Original Article

Attitude and Perception of Health Professional Students Toward Inter-professional Education in Riyadh: Cross-Sectional Study

Ali Qassim Darraj

ABSTRACT

Objective: To evaluate the attitude and awareness of undergraduate health professional students regarding inter-professional education, by using two validated assessment tools RIPLS and IPAS.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Colleges of Medicine and Applied Medical Sciences in Shaqra University (SU), in Riyadh, Saudi Arabia, from January 2022 to June 2022.

Materials and Methods: A survey based study was conducted with 102 final year of health professional students within five academic health science programs at Shaqra University (SU), Riyadh, Saudi Arabia. The RIPLS tool consists of 19 items, while IPAS tool contains 22 items were used to collect data regarding attitude and awareness toward shared education. Data were analyzed and interpreted with SPSS version 21. P value ≤ 0.05 was taken as significant.

Results: A 102 survey distributed, 72 were returned (response rate = 70.5%). A total of 72 subjects were recruited for our study. In this study we found that Cronbach's alpha for Inter-professional learning scale (RIPLS) and Inter-professional Attitude Scale (IPAS) was 0.84 and 0.88 respectively. A positive correlation was found between total RIPLS and total IPAS scores with Pearson correlation coefficient of 0.76 (P < 0.05). We found a statistically significant relationship between ethics construct within IPAS scale and field of study (P = 0.031).

Conclusion: The participants' responses were primarily positive for most of the items of the two scales, either the RIPLS or IPAS scales have discriminatory ability to detect attitude and perception of health professional students toward Inter-professional education.

Key Words: Inter-professional education (IPE), readiness for inter-professional learning scale (RIPLS), Inter-professional Attitudes Scale (IPAS), healthcare education

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INTRODUCTION

Inter-professional education (IPE) was introduced from twenty century as some sort of collaborative learning and recommended by the international organizations. However, this form of teaching is still not much used, although it can play effective way of assisting undergraduate professionals to understand their professions' roles in healthcare [1].

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The Inter-professional education (IPE) can be defined as collaborative practice between undergraduate and postgraduate professionals together from multiple and different health care specialties to offering and develop patient-centered support [2]. Inter-professional practices in healthcare also known as teamwork, it can lead to collaborative, comprehensive and improved impact on healthcare system and patients care. The goal of inter-professional education (IPE) is to enrich the undergraduate professionals with knowledge, skills, and attitude which prerequisite for shared inter-professional learning [3].

The international studies show many pros can be achieved by inter-professional learning introduction include curriculum's design consistency, efficient inter-professional communication, health research promotion, and enhancing development of new knowledge and skills among healthcare teams collaboratively. Nevertheless, the inter-professional education promotes teamwork competence and resource allocation through collective consideration based on patient's needs, and eventually reduces the medical errors [4-7]. Most studies have paid attention mainly to

the Inter-professional Collaborative Practice (IPCP) and Inter-professional Education (IPE) for a long time. In most cases, the scope and nature of the exposure are based on IPE, and the development has targeted the interaction between nursing, medicine or different disciplines of health science and social work. Different unique challenges are experienced by the practitioners and the educators in implementing IPE programs [8].

There is a wide range of tools that educators and clinicians can use to measure the impact of IPE on health outcomes, care quality, and learning. From the assessment of the learner's attitude to the surveys for the patient's satisfaction, all the tools are mainly related to IPE and entail information validation. However, research studies for assessment of students' perception are significant for developing effective policies for health education [9]. From the multiple tools, the readiness for inter-professional learning scale (RIPLS), and Inter-professional Attitudes Scale (IPAS) are efficient tools to assess and measure the impact of IPE.

Currently, no local research studies have focused on two different assessment tools among undergraduate medical students. The aim of this study to evaluate the attitude and perception of health professional students toward inter-professional learning by using two validated assessment tools: (RIPLS) and (IPAS).

MATERIALS AND METHODS

This study is a cross-sectional survey design study. It includes two validated assessment survey to assess undergraduate attitude and awareness toward Inter-professional education (IPE), during the time between January and June 2022. The proposal approval and IRP already taken before the start of study. However, the participants received the purpose of study, and written consent on the first page of questionnaires. The confidentiality of data and anonymity were assured, and the participants had the right to refuse or withdraw at any point of study. The two validated instruments used in this study include (RIPLS and IPAS) were pre-designed self-administered questionnaires identified from the literature as public domain. It distributed in English version via e-mail and social media networks to all undergraduate final year of health professional students at colleges of medicine and applied medical sciences in Shaqra University (SU), in Riyadh, Saudi Arabia. The Shaqra University (SU) has three different campuses in different faraway regions, each branches include colleges of medicine and medical applied sciences.

In this study, the undergraduate students at final year health professional colleges were invited to participate in the survey, including medicine, nursing, physical therapy, pharmacy and medical laboratory students. The inclusion criteria include current undergraduate students at (SU) from health professional colleges include medicine, nursing, pharmacy, and medical technology, who are studying final year, their ages ranged between 20 to 30 years old, with good English language ability (subjects were taught in English). Any other non-medical students at any levels in (SU), postgraduate students, or who faced two or more courses of IPE during elective or summer training are excluded. The RIPLS tool consists of 19 items, while IPAS tool contains 22 items in 5 subclasses. Data on the students' age, gender, their profession (course), and previous exposure to IPE course gathered. Any students who not fit with inclusion criteria were excluded.

The collected data were analyzed using SPSS software version 21, the variants presented in terms of mean, percentage, and standard deviation. Cronbach's α used to assess the internal consistency of the two scales, while Pearson's correlation coefficient was used for concurrent and discrimination the validities of two scales. In addition to that, wilcoxon rank sum test used to compare two independent samples.

RESULTS

A total of 72 subjects were recruited for the purpose of this study (response rate =70.5%). Most of the individuals i.e., 55 (76.4%) were in the age group of 22 to 24 years. Majority of the recruited individuals i.e., 70 (97.2%) of the individuals were males. Among the types of colleges, 27 (37.5%) of the subjects belonged to nursing science college, 24 (33.3%) individuals belonged to medical colleges, 11 (15.3%) of the individuals belonged to pharmacy institutes, 6 (8.3%) individuals belonged to physical therapy institutes while 4 (5.6%) belonged to clinical laboratory science institutes. For individuals in this study, mean of total readiness for Inter-professional learning scale (RIPLS) score was 79.1 (SD= 8.4). The total RIPLS score ranged from 56 to 95. Among the constructs from RIPLs scale, the highest mean reported was 41 (SD = 4.6) for teamwork. Mean of total Inter-professional Attitude Scale (IPAS) score was 117 (SD = 11.3). The total IPAS score ranged from 92 to 135. Among the constructs from IPAS scale, the highest mean reported was 38 (SD = 5.0) and was also for teamwork. (Table 01) As can be seen in Figure 01 that when box plots made on the total and construct specific scores of RIPLs, teamwork had the highest overall score, followed by professional identity and roles and responsibilities. In a similar boxplot for IPAS shown in Figure 02 it can be observed that the teamwork roles and responsibilities have the highest overall score while inter-professional biases has the lowest overall score. Cronbach's alpha for RIPLS and IPAS was found to be 0.84 and 0.88 respectively. We found a positive correlation between total RIPLS and total IPAS score as demonstrated by the Pearson correlation coefficient 0.76 ($P < 0.05$). (Figure 03). We found that there was no statistically significant relationship between total RIPLS score, scores relevant to the constructs of RIPLS

scale, total IPAS score, score for construct of IPAS scale and age groups (Table 2). We found a statistically significant relationship between diversity ethics construct within the IPAS scale and field of study (P = 0.031). (Table 03).

Table No.1: Characteristics of recruited individuals

Variable	N = 72[1]
Age	
Age 22-24	55 (76.4%)
Age 25-30	17 (23.6%)
College	
Clinical laboratory science	4 (5.6%)
Medicine	24 (33.3%)
Nursing science	27 (37.5%)
Pharmacy	11 (15.3%)
Physical Therapy	6 (8.3%)
Gender	
Female	2 (2.8%)
Male	70 (97.2%)
RIPLS Total	
Mean (SD)	79 (8.4)
RIPLS Professional Identity	
Mean (SD)	27 (4.3)
RIPLS Roles & Responsibilities	
Mean (SD)	12 (1.7)
RIPLS Teamwork	
Mean (SD)	41 (4.6)
IPAS Total	
Mean (SD)	117 (11.3)
IPAS Teamwork	
Mean (SD)	38 (5.0)
IPAS Patient Centeredness	
Mean (SD)	23 (2.5)
IPAS Interprofessional Biases	
Mean (SD)	10 (3.2)
IPAS Diversity Ethics	
Mean (SD)	18 (2.1)
IPAS Community Centeredness	
Mean (SD)	27 (3.3)

Table No.2: Showing the distribution of RIPLS and IPAS scores by Age

Variable	Age 22-24, N = 55	Age 25-30, N = 17	p-value[1]
RIPLS Total			0.8
Median (IQR)	78.0 (73.5, 84.5)	79.0 (75.0, 85.0)	
RIPLS Professional Identity			0.6
Median (IQR)	26.0 (23.0, 28.0)	27.0 (24.0, 29.0)	
RIPLS Roles & Responsibilities			0.9
Median (IQR)	12.0 (11.0, 13.0)	12.0 (11.0, 13.0)	
RIPLS Team Work			0.9
Median (IQR)	42.0 (36.5, 45.0)	43.0 (38.0, 44.0)	
IPAS Total			0.3
Median (IQR)	115.0 (108.0, 123.0)	119.0 (113.0, 127.0)	
IPAS Team Work			0.4
Median (IQR)	37.0 (35.0, 42.0)	37.0 (36.0, 44.0)	
IPAS Patient Centeredness			0.8
Median (IQR)	25.0 (21.0, 25.0)	25.0 (23.0, 25.0)	
IPAS Interprofessional Biases			0.9
Median (IQR)	10.0 (9.0, 12.0)	10.0 (8.0, 13.0)	
IPAS Diversity Ethics			0.3
Median (IQR)	19.0 (17.0, 20.0)	20.0 (18.0, 20.0)	
IPAS Community Centeredness			0.12
Median (IQR)	27.0 (24.0, 30.0)	29.0 (25.0, 30.0)	

[1]Wilcoxon rank sum test

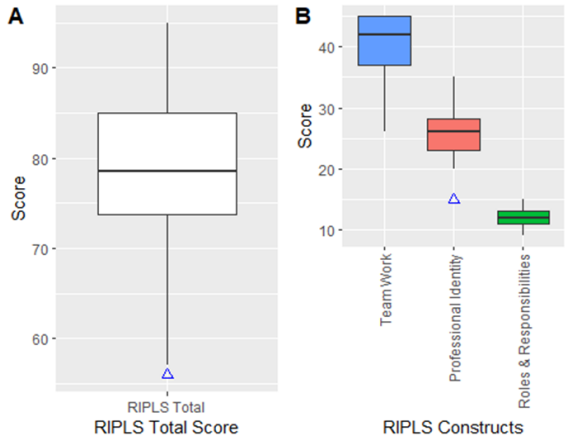

Figure No.1: Box block of RIPLS total score and its individuals construct scores

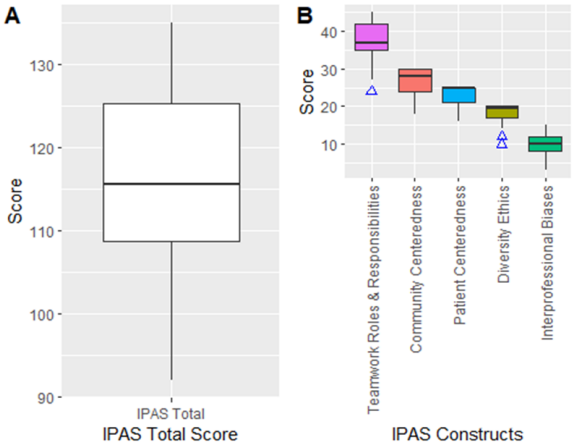

Figure No.2: Box block of IPAS total score and its individuals construct scores

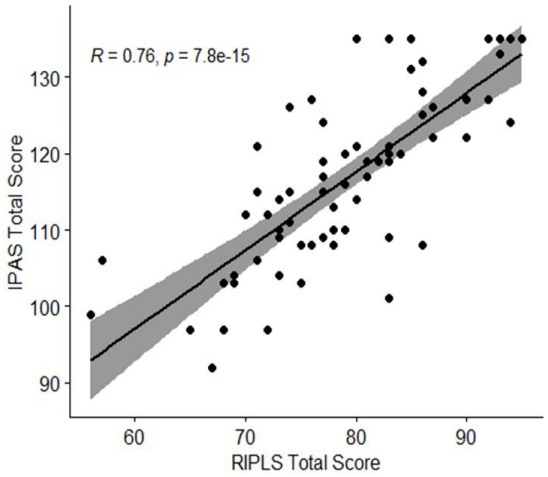

Figure No.3: Showing correlation between RIPLS total score and IPAS total score

Table No.3: Showing the distribution of RIPLS and IPAS scores by Field of study

Variable	Allied Medical Sciences, N = 48	Medicine, N = 24	P-value[1]
RIPLS Total			0.4
Median (IQR)	77.5 (72.8, 85.0)	79.5 (76.5, 84.0)	
RIPLS Professional Identity			0.8
Median (IQR)	26.5 (23.8, 28.0)	24.5 (23.0, 30.2)	
RIPLS Roles & Responsibilities			0.2
Median (IQR)	12.0 (11.0, 13.0)	11.5 (10.8, 13.0)	
RIPLS Teamwork			0.10
Median (IQR)	40.0 (36.0, 44.2)	44.0 (40.5, 45.0)	
IPAS Total			0.2
Median (IQR)	113.0 (108.0, 125.2)	119.0 (113.8, 124.8)	
IPAS Teamwork			0.3
Median (IQR)	36.5 (34.8, 42.0)	38.5 (35.8, 42.2)	
IPAS Patient Centeredness			0.10
Median (IQR)	24.0 (21.0, 25.0)	25.0 (23.8, 25.0)	
IPAS Interprofessional Biases			0.093
Median (IQR)	10.5 (9.0, 12.0)	9.0 (6.5, 12.0)	
IPAS Diversity Ethics			0.031
Median (IQR)	18.5 (17.0, 20.0)	20.0 (19.0, 20.0)	
IPAS Community Centeredness			0.071
Median (IQR)	26.5 (24.0, 30.0)	29.0 (25.0, 30.0)	

[1]Wilcoxon rank sum test

DISCUSSION

In our survey, we contrasted our study with one conducted using junior and senior students from three US health professions. This study review was comparable to our activity because it compared the RIPLS and IEPS's characteristics for differentiating inter-professional learning, two widely utilized attitude scales. Our goal was to confirm if the tools we chose were superior to those used in recent studies. However, the only difference between the study and ours was that instead of using IEPS together with RIPLS, we used RIPLS and IPAS. The 19-item RIPLS and 12-item IEPS had Cronbach's alpha values of 0.85 and 0.91, respectively, in the U.S Universities [10]. High internal consistency was present for both scales, with the IEPS slightly outperforming the RIPLS [11], whereas the content validity indicated that the experimental French version of the RIPLS presents good content validity ($\alpha = 0.90$) [12]. In this study we found that Cronbach's alpha for (RIPLS) and (IPAS) was 0.84 and 0.88 respectively which is in range of international studies. Generally, the response rate for participants depends on multiple factors in each study, in one local study conducted on health professions in eastern provision of Saudi students to assess students' attitudes toward shared learning, the respondents' rate was 100%, n=67 [13], whereas other local study in central region of Saudi emailed the survey to 1411 medical students, only 158 responded (=11%) [14]. When we compare with this study, the response rate almost within accepted range 70.5%, but the variation is noted between male and female students due to many factors.

There are some articles studied the relationship between RIPLS and IEPS, and their ability to assess the students' attitude toward inter-professional learning among undergraduate health professionals, the Pearson's correlation coefficient was ($r = 0.33$), which reflect a moderate link between the two scales [15]. This differed little from the findings of our investigation. A higher correlation coefficient of 0.76 was attained ($P < 0.05$). Our degree of correlation between RIPLS and IPAS shows that the two scales' link is strong enough to suggest that the underlying construct we purposed to measure is similar across the two measures. Nevertheless, the respondents show some variation when they deal with IPE scales. For example Alruwaili, et al. [16], concluded that, the mean score of RIPLS was 86.8, while this study shows the mean score of (RIPLS) score was 79.1 (SD= 8.4), and the total of RIPLS score ranged from 56 to 95. However, some studied conducted modified, validated RIPLS questionnaire with four subscales and 29 items, which concluded different mean score compared with traditional version with 19 items [17]. Numerous benefits of IPE have been highlighted in the literature. Inter-professional education has improved awareness of professional

duties and responsibilities while increasing mutual respect and trust among learners. It has also enhanced efficient communication, increased job satisfaction, and improved patient outcomes. However, it's crucial to ensure that more students have a positive attitude toward inter-professional education by creating awareness of the relevance of such education [18].

Additionally, students in the healthcare profession become increasingly accustomed to the inter-professional culture. The growth of a professional identity that is more accepting of different groups is encouraged by this. Teamwork abilities and understanding other professional groups' roles and responsibilities are essential for collaborative practice to be successful. Universities must provide IPE courses. The medical industry must work with additional fields for the next generation of health students to be prepared for partnership working.

CONCLUSION

Based on this study, we have concluded that interprofessional education (IPE) is crucial in advancing health professional education. The health institutes should thus endorse it. IPE has significantly raised the standard of healthcare as a whole. It ought to be a priority for all health institutions. The creation of resources to support and encourage IPE planning and development should be a priority for health departments. Government and financial institutions should work together to promote IPE in all learning environments related to health. We also advise proper administration of IPE education training to guarantee that the program's goal is met.

Limitation: A limitation of the study is that the nature of the study setting may have affected the study outcome due to the SU university has multiple faraway branches, and the female branches is away from main university campus, that why the ratio of male to female students is not comparable, and potentially consider as confounder factor, we should deal with it. In addition to that, the generalizability of the outcome may be limited as it was conducted in one university with relatively limited numbers of undergraduate healthcare profession students. However, the longitudinal design can add some benefits to such topic not in survey-based cross-sectional study, it can help in future studies to follow up the students and observe their attitude development across the internship and residency years.

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Author's Contribution:

Concept & Design of Study:	Ali Qassim Darraj
Drafting:	Ali Qassim Darraj
Data Analysis:	Ali Qassim Darraj
Revisiting Critically:	Ali Qassim Darraj
Final Approval of version:	Ali Qassim Darraj

Conflict of Interest: The study has no conflict of interest to declare by any author.

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