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Assessment of Pharmacy Students towards Providing Pharmaceutical Care to their Families after Clinical Pharmacy Training

Muhammad Amir* and Syed Ata Rizvi
Ziauddin College of Pharmacy, Ziauddin University, Pakistan

*Corresponding author
mohd_amir80@hotmail.com
PHONE; 00923478042181

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Abstract

Objective: To observe the impact of clinical clerkship, we compared students undergone the training against students without training to assess the attitude of provision of pharmaceutical care towards their family members.

Method: Questionnaires were distributed into two group, with and without clinical clerkship exposure, to assess purchasing of medication, provision of pharmaceutical care and medicine storage in home.

Result: Pharmacist underwent clinical clerkship showed provision of pharmaceutical care, but, no tendencies were found with respect to medicine purchasing and storing.

Conclusion: Hence, few changes were recommended in the course of hospital pharmacy.

Keywords: clinical training, pharmacy student, pharmaceutical care, Pakistan

Introduction

Clinical clerkship or training is an integral part of pharmacy education allowing student to learn clinical skills and experience professional environment. In Paksitan, recent changes in pharmacy education has highlighted clinical pharmacy, resulting colleges have initiated clinical clerkship in hospital setting.[1] Ziauddin College of pharmacy (ZCP) has initiated clinical pharmacy clerkship program in 2005 with the collaboration with Dr. Ziauddin hospital. Pakistan. [2] Clerkship is offered in both semesters of 4th and 5th year of pharmacy.[3] Clinical clerkship is comprises of 3 hours of wards or pharmacy rotation and one hour lecture on one specified day of each week of the semester. During a semester, three assessments are conducted which are mainly based on oral viva and logbook assessment. The aim of clinical clerkship is to develop an aptitude of pharmaceutical care in pharmacy students. To observe the impact of clinical clerkship, we compared students undergone the training against students without training to assess the attitude of provision of pharmaceutical care towards their family members.

Method

To assess the impact of clinical clerkship two groups of student were involved; control and interventional group. Students of 3rd professional year were considered as control group who had no clinical clerkship exposure but studied theoretical courses of hospital pharmacy and community pharmacy. The interventional group consisted of 4th and 5th year students who have undergone at least 1 clinical clerkship training program and have studied courses relating hospital, community and clinical pharmacy.

Questionnaire was developed through mutual understanding and discussion of clinical pharmacists involved. Three aspects of pharmaceutical care were assed in questionnaire, which were, purchasing of medication, provision of pharmaceutical care and medicine

storage in home. Questionnaire comprised of closed questions and 4 scale questions.

After a brief summary of study and verbal consents of students, questionnaires were distributed by course in charges after the lecture in their respective classes. Chi-test and logistic regression were used for data analysis with the help of SSPS 17.0.

Result

A total of 141questionnaires were filled from amongst which 60 questionnaires of third year were taken as control and 81 questionnaires from 4th and 5th year were taken as interventional.

Table 1: Numbers of students involved in the study

Professional Year	Control	Interventional
3rd year	60	
4th year	-	57
5th year	-	24
Total	60	81

Purchasing of medicines

88% of the students included in the study were involved in purchasing of medicine for their family members. No major difference was found in both group with respect to selection of drug source and its rationality. With respect to the selection of drug source, hospital pharmacy and local pharmacy were preferred by both groups.

Table 2: Sources of medicines selected by pharmacy student

Sources of pharmacy	Total	Control	Intervention	P value
Hospital Pharmacy	76(54%)	37 (62%)	39 (48%)	0.011
Renowned community pharmacy with Pharmacist	3(0.02%)	1(0.01%)	2(0.02%)	
Renowned community pharmacy without pharmacist	11(0.1)	3(0.05%)	8(1%)	
Local Pharmacy	51(36%)	19(32%)	32(40%)	
Total	141	60	81	

Accessibility remained the primary reason for the selection of the source of medicine purchase in both groups.

Table 3: rationale for selecting the source of medicine

Rationality	Total	Control	Interventional	P Value
Discount	27(19%)	13(22%)	14(17%)	0.05
Pharmacist	27(19%)	9(15%)	18(22%)	
Pharmacy practice	13(0.1%)	11(18%)	2(0.02%)	
Accessibility	72(51%)	27(45%)	45(55%)	
Other	2(0,01%)	-	2(0.02%)	
Total	141	60	81	

Provision of pharmaceutical care to family

The result shows that the students of interventional group are more involved in every aspect of pharmaceutical care. Thus students undergoing clinical clerkship have greater chances that they will be involve in counseling, prescription review, medicine administration and accompany ill to physician.

Table 4: Provision of pharmaceutical care to family

pharmaceutical care	p value	OR
Counseling relating medicine use	0.331	1.337
Accompanying the patient to physicians	0.454	1.217
Recommendation of OTC medication	0.152	1.367
Reviewing of prescription	0.511	1.195
Administration of medication	0.031	1.599

Medicine storage in home

The result shows the students of control group were taking more interest in medicine storage in home than interventional group.

Medicine management at home	p value	OR
Storage of medicine	0.76	0.926
Knowing of all medication available at home	0.981	0.991
Awareness of strength, generic and band of available medication	0.184	0.602
Effort in knowing of unknown medication	0.85	1.075

Discussion

In Pakistan, pharmacy practice is largely unsatisfactory owing to the limited number of pharmacists produced in the society which along with lesser attracting salaries, leads to scarcity of community pharmacists and ultimately to dysregulated infrastructure of pharmacy practice.[4,5] To fill in this vacuum of limited number of qualified pharmacists who are supposed to provide pharmaceutical care at community scale, salesmen with no formal pharmacy education and training are present at a high and alarming proportion.[6] They have neither any adequate knowledge about the drug storage, their indications and contraindications nor do they seek any knowledge to provide counseling to the patients.[7] This is one of the major factors which contribute to the wide prevalence of self-medication practice in the country even in the urban areas where along with self-medication practice by adults, mothers often give OTC and unknown medications to their children without prescription at improper and quite often higher doses.[8] The other factors being lack of proper awareness about medicines, convenience for the patients, efficacy of medicines in their last experience and avoiding the fee of medical practitioners.[4] This irresponsible practice not only harms the individuals themselves, rather it also facilitates the emergence of resistant pathogens and an overall economic burden at the international level as seen in the cases of self-medication of antibiotics.[9] It is often appreciated in many developing countries where qualified pharmacists are scarce that pharmacy students take their step in and help their community through community service training programs or clinical clerkships and take care of their family by providing proper information about drug's storage, administration, side effects and contraindications. [5'10'11] It not only helps the family members and community in general but also effectively trains the students to become more competent pharmacists with higher level of confidence.[12,13]

Clinical training initiated by Ziauddin College of Pharmacy is amongst the pioneer one in Pakistan. However, it was expected that it will bring a great impact in pharmaceutical care provision of students in all aspect. It is good a sign that students after clinical

clerkship are getting involved with the health issues of their family members and are confident with respect to it. However, the result didn't show greater tendencies towards purchasing and medicine storage. Selection accurate source for medicine purchasing is very crucial in Pakistan as only hospital pharmacies and pharmacies with pharmacist maintain and fulfill the storing conditions of medicine.

A confounding factor not taken into account can be gender. Since generally females are not involved in medicine purchase. Still, been a pharmacist, it is a moral responsibility that they should take care of pharmaceutical care of our family irrespective of gender. No particular reason can be speculated for low ratio for medicine storage in home.

Hence, it following recommendation were made:

1-A lecture should be organized with respect to pharmacy practice in 5 and 4 th year.

2-Discussion should be done with course coordinator of hospital pharmacy course to emphasize on purchasing and drug storage.

(The results have been presented as poster presentation in 1st National Conference on "Pharmacy Profession" held at Dow University of Health Sciences.)

Authors Column

Muhammad Amir did his graduation in pharmacy from Baqai Medical University, Karachi in 2004 and acquired his Masters Degree in Masters in Medicine Management from the University of Sunderland in 2006. He joined OMI as a ward pharmacist and later joined Jinnah Medical & Dental College as Assistant Professor and its hospital as Chief Clinical Pharmacist.

Muhammad Amir did also MBA degree in Pharmaceutical Business Management from Bahria University, Karachi. Thereafter, he joined as Assistant Professor & Clinical Pharmacist at Ziauddin University and Hospital. Presently, he is working as Clinical Pharmacist at Al-Sharq Hospital, Fujairah.

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