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Original Article

Comparison of medical and nursing students' readiness for interprofessional education in the surgical department

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Abstract

Introduction: Interprofessional Education (IPE) is concentrating on the expansion of suitable communication and a teamwork setting for all healthcare providers to conduct patient care well. This study was conducted with the aim of examining the readiness of medical and nursing students for IPE in the surgery department.

Methods: This descriptive-cross-sectional study was conducted on 42 nursing and medical students at Birjand University of Medical Sciences (2022) in Iran who were included in the study by the census. The Persian version of RIPLS (The Readiness for Inter-Professional Learning Scale) was used to collect data. Data analysis was performed using descriptive and analytic statistics and the Mann–Whitney U test ($P \leq 0.05$).

Results: Totally mean score for RIPLS was (85.81±5.33). Comparisons of the mean scores in the roles and responsibilities subscale between the discipline ($P=0.041$) and gender ($P=0.034$) of students showed significant differences. But the mean scores in the other subscales as well as the total mean score of RIPLS did not show a significant difference between nursing and medical students ($P>0.05$).

Conclusions: Nursing and medical students were highly ready for IPE. It is suitable that before the start of IPE, educational workshops have been conducted to learn interprofessional principles, and also recommended the use of IPE in the official curriculum.

Keywords: Interprofessional Education, Readiness, Surgery Department, Nursing, Medicine

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Introduction

Medical education plays an important role in teaching the professional tasks of health professions, if these tasks are not performed well, the performance of the profession will be disturbed. The operating room is one of the environments that require the cooperation of interprofessional of the surgical team (1). Surgical departments in hospitals have stressful conditions where the surgical team provides safe care services with interprofessional collaboration and teamwork (2). So achieving a common goal is achieved through the interprofessional cooperation of the surgical team, which includes different specialties (1).

In addition, making and sustaining interprofessional collaboration in a multidisciplinary surgery team with different characters is complicated, which could influence practices and patient care (2, 3).

Interprofessional Education (IPE) is concentrating on the expansion of suitable communication and a teamwork setting for all healthcare providers to conduct patient care well (4). According to the World Health Organization (WHO), IPE is an important and necessary approach for coordination among health professions that work together to provide health care. In other words, IPE means learning about, from and with each other that trains students to work jointly in future professions (5).

The best time for IPE is during education and should continue throughout one's career. The review of studies shows that IPE has an effect on the attitude and knowledge and skills of cooperation between professions (6). Because the earlier relations of students from different health fields foster the addition of the needed skills to perform satisfactorily in a healthcare setting (7). Students are also interested in teamwork and cooperation and are willing to teach their learning to students of other disciplines (8). So, IPE aims to reduce professional prejudices between different disciplines, increase awareness of the roles and responsibilities of other disciplines, and promote teamwork and cooperation between professions (9).

Several factors have an effect on IPE, among which the readiness of learners can be mentioned. Because readiness plays an important role in the self-motivation and active participation of learners, and it plays a facilitating role in learning and teaching students (10). So positive viewpoints toward IPE improve the probability of a hopeful result (4).

Considering that lack of readiness and positive attitude causes disruption in interprofessional cooperation in health science professions, therefore having high readiness for IPE can be a facilitating and effective factor in interprofessional cooperation (11). In order to investigate the effect of various factors on students' attitudes and readiness for interprofessional learning, a questionnaire has been designed, which has also been used in a number of studies (4, 9, 12-15).

Considering the importance of IPE and the necessity of providing it for students of health science disciplines, this study was conducted with the aim of comparing the readiness of medical and nursing students for IPE in the surgery department.

Material and Methods

This cross-sectional and descriptive-analytical study was conducted on 42 students (15 nursing and 27 medical students) of the clinical education stage (internship) at Birjand University of Medical Sciences (2022) in Iran. The reason for choosing these students was to enter the clinical stage and the need for interprofessional cooperation and learning between these two disciplines. Because these two groups of students were required to have IPE in the surgery department, they were included in the study by the census. In this research, the Persian version of RIPLS (The Readiness for Inter-Professional Learning Scale) was used to collect data. This questionnaire was designed by Parsell and Bligh and includes 19 items and a Likert rating scale from 1 to 5 (completely disagree to completely agree) (9). It was translated into Persian by Amini et al. and its validity (face and content) and reliability (α = 0.92) were also confirmed (16). The total score of the questionnaire is from 19-95 and includes three areas (subscales): teamwork and cooperation from questions 1-9 (9 items, 9-45 points), professional identity from questions 10-16 (7 items, 7-35 points), roles and the responsibilities are from questions 17-

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19 (3 items, 3-15 points). In addition, the score of 47.5 for the whole questionnaire is considered as the cut-off point and the upper limit is considered good and the lower limit as poor. The cut-off point or average score in the subscales of the questionnaire is also considered as a score of 27 for teamwork and cooperation, 21 for professional identity and 9 for roles, and responsibilities. This questionnaire examines the attitudinal dimensions of students in IPE.

After obtaining permission to conduct the study, at first students were given explanations about IPE and the purpose of the study, and informed consent was obtained from them to complete the questionnaire. Students completed the questionnaire in two parts: demographic information and questionnaire items. The namelessness and confidentiality of the students were guaranteed throughout. Data analysis was performed using descriptive and analytical statistics and IBM SPSS software (Version. 23.0.) the reliability of RIPLS was analyzed utilizing the Cronbach's alpha (α) coefficient.

Demographic data and the score of each questionnaire's item were analyzed using descriptive analysis including frequency, mean and standard deviation (SD). The mean scores of students between groups (nursing and medical students) were compared using nonparametric analysis and the Mann–Whitney U test (P≤0.05).

Ethical approval was secured from the National Agency for Strategic Research in Medical Education. Tehran. Iran. (Grant No.980543).

Results

Totally 42 students completed questionnaire who were 21-38 years old (23.93±3.03). More than half of the sample included 23 students was female (54.8%) (Table 1). The Cronbach α coefficients of this tool was 0.82 (N=42).

Totally mean score for the questionnaire was 85.81 ±5.33. Comparisons of the mean RIPLS scores in the roles and the responsibilities subscale between student groups (nursing and medicine) showed significant difference (P=0.041). But the mean scores in the subscales of teamwork and cooperation and professional identity, as well as the total mean score of RIPLS between nursing and medical students did not show a significant difference (P>0.05). Comparison between the mean scores for total RIPLS and subscales is shown in (Table 2).

Comparisons of the mean RIPLS scores in the roles and the responsibilities subscale by gender showed significant difference (P=0.034). However, the mean scores in the other subscales and the total mean score of RIPLS by gender did not show a significant difference (P>0.05) (Tables 3 and 4).

Table 1. Demographic characteristics of the students (N=42)

Characteristic		N(%)
Gender	Female	23 (54.8)
	Male	19 (45.2)
Discipline	Nursing	15 (35.7)
	Medicine	27 (64.3)

Table 2. Comparison of mean scores for the RIPLS and subscales by discipline

	Total students			Nursing		Medicine		Mann-Whitney Test	
RIPLS	Mean±SD	Mini-mum	Max-imum	Mean±SD	Mean Rank	Mean±SD	Mean Rank	Z	P-value
Teamwork and cooperation	42.17± 2.83	33.00	45.00	42.27± 2.12	19.83	42.11± 3.20	22.43	-.667	.505
Professional identity	31.71± 2.63	25.00	35.00	31.27± 2.63	18.70	31.96± 2.64	23.06	-1.128	.259
Roles and the responsibilities	11.93± 1.11	9.00	14.00	12.40±.99	26.47	11.67± 1.11	18.74	-2.040	**.041**
Total score	85.81± 5.33	69.00	92.00	85.93± 4.70	21.33	85.74± 5.74	21.59	-.066	.947

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Table 3. Comparison of mean scores for the RIPLS and subscales by gender

	Male		Female		Mann-Whitney Test	
RIPLS	Mean±SD	Mean Rank	Mean±SD	Mean Rank	Z	P-value
Teamwork and cooperation	42.32± 2.87	22.47	42.04± 2.87	20.70	-.475	.635
Professional identity	32.37± 2.14	24.42	31.17± 2.90	19.09	-1.434	.151
Roles and the responsibilities	12.32±.95	25.74	11.61± 1.16	18.00	-2.122	**.034**
Total score	87.00± 5.00	25.32	84.83± 5.51	18.35	-1.841	.066

Table 4. Descriptive Statistics for the RIPLS and subscales (n=42)

RIPLS	Percentiles		
	25th	50th (Median)	75th
Teamwork and cooperation	40.0000	43.0000	44.0000
Professional identity	30.5000	32.5000	34.0000
Roles and the responsibilities	11.0000	12.0000	13.0000
Total score	83.7500	87.5000	90.0000
Gender	male	female	female
Discipline	Medicine	Medicine	Nursing

Discussion

The aim of the present study was to examine the readiness of medical and nursing students for IPE in the surgery department. The results of this study showed that, in general, both groups of nursing and medical students had a high readiness for IPE, and the mean scores of readiness for IPE among students in all three subscales and in the entire questionnaire were higher than the cut-off point. These results show that students have a high readiness for teamwork and cooperation, recognition of professional identity, professional roles and responsibilities between themselves and other students, and overall they have a suitable readiness to receive IPE.

The comparison of readiness for IPE by discipline and gender showed that the mean scores of readiness in the subscale of roles and responsibilities in nursing by discipline and male by gender are higher and show a statistically significant difference. However, the comparison of the mean scores in other subscales as well as the total RIPLS mean does not show a significant difference. Since the mean scores are almost close to each other, it can be said that these students are in the subscales of teamwork and cooperation and professional identity as well as in the total RIPLS, at the same level are ready to receive IPE.

The results of the study showed that students are well readied for interprofessional learning and recommend IPE in the training course and before starting the profession (4). The results of a study on Turkish health students showed that the readiness and perception of IPE in these students had a direct and positive relationship, and with the increase in readiness for IPE, students' perception also increases (13). The results of the study also showed that nursing students had appropriate readiness and perception for IPE, and there was a positive relationship between these two variables (15).

In line with these results, another study showed that there is a powerful positive correlation between readiness and the perception of students toward

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inter-professional education. However, students have low grades in teamwork and collaboration. Therefore, it is recommended that IPE should train in the curriculum of students to foster teamwork and cooperative learning (12). While in the present study, the mean scores of students in all three subscales were high, in the roles and responsibilities subscale, the scores of nursing students and male students were significantly higher. The results of another study comparing the readiness and perception of medical and nursing students towards IPE showed that nursing students had a higher readiness but medical students had a higher perception of IPE (14). Although the students' perception of IPE was not investigated in the present study, since RIPLS and the IPE perception scale overlap and have a direct relationship, therefore, by training the principles of IPE to students, their readiness and perception can be increased, and as a result, the quality The provision of care services will also be improved.

Another study showed that medical, nursing and radiology students had a higher than mean level of readiness and there was no relationship between students' readiness and demographic variables (11). These results are in contrast with the present study in terms of no relation between discipline and gender. High readiness of students for IPE is a facilitating and effective factor for implementing this approach. In addition, educational planners can address other limitations to provide more effective IPE. On the other hand, the high level of readiness of students for IPE alone is not effective, because it is necessary for students to be fully familiar with their professional responsibilities and other disciplines of medical sciences. It seems that for the development of readiness, the necessary training should be presented to them (11).

The results of some studies show that, in general, nursing students are more ready for IPE than medical students (17). These results apply only to the roles and responsibilities subscale in our study, and in general, medical and nursing students had similar readiness. The findings of other studies in examining readiness for IPE showed higher scores of nursing and medical students than students of other disciplines (18-22).

The findings of a number of studies show that there is no significant relationship between demographic variables such as age, gender, discipline and academic semester, and students' readiness for IPE (11, 23). But the results of some studies found significant differences in the scores' mean of demographic data such as age, gender, discipline, course stage, and primary exposure to IPE (18, 24-26). In line with these results, the findings of the present study also showed that the demographic variables of gender and discipline could be effective in the level of students' readiness for IPE.

In general, the results of many studies show the high readiness of students to receive IPE and to have team cooperation among other fields of medical sciences (12-15, 27). So since it has been emphasized to create and maintain a multidisciplinary team to provide more quality care to patients, it is necessary to include IPE in the curriculum of health sciences and medicine (4). Appropriate training in the field of interprofessional learning during schooling can improve the efficiency and perspective of students towards this approach and also promote the spirit of teamwork and collaborative learning (28). Also, teaching communication skills is effective in collaborative learning and improves the quality of interprofessional education (29). For example, clinical training in the form of IPE has been recommended especially for student teams including nursing and medicine disciplines in the emergency surgery department (30, 31).

The limitations of this research include conducting a cross-sectional study in a limited group of students for whom IPE was supposed to be provided. On the other hand, the attitude of learners can change over time and also the study instrument was self-reported and learners may not express their real attitude.

Conclusion

In general, nursing and medical students were highly ready for IPE. Considering the high readiness of most of the students for interprofessional learning, it is appropriate that before the start of such training, educational workshops have conducted to learn

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interprofessional principles and also to analyze the concepts of teamwork and cooperation, professional identity, roles, and responsibilities. The use of cooperative learning strategies based on problem solving and teamwork in the clinical education of students is recommended. It is also recommended to use IPE in the official curriculum and provide infrastructure for its delivery. This training could improve the quality of IPE.

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Conflicts of interest

There is no conflict of interests to be declared.

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