



Research Paper

Clinical Placement of Saudi Intern Pharmacists at Coronary Care Unit

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ABSTRACT:- Introduction: The first batch of pharmacy students at Jazan University start their internship year and it is important to hear from interns about their opinion regarding internship year's clinical placements. The study tries to explore intern pharmacists' perceptions and opinions about their clinical placement at coronary care unit of King Fahd Central Hospital, Jazan, Saudi Arabia.

Materials and methods: one questionnaire consists of 10 items was sent to all intern pharmacists of college of pharmacy- Jazan University who trained for 1 month at coronary care unit of king Fahd central hospital as a part of their internship year training program

Results: A majority of responses (86%) rate the internship year as extremely important in shaping their future career. All the received responses describe transition from classroom-based education to initial clinical placement at coronary care unit as difficult. Many responses (60%) do not know any cardiology clinical pharmacy knowledge resources. Finally, intern pharmacists perceive smart phone application as the best design for a cardiology clinical pharmacy knowledge resource.

Conclusions: Saudi intern pharmacists involved in our study are able to realize the importance of their internship year in shaping their future professional career and express their need for clinical knowledge support tools in their coronary care rotation which is preferred to be designed as smart phone applications because of availability, easy use and accessibility..

Keywords: - clinical placement, coronary care rotation, intern pharmacists, smart phone application

I. INTRODUCTION

1.1 Research background:

Pharmacy interns at faculty of pharmacy, Jazan University, start to join different rotations in a variety of hospitals in Jazan region. King Fahd Central Hospital (KFCH) is the main central hospital in Jazan region where majority of pharmacy interns can join different medical departments. Coronary care rotation is considered as an important elective rotation which has been selected by 16 intern pharmacists in their internship rotations' plan.

1.2 Pharmacy education and internship year

Pharmacy education aims to qualify graduate with the essential knowledge of pharmaceutical sciences as well as to equip him/her for lifelong knowledge and training in science and practice [1]. Over the last two decades the pharmacy profession has seen a major revision to patient-focused teaching and practice [2]. As a result of this revision, development of academic programs e.g. Doctor of Pharmacy (Pharm.D) Program that concentrate on clinical based learning becomes more necessary. Pharm.D program is the accredited undergraduate pharmacy program at faculty of pharmacy, Jazan University. The impact of clinical pharmacist role has been studied extensively with the general result of improving the care of inpatients with no evidence of harm[3]. Many clinical pharmacists' activities are required to achieve this improvement in inpatients' care such as Interacting with the health care team on patient rounds, interviewing patients, reconciling medications, and providing patient discharge counselling and follow-up[3].

1.3. Coronary care rotation as an important clinical placement

The importance of coronary care rotation comes from the great impact of clinical pharmacist for such critically-ill patients who are the most vulnerable to medicines-related harm because of their illness acuity, multi-organ failure, poly pharmacy and preparation of intravenous drug use [4]. Pharmacist in critical care unit

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can prevent or even decrease many of drug-related problems that affect health care outcomes through direct way or indirect clinical way by causing a significant increase in healthcare costs. Such drug-related problems may include adverse effects, drug interactions, administration errors, sub-therapeutic dosing, and supply failures or delays [4]. The initial clinical placement represents a core component of a preparing journey for clinical pharmacist. During their daily clinical training, intern pharmacists who are placed in a coronary care unit may need clinical knowledge resources that involve principles of cardiology clinical pharmacy practice.

As a result of the paradigm shift within the profession, pharmacists are now more involved in direct patient care [5]. It is well established that professional experiential placements, including clinical placements can exclusively expose students to real-life learning environments that facilitate the integration of knowledge and understanding through practical application of what they have learned in their faculties and teach decision making [6].

The result of one German pilot study that aims to assess the impact of participation of pharmacy interns in medical wards, reports that hospital pharmacy interns have an important role in ensuring drug safety in the hospital [7]. Also, another American study evaluates the impact of Pharm.D students on internal medicine clerkships and shows significant improvement in patient care with significant number of interventions initiated by Pharm.D students[8].

1.4. Proposed clinical practice challenge

Giving the importance of pharmacists placed in critical care settings who are recognized as essential members of the multi-professional health team through their contribution to drug therapy management, reduction of drug expenditures, and impact on patient and medication safety [9]. This important role require proper preparation of pharmacy students. The most critical preparatory stage is the beginning of clinical placement during final year. Through that stage, intern pharmacists should have a clear image about their proposed role, challenges and principles of clinical pharmacist role in clinical settings generally and coronary care unit particularly. The major challenges may face intern pharmacists at the beginning of their clinical placement are:

1. How they can integrate what they were educated with what they should learn to act as a professional?
2. What are the basic requirements of pharmacy practice in a specialty area such as cardiology clinical pharmacy?
3. What are the most useful clinical knowledge resources that can help them during coronary care rotation?

Based on these proposed challenges, our study objectives are to assess interns' perceptions about internship year generally and coronary care rotation in particular, to identify if there is any clinical knowledge gap between class-room based education and initial clinical placement at coronary care unit and to explore opinions about interns' need for clinical knowledge resources during their initial clinical placement at a coronary care unit.

II. MATERIAL AND METHODS

2.1 Study method

2.1.1. Study design: pilot study uses one questionnaire consists of 10 items distributed on all intern pharmacists of college of pharmacy- Jazan University who trained for 1 month at coronary care unit of king Fahd central hospital.

2.1.2 Study setting: use of guided questionnaire in a hospital setting to explore perceptions and opinions about coronary care rotation, assess their needs to enhance transition from class-room based education to initial clinical placement at a coronary care unit..

2.1.3 Sample size calculation and sampling : convenience sampling is used and the total targeted number of individuals are sixteen . inclusion criteria for interns participated in study is spending one month in coronary care unit of king Fahd central hospital.

2.1.4 Study tool: we develop 10 items questionnaire covering major issues that faces interns in starting their rotation in coronary care unit. Questionnaire's validity was tested by giving sample to two of interns, faculty staff and internship year program director to assure that all questions are clear and tested what is exactly needs to be tested. Also reliability of questionnaire was assured by giving all targeted interns a short introductory talk before distributing questionnaire to assure that they perceive all questions in the same way.

2.1.5 Data collection: results of questionnaires were selected by face to face handing over in king Fahd central hospital as well as sending by email to the corresponding author.

2.1.6 Data analysis: analysis of all data obtained was done by simple statistical calculations of all responses in terms of final percentage to each answer.

2.2. Questionnaires were used in many studies as main tools to gather perceptions and opinions of intern pharmacists about their internship year training rotations. One study performed at The University of Auckland, Auckland, New Zealand [10], to explore perceptions of newly registered pharmacists, interns as well as their preceptors towards their level of preparedness. They developed 16-items questionnaire as a method for gathering perceptions, opinions towards the level of preparedness to enter pharmacy practice phase and identifying areas for improvement in the undergraduate curriculum. The main outcome of this study was that preceptors still perceiving graduates' level of preparedness at a lower level than perceived by graduates themselves which may give an indication about potential improvement areas in preparing interns for professional pharmacy practice.

2.3. Another study was performed on South Australian pharmacy interns to explore their values, beliefs and motivations to study pharmacy, their assessment of level of preparedness achieved through their pharmacy education and how this pharmacy education preparedness level is sufficient to start majority of activities required as health professionals under Australian health care system [11]. The study uses a questionnaire as the main method for collecting opinions, beliefs and values of pharmacy interns. The Findings of this study indicates that there is a gap in interns' preparedness level still not filled completely by pharmacy education which may indicate areas of potential improvement for interns' training. According to study results, this gap width may differ to have multidisciplinary team care (49%) as the widest gap then the gap of medicine information (28%) then patient care gap (20 %) was the least identified one.

2.4. The rationale of choosing an inpatient pharmacy specialty e.g. cardiology clinical pharmacy to propose a possibility for a need of a clinical knowledge support tool, examined by one study involved more than 2000 pharmacist with the objective of defining subgroups of pharmacists have variability in their expectations for competency of entry-level practitioners, they found that inpatient Pharmacists gave slightly higher ratings to the competency statements than did outpatient pharmacists , pharmacists without direct patient care responsibilities, and those in academia [12]. Based on this study, it can be concluded that competency for entry-level practitioner pharmacist in inpatient settings is higher than other settings.

III. RESULTS

We received 15 responses from overall 16 intern pharmacists who were eligible to participate in our study and passed successfully their training rotation at coronary care unit of king Fahd central hospital, Jazan, Saudi Arabia.

A majority of responses (86%) rate the internship year as extremely important in shaping their future career and also they rate the importance of coronary care rotations to their internship year as extremely important. All the received responses describe their transition from classroom-based education to initial clinical placement at coronary care unit as difficult. About 60% of participants agree on perceiving classroom-based education they have received as preparatory stage for coronary care unit rotation while 40% of responses disagree with this perception. About 73% of responses do not perceive the education they have during faculty period enough for them to be competent in real clinical practice. Almost 80% of intern pharmacists express their extreme interest in pursuing a residency program in a critical care unit e.g. coronary care unit. While 46% of intern pharmacists do know the outlines of basic clinical knowledge that they should have before coronary care rotation. Approximately two thirds of participants do not know any clinical knowledge resources addressing cardiology clinical pharmacy practice while the rest say that they know some useful resources and give examples of many drug databases such as Micromedex, Medscape, Up-to-date along with examples for critical care medical books e.g. critical care secrets. More than 90% of participants do agree that cardiology clinical pharmacy knowledge resources will assist them during coronary care rotation. Finally, About 80% of intern pharmacists perceive smart phone application as the best design for cardiology clinical pharmacy knowledge resources. Many of them justify their choice to smart phone application as the preferred tool because it is easy to use, faster to get the required information in every time and place, and easier to transfer with your search from one topic to another.

IV. DISCUSSION

4.1. Intern pharmacists are able to realize the importance of their internship year generally and coronary care rotation particularly, in shaping their professional future career. The difficulty perceived by intern pharmacist during transition to clinical placement at coronary care unit indicates that a greater effort should be exerted to enhance their transition from classroom-based education to clinical placement at coronary care rotation.

4.2. A majority of responses reveals that a gap of clinical knowledge is experienced by intern pharmacists while their initial clinical placements. This may indicate a need for clinical knowledge support tools.

4.3. More than half of participants do not know of any clinical knowledge resources addressing cardiology clinical pharmacy practice while the rest of participants mentioned some general medical resources as their preferred and most useful resources. This may be an indication for their lack of knowledge about specified clinical knowledge support resources for pharmacists, also indicates the deficiency of such resources that targets pharmacists at their initial clinical placements. Therefore, Lack of knowledge of which resources are most useful for intern pharmacists' clinical placement is a major problem that should be addressed in a proper way.

4.4. The overall responses appreciated the proposed assistance role of cardiology clinical pharmacy resources during coronary care rotation which may indicate clearly the need for clinical knowledge resources that tailored for intern pharmacists during coronary care rotation.

4.5. Finally, majority of participants select the smart phone application as their preferred clinical knowledge design which may give an indication about the crucial role that smart phone applications can play in enhancing transition of intern pharmacists to cardiology clinical pharmacy practice.

V. CONCLUSIONS

Saudi intern pharmacists involved in our study are able to realize the importance of their internship year in shaping their future professional career although they experience some difficulty during their initial clinical placement in terms of lack of clinical knowledge. They express a need for clinical knowledge support tools in their coronary care rotation which is preferred to be designed as smart phone applications because of availability, easy use and accessibility.

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