

***Clinical Pharmacy Practice in Egypt
why it took so long to apply it?***

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ABSTRACT

Pharmacy practice has undergone dramatic changes in the last 30 years. The pharmacist's responsibilities have moved from supplying medication in bulk towards stocks and extemporaneously compounding preparation to an important integrated member of the patient care team. Today, hospital pharmacists are vital players on the health care team acting as therapeutic experts, during information specialists, nutritional service members, and pharmacokinetic consultants.

Guidelines to pharmacy college faculty in assessing and revising their curriculums and to design a continuing pharmaceutical education program were established by the American Association of Colleges of Pharmacy (AACCP). The two major outcomes of these two guidelines are professional practice-based outcomes and general ability-based outcomes.

The University of Tanta, College of Pharmacy had developed new curriculum for its graduate pharmacy students to face the challenge of modern pharmacy practice. The ACCP guidelines

were taken into account for developing this new curriculum and in designing course contents for the pharmacist to accept responsibility for the overall effects of the therapeutic process. However, some obstacles have raised on the surface when it comes to actually applying the principle of pharmaceutical care. These problems include: I) inadequate practicing experience; II) misunderstanding of the role of pharmaceutical services by the medical staff; III) the inherited lack of coordination between pharmacists and the rest of health team; IV) absence of in-service programs to the nursing staff by practicing ward pharmacists; V) lack of applied visible or sensible valuable pharmaceutical services; VI) inadequate life-long learning & practice; VII) minimal effort is exerted in the promotion of public awareness regarding public health and disease.

However, local measures are currently undertaken to correct these problems along with the implementation of the Pharm. D. program.

Pharmacy Profession/Curriculum:

Pharmacy has moved from the traditional product-orientation to patient-orientation.⁽¹⁾ It was concerned about what drugs were used in the care of patient. Today pharmacy involves how drugs are used in individual patient's management.⁽²⁾

Curriculum within colleges of pharmacy have evolved to include more experimental course work to support this patient orientation. The two major and noticeable changes in pharmacy practice was the use of unit dose system/intravenous admixture/total parenteral nutrition (TPN), and the integration of the clinical pharmacist as an active member of the health care team (HCT). University of Tanta, Colleges of pharmacy was the first university

in Egypt to introduce clinical courses in its curriculum back in 1980's.

Revised Curriculum:

The revised curriculum does not only improve pharmacist educational knowledge but also prepares him (her) to face the challenge of the real world of pharmacy practice. Several courses were added to the old curriculum that include pharmacokinetics, therapeutics, drug information, clinical pharmacy, drug interaction, and hospital pharmacy.⁽³⁾ These added courses intensify the clinical pharmacy and therapeutic contents of the curriculum. Community pharmacy and pharmacy ethics were introduced as core courses. Clinically oriented elective courses were offered to both third and fourth year pharmacy students in addition to providing clinical clerkship rotations at the University Hospital wards. The major goal of the newly revised curriculum is to prepare the pharmacy students to provide services that positively alter patient's drug therapy outcomes. In order to achieve this goal, we have adopted several major guidelines announced by the American Association of Colleges of Pharmacy (AACP) that enhance the professional practice-based outcomes and the general ability-based outcomes.

AACP Guidelines⁽⁴⁾:

The AACP outcomes used as a guide when we revised our curriculum. These outcomes include:

1- Providing pharmaceutical care⁽⁵⁾ to individual patient. The concept of pharmaceutical care implies acceptance of responsibility and accountability of pharmacists for the drug use control functions & providing services for the purpose of achieving outcomes that improve the patient health and quality of life.

Under this concept, clinical pharmacists are responsible for formulating, designing and implementing patient specific pharmacotherapeutic regimens (dose, dosage schedules, and duration of therapy) based upon relevant patient factors. It also includes providing counseling relative to the proper use of drugs or medical devices.

2 - Develop and manage medication distribution and control systems.

3 - Manage Medication use system.

4 - Manage Medication use system.

5 - Promote public health

6 - Provide drug information & education.

Early Observation/Documentation:

To encompass pharmacy's traditional role a dispenser of medication, a proactive practical role for pharmacists was spreading in the past few years worldwide. It urged pharmacists to accept responsibility and accountability to reduce preventable drug-related morbidity and mortality.⁽⁶⁾ This proactive role encourages pharmacists to intervene earlier in the time line of pharmacotherapy-based patient care rather than the traditional retrospective or passive role, i.e., after drug order is written and administered to patients.⁽⁶⁾ In fact, several reports were published showing manifestations of professional harmony between physician and pharmacist that foster a more rational practice of therapeutics and pharmacy.⁽⁷⁾ Several predicting factors such as hospital ward type, pharmacist grade, and the total amount of time spent on hospital wards were found to be significant predictors of physicians-accepted interventions by hospital

pharmacists in the United Kingdom.⁽⁸⁾

It was noticed that the University of Tanta graduates were academically well prepared compared to other graduates from non-clinically oriented colleges in terms of solving medication errors, detecting drug-drug interactions, identifying adverse drug reactions and drug-induced disease. These observations were attributed to the clinically oriented courses introduced and implemented to our old curriculum.

Initial Barriers To Change:

Several barriers came to the surface when we actually enforce the revised curriculum. These barriers were due to insufficient qualified clinical pharmacy teaching staff, lack of practicing experience, training sites and preceptors for a well theoretically and technically prepared candidates. Similar barriers were reported in American literature addressing causes and suggested solutions.⁽⁶⁾ There were an initial misunderstanding or lack of recognition of the pharmacist's clinical role by health care team due to the inherited desire of physician to play the sole and major role in patient care settings. Pharmaceutical services described under the concept of pharmaceutical care were not visible to many clinicians which, when implemented, provide a safeguard against drug-toxicity to both physicians and patients. On the other hand, job dissatisfaction expressed by clinical pharmacist practicing in Egypt were due to lack of promotion opportunities and low salaries, as well as the higher cost of establishing a respectable pharmaceutical services.⁽⁹⁾ Furthermore, most Ph. D. or Pharm. D. degree holders who graduated from abroad went back to the U.S.A. or had sought professional position in the Gulf area specially Saudi Arabia (two out of ten returned to Egypt). Modifying college curriculum based on feedback from the actual

application of current one was a very difficult and time consuming task to achieve locally since it usually takes many routine steps to pass it. Other obstacles were attributed to an in-house obstructs and opposition expressed by the college staff within the individual university and absence of legal requirement of life-long learning program and practice (continuing education and residency or fellowship programs) for practicing pharmacy.

Is It That Bad?

Several university in Egypt have adopted our revised curriculum and introduced many clinically oriented and applied courses including Ein-Shams, Menia and Al-Monofia Universities. Practical implementation of specialized clinical pharmacy service (Intravenous admixture and TPN) were undertaken as a visible pilot service applied to cancer patients at the National Cancer Institute (NCI) in Cairo. Similar to what has been reported by others, improvements in the relationship between pharmacist and physicians were driven by growth in their field and tend toward specialization that has eased the existed tension which would ultimately benefit patients.⁽⁸⁾ In general, several universities were in transitional stage, where they are gradually introducing clinical materials under the content of other courses (e.g. Pharmaceutic and Clinical Pharmacology). Introducing and implementing the newly approved Pharm. D. degree for the first time in Egypt was an initiative from the faculty of pharmacy, Tanta University to introduce the Pharm. D. degree in the recognized certificates issued by the Egyptian Universities (Republican Decree Number 419Year 1995). We had accepted 34 students who started studying their Pharm D. last November 1997. A significant enthusiasm towards the program has been well noticed from applicants due to the predicted clinical experience

that would be gained and the advantage directly registration directly to the Ph. D. degree, without holding a master degree first, for those interested candidates after graduation. It had been recently approved to establish in-service program and workshops in our teaching hospitals as well as model wards to visualize and practically apply the concept of clinical pharmacy & pharmaceutical care with its medical and economical impact on patient outcomes.

The Ministry of Health and Population represented in the pharmaceutical affair department has taken giant steps toward implementing clinical pharmacy program in different hospitals across the country. One of the major steps toward such movement is the establishment of the Egyptian society of Hospital Pharmacists four years ago. The society serve all practicing sectors of pharmacy. It handles critical pharmaceutical issues regarding drug manufacture and usage as well as providing drug information, international news that encourage professional update and development.

It exerts tremendous effort in enforcing crucial health care issues related to pharmacy profession. It also supports and promotes the widespread of clinical pharmacy and the concept of pharmaceutical care all over the entire country through improving hospital pharmacists salaries, providing continuing education program and holding international conferences, and providing hospital pharmacy workshops and training.

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