical pharmacist [29]. In 2013 a broad examination, studied the correlation of antiepileptic drugs (AEDs) with clinical and biochemical outcomes in patients with epilepsy. They concluded that in Iranian epileptic population, for the rapid detection of severe anemia, leukopenia, lymphocytosis, osteomalacia, or liver failure, effectiveness of treatment should be attributed by the close supervising of AEDs in relation to clinical circumstance, laboratory data, and therapeutic drug monitoring [5]. Related to emergency medicine, in order to improve clinical skills and confidence of pharmacy students there is need for courses related to emergency pharmaceutical training program with high-performance simulators [30]. Related to determination for the features of Iranian clinical pharmacy education, a technique should be established that could be able to parallel the needs of the both faculty of pharmacy and health system limitations. After the implementation of such system for Iranian course of clinical pharmacy, the data should be gathered based on evidence-based-pharmacotherapy investigations. In the next step, the consistency of the study should be scanned, in order to recognize those protocols for accreditation drugs more closely related to effective clinical outcome, and to define the benefits and difficulties of using this strategy [31]. The future for Iranian clinical pharmacy education should be secured to the progress that presently started as clinical pharmacist highlights participation in patient care. The hospital pharmacists' expected to effect on pharmacotherapy care in order to adventure on the movement toward health advancement [32].

Discussion

Adequate pharmacotherapy information related to patient medication seems to be vital for applicable clinical practice. Basically, the term "clinical supervision" has four main functions: educational, supportive, managerial and development of self-awareness [28]. In this regard, as pharmacy is a very active occupation, so, the duty of the clinical pharmacist should be educative and policymaker, with the growth of patients' demands related to their medication.

Previous publications of Iranian pharmacotherapy studies [1-23] certify the necessity and attention for a hospital pharmacy instruction program. Therefore, Iranian faculty of pharmacy needs to inserting programs for moving toward hospital-medications-patients-care. Then it is expected that hospital pharmacists carry more responsibility and commitment to improve pharmacotherapy care in all over of the country. In 2012, a comprehensive study of antiepileptic drugs (AEDs) in patients with epilepsy, evaluated the impact of prescription of antiepileptic drugs and suggested that significant benefits for reducing adverse drug events, could be

achieved based on monotherapy or attentive polypharmacy [4]. Another investigation of approximately 4209 outpatients with multiple sclerosis (MS) published in 2015 confirmed that; 1) the use of pharmacist supervision for drugs prescribed for MS, 2) informative interventions, 3) reply to strategy based on square that comprised of drug-prescription-pharmacotherapy management-patients demands' should be considered as the significant facts for the standard of care for future plan of Isfahan University of Medical Sciences related to pharmacy education [20]. Decrease pharmacotherapy care costs' for events such as; 1) patient's with long hospital stay or 2) those with critical condition that final circumstances ended to death, should be another consideration for a hospital pharmacist in order to teach pharmacy students. The study of relationship between 5360 deceased medical records in a teaching hospital in Isfahan/Iran, in 2016, established that in 27% of total population the duration of hospital stay was between 1- 3 months [3, 14].

Finally in order to improve patient medication facts it may be suggested that qualified protocol related to pharmacotherapy evidences should be established, assessed and applied with the eventual object of improving the appropriate use of drugs [33]. Decrease health care costs of drugs used for treatment, improve disease management by pharmacotherapy care, develop interventions for improved patient care, communicate to patients and clinicians, prevent drugs side effects' should be mentioned as the most important items for further attention associated to Iranian clinical pharmacy tutoring programs.

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Conflict of Interest

The author declares no conflicts of interest.

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