

Implementation of a Clinical Pharmacy Training Program in Iraqi Teaching Hospitals : Review Article

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Abstract

Pharmaceutical care is a patient-centered, outcomes oriented practice that requires the pharmacist to work in concert with the patient and the patient's other healthcare providers to promote health, to prevent disease, and to assess, monitor, initiate, and modify medication use to assure that drug therapy regimens are safe and effective. In addition, the presence of clinical pharmacists has led to a higher quality of patient education and provision of complete detailed information for patients. In developed countries Pharm D has become the professional degree for practice of Pharmacy. The graduates will be enrolled in a pharmacy residency program; admission to the residency programs is available to Pharm D graduates of an accredited College of Pharmacy. The residency is also designed to prepare the residents to become Board Certified Specialists in their field. In many developing countries three new pharmaceutical education programs have currently been established to serve the pharmaceutical care development. Firstly, a six-year curriculum leading to the doctor of pharmacy (Pharm. D) degree as the sole professional degree. Secondly, Pharmacy Residency and Fellowship Training Program have been developed to provide intensive training in pharmaceutical care practice to the pharmacists. Lastly, the continuing pharmaceutical education program (CPE) has been adopted to ensure the competency of all pharmacists to deliver the best knowledge and skills in pharmaceutical sciences in their specialties. In our opinion we lack for most of these programs, even the program of clinical pharmacy in ministry of health is not residency program and it is short and not subspecialized apart from being not recognized by academic institutes and references. In conclusion, pharmacy profession has to change towards the more responsibility on patient care. New training program has to be adopted by medical education institutes to provide clinical pharmacists as a profession and to prepare board certified clinical pharmacists as specialists to cope with the advances in all medical fields.

Key words: clinical pharmacy, board certification.

تطبيق البرنامج التدريبي للصيدلة السريرية في المستشفيات التعليمية في العراق: مقالة للمراجعة

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الخلاصة

الرعاية الصيدلانية هي الممارسة العملية المركزة نحو المريض والمتوجهة نحو النتائج التي تتطلب صيدلي سريري يعمل بتناسق مع المريض ومقدمي الرعاية الصحية الآخرين من أجل تعزيز الصحة للوقاية من الأمراض والشروع بالمعالجة مع تقييم ورصد وتعديل استعمال الدواء لضمان نظم العلاج بالعقاقير بصورة آمنة وفعالة. إن وجود صيدلي سريري يؤدي إلى إدارة دوائية أكثر أماناً ونتائج أفضل للمرضى واستخدام امثل للدواء وبالتالي خفض تكاليف الأدوية. وبالإضافة إلى ذلك، أدى وجودهم إلى ارتفاع جودة تثقيف المرضى، وتوفير معلومات تفصيلية كاملة للمرضى. في البلدان المتقدمة أصبحت شهادة الطبيب الصيدلي (فارم-د) هي الدرجة المهنية المطلوبة لممارسة الصيدلة. حيث يلتحق الخريجون في الصيدلة ببرنامج الإقامة؛ إن القبول في برامج الإقامة متاحة لخريجي فارم-د من كليات معتمدة في الصيدلية. وتهدف الإقامة أيضاً إلى اعداد صيادلة مقيمين ليصبحو متخصصين مؤهلين بشهادة البورد في هذا المجال. في الكثير من البلدان النامية في الوقت الراهن هناك ثلاثة برامج تدريبية جديدة التي أنشأت لخدمة التنمية في الرعاية الصيدلانية. أولاً، وضع منهج دراسي لمدة ست سنوات، ليؤهل إلى دكتور صيدلي كدرجة مهنية وحيدة، ثانياً تم تطوير برنامج الإقامة والزمانة لتوفير التدريب المكثف في ممارسة الرعاية الصيدلانية للصيادلة. وأخيراً، تم اعتماد برنامج التعليم الصيدلاني المستمر لضمان الكفاءة من جميع الصيادلة لتقديم أفضل المعارف والمهارات في العلوم الصيدلانية. من وجهة نظرنا، أننا نفتقر لمعظم هذه البرامج، حتى في برنامج الصيدلة السريرية في وزارة الصحة فهي ليست برامج إقامة كما انها قصيرة وليس متخصصة فضلاً عن كونها غير معترف بها من قبل المؤسسات الأكاديمية. في الختام، مهنة الصيدلة يجب أن تتغير نحو المزيد من المسؤولية على رعاية المرضى. كما يجب تبني برامج جديد للتدريب لاعتمادها من قبل مؤسسات التعليم الطبي لتوفير الصيادلة السريريين كمهنة وإعداد الصيادلة المتخصصين بشهادة البورد السريري للتعامل مع التقدم في جميع مجالات الطب.

الكلمات المفتاحية: الصيدلة السريرية ، شهادة البورد

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Introduction

Clinical pharmacists started their contributions to medicine in the 1960s and have come to be crucial members of medical teams as seen today in hospitals in developed countries. The presence of clinical pharmacists resulted in a safer medication administration, better patient outcomes, lower use and therefore lower costs of drugs. In addition, their presence has led to a higher quality of patient education and provision of complete detailed information for patients⁽¹⁻⁴⁾. The purpose of this paper is to provide an overview to institutions considering the implementation of a clinical pharmacy program as part of their health care system. We provide a review of the current literatures supporting this program. Involvement of clinical pharmacists in patient care in the inpatient hospital setting results in safer and more effective medication use⁽¹⁾. These pharmacists are typically involved in assuring appropriate prescribing and administration of drugs, monitoring patient adherence to therapy, providing drug information consultation to providers, monitoring patient responses and laboratory values, and providing patient and provider education⁽⁵⁾. Data suggest that medication errors are a significant contributor to errors in the emergency department, as well as in the inpatient setting⁽⁶⁾, a study found that 3.6 percent of patients were prescribed an inappropriate medication in the emergency department, and 5.6 percent of patients were prescribed one upon discharge⁽⁷⁾.

Development of Pharmaceutical Education

Far East experience

Now, as there is an upsurge in clinical pharmacy, many developing countries have expanded their pharmacy curriculum to a 5- or 6-year program that issues a doctorate of pharmacy degree. However, it is still to be determined whether these countries are genuinely interested in a practice-based model or simply want their graduates to enroll in the US system^(8, 9). Three new pharmaceutical education programs have currently been established in Far East to serve the pharmaceutical care development. Firstly, a six-year curriculum, leading to the Doctor of Pharmacy (Pharm D) degree as the sole professional degree adopted in 1999 by many colleges of pharmacy. Students required to complete 6 clinical clerkship rotations in the final year of the program to assure that they will develop the technical skills, professional judgements and competencies necessary for entry into the pharmacy profession. Recently,

the Pharmacy Council of India (PCI) decided to introduce PharmD (post-bacclaureate degree) courses for the first time in the country^(8, 10). Secondly, pharmacy residency and/or fellowship training programs have been developed since 2000 in order to provide intensive training in pharmaceutical care practice to the pharmacists. Prince of Songkla University and Naresuan University has currently adopted this program under supervision of The College of Pharmacotherapy. Areas of specialty that are available for training are internal medicine, infectious diseases, cardiovascular diseases, oncology, critical care and pediatrics^(11, 12). Lastly, the Pharmacy Councils have established the continuing pharmaceutical education program (CPE) since 2002 to ensure the competency of all pharmacists to deliver the best knowledge and skills in pharmaceutical sciences in their specialties. The program allows a pharmacist to update his/her knowledge and skills by attending the pre-approved academic meeting or reading the pre-approved article-related to pharmaceutical sciences. At least 10 CPE hours yearly and a total of 100 CPE hours per 5 years must be achieved by a pharmacist prior to continue active status of his/her pharmacist license. Currently, at least 70 - 80% of pharmacists participated in this program^(11, 13).

Middle East experience

Interestingly institutions in the middle- east countries like Saudi Arabia, Jordan, and Kuwait started 5-6 year Pharm D degree courses⁽¹⁴⁾. Egypt too started their clinical pharmacy courses in the curricula of undergraduate, or specializing training courses in this field for postgraduates⁽¹⁵⁾. The Saudi council for health specialties adopted a clinical pharmacy residency program; this council offered a residency program with accredited training for two years and eventually will grant the graduate a board certification of clinical pharmacy after passing the final exam⁽¹⁶⁾. Residency Program in Clinical Pharmacy in Jordan was established in 1996 to prepare clinical pharmacists to work in medical teams to provide high quality medical services and to put the clinical pharmacists in the right way for improving their career, at the end they will be eligible for promotion for the job of specialist and consultant in clinical pharmacy. It is four year scientific training program after the B Sc pharmacy, through which the pharmacist will be resident working with a medical team and will be in direct contact with the patients. The candidate will prepare daily reports and attend lectures and medical meetings under

supervision. He will pass through twelve departments, cardiology, hematology, oncology, neurology, communication skills, and clinical pharmacy departments⁽¹⁷⁾. In 2006 they improved the program to specialization rather than general clinical pharmacy; accordingly the resident will choose one or two specialties at the final year of residency program. The clinical pharmacist will be specialist after finishing this program. He will be eligible for farther promotion in the profession as senior specialist and consultant in clinical pharmacy depending on the scientific work and research⁽¹⁷⁾.

The clinical pharmacy in developed countries

A doctor of pharmacy degree program must have a multidisciplinary curriculum that produces pharmacists with sufficient mental acuity to differentiate their position from that of simply dispensers of drugs to that of providers of pharmaceutical care. The Pharm D program in the United States is the epitome of the practice-based model⁽¹⁸⁻²¹⁾. The American College of Clinical Pharmacy's (ACCP) 10–15 year vision for the profession is that pharmacists will be health care providers who are accountable for optimal medication therapy in the prevention and treatment of disease. To achieve this vision, the profession must ensure that there will be an adequate supply of appropriately educated and skilled clinical pharmacists^(22, 23). By the beginning of 1990s, the American association of colleges of pharmacy and the American pharmacy professional organizations jointly took an unanimous decision to make Pharm D as the minimum requirement for practice of Pharmacy in their country. This has positively influenced the pharmacy educational institutions and authorities through out the world to take proper precautions at their countries. All the Western / European countries rose to the occasion and took timely decisions to introduce Pharm D^(24, 25).

The Cleveland Clinic Foundation, as a model for implementing the clinical pharmacy program

It is an integrated health care system, a one thousand bed tertiary and primary care hospital; it manages over 2 million patient visits annually. The Department of Pharmacy provides services 24 hours a day. The 200 plus departmental personnel include pharmaceutical care specialists, staff pharmacists, managers, technicians, and other supportive staff. Admission to the residency program at Cleveland Clinic is available to Pharm D graduates of an accredited college of

pharmacy. The residency is a specialized one-two year training program which enables the successful resident to develop an expert level of competence in clinical pharmacy. The residency is also designed to prepare the resident to become a Board Certified Specialist⁽²⁶⁾.

Board Certified Pharmaceutical Care Specialists

The primary purpose of specialization in any health care profession is to improve the quality of care individual patients receive, to promote positive treatment outcomes, and ultimately, to improve the patient's quality of life. Specialties evolve in response to the development of new knowledge or technology that can affect patient care. Board certification for health care practitioners is well established as an essential element of quality assurance and professional privileging. Future clinical pharmacy practitioners should be board-certified specialists; this is the vision of ACCP in 20–30 years. Accordingly most clinical pharmacy practitioners will be board-certified specialists by adopting a training program⁽¹⁸⁾. For more than 30 years, the Board of Pharmacy Specialties (BPS) has provided specialty-level certification programs for pharmacists – both nationally and internationally. Board of pharmaceutical specialties will grant the clinical pharmacist practitioners the specialist degree when they fulfill the requirements: pharm D degree, residency program, fellowship with thesis, and passing the specialty exam⁽²⁷⁾.

The program of clinical pharmacy in Iraq

The newly graduate pharmacists can be enrolled in this program for one year under training at teaching hospitals. They will be legally obliged to work as clinical pharmacists for five years according to the need. This program was established at ministry of health. It is a practical initial solution of the problem of clinical pharmacy in Iraq. Till now it is a successful program. But from the other side, the program is not recognized by ministry of higher education, and it is neither a residency program nor specialized. Actually it will not cover the advances in medicine and it is not going parallel with medical upgrading. Board certification program is the major step in upgrading of medical profession to improve patients care in Iraqi hospitals. Adoption of Arab board program followed by Iraqi board as part of improving patient care and promoting research were very successful expressing the

cooperation between ministry of health and ministry of higher education to improve health system in Iraq. At the same time, the process of improving pharmaceutical care was limited; there was simple role of educational institutes of ministry of higher education. The role was restricted to ministry of health in the form of one-year program of clinical pharmacy. As a conclusion, the practice of clinical pharmacy, as well as clinical pharmacy education, varies significantly throughout the world. To implement or at least to start such approach; there must be well-planned execution of good clinical pharmacy practice in developing Iraqi health system. Upgrading of primary pharmacy education will support local pharmacy practice and permits for international recognition of Iraqi graduates. This review may recommend application of new postgraduate training programs like board training or fellowships to support the practice of clinical pharmacy as initial step. Establishment of (the scientific council of clinical pharmacy) at ministry of higher education to create a recognized professional training program in clinical pharmacy will be the complimentary step in upgrading health system to provide an optimum patient care. Upgrading of clinical pharmacy profession through a board certification program will be the logic step in this regard.

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