

Bumping along: Healthcare students' perspectives on interprofessional education

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ABSTRACT

Background: Global regulatory bodies and the PM&DC (Pakistan Medical and Dental Council) share a competency framework that emphasizes the importance of graduates being effective communicators and collaborators in the healthcare system to achieve positive patient outcomes. However, due to unclear roles, conflicting power dynamics, and varying educational qualifications among healthcare professionals, effective interprofessional teamwork is often not realized, leading to suboptimal outcomes.

Objective: To evaluate the attitudes and readiness of healthcare students towards inter-professional education.

Methods: This comparative cross-sectional study was conducted from March to August 2020 by utilizing a pre-validated inventory called the Readiness of Interprofessional learning scale (RIPLS) to assess the readiness of students in healthcare programs. Data was collected using Google Forms, and the Kruskal-Wallis Test was employed to compare perceptions among the four groups.

Results: 157 students completed the questionnaire, resulting in a response rate of 58%. All four groups demonstrated high readiness for mutual learning (mean rank=78.78) although physiotherapy students had higher scores (mean rank=79.36) compared to the other groups, while nursing students had the lowest scores (mean rank=77.92).

Conclusion: The positive attitude of students towards interprofessional education and collaboration highlights the need for integration with other healthcare disciplines at both the curricular and co-curricular levels. Clinical case studies, problem-based learning, and simulations can be effective methods for fostering students' understanding of each profession's role.

Keywords: Attitude, Collaboration, Interprofessional Education, Readiness, Students.

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Introduction:

The healthcare workforce consists of diverse professionals, such as doctors, nurses, pharmacists, surgeons, therapists, and specialists. It is crucial for these experts to collaborate effectively in order to provide high-quality patient care. Failure to communicate or understand each other's roles can lead to errors in patient treatment.(1-3) Achieving effective teamwork in healthcare is challenging due to social and cultural factors, including unclear roles and conflicting power dynamics among different professions.(4)

To promote positive relationships and collaborative practice among healthcare professionals, global regulatory bodies consider interprofessional education (IPE) significant.(5,6) Recently, a new accreditation standard for medical schools emphasizes the importance of incorporating IPE into medical education. This recognition stems from the belief that IPE and interprofessional collaborative practice enhances patient outcomes, safety, and the quality of care.(7)

Introducing chances for interprofessional learning can enhance the readiness of future healthcare practitioners to function effectively as a cohesive team.(8) Several research studies have demonstrated that IPE enhances students' confidence in their respective professional roles. By engaging with other healthcare professionals, students acquire an understanding and appreciation for diverse perspectives, develop respect for knowledge and expertise of other professions, collaborate on problem-solving, and effectively communicate as a team to

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ensure patient safety.(9,10) It is crucial to provide early exposure to IPE in health education for cultivating the right mindset towards other professionals and prevent the development of biases.(11,12)

Despite its importance, existing training programs frequently fail to incorporate sufficient opportunities for students to engage in cross-disciplinary learning with other healthcare professionals.(13) The integration of effective interprofessional education (IPE) into health professional training in Pakistan is of utmost importance. It enables the development of essential competencies such as integrity, accountability, interprofessional communication, collaboration and teamwork.(14,15)

As per the guidelines established by the Pakistan Medical and Dental Council (PM&DC), it is expected that graduates should possess the ability to effectively contribute as members of the healthcare team and recognize the roles and responsibilities of other healthcare professionals.(16) However, a significant obstacle in implementing IPE in medical and health professions education is the lack of the structured competencies that integrate various disciplines.(9)

This study surveyed third-year students from medical, dentistry, nursing, and physical therapy programs to assess their readiness and awareness of IPE.

Methods:

The survey was created using Google Forms and was then distributed to third-year students from four different disciplines via WhatsApp. The survey was open for a period of six weeks from the initial distribution of the link. Convenience sampling technique was used. The determination of the sample size was accomplished through the use of the Rao Soft software. The minimum sample size required was 148. However, a total of 157 students completed the survey including 70 medical students, 35 physical therapy students, 37 dentistry students, and 15 nursing student. Participation was voluntary. The study involved inviting third-year students from each discipline, as this particular year marks the initiation of clinical exposure and interaction with other healthcare professionals for students across all four disciplines. The Google form had a consent section for the students to agree to voluntary participation. Ethical Review Committee FUI (FF/FUM/215 Phy/20) accepted this study protocol.

The Readiness for Interprofessional Learning Scale

(RIPLS) was used in this study that enabled the students to mark various parameters interprofessional learning. The questions were answered using 5-point Likert scoring where strongly agree was marked as 5 and strongly disagree as 1. There is a total of 19 self-reported items with four domains namely teamwork and collaboration (items 1–9), negative professional identity towards other professions (items 10–12), positive professional identity (items 13–16) and roles and responsibilities of professionals (items 17–19). A positive attitude towards IPL was shown by high scores.(17)

Additionally, age, gender, programme of study, and prior experience of IPE were also asked from students. To evaluate the distribution of the study sample using SPSS, the Shapiro-Wilk Test was conducted, revealing a non-normal distribution with a p-value of 0.00. Consequently, the non-parametric Kruskal-Wallis Test was employed to calculate the means and p-value.

Results:

The demographic characteristics of the participating students are presented in Table 1. The study examined the RIPLS questionnaire across four domains. In the teamwork and collaboration domain, Physiotherapy students scored highest in eight out of nine items (average mean rank=82.23), while nursing students scored lowest in six items (average mean rank=73.9). However, no statistically significant difference was found between groups. In the negative professional identity domain, Physiotherapy students had the highest scores (average mean rank=82.55), while Dentistry students had the lowest scores (average mean rank=76.01). In the positive professional identity domain, all students strongly agreed with statements, with Physiotherapy students scoring highest (mean rank=82.47), followed by MBBS, Dentistry, and Nursing students. The students of Physiotherapy, Medicine, and Dentistry rated item 17, which asserts that the primary role of nurses and therapists is to offer assistance to doctors, significantly higher. Strikingly, nursing students gave it a lower rating. However, the majority of the students from all disciplines believe that they need to acquire more knowledge and skills compared to students from other healthcare professions. Interestingly, the students demonstrate a strong awareness of their roles and strongly disagree with item 18, which suggests uncertainty about their professional roles. In each of the four domains, the p-value exceeds 0.05, indicating that there is no statistically significant

difference in the attitudes of students across all four disciplines. On the other hand, the high mean scores suggest that the students from all four disciplines

demonstrate a positive inclination towards interprofessional education. (Table 1, 2, 3, 4, 5)

Table 1: Demographic characteristics

Descriptor	Frequency	Percentage	
Gender	Male	33	21
	Female	124	79
Average Age	≤21	64	40.76
	22	60	38.21
	≥23	33	14.64
Curriculum type	Integrated	70	44.58
	Traditional	87	55.41
Examination type	Semester system	50	31.84
	Annual system	107	68.15
Prior exposure to IPE	Yes	5	3.2
	No	152	96.8
Disciplines	Medicine	70	44.58
	Dentistry	37	23.56
	Physiotherapy	35	22.29
	Nursing	15	9.55
	Total		157

Table 2: Discipline-based comparison of students' attitude- Teamwork and Collaboration

Variable	Disciplines	Mean Rank	Median (Interquartile range)	p-value
Learning with other students will help me become a more effective member of a healthcare team	Medicine	79.17	5(1)	0.46
	Dentistry	76.40		
	Physiotherapy	85.86		
	Nursing	67.33		
Patients would ultimately benefit if healthcare students worked together to solve patient problems	Medicine	77.36	5(1)	0.99
	Dentistry	79.57		
	Physiotherapy	77.30		
	Nursing	79.23		
Shared learning with other healthcare students will increase my ability to understand clinical problems	Medicine	77.49	5(1)	0.53
	Dentistry	71.30		
	Physiotherapy	83.61		
	Nursing	82.81		
Learning with health care students before qualification would improve relationship after qualification.	Medicine	79.48	4(1)	0.54
	Dentistry	71.06		
	Physiotherapy	83.92		
	Nursing	71.88		

Communication skills should be learned with other health care students	Medicine	77.37	5(1)	0.68
	Dentistry	77.26		
	Physiotherapy	83.24		
	Nursing	68.46		
Shared learning will help me think positively about other professions	Medicine	78.68	4(1)	0.43
	Dentistry	69.26		
	Physiotherapy	84.86		
	Nursing	78.35		
For small group learning to work, students need to respect and trust each other	Medicine	78.82	5(1)	0.95
	Dentistry	75.90		
	Physiotherapy	79.53		
	Nursing	74.88		
Team working skills are essential for all health care students to learn	Medicine	79.04	5(1)	0.88
	Dentistry	77.49		
	Physiotherapy	79.30		
	Nursing	70.08		
Shared learning will help me to understand my own limitations	Medicine	76.07	4(1)	0.81
	Dentistry	79.37		
	Physiotherapy	82.43		
	Nursing	72.08		

Table 3: Discipline-based comparison of students' attitude- Negative professional identity

Negative professional identity	Disciplines	Mean Rank	Median (Interquartile range)	p-value
I don't want to waste my time learning with other health care students	Medicine	75.42	3(3)	0.58
	Dentistry	73.84		
	Physiotherapy	84.53		
	Nursing	84.50		
It is not necessary for undergraduate health care students to learn together	Medicine	76.53	3(3)	0.83
	Dentistry	75.07		
	Physiotherapy	80.97		
	Nursing	85.35		
Clinical problem-solving skills can only be learned with students from my own department	Medicine	74.93	3(2)	0.30
	Dentistry	79.14		
	Physiotherapy	82.15		
	Nursing	79.65		

Table 4 : Discipline-based comparison of students' attitude- Positive professional identity

Positive professional identity	Disciplines	Mean Rank	Median (Interquartile range)	p-value
Shared learning with other healthcare students will help me communicate better with patients and other professionals	Medicine	78.88	4(1)	0.74
	Dentistry	75.11		
	Physiotherapy	82.15		
	Nursing	69.23		
I would welcome the opportunity to work on small group projects with other health care students	Medicine	77.01	4(1)	0.83
	Dentistry	76.41		
	Physiotherapy	83.01		
	Nursing	73.35		
Shared learning will help to clarify the nature of patient problems	Medicine	75.24	4(1)	0.49
	Dentistry	73.59		
	Physiotherapy	86.64		
	Nursing	80.15		
Shared learning before qualification will help me become a better team worker	Medicine	80.19	4(1)	0.81
	Dentistry	78.06		
	Physiotherapy	77.11		
	Nursing	68.62		

Table 5: Discipline-based comparison of students' attitude- Attitudes towards roles and responsibilities

Attitudes towards roles and responsibilities	Disciplines	Mean Rank	Median (Interquartile range)	p-value
The function of nurses and therapists is mainly to provide support for doctors	Medicine	80.19	4(1)	0.85
	Dentistry	78.06		
	Physiotherapy	77.11		
	Nursing	68.62		
I am not sure what my professional role will be	Medicine	79.38	2(2)	0.91
	Dentistry	74.96		
	Physiotherapy	76.46		
	Nursing	83.15		
I have to acquire much more knowledge and skills than other healthcare students	Medicine	78.26	4(1)	0.88
	Dentistry	73.60		
	Physiotherapy	79.73		
	Nursing	83.50		

Discussion:

Medical educators are continuously striving to upgrade the curriculum of medical colleges, by introducing innovative strategies for improved health outcomes.(18) The attitude of health professional students play a key role in the success or failure of a curriculum.(19)

The objective of this study was to assess the preparedness of our students for an IPE program. Interprofessional education is the talk of the town and various world regulatory bodies are emphasizing to make it a part of the curriculum.(20) Pakistan is one of the few countries in Asia where gradual transformation is being made in the curriculum, shifting it from traditional to integrated curriculum. .

The overall result shows a positive attitude of students towards teamwork and collaboration. The students are well aware of the benefits of collaborative learning. The highest rated item of RIPLS was item 3 “Shared learning with other health care students will increase my ability to understand clinical problems.” These findings align with the results of a previous study conducted at the International Medical University, Malaysia (2017).(21) Extensive research has demonstrated that this form of learning is an effective approach to promoting mutual understanding among practitioners in the workplace.(22) Thus, the program developers can use problem-based group learning strategies where students from all four disciplines can discuss clinical problems together. It has been defined as the perfect setting for IPE.(23)

The second important result was that our students value working in small groups and maintaining a respectful and trustworthy bond. Related results were found in a study conducted in Pakistan in 2019.(13) This positive finding will help medical educators; stakeholders in developing and implementing of IPE program.

Remarkably, the Physiotherapy students have exhibited the highest level of readiness, even though the integrated curriculum is currently only implemented in the MBBS program at FUI. This may be attributed to the fact that Physiotherapy students are exposed to collaborative practice at an earlier stage and have more opportunities for interprofessional interaction. The collaborative practice involves working alongside healthcare professionals, patients, their families, and the community to deliver effective healthcare. Research Studies strongly recommend the adoption of

collaborative practice to enhance patient care, safety, and overall health outcomes.(24)

Significant majorities of the students in this study were well aware of their professional roles; however, they also believed that they needed to acquire more knowledge and skills compared to students from other healthcare disciplines. This contrasts with findings from other studies where students were unaware of their professional roles. Lack of clinical experience was cited as a reason for this lack of awareness in previous research conducted on students in the pre-clinical years.(25) Differences in study results worldwide may be attributed to variations in cultural and educational backgrounds, as well as different selection criteria for healthcare professional schools.(26)

Our study revealed that medical and dentistry students had significantly higher scores in the “negative professional identity”. These findings align with previous studies that have reported similar results.(21) One possible explanation for this finding is the limited exposure of medical and dentistry students to the management of multidisciplinary healthcare teams. To address this issue, medical and dentistry schools should prioritize curriculum development that offers opportunities for students to learn and engage in interprofessional collaboration within healthcare settings.

There were no statistically significant differences observed in the mean scores of the RIPLS domains among students of various disciplines. This indicates that students from all disciplines possess the readiness for team collaboration and foster positive professional relationships. This matches with what another study found, which showed that undergraduate students are ready to understand Interprofessional Learning (IPL) ideas. The high mean scores support this idea in different parts of the Readiness for Interprofessional Learning Scale (RIPLS).(27) It is crucial for healthcare professional students to develop a comprehensive understanding of their own professional identity early in their careers to effectively engage with colleagues from other disciplines and enhance their problem-solving capabilities in healthcare contexts.(24)

Educational institutions need to implement reforms that foster a cultural shift towards IPE and encourage collaborative practices.(28) Transformational leaders can play a crucial role in creating environments that promote collaboration, facilitate the development of mutual curricula, and encourage resource sharing among all healthcare professionals.(29,30)

Additionally, the administration can support the formation of diverse teams for co-curricular activities. It is the responsibility of medical educators to ensure that the expected educational outcomes regarding IPE are clearly understood by academic institution leaders. Successful implementation of IPE, backed by skilled faculty and adequate resources, leads to improved patient care and well-being.(31,32)

Given the multidimensional and diverse nature of IPE, analyzing the curricula of different programs suggests that it can be effectively implemented by incorporating clinical case studies, problem-based learning, team-based learning, simulations, and e-learning. (33)

Conclusion:

Students from different healthcare professions exhibited a favorable disposition and preparedness toward interprofessional learning. Therefore, the integration of Interprofessional Education (IPE) at the undergraduate level will provide students with the opportunity to engage in collaborative learning, gaining insights from and about various professional disciplines right from the beginning of their academic journey. This early exposure will enhance understanding and appreciation of the importance and contributions of different professional fields.

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Authors Contribution:

Iftikhar T: Study concept, design, data collection, interpretation and manuscript writing

Ghassan A: Result interpretation

Shukr I: Critical analysis and review

Inam S: Drafting of manuscript and proofreading

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