
Assessment of Pharmacy Students Attitude towards Patient Communication in Iraq

Manal Khalid Abdulridha*

Abstract:

Background: In the last academic year, pharmacy students in Iraq are challenged to orient to various clinical practice experience where students to be moving from theoretical to practical and competence level of educational outcome.

Objective: To assess the attitude of pharmacy students in AL-Mustansiriya University towards patient care issue and their abilities to communicate with patients and health care providers.

Subjects and Methods: Pharmacy students in the undergraduate program (pre-experiential 4th & post-experiential 5th) years at Al –Mustansiriya University were participated in this study to complete a self –administered survey instrument. A twenty four closed ended question were used to assess patient care in critical conditions, some of these questions were developed or removed from the original instrument to be more applicable with the objective of the study. Three criteria was assessed : Addressing patient care issue in undergraduate curriculum ,Confidence in patient consultation and communication ,and Professional communication with health care team .Data collection took place in June 2011 at the end of their academic year for both study levels.

Results: A total of 103 pharmacy students were enrolled in this study. Results show strong agreement from both study groups to discuss simple and emergency patient issue in school curriculum (96.9% & 92.3%)(95.3% & 92.3%) respectively with no statistical difference between the groups, although more interest towards medication processing compared to patient centeredness. Students in Pre–and post-experiential group agree about some defect in their learning background about patient care issue (43.8%, 38.5%) which is a critical component of pharmacy practice. Higher response among post-experiential group compared to pre- experiential one ($P < 0.05$) reflecting confidence in patient consultation situation, but no actual participation at the critical conditions among both groups. Interestingly, students opinion from both sexes towards team work approach was strong enough among pre-and post-experiential groups (93.8%, 92.2%, 100%), (100%, 87.2%, 100%) respectively, showing pharmacist need to share responsibility in patient care issue. Higher response scores were among females in post-experiential group, while male students show equal response to females in pre-experiential settings. Post- experiential female students responses show nearly significant response to deal with patient issue in pharmacy profession (82.1%, $P=0.076$), and highly significant agreement to gain solid information about patient care (85.7%, $P= 0.01$), compared to their learning background. Males post-experientially show significant high response towards emotionally being presenting in the critical care units with patients (72.7%, $P= 0.05$). Still direct communication with patient seems to show overall low response from both sexes post-experientially.

Conclusion: It is time for colleges of pharmacy in Iraq to implement contemporary teaching and assessment strategies that facilitate effective and efficient student learning that is focused at the graduate professional level, to organize the content of the curriculum accordingly, and articulate the abilities of graduates to function effectively in the profession which they may find themselves.

Keywords: Pharmacy Curricula, Communication skills, Inter-professional Education.

Introduction:

In the last academic year, pharmacy students in Iraq are challenged to orient to various clinical practice experience where students to be moving from didactic to functional and competence level of educational outcome. Since 1990, American colleges of pharmacy and professional associations have adopted pharmaceutical care (defined as the responsible provision of drug therapy for the purpose of achieving definite outcome that improve a patient's quality of life), as the standard for pharmacy practice^[1].

Globally, pharmacy profession and education are undergoing changes as the role of pharmacist as a provider of healthcare services is increasingly expanded^[2,3]. WHO collaborated to develop a safety competence framework to be used for guidance in the curricula development for quality assurance of pharmacy education addressing the first phase as pre-service or (entry –to-practice) education for pharmacist^[2,4]. Pharmacy schools worldwide had adopted several models of competence –based programs such as virtual patient e-learning system, pharmacy experiential learning database, second-life practice site orientation within community, or

project – based system enrolling both students and preceptor in research area^[5], to enhancing student skills to communicate with patients.

The experiential education models and programs , for example, Introductory or advanced pharmacy practice experiential programs (IPPE, APPE) are applied mostly in North America colleges of pharmacy to ensure their students are adequately skilled in pharmaceutical care issue^[6,7,8,9, 10]. Applying the experiential learning modules, students will spend time in various practice settings during each level of the four year of pharmacy study^[11].

At the last sixteen weeks of the fourth year, students undergo experiential rotation to improve skills in pharmacy practice^[12].

Undergraduate inter-professional health educations (IPE) is another opportunity for students to gain insights into different approaches to patient assessment, profession specific terminology , and to establish their own team building expertise with other health care providers^[13,14].

In addition , most of united states and Canadian faculties have established undergraduate curricula in their pharmacy schools which enrolls students who are completing a program of study leading to the

Doctor of pharmacy (Pharm D)^[12,15,16,17,18], a degree which is adopted by many pharmacy schools worldwide, enabling students to acquire and use information in a way that enhance patient care.

Accordingly, the purpose of our study is to provide preliminary assessment of our student attitude towards patient centeredness and the extent to which they exhibit emotional behavior and communicate with patients, information which will be used to guide our own curriculum concerning communication skill, training, and problem- based learning (PBL).

Subjects and Methods:

Pharmacy students in the undergraduate program (4th & 5th) years at Al –Mustansiriya university were participated in this descriptive cross sectional study to complete a self –administered survey instrument adopted from Jennifer W. et al 2010^[19]. A twenty four closed -ended question were used to assess patient centeredness criteria, some of these questions were developed or removed from the original instrument to be more applicable with the objective of the study.

The survey instrument was designed to:

1. Addressing patient care issue in undergraduate curriculum (item 1,2,3,4,22,23) (table2)
2. Confidence in patient consultation and communication (item 5,7,8,9,10,11,12,19,20,21) (table3)
3. Professional communication with health care team (item 6, 13,14,15,16,17,18,24) (table 4)

Data collection took place in June 2011 at the end of their academic year for both study levels.

Information obtained from 5th year students represents the post-experiential data after completing their hospital training program, while the 4th year students' information represents the pre-experiential data.

The survey items were discussed before students start applying them. Students absent at the time of the survey are not presented in the data.

Statistical analyses were performed using SPSS 13.0 student version. Chi-square or Fisher exact test were used to assess the association between the categorical variables. P value < 0.05 was considered significant.

Results:

A total of 103 pharmacy students were enrolled in this study. The demographic data for those students are summarized in table [1].

The pre-experiential participants represents (62.1%), and the post- experiential (37.9 %) of the total number of students. Female participants in both study groups were more than male (62.5% vs. 37.5%), (71.8% vs. 28.2%) respectively. Obviously, each education level would be one year older, and non of the participants had experience as health care provider prior to entry the pharmacy program.

Addressing patient access in undergraduate curriculum:

In table [2], four questions were asked (item 1-4) to determine the degree of agreement to enroll patient care issue in undergraduate curriculum. Results show strong agreement from both study groups to discuss simple and emergency patient issue in school curriculum (item 1, 2) (96.9% & 92.3%) (95.3% & 92.3%) respectively. No statistical difference between the groups, although more interest towards medication processing compared to patient centeredness (item 4) (85.9% & 92.3%) vs. (item 3) (79.7% & 74.4%) in both pre- and post experiential study groups.

Students in Pre-experiential group agree that there is some defect in obtaining enough information about patient care issue (item 22,23) in school curriculum (43.8%) which is a critical component of pharmacy practice (84.4%) , meanwhile students in post-experiential group show lower response (38.5%) especially after patient- centered practicing (74.4 %).

Assessing confidence in patient education and communication:

Results in table [3] shows positive attitude towards providing patient education about his medication (item 7,11,12) as a major function of clinical pharmacist, with a statistical significant high response among post-experiential group compared to pre- experiential one (89.7% , 89.7% ,100%) vs (87.5%, 84.4%, 82.8%) (P< 0.05, item12) respectively, reflecting general high degree of confidence in patient consultation situation.

On the other hand , student response to the five questions in (item 5,10,19,20,21) show no tendency to actual participation at the critical health conditions of patient among both pre- and post-experiential groups (65.6% ,51.6% ,45.3% ,50.0%, 62.9%) and (66.7% ,48.7% ,43.6% , 56.4% ,61.5%) respectively . Students opinion indicating no strong support for patient – centered approach which strengthens the communication between the pharmacists and the patients.

Assessing professional communication with health care team:

In table [4] ,student response to item (16,17) shows positive attitude towards pharmacist participation in patient centered services and pharmaceutical care process in both study groups pre-experientially (81.3% ,85.9%) and post-experientially (74.4% ,82.1%) respectively, but still less encouraging response at the emergency conditions (item 13,18,24) among the pre-experiential group (65.6% ,60.9% ,70.3%) and to a lower extent post-experientially (71.8%, 53.8%, 56.4%) respectively with no statistical difference between the study groups , the issue to put pressure on the pharmacist in critical health conditions.

Interestingly, a general opinion of students towards team work approach with other health care providers was strong enough among pre-experiential group (93.8% ,92.2% ,100%) and post-experiential group (100% ,87.2% ,100.%) showing pharmacist need to share responsibility in patient –centeredness (item 6,14,15).

Assessing the influence of gender:

Reviewing table [5], the largest number contributing in this study was female students compared to male (66.1%) vs. (33.9%) respectively.

Higher response score was among females in post-experiential group in 19(out of 24) items of the total survey, while male students share equal high response score with females in pre- experiential group in 12 items of total survey, indicating encouraging participation among females in patient care issue. In addition, post- experiential female student's responses were more favorable towards scheduling patient access issue in the undergraduate curriculum (96.4%, 89.3%, and 96.4%) (item 1,2,4) respectively, nearly significant response to deal with patient issue in pharmacy profession (82.1% , $P=0.076$) (item 3), and highly significant agreement to gain solid information about patient care (85.7% , $P= 0.01$) (item 22), compared to their learning background (39.3%) (item 23).

Confidences in providing patient education also show high score among females post-experientially (92.9%, 85.7%, 92.9 % , 89.3%, 100%) (item7, 8, 9, 11, 12) respectively, with highly significant response score (92.5%, $P= 0.0080$) (item 12) in pre-experiential settings compared to males. The professional relationship with health care providers

show higher scores among females in both study groups (95.0%, 95.0 % , and 100%) & (100%, 89.3%, 100%) (item6, 14, 15) respectively.

Pre-experientially, male students show high agreement in scheduling patient care issue in undergraduate curriculum (100%, 95.8%, 83.3%, 83.3%) (1, 2, 3, 4) respectively, to gain solid information about patient care (83.3%) (item22), and low response towards their learning background (36.4%) (item23). Also the confidence in providing patient education was high enough (91.7%, 79.2%, 87.5 % , and 91.7%) (item7, 8, 9, 11), and higher post-experientially (100%) (item12) equal to female students. The professional relationship with health care providers was also high in both study groups (91.7 % , 87.5%, 100%) & (100 % , 81.8%, 100%)(item 6,14,15) .

One exception with (item 10), male students in post-experiential groups show significant higher response towards emotionally being presenting in the critical care units with patients (72.7%, $P= 0.05$).

Both genders agree that patient care issue put the pharmacist under pressure (item 24) in post-experiential group (57.1 % & 54.5%) respectively. Despite of encouraging enrollment of females in both study groups in this regard (item 16, 17) pre-experientially (82.5%, 90/0%) & post-experientially (78.6%, 82.1%) respectively compared to male students.

Still direct communication with patient at bed-side (centeredness) issue seems to show overall low response post-experientially (item 10,18,19,20,21) in females (67.9% ,53.6% ,46.4% ,57.1% ,64.3%) and males (63.6% ,54.5% ,36.4% ,54.5%,54.5%) .

Table [1] Demographic data and study groups

		N	(%)
Gender	Male	35	33.9
	Female	68	66.1
	Total	103	100
Study groups	Pre-experiential:	64	62.1
	Male	24	37.5
	Female	40	62.5
	Post- experiential:	39	37.9
	Male	11	28.2
	Female	28	71.8
Age	20-22 years	59	57.3
	23-25 years	44	43.1
Education	4 th year students	64	62.1
	5 th year students	39	37.9

Table [2] Addressing patient access in undergraduate curriculum (percentage of positive response)

Item	Pre-experiential (%)	Post-experiential (%)	P
1. Discuss patients emergency conditions in a pharmacy curriculum	96.9	92.3	0.346*
2. Discuss patients simple conditions in a pharmacy curriculum	95.3	92.3	0.671*
3. Pharmacy profession deal with patients very much	79.7	74.4	0.528 [†]
4. Pharmacy profession deal with medications very much	85.9	92.3	0.528*
22. Learning about emergency care will help to face this issue	84.4	74.4	0.212 [†]
23. Having sufficient knowledge about patient care	43.8	38.5	0.597 [†]

*Fisher exact test, [†]Chi-square**Table [3]** Assessing confidence in patient education and communication (percentage of positive response)

Item number	Pre-experiential (%)	Post-experiential (%)	P
5. comfortable talking with patients about their emergency condition	65.6	66.7	0.913*
7. It would be an honor to answer patients questions at their life-threatening conditions	87.5	89.7	1.000 [†]
8. It would be a duty to comfort patients at their life-threatening conditions	76.6	82.1	0.509*
9. It would be an honor to comfort patients at their life-threatening conditions	92.2	92.3	1.000 [†]
10. the ability to be with a patient at their life-threatening conditions	51.6	48.7	0.779*
11. it is a duty to provide patient education to all patients	84.4	89.7	0.440*
12. It is an honor to provide patient education to all patients	82.8	100.0	0.006 ^{†‡}
19. Working in an area of patient care that deals with emergency issues	45.3	43.6	0.864*
20. It is inappropriate to discuss emergency issues with patients	50.0	56.4	0.527*
21. Participating in emergency care for most patients	62.5	61.5	0.922*

*Chi-square, [†]Fisher exact test, [‡] $P \leq 0.05$ is statistically significant**Table [4]** Assessing professional communication with health care team (percentage of positive response)

Item number	Pre-experiential (%)	Post-experiential (%)	P
6. Discuss patients emergency conditions with other health care team	93.8	100.0	0.295*
13. Participating in post –operative wound care with other health care team	65.6	71.8	0.515 [†]
14. A professional relationship between pharmacist and patients	92.2	87.2	0.498*
15. A professional relationship between pharmacist and health care team	100.0	100.0	N/A [‡]
16. Patient-specific medical information evaluated by the pharmacist	81.3	74.4	0.407 [†]
17. A pharmacist role in patient follow-up after dispensing medications	85.9	82.1	0.597 [†]
18. A pharmacist role in taking care of patients at the emergency issues	60.9	53.8	0.479 [†]
24. Patient follow-up would place responsibility on the pharmacist	70.3	56.4	0.151 [†]

*Fisher exact test, [†]Chi-square, [‡]Inferential statistics not applicable**Table [5]** Assessing the influence of gender (percentage of positive response in both study groups)

item	Survey time	Female (%)	Male (%)	P
1	Pre-experiential	95.0	100.0	0.524*
	Post-experiential	96.4	81.8	0.187*
2	Pre-experiential	95.0	95.8	1.000*
	Post-experiential	89.3	100.0	0.545*
3	Pre-experiential	77.5	83.3	0.751*
	Post-experiential	82.1	54.5	0.109*
4	Pre-experiential	87.5	83.3	0.718*
	Post-experiential	96.4	81.8	0.187*
5	Pre-experiential	57.5	79.2	0.077†
	Post-experiential	67.9	63.6	1.000*
6	Pre-experiential	95.0	91.7	0.627*
	Post-experiential	100.0	100.0	N/A‡
7	Pre-experiential	85.0	91.7	0.699*
	Post-experiential	92.9	81.8	0.562*
8	Pre-experiential	75.0	79.2	0.703†
	Post-experiential	85.7	72.7	0.379*
9	Pre-experiential	95.0	87.5	0.355*
	Post-experiential	92.9	90.9	1.000*
10	Pre-experiential	52.5	50.0	0.846†
	Post-experiential	39.3	72.7	0.060†
11	Pre-experiential	80.0	91.7	0.297*
	Post-experiential	89.3	90.9	1.000*
12	Pre-experiential	92.5	66.7	0.014**
	Post-experiential	100.0	100.0	N/A‡
13	Pre-experiential	70.0	58.3	0.341†
	Post-experiential	67.9	81.8	0.461*
14	Pre-experiential	95.0	87.5	0.355*
	Post-experiential	89.3	81.8	0.609*
15	Pre-experiential	100.0	100.0	N/A‡
	Post-experiential	100.0	100.0	N/A‡
16	Pre-experiential	82.5	79.2	0.751*
	Post-experiential	78.6	63.6	0.424*
17	Pre-experiential	90.0	79.2	0.277*
	Post-experiential	82.1	81.8	1.000*
18	Pre-experiential	55.0	70.8	0.291*
	Post-experiential	53.6	54.5	0.956†
19	Pre-experiential	42.5	50.0	0.559†
	Post-experiential	46.4	36.4	0.725*
20	Pre-experiential	42.5	62.5	0.121†
	Post-experiential	57.1	54.5	1.000*
21	Pre-experiential	62.5	62.5	1.000†
	Post-experiential	64.3	54.5	0.718*
22	Pre-experiential	85.0	83.3	1.000*
	Post-experiential	85.7	45.5	0.017**
23	Pre-experiential	42.5	45.8	0.794†
	Post-experiential	39.3	36.4	1.000*
24	Pre-experiential	72.5	66.7	0.620†
	Post-experiential	57.1	54.5	1.000*

*Fisher exact test, †Chi-square, ‡P ≤ 0.05 is statistically significant, ‡Inferential statistics not applicable

Discussion:

Scheduling undergraduate curriculum:

Assessment of communication skills and patient care issue should be a key evaluative component of pharmacy curricula throughout the years of students training; such skills can be developed via experiential training during the undergraduate pharmacy program.

In the undergraduate pharmacy curricula all over Iraqi universities, the 4th year program is considered as the landmark in patient care issue. Over the 4th and 5th years, our students are exposed to several theoretical courses that stressed evidence-based medicine and patient communication with a third segment offering practice research. Effective patient access and centeredness is scheduled during final course over 3

months period of hospital training in different clinical issues. Pharmacy students who complete this program may have certain degree of positive attitude regarding patient access and care issue and application of clinical research findings to practice.

Our study show interesting agreement from students in both study groups to enroll specific patient care issue in the pharmacy curriculum (item 1,2), with some differences in setting patient access little bit behind the medication processing (item 3,4) in both study groups. In most of Pharm D programs in school of pharmacy, students start their patient access issue early in their curriculum, thus improving skills to communicate with patients and health care providers^[20].

In a longitudinal study, Jeff Taylor 2010 assess pharmacy students towards patient centeredness and empathy through their entire four years program, noticeable changes were seen especially from first to second year, as would be expected student confidence in providing patient education grew over time^[21].

The disappointing results in student opinion in possessing solid background information about patient emergency care issue, despite they are aware about its value (item 22, 23) determine some defect in the undergraduate communication skills and hospital training program which should be scheduled earlier throughout the five years of college program. Jill S et al (2009), suggest that a landmark trials in primary care clinic provide third year students with opportunity to review cases that have changed the way to practice^[22], and applying clinical trials results to practicing patient care and education skills^[23], and time spent in dispensing and patient communication were influenced more by practice settings than by educational degree and residency training^[24].

Confidence in patient education & communication:

The ability to communicate with patient effectively is a critical component of pharmacy practice and offering patient consultation.

The results in our study show valuable confidence and motivation in medication processing and patient education pre-experientially with significant stronger response in post – experiential group (item 7, 11, 12) reflecting encouraging attitude in practicing this issue.

A gain in his study, Jeff said that confidence in counseling increases across the years in the pharmacy program when enough training exist in their curriculum^[21], and learning professionalism (predominantly communication) was seen as a gradual process through the degree course and beyond^[25].

Undergraduate pharmacy students in Qatar College of pharmacy in one survey considered knowledge of disease is necessary for pharmacist, as well as the obligation to offer pharmacological patient counseling^[26], despite being unfamiliar to other health professions with such pharmacist activities.

Assessing our students in the critical care conditions which required effective participation to counsel and communicate with patients, a general low response was obtained (item 5, 10, 19, 20, 21). Similar poor response was noticed among pharmacy students in counseling mentally ill patients (20, 21), and lack in

appreciation towards the importance of practicing public health issue^[27].

Nonetheless, more active involvement of male students in being present in emergency units was noticed in both study groups (item 10).

Male adults, said Jennifer W., can cope with dying issue more easily than female adults^[19].

Updating the undergraduate curriculum in our college 2011-2012 include scheduling communication skills to second year students, which may hopefully improve these basic skills despite of the lack in practicing models in this topic, still no statistical difference was noticed between self directed learning exercise and didactic course in second year students^[28].

Professional communication with health care team:

There is growing evidence that effective communication and learning how to work as a health team result in improving quality of patient care issue^[29].

Our study show interesting student's motivation towards engaging in health care team (item 6, 14, 15). Elena et al 2010, enrolled pharmacy students in the Jefferson Health Mentor program with students from other disciplines to assess their attitude towards inter-professional education (IPE), pharmacy students show overall positive high score in understanding the value and contribution of other professions^[30].

Again, our students in post-experiential group show lower score compared to pre- experiential one when they actually participate in emergency patient care with other health care providers (item 16,17,18), the issue to increase pharmacist responsibility in critical care conditions, in addition to lack in their knowledge and practice in this regard (item 24).

In one study, pharmacy students assured that understanding managed care is necessary for all pharmacy students via increasing the amount of curriculum content specific to managed care and problem– based medicine (PBM)^[31].

Another study enrolled third year pharmacy students in inter-professional service – learning program as student –run free clinic, results in significant improvement in student attitude post-experientially^[32]. Such trials may create collaborative care issue when such courses co-directed and hold position in the colleges of pharmacy, medicine, and other medical professions.

To my opinion, implementation of these elective courses may improve pharmacy students towards team work and understanding of health profession roles. But the ideal educational settings for IPE in undergraduate health professions are not been established yet^[33], although several studies using variety of curricular modalities to assess IPE in students with different professions concluded positive outcome on profession practicing and patient care^[29,34, 35].

The influence of gender:

The results concerning the difference between the response of male and female students were interesting. Despite of large number of female students participating in this survey compared to male students, the scores of the high response was comparable in the

three basic criteria of the study, showing interest from both sexes in the scope of the survey.

The results also identify some differences pertaining to gender related mostly to post- experiential responses scoring more towards female students. They show strong motivation to deal with patients in pharmacy profession and highly significant agreement about the value of this issue (item 3, 22), they also score high in their professional communication with health team pre- and post-experientially (item 6,14,15,16,17) with highly significant response in providing patient education (item 12). Socio-biologists said that females tend to score higher in empathy and social skills compared to men^[36], and women tend to think more in terms of care^[37], therefore, possible reason for post- experiential response differences in this study follow that women are generally more care-oriented than men. From an early age, females seem to be more sensitive to emotional signals than males^[38,39].

Conclusion:

These poor attitude and misconceptions about patient care and access issue should be dealt early within pharmacy education and it deserves greater attention in the curricula of most pharmacy colleges especially in the developing countries. To my opinion, early patient access practicing in pharmacy curriculum should be obligatory since pharmacists are involved directly in medication processing and pharmaceutical care plan among other health team providers.

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* *Department of Clinical Pharmacy, College of Pharmacy Al-Mustansiriya University*