National Journal of Physiology, Pharmacy and Pharmacology

RESEARCH ARTICLE

The attitudes of final year medical and pharmacy students to interprofessional learning in Iraq

Fadia Thamir Ahmed

Department of Clinical Pharmacy, College of Pharmacy, Baghdad University, Baghdad, Iraq

Correspondence to: Fadia Thamir Ahmed, E-mail: fadia81th@gmail.com

Received: September 25, 2017; **Accepted:** October 11, 2017

ABSTRACT

Background: Interprofessional learning (IPL) is considered as the gold standard strategy to improve health-care teamwork. The IPL will help the students to improve their knowledge and professional attitudes. The advantages of IPL depend on the readiness of health-care students to learn with others. **Aims and Objectives:** The aim of this study was to assess the attitudes of pharmacy and medical students toward IPL in Iraq. **Materials and Methods:** The readiness for IPL scale questionnaire was applied to evaluate the readiness of the students towards IPL. It was distributed to medical and pharmacy students in Iraqi universities. Statistical Package for the Social Sciences version 20 (SPSS) software was used to save and analyze the data. Chi-square test was performed to assess differences between groups. **Results:** From 165, 149 students returned the questionnaire; the response rate was 90.3%. The majority of students revealed positive attitudes toward IPL. The IPL was reported to have a positive effect on patient care and professional working relationships. However, the two groups differed: Pharmacy students indicated more strongly that an outcome of IPL would be a more effective team working and better ability to understand clinical problems. Medical students were less sure that IPL will improve their positive thinking about others, and saw doctors as the predominant in health-care system. **Conclusions:** Our findings demonstrated that medical and pharmacy students have favorable attitudes to IPL and willing to share knowledge with other health-care students to enhance the patient care and health-care services quality by encouraging teamwork and collaboration skills.

KEY WORDS: Interprofessional Learning; Attitudes; Collaboration; Team Working; Shared Learning

INTRODUCTION

In health-care system, the development of adaptable, flexible, and collaborative professionals is supported by interprofessional learning (IPL) which is considered as the gold standard for pedagogy to improve health-care team development.[1]

IPL is defined as "any teaching and learning activity that actively promotes collaborative practice" or "occasions when two or more professions learn with, from and about each other to improve collaboration and quality of care."[2-4]

Access this article online	
Website: www.njppp.com	Quick Response code
DOI: 10.5455/njppp.2018.8.0938511102017	

The World Health Organization first identified IPL as an important aspect of primary health care in 1978,[5] and produced a report on the issue in 1988.[6] In this report, it was noted that multi professional teamwork in health care was an orientation all over the world that was promoted by the hypothesis, and an increasing evidence, that multi professional can be more effective than uniprofessional working, and that the advantages of team working on health are greater than the sum of the contributions of each individual in the team.[7]

The demand to produce collaborative team worker practitioners with highly improved interpersonal skills is giving both the force and the reasonable ground for the introduction of more shared learning scopes.[8]

Health-care students from different disciplines were provided an opportunity to collaborate as a part of their training before joining the health-care workforce by IPL. Such opportunity is assumed to increase student receptiveness to interprofessional efficiency across all health-care specializations.[1] The development of good working relationships between different practitioners is done by enhancing positive interprofessional attitudes and behaviors through IPL which thought to be important in aiding that purpose.[7]

The objective of IPL is to enable students to obtain knowledge, expertness and professional attitudes which could not be acquired effectively in any other way. This will help health professional students to understand the multi professional environment complexities.[9]

The potential of IPL positive effect on interprofessional attitudes is likely to depend to an extent on the readiness of health-care students to learn with other disciplines, rather than in their own specialized groups, and thus the timing of introducing IPL may be substantial.[7] However, the literature is not obvious as to whether "learning together" during an undergraduate level will result in better "working together" practices, and/or promoted patient outcomes.[9]

Usual foresight suggests that IPL is most effective in consolidating teamwork post graduation when introduced to health workers who have an obvious sense of their own professional identity and have expertise to participate.[10,11] Others have disputed that IPL should be presented from the beginning of professional education to prevent the creation of negative interprofessional attitudes which will unchangeable later.[12,13]

Attitudes toward IPL are assessed by special instruments developed for this purpose, one of them is the readiness for IPL scale (RIPLS),[14] which is most widely used.[9,15-17] The RIPLS was developed to evaluate the readiness of health-care students for IPL. It has been tested and shown to be with acceptable face content and valid construction as well as internal consistency.[9,14,17,18] Hence, RIPLS is better for assessing attitudes before IPL activities occur.[19]

The original RIPLS contains three subscales which consist of 19-items validated for eight health professions.[14] It was labeled by the original developers as teamwork and collaboration, professional identity (positive and negative) and roles and responsibilities.[20]

RIPLS has been tested later by other researchers and shown to be a valid, effective and internally consistent tool which is mostly used for measuring student attitudes toward IPL in the undergraduate stage.[9,14,16-18] In Iraq, little is known about attitudes of health-care students toward IPL. The aim of the study was to examine the attitudes of undergraduate medical and pharmacy students toward IPL.

MATERIALS AND METHODS

Study Design

A pilot study included the RIPLS instrument. The RIPLS questionnaire was distributed (in English) to final (5th) year pharmacy students in two Pharmacy colleges which are the College of Pharmacy/Baghdad University and Al-Rafidain University College/Pharmacy Department (Group A) and to the final (6th) year medical students from Ibn Sina College of Medicine/Iraqi University (Group B) for the academic year 2016/2017 between February and April/2017. The student that completed and returned the questionnaire was considered as participant. Students who did not complete or return the questionnaire were considered as non-respondents. To ensure its appropriateness, the definition of IPL, included at the top of the questionnaire, was required to read: IPL is "learning interactively with other health professional students" to ensure all participants understood this concept.

The study instrument consisted of four parts. The first part included demographic data such as age, gender, previous health-care service experience, and students' group (the name of the college/discipline). The next three parts were the three subscales of RIPLS labeled by the original developers: Teamwork and collaboration (9 items), professional identity (7 items) and roles and responsibilities (3 items).[14]

Ethics

All the students included in this study are of age (older than 18), and they express voluntary consent to participation when they returned of a questionnaire. There were no personal identifiers during the administration and collection of the questionnaire to preclude any personal identification.

Statistics

The Statistical Package for the Social Sciences version 20 (SPSS v. 20) software was used to save and analyze the data. The Chi-square test was performed to test observed differences between the two groups, and to evaluate the frequencies of responses.

RESULTS

The number of participants who returned the questionnaire was 149 from total of 165. The total response rate was 90.3% and includes 92% of final (5th) year pharmacy students from the College of Pharmacy/Baghdad University and Al-Rafidain University College/Pharmacy Department (Group A, $n = 92$) and (87.7%) of the final (6th) year medical students from Ibn Sina College of Medicine/Iraqi University (Group B, $n = 57$). Most of the respondents were female as compared to males (No. 62, 67.4% and No. 30, 32.6%, respectively) for Group A and (No. 38, 66.7% and No. 19, 33.3%, respectively) for

Group B. The age range was from 22 to 25 years with mean age of 23.2 years for Group A and 23.4 years for Group B. All the respondents had previous health-care service experience included hospital training in Iraqi hospitals. While working in health-care service experience was approximate (9.8% and 8.8%) in Group A and Group B, respectively (Table 1).

Subscale 1: Team Working and Collaboration

In this subscale, the questions focus on the "acquisition and effectiveness of team working skills and the need for positive relationships between professionals and other health-care students."[14] The majority of participants reacted positively to the nine statements included in this subscale (Table 2).

Table 1: Sample characteristics

Characteristics	Group A (*n*=92)*	Group B (*n*=57)*	*P*
Age (mean±SD>**) years	23.2±0.48	23.4±0.56	0.077
Gender *n* (%)			
Male	30 (32.6)	19 (33.3)	0.927
Female	62 (67.4)	38 (66.7)	
Previous health-care service experience *n* (%)			
Hospital training in Iraqi hospitals	92 (100)	57 (100)	-
Working in health-care service	9 (9.8)	5 (8.8)	0.987

*Group A: Pharmacy students (*n*=92), Group B: Medical students (*n*=57), **SD: Standard deviation

The clauses in this subscale are divided into two groups: "Effective team working" and "relationships with other professionals."

Effective team working

In general, the responses to the clauses in this subscale showed that over two-thirds of students in both Groups (A and B) agreed or strongly agreed to the 9 items with no significant difference in most items. They were very positive that "patients would ultimately benefit if health-care students worked together" (No. 134, 89.9%), and that "communication skills should be learned with other health professionals" (No. 106, 71.1%), and the majority agreed or strongly agreed that "team working skills are essential for all health-care students to learn" (No. 128, 85.9%). Furthermore, respondents were convinced that "shared learning will help me understand my own professional limitations" (No. 119, 79.9%).

However, there was a significant difference in the response to the clause stated that shared learning can foster their effectiveness in the health-care system (No.87 out of 92, 94.6% in Group A and No.46 out of 57, 80.7% in Group B, $P = 0.025$). The respondents also revealed a variation in response with a significant difference to the proposition that the "ability to understand clinical problems" would be increased by shared learning (No.85 out of 92, 92.4% in Group A and No.45 out of 57, 78.9% in Group B, $P = 0.031$). In both statements, pharmacy students were more strongly agreed that medical students (Table 2).

Table 2: RIPLS questionnaire results

Subscales/statements	Students group*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	*P*
Subscale 1: Teamwork and collaboration								
(a) Effective team working								
Shared learning with other students will help me to become a more effective member of a health-care team	Group A	1	0	4	41	46	149	0.025
	Group B	1	2	8	29	17		
	Total	2	2	12	70	63		
Patients would ultimately benefit if health-care students worked together to solve patient problems	Group A	0	0	5	38	49	149	0.130
	Group B	1	1	8	23	24		
	Total	1	1	13	61	73		
Shared learning with other health-care student will increase my ability to understand clinical problem	Group A	0	1	6	41	44	149	0.031
	Group B	1	7	4	23	22		
	Total	1	8	10	64	66		
Communication skills should be learned with other health-care students	Group A	0	4	21	42	25	149	0.464
	Group B	1	1	16	21	18		
	Total	1	5	37	63	43		
Team - working skills are essential for all health-care students to learn	Group A	0	1	15	50	26	149	0.478
	Group B	0	0	5	33	19		
	Total	0	1	20	83	45		
Shared learning will help me to understand my own professional limitations	Group A	0	2	16	38	36	149	0.573
	Group B	0	3	9	19	26		
	Total	0	5	25	57	62		

(*Contd...*)

Table 2: (*Continued*)

Subscales/statements	Students group*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	*P*
(b) Relationships with other professionals								
Learning between health-care students before qualification would improve working relationships after qualification	Group A	1	1	19	59	12	149	0.510
	Group B	1	0	12	31	13		
	Total	2	1	31	90	25		
Shared learning will help me think positively about other health-care professionals	Group A	0	0	20	54	18	149	0.044
	Group B	2	2	15	23	15		
	Total	2	2	35	77	33		
For small - group learning to work, students need to trust and respect each other	Group A	0	0	9	32	51	149	0.345
	Group B	0	0	3	16	38		
	Total	0	0	12	48	89		
Subscale 2: Professional identity								
(a) Negative professional identity								
I don't want to waste my time learning with other health-care students	Group A	23	57	7	4	1	149	0.448
	Group B	14	30	5	7	1		
	Total	37	87	12	11	2		
It is not necessary for undergraduate health-care students to learnt together	Group A	24	50	12	5	1	149	0.317
	Group B	9	35	5	7	1		
	Total	33	85	17	12	2		
Clinical problem-solving can only be learnt effectively with students from their own profession	Group A	12	35	33	11	1	149	0.159
	Group B	5	13	25	12	2		
	Total	17	48	58	23	3		
(b) Positive professional identity								
Shared learning with other health-care professionals will help me to communicate better with patients and other professionals	Group A	0	2	7	59	24	149	0.755
	Group B	0	1	2	37	17		
	Total	0	3	9	96	41		
I would welcome the opportunity to work on small group projects with other health-care students	Group A	0	2	24	55	11	149	0.371
	Group B	0	3	20	30	4		
	Total	0	5	44	85	15		
Shared learning will help to clarify the nature of patient problems	Group A	0	1	19	53	19	149	0.776
	Group B	1	1	11	32	12		
	Total	1	2	30	85	31		
Shared learning before qualification will help me to become a better team-worker	Group A	0	2	22	49	19	149	0.510
	Group B	1	3	16	26	11		
	Total	1	5	38	75	30		
Subscale 3: Roles and responsibilities								
The function of nurses and pharmacists is mainly to provide support for doctors	Group A	21	37	23	11	0	149	0.007
	Group B	11	13	15	13	5		
	Total	32	50	38	24	5		
I am not sure what my professional role will be	Group A	22	42	22	5	1	149	0.350
	Group B	17	24	8	7	1		
	Total	39	66	30	12	2		
I have to acquire much more knowledge and skills than other health-care students	Group A	0	7	28	36	21	149	0.322
	Group B	1	6	17	15	18		
	Total	1	13	45	51	39		

*Students group: Group A: Pharmacy students (*n*=92), Group B: Medical students (*n*=57), RIPLS: Readiness for interprofessional learning scale

Relationships with other professionals

Overall, there was strong agreement with the propositions contained in this subscale. Most of the students agreed or strongly agreed with the three statements, i.e., that learning between health-care students before qualification would improve working relationships after qualification (No. 115, 77.2%); that "shared learning will help me think positively about other health-care professionals" (No. 110, 73.8%), and that "for small-group learning to work, students need to trust and respect each other (No. 137, 91.9%)." One significant differences were seen: Group A students revealed a greater percent of agreement with the proposition that "shared learning will help me think positively about other health-care professionals" than

Group B (No. 72 out of 92, 78.3% and No. 38 out of 57, 66.6%, respectively, $P = 0.044$) (Table 2).

Subscale 2: Professional Identity

The clauses in this subscale consist of negative and positive professional identity. These "reflect the importance attached to the acquisition of professional identities by students as a means of defining their lives and the power of individual professional cultures."[14]

Negative professional identity

The majority of respondents disagreed (with no significant difference between the two groups) with the 3 items in this part, i.e., that "I don't want to waste my time learning with other health-care students" (No. 124, 83.2%) and "it is not necessary for undergraduate health-care students to learn together" (No. 118, 79.2%). However, there was a smaller proportion of students from both groups thought that it is not necessary to learn clinical problem-solving only with students from the same profession (No. 65, 43.6%), with more than one-third of the students had a neutral point of view about this statement (No. 58, 38.9%) (Table 2).

Positive professional identity

Most respondents from both groups agreed or strongly agreed with the four propositions in this section with no significant difference between the two groups. Respondents answered positively that shared learning with other health-care professionals would be helpful to enhance the communication with patients and other professionals (No. 137, 91.9%), over two-third of them would "welcome the opportunity to work on small group projects with other health-care students" (No. 100, 67.1%), and agreed that it would "help to clarify the nature of patient problems" (No. 116, 77.8%). The majority of them considered that "shared learning before qualification will help me to become a better team worker" (No. 105, 70.5%) (Table 2).

Subscale 3: Roles and Responsibilities

The items in this section focused on the opinion that professional practice enhances some health professional roles over others. A good proportion of the respondents were opposed to the idea that "the function of nurses and pharmacists is mainly to provide support for doctors" but pharmacy students were more disagreed with a significant difference between the responses of the two groups (No. 58 out of 92, 63% and No. 24 out of 57, 42.1%, respectively, $P = 0.007$). While the remaining were between neutral and agreement points of view (No. 38, 25.5% and no. 29, 19.5%, respectively).

About two-thirds of the respondents in both groups were sure about of what their professional role will be (No. 105, 70.5%). Most of the students thought that they have to acquire more knowledge and skills than other professionals (No. 90, 60.4%), while about one-third of them had a neutral response about this proposition (No. 45, 30.2%) (Table 2).

DISCUSSION

The sample size of this study was relatively small, and the response rate was high. Although the relatively small sample size is considered acceptable for exploratory principal component analysis,[21] it is recognized that larger sample size is better by providing more authoritative outcomes. Our study has an unequal percentage of males to female students, with about two-thirds being females. However, this situation represents the real distribution of males and females students in Iraqi universities.

The sample included medical and pharmacy students only; other disciplines students who are involved in the health-care system were not accessible, so further work is required to include these groups.

The results of this study are encouraging since both groups have positive attitudes toward IPL and clearly recognized the advantages of shared learning. They were convinced that sharing knowledge with other health-care students in the undergraduate level and team working skills could have beneficial outcomes in their careers and may enhance the professional relationships with others and improve the quality of patient care. Parsell and Bligh indicated that IPL is an effective approach to achieve best possible clinical outcomes and develop effective teamwork skills.[18] The benefits of IPL in enhancing knowledge and skills of health-care teams as well as giving opportunities for working as a multidisciplinary team has been well confirmed.[22-25]

Overall, our results indicate that all students have favorable attitudes toward "teamwork and collaboration." These results are consistent with several studies in which the majority of health-care students indicated to have positive perceptions to IPL at the undergraduate levels especially on the subscale teamwork and collaboration.[7,16,26]

However, medical students had significantly less favorable attitudes toward the helpful effect of shared learning to be more effective team members, and less convinced that shared learning would increase their ability to understand clinical problems. Moreover, these findings concur with other studies which revealed that medical students showed to have the least favorable attitude toward a tendency to share knowledge with other health-care professionals.[9,27] A possible explanation of these results is that medical students had a longer period of undergraduate study (6 years) than pharmacy students (5 years), and since the medical students start their clinical training in hospitals earlier (from the 3rd year of their study) as compared to pharmacy students who have only 5th year clinical training, so the medical students are convinced that they have all the professional qualifications to be an efficient doctors

and that shared learning with others would not have that much enhancement on their effectiveness as team members neither on their ability to understand clinical problems.

Although there is an uncertain finding about the benefits of teamwork and collaboration on the patient outcomes, reports showed that the lack of knowledge about the professional role of others is a main barrier for team working in a health setting.[28]

Davies demonstrated the realization of what each professional brings as an important issue, which makes teamwork and collaboration more powerful than individual working: "It is the questions and challenges that arise from the differences that are vital."[23]

There was a variation in opinions from literature about when to start IPL, hardens proposed that the most important factor is to adopt an appropriate approach for the stage of students learning.[29] Other reports assumed that IPL should be done in a post-basic stage or when the students are to start a clinical practice together.[28,30] There is a suggestion that starting shared learning can prevent the creation of negative attitudes and stereotypical opinions which can lead later to a more efficient teamwork and collaboration.[31] So that encouraging social relationships and communication between students would be another approach.[32]

In our study, there was strong agreement from both groups that starting IPL before qualification would improve their relationships with other professionals after qualification and about the importance of respect between them when conducting small groups learning. While there was a significant difference between the two groups regarding that shared learning will improve their views about other health professionals as the medical students have less positive views about that. Moreover, these results are consistent with Auckland University study in which the medical students were the least agreed about the effect of shared learning on their positive perception about others.[9]

Overall, both groups have a strong positive professional identity with no significant difference between them since they disagreed with the acquisitions of the negative professional identity subscale and agreed with the items of the positive professional identity subscale. These results are concurring with several studies[9,27] that revealed the same results. While in Belfast study,[17] it was shown that medical students have a stronger professional identity. It has been assumed that medical students undergo traditional discipline-based learning and this is shown encourage the development of a strong professional identity, and this may make it difficult for them to share experience and skills with other health-care students. Our results can be attributed to the fact that all pharmacy students had a previous experience in the health-care system and they already have clear ideas about their professional role.

In the subscale of roles and responsibilities, there was a non-significant difference between the two groups regarding their confidence of what a professional role they will have and about their desire to acquire more knowledge and skills than others. These results concur with Pirrie et al. reported which showed that generally all undergraduate students want to develop a professional knowledge and skills base.[30] Unlike our results, the pharmacy students in the Auckland University study were more certain about what their professional role would be that were the medical students.[9] Parsell and Bligh assumed that the boundaries which delineate roles in professional practice and the role of academic training in supporting these divisions are key issues.[14]

When considering the proposition which stated that "the function of nurses and pharmacists is mainly to provide support for doctors," there was a significant difference between the two groups. Medical students were more agreed with this statement than pharmacy students. This beers comparison to several studies which revealed similar results[9,19] which supports the opinion of the medical students in our study, i.e., the trend to see doctors as predominant over other health professionals. Horsburgh assumed that medical students tend to view other health disciplines students as their inferior and this may be a barrier against effective performing of IPL.[9] Such differences can be possibly explained by the fact that health professionals develop preconceived maps of their own roles depending on the learned culture, tenets and realization approaches of their specific professions.[33]

Pirrie et al. identified the views that the influence of "stereotypical attitudes" can affect collaborative professional practices and confidence that they can be changed through IPL.[30]

As a result, an approach is developing toward a recognition that the team leader is to be dictated by the status by which the team works and not necessarily be the doctor.[34]

Poldre suggested that the goals should include not only studied learning approaches and chances to perceive various professional roles, but also enhance social interaction between students is an area to be considered.[28]

CONCLUSION

Overall, the findings of this study demonstrated that medical and pharmacy students have favorable attitudes to IPL; they were willing to share knowledge and skills with other health-care students to help in resolving clinical problems. This is hopeful if the administrators are willing to include and implement IPL in the undergraduate curriculum to be with the global trend in health-care education. Thus, including IPL programs could enhance the patient care and health-care services quality by encouraging the teamwork and collaboration skills of the undergraduate students.

REFERENCES

1. Panel IE. Core Competencies for İnterprofessional Collaborative Practice: Report of an Expert panel. Washington, D.C: Interprofessional Education Collaborative; 2011.
2. Interprofessional Professionalism Collaborative. Definition of İnterprofessional Professionalism. Available from: http://www.interprofessionalprofessionalism.weebly.com. [Last cited on 2013 Aug 29].
3. World Health Organization. Framework for Action on İnterprofessional Education and Collaborative Practice. Geneva: World Health Organization; 2010.
4. Barr H. Interprofessional Education: Today, Yesterday and Tomorrow. London: Learning and Teaching Support Network, Centre for Health Sciences and Practice; 2002.
5. World Health Organization. Unicef. Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata. Soviet Union: World Health Organization; 1978.
6. World Health Organization. Learning together to work together for health: Report of a WHO Study Group on Multiprofessional Education of Health Personnel: The Team Approach. [meeting held in Geneva from 12 to 16 October 1987]. Geneva: World Health Organization; 1988.
7. Coster S, Norman I, Murrells T, Kitchen S, Meerabeau E, Sooboodoo E, et al. Interprofessional attitudes amongst undergraduate students in the health professions: A longitudinal questionnaire survey. Int J Nurs Stud. 2008;45(11):1667-81.
8. Parsell G, Bligh J. Educational principles underpinning successful shared learning. Med Teach. 1998;20(6):522-9.
9. Horsburgh M, Lamdin R, Williamson E. Multiprofessional learning: The attitudes of medical, nursing and pharmacy students to shared learning. Med Educ. 2001;35(9):876-83.
10. Funnell P. Exploring the value of interprofessional shared learning. Interprofessional Relations in Health Care. London: Edward Arnold; 1995.
11. Pirie PL. Evaluating community health promotion programs. In: Bracht N, editor. Health Promotion at the Community Level: 2 New Advances. London: Sage Publications; 1999.
12. Carpenter J. Doctors and nurses: Stereotypes and stereotype change in interprofessional education. J Interprof Care. 1995;9(2):151-61.
13. Norman I. Editorial: İnterprofessional education for preregistration students in the health professions: Recent developments in the UK and emerging lessons. Int J Nurs Stud. 2005;42(2):119-23.
14. Parsell G, Bligh J. The development of a questionnaire to assess the readiness of health care students for interprofessional learning (RIPLS). Med Educ. 1999;33(2):95-100.
15. Baxter SK. Perspectives and practice: Speech and language therapy student views of an interprofessional learning experience. Learn Health Soc Care. 2004;3(2):102-10.
16. Hind M, Norman I, Cooper S, Gill E, Hilton R, Judd P, et al. Interprofessional perceptions of health care students. J Interprof Care. 2003;17(1):21-34.
17. Morison S, Boohan M, Moutray M, Jenkins J. Developing pre-qualification inter-professional education for nursing and medical students: Sampling student attitudes to guide development. Nurse Educ Pract. 2004;4(1):20-9.
18. Parsell G, Spalding R, Bligh J. Shared goals, shared learning: Evaluation of a multiprofessional course for undergraduate students. Med Educ. 1998;32(3):304-11.
19. Aziz Z, Teck LC, Yen PY. The attitudes of medical, nursing and pharmacy students to ınter-professional learning. Procedia Soc Behav Sci. 2011;29:639-45.
20. McFadyen AK, Webster V, Strachan K, Figgins E, Brown H, McKechnie J. The readiness for ınterprofessional learning scale: A possible more stable sub-scale model for the original version of RIPLS. J Interprof Care. 2005;19(6):595-603.
21. Oppenheim AN. Questionnaire Design, Interviewing and Attitude Measurement. London: Pinter Publishers; 1992.
22. Carpenter J, Hewstone M. Shared learning for doctors and social workers: Evaluation of a programme. Br J Soc Work. 1996;26(2):239-57.
23. Davies C. Getting health professionals to work together. There's more to collaboration than simply working side by side. Br Med J. 2000;320(7241):1021-2.
24. Lowry S. Trends in health care and their effects on medical education. Br Med 1993;306(6872):255-8.
25. Roberts C, Howe A, Winterburn S, Fox CN. Not so easy as it sounds: A qualitative study of a shared learning project between medical and nursing undergraduate students. Med Teach. 2000;22(4):386-91.
26. Cooper H, Carlisle C, Gibbs T, Watkins C. Developing an evidence base for interdisciplinary learning: A systematic review. J Adv Nurs. 2001;35(2):228-37.
27. Reid R, Bruce D, Allstaff K, McLernon D. Validating the readiness for ınterprofessional learning scale (rıpls) in the postgraduate context: Are health care professionals ready for IPL? Med Educ. 2006;40(5):415-22.
28. Poldre PA. Collaboration in Health Care: Medical Students' Perceptions, Observations and Suggestions. Toronto: University of Toronto; 1998.
29. Harden RM. AMEE Guide No. 12: Multiprofessional education: Part 1-effective multiprofessional education: A three-dimensional perspective. Med Teach. 1998;20(5):402-8.
30. Pirrie A, Wilson V, Harden RM, Elsegood J. AMEE Guide No. 12: Multiprofessional education: Part 2-promoting cohesive practice in health care. Med Teach. 1999;20(5):409-16.
31. Areskog NH. The need for multiprofessional health education in undergraduate studies. Med Educ. 1988;22(4):251-2.
32. Terenzini PT, Pascareua ET. Living with myths: Undergraduate education in America. Change: Mag High Learn. 1994;26(1):28-32.
33. Hall P, Weaver L. Interdisciplinary education and teamwork: A long and winding road. Med Educ. 2001;35(9):867-75.
34. Reid T, David A. Primary care nursing. community nursing practice management and teamwork. Nurs Times. 1994;90(51):42-5.

How to cite this article: Ahmed FT. The attitudes of final year medical and pharmacy students to interprofessional learning in Iraq. Natl J Physiol Pharm Pharmacol 2018;8(1):75-81.

Source of Support: Nil, **Conflict of Interest:** None declared.