


Original Article
Faculty Readiness for Interprofessional Education at Public Sector University in Pakistan

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ABSTRACT

Interprofessional Education (IPE) promotes collaborative practice and improves patient-centered care. Faculty engagement is critical for implementation; however, evidence from public-sector health sciences universities in Pakistan remains limited. **Objective:** To assess faculty attitudes and readiness toward IPE, compare mean attitude and readiness scores across disciplines and demographic groups, and examine correlations with teaching experience. **Methods:** An observational cross-sectional study was done among 250 faculty members from Medicine, Dentistry, Surgery, Basic Sciences, Nursing, Pharmacy, and Allied Health disciplines. Data were collected using a structured questionnaire including reverse-coded items. Descriptive statistics summarized Likert-scale responses. One-way ANOVA compared mean scores across disciplines and age groups, independent t-tests assessed gender differences, and Pearson's correlation examined associations between attitude, readiness, and teaching experience ($p < 0.05$). **Results:** Over 80% of the participants agreed with items showing that IPE fosters cooperation, communication, and mutual respect among health professionals, while those reverse-coded received agreement levels of $\leq 10\%$. There was a statistically significant difference in the readiness level based on discipline ($p = 0.040$), whereby nursing and medicine had higher mean scores, while pharmacy and basic sciences had lower mean scores. Gender ($p = 0.060$) and age ($p = 0.056$) did not show statistically significant differences. A weak, yet significant correlation was noted between attitude and readiness ($r = 0.279$, $p < 0.001$). Teaching experience correlated moderately and positively with both attitude ($r = 0.622$) and readiness ($r = 0.716$) ($p < 0.001$). **Conclusion:** Faculty demonstrate positive attitudes toward IPE, with disciplinary and experience-related variations influencing readiness.

INTRODUCTION

Health care systems are gradually changing to respond to the complex demands of patients. These changes are mainly driven by increasing patient complexity, epidemiological transitions, rapid technological advancements, and growing expectations related to quality and safety [1]. In the current healthcare

environment, care delivery no longer depends on a single professional's expertise. Instead, it requires coordinated efforts from multiple health professionals working across different disciplines. As healthcare becomes more specialized and increasingly dependent on multiple professionals' collaboration, IPE is now considered

essential for providing safe, efficient, and patient-centered care [2]. Health Professional Education (HPE) at the undergraduate and postgraduate levels is mostly structured as separate disciplines, which leads to limited integration and learning between and within disciplines. This can often lead to avoidable medical errors, service duplications, poor communication, and the power of professional hierarchies [3]. Students from different health sciences disciplines mostly didn't get the chance to study or work collaboratively with other disciplines. Therefore, when they enter clinical settings without knowing the expertise of each discipline, they face many challenges [4]. Challenges may include and not limited to, sharing professional responsibilities, understanding their roles, handling conflicts, and power over each other. This inequality between theory and practice endures great concern in our health care systems. To address the gap, IPE is progressively being identified as an important educational technique that corresponds to health professions training with the realities of team-based practice [5]. From the point of view of the World Health Organization, IPE refers to a process in which two or more professions absorb about, from, and with one another to improve teamwork and health outcomes [1]. IPE is not only a teaching method but also assists in enhancing workforce presentation and strengthening health systems. It aims to expand vital skills required for productive teamwork instead of simply bringing learners together [6]. The achievement of IPE does not rely only on curriculum fashion or capability frameworks. Faculty members play a major role in shaping curricula, facilitating learning, and encouraging change within institutions. Their outlooks and willingness strongly impact how efficiently IPE is implemented. Even well-formed interprofessional actions may not accomplish their planned results if faculty lack confidence, sufficient preparation, or institutional support [7]. Hence, involvement of faculty is a key attribute for the success of IPE, but it is often neglected during the design of the disciplines' curricula [8]. In developed countries, IPE is growing fast, but in low- and middle-income countries (LMICs), the carrying out of IPE faces various further obstacles. Health professions education in these settings often lies discipline-specific, with finite opportunities for shared learning expertise [9]. Usual barriers contain heavy curricula, scheduling restrictions, limited faculty growth opportunities, and the absence of clear supervisory necessities [10]. In Pakistan, IPE is still developing phase. Educational programs in nursing, medicine, pharmacy, and allied health sciences are mostly offered separately, which limits opportunities for structured interprofessional communication during undergraduate education [11]. Even though some measures, such as workshops and

simulation-based activities, have been established, proper regulatory frameworks for IPE are still in the developing phase [12].

Research also identifies that there is limited evidence available regarding the attitudes and readiness of faculty members at the university level for the implementation of IPE in Pakistan. Without the contribution of faculty members, making changes in the curriculum and policies will be difficult. Understanding faculty perspective and their willingness is very important for the success of IPE implementation across the disciplines. Therefore, this study aimed to assess the faculty attitudes and readiness for IPE at Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan.

METHODS

An observational cross-sectional study was conducted at Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro, from November to December 2025. Ethical approval was obtained from the Ethical Review Committee of LUMHS (LUMHS/REC/1225; dated 30th October 2025). The study population comprised full-time teaching faculty members from the Faculties of Medicine, Dentistry, Nursing, Pharmacy, and Allied Health Sciences who were actively involved in undergraduate and/or postgraduate teaching. We included full-time faculty currently engaged in academic teaching responsibilities who are willing to provide informed consent. A total of 250 faculty members were recruited using a convenience sampling technique. Based on previous studies conducted on Interprofessional Education (IPE), the required sample size was determined using a 95% confidence level and a 5% margin of error, resulting in a final sample size of 250 faculty members. For the purpose of data collection, two trained research assistants were assigned under the supervision of the principal investigators (PI) [13]. The questionnaire was filled in hard copy through in-person data collection and also electronically via email, according to the feasibility of the participants and to maximize response rate. An adapted and structured self-administered tool was used for data collection comprised on four sections: section one was of demographic characteristics, section two was based on readiness for Interprofessional Education, assessed using the Readiness for Interprofessional Learning Scale (RIPLS); section three was of faculty attitudes toward IPE, measured using selected items adapted from the Interdisciplinary Education Perception Scale (IEPS) and validated literature; and section four was based on perceived institutional barriers and facilitators to IPE implementation. Responses were then recorded on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). All the personal identifiers were coded

to maintain the privacy and anonymity of the participants. For the data analysis, SPSS version 29.0 was used. Descriptive statistics were calculated as frequencies, percentages, means, and standard deviations and presented in the form of tables and graphs. Independent sample t-tests and one-way analysis of variance (ANOVA) were applied to compare mean attitude and readiness scores across gender, age groups, and academic disciplines. Pearson's correlation coefficient was used to examine the strength and direction of associations between attitude scores, readiness scores, and years of teaching experience. Potential confounding variables, including age, gender, academic discipline, and teaching experience, were examined through stratified group comparisons. Multivariable regression analysis was not performed; therefore, the observed associations were not adjusted simultaneously for potential confounding variables and should be interpreted cautiously. All statistical tests were conducted at a 95% confidence interval. However, multivariable regression analysis was not done; therefore, adjusted estimates controlling for multiple confounders simultaneously were not calculated. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 250 full-time faculty members participated in the study. Table 1 presents the demographic characteristics of the participants.

Table 1: Demographic Characteristics of the Participants (n=250)

Variables	Category	n (%)
Age Group (years)	Male	108 (43.2%)
	Female	142 (56.8%)
Faculty / Discipline	<30	30 (12.0%)
	30-39	85 (34.0%)
	40-49	90 (36.0%)
	≥50	45 (18.0%)
Academic Rank	Medicine	50 (20.0%)
	Dentistry	50 (20.0%)
	Surgery	30 (12.0%)
	Basic Sciences	66 (26.4%)
	Nursing	12 (4.8%)
	Pharmacy	12 (4.8%)
Teaching Experience (years)	Allied Health Sciences	30 (12.0%)
	Lecturer	95 (38.0%)
	Assistant Professor	65 (26.0%)
	Associate Professor	55 (22.0%)
	Professor	35 (14.0%)
	≤5	48 (19.2%)
	6-10	72 (28.8%)
	11-15	65 (26.0%)
	>15	65 (26.0%)

Prior IPE Exposure	Yes	140 (56.0%)
	No	110 (44.0%)

A total of 70% of respondents agreed or strongly agreed that they understood the objectives and expected outcomes of Interprofessional Education. Similarly, 64% reported readiness to collaborate with other departments, and 60% expressed confidence in facilitating interprofessional discussions (Figure 1).

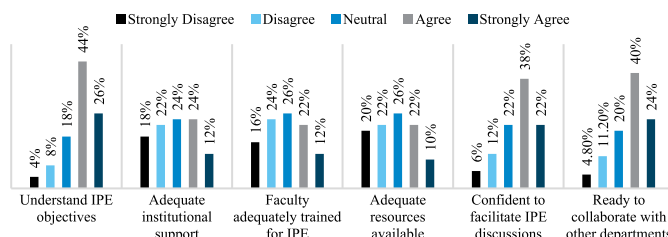


Figure 1: Readiness of Faculty for Interprofessional Education Implementation

A total of 82% agreed or strongly agreed that shared learning promotes positive perceptions of other health professions, while 88% agreed that respect and trust are essential for effective small-group learning (Figure 2).

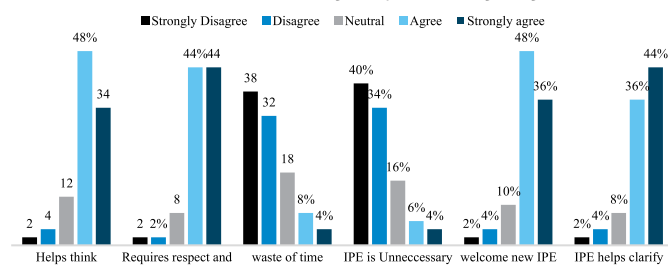


Figure 2: Attitudes of Faculty Toward Interprofessional Education Implementation

The reported institutional barriers and facilitators to IPE implementation. The most frequently reported barriers were lack of protected time (68.0%) (Table 2).

Table 2: Reported Barriers and Facilitators to Interprofessional Education Implementation (n=250)

Factors	n (%)
Barriers	
Lack of Protected Time for IPE Activities	170 (68.0%)
Scheduling Conflicts Across Departments	156 (62.4%)
Limited Faculty Training for IPE	148 (59.2%)
Inadequate Administrative Support	139 (55.6%)
Limited Resources and Infrastructure	132 (52.8%)
Isolated Undergraduate Curricula Across Disciplines (Medical, Nursing, Allied)	160 (64.0%)
Facilitators	
Positive Faculty Attitude Toward IPE	197 (78.8%)
Institutional Leadership Support	176 (70.4%)
Availability Of Faculty Development Programs	185 (74.0%)
Willingness For Interdepartmental Collaboration	168 (67.2%)
Supportive Learning Environment	160 (64.0%)

The mean attitude and readiness scores were analyzed among the academic disciplines, gender, and age groups. The one-way ANOVA test revealed that there was a significant difference among the readiness scores of the disciplines ($p=0.040$). No statistically significant differences were found between the ages with regard to attitude or readiness ($p>0.050$). Gender was compared using an independent sample t-test, and it also revealed no significant differences in both the scores of attitudes and readiness ($p=0.056$) (Table 3).

Table 3: Comparison of Mean Attitude and Readiness Scores Across Disciplines, Gender, and Age Groups ($n=250$)

Variables	Attitude Mean ± SD	Readiness Mean ± SD	p-value
Discipline			
Medicine & Allied	4.12 ± 0.54	3.98 ± 0.61	0.040**
Surgery & Allied	3.89 ± 0.60	3.72 ± 0.66	
Basic Sciences	3.85 ± 0.58	3.68 ± 0.63	
Nursing Sciences	4.20 ± 0.50	4.05 ± 0.56	
Pharmacy	3.78 ± 0.62	3.60 ± 0.69	
Gender			
Male	3.96 ± 0.59	3.78 ± 0.64	0.060
Female	4.05 ± 0.56	3.86 ± 0.62	
Age Group (years)			
<30	4.02 ± 0.55	3.82 ± 0.60	0.056
30–39	4.08 ± 0.56	3.90 ± 0.61	
40–49	3.98 ± 0.58	3.79 ± 0.65	
≥50	3.95 ± 0.60	3.74 ± 0.68	

A weak but statistically significant positive correlation was observed between attitude and readiness scores ($r=0.279$, $p<0.001$) (Table 4).

Table 4: Relationship Between Faculty Attitude, Readiness for IPE, and the years of experience

Correlations		Attitude Score	Readiness Score	Years of Experiences
Attitude Score	Pearson Correlation	1	0.279**	0.622**
	Sig. (2-tailed)	—	<0.001	<0.001
	N	250	250	250
Readiness Score	Pearson Correlation	0.279**	1	0.716**
	Sig. (2-tailed)	<0.001	—	<0.001
	N	250	250	250
Years of Experience	Pearson Correlation	0.622**	0.716**	1
	Sig. (2-tailed)	<0.001	<0.001	—
	N	250	250	250

**Correlation is significant at the 0.010 level (2-tailed)

DISCUSSION

The present study assessed faculty attitudes and readiness toward Interprofessional Education (IPE) across health disciplines in a public-sector university in Pakistan. The demographic profile showed a mean age of 41.8 ± 8.6 years, with a greater proportion of female participants. However, the observed gender distribution should be

interpreted in the context of the study sample and does not necessarily indicate greater engagement with IPE among female faculty [10]. This similarity implies that the sample mirrors the usual inclination in HPE. Faculty stated strong positive attitudes for introducing IPE; over 80% agreed that shared learning improves relationships, communication, and mutual respect across health professionals. This can lead to improved health care outcomes. Minimal agreement with reverse-coded statements ($\leq 10\%$) further confirms positive attitudes. These findings are consistent with evidence indicating that IPE can improve attitudes toward interprofessional collaboration, mutual respect, and interprofessional knowledge among healthcare professionals [11, 12]. Despite favorable attitudes, a clear gap was observed between conceptual understanding and readiness for the implementation of IPE. A large proportion of faculty reported understanding IPE objectives and expressed willingness to collaborate across disciplines, and stated that there is strong leadership and administration support for IPE. This is contradicted by the findings of another study in which inadequate administration support was indicated as a barrier for the implementation of IPE [7]. However, separate curricula, conducting conferences and workshops in silos, availability of protected time, and limited institutional resources were reported as the barriers to the implementation of IPE. These findings align with regional evidence indicating that barriers to IPE implementation in LMICs are primarily structural, including limited faculty development and competing curricular demands [14]. There was a statistically significant difference between faculty readiness scores across the disciplines, highlighting the importance of curricular dynamics and professional training across the disciplines in the university. Nursing, medicine, and allied sciences demonstrated higher readiness, whereas pharmacy and basic sciences showed lower readiness. This pattern is consistent with other studies concluded that disciplines engaged during the clinical environment recognize IPE as more relevant to practice [15]. In contrast, lower readiness in foundational disciplines may be linked to limited interprofessional exposure and stronger discipline-specific identities like basic science and pharmacy. Additionally, professional cultures, power dynamics, and territorial behaviors can hinder collaboration and communication [16, 17]. These findings highlight the need for discipline-sensitive IPE strategies with targeted capacity-building for the unready population for the successful integration of IPE. Furthermore, there were no statistically significant differences that were observed in attitude or readiness by gender, suggesting that engagement with IPE is influenced more by professional

role and exposure rather than demographic factors. A positive correlation between attitude and readiness indicates that faculty with favorable perceptions are more prepared to support IPE implementation, consistent with previous findings [18]. Additionally, teaching experience was positively associated with both attitude and readiness, implying that more experienced faculty may possess greater confidence, institutional understanding, and openness toward interprofessional approaches. Similar associations have been reported in the literature linking experience with stronger readiness for interdisciplinary education [13]. Beyond individual readiness, faculty perceptions also pointed to a broader institutional barrier: academic and professional development activities often remain organized along discipline-specific lines, which unintentionally reinforce silos and limit authentic interprofessional engagement [19, 20]. Additionally, heavy clinical workloads and limited protected academic time, particularly among clinical faculty, can restrict participation in collaborative teaching and scholarly forums. These institutional realities align with the broader implementation literature emphasizing that sustainable IPE requires organizational restructuring, leadership endorsement, and enabling conditions (time, resources, and faculty development) rather than reliance on goodwill alone [7, 14].

The limitations of this study include its single-institution setting, convenience sampling, cross-sectional design, reliance on self-reported data, and absence of multivariable regression analysis. The single-institution and convenience-sampling approach may limit generalizability, while the cross-sectional design prevents assessment of changes over time and causal relationships. Self-reported responses may be subject to response and social desirability bias, and the lack of multivariable adjustment means that observed associations, particularly with teaching experience, may be affected by residual confounding. Further multicenter and longitudinal studies using representative sampling and adjusted analyses are warranted.

CONCLUSIONS

Faculty at the studied public-sector university demonstrated generally favorable attitudes toward Interprofessional Education, although readiness varied across academic disciplines. Limited curriculum integration, faculty training, protected time, and institutional resources were identified as important barriers to implementation. Given the cross-sectional design, convenience sampling, single-institution setting, self-reported data, and lack of multivariable adjustment, these findings should be interpreted cautiously and may not be generalizable beyond similar settings. Multicenter

and longitudinal studies using more representative sampling and adjusted analyses are recommended to further evaluate faculty readiness and the implementation of IPE.

Authors' Contribution

Conceptualization: NN

Methodology: FS, RA, HAB

Formal analysis: NN, FS, MN, ZAQ, AAA, MRS

Writing and Drafting: MN, ZAQ

Review and Editing: NN, FS, RA, HAB, MN, ZAQ, AAA, MRS

All authors approved the final manuscript and take responsibility for the integrity of the work

Conflict of Interest

All the authors declare no conflict of interest.

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