

INTERPROFESSIONAL COLLABORATION AMONG HEALTHCARE PROVIDER ITS IMPACT ON PATIENT OUTCOME, PEOPLES MEDICAL COLLEGE HOSPITAL NAWABSHAH, SINDH, PAKISTAN

Shakeela Areejo^{*1}, Quratulain Rajper², Abdul Karim Bhiyoon³, Rukhsana Shar⁴, Fatima Lund⁵

^{*1,2,4,5}GBSN, College of Nursing Female Nawabshah, Affiliated People's University of Medical & Health Sciences for Women Shaheed Benazirabad

³Senior Nursing Lecturer, College of Nursing, Female Mirpurkhas, Affiliated People's University of Medical & Health Sciences for Women Shaheed.

¹shakeelaareejo530@gmail.com, ²quratulainpmcbatch@gmail.com, ³abdulkarimbhiyoon@gmail.com, ⁴rukhasanasabira@gmail.com, ⁵fatimabaloch628@gmail.com

DOI: <https://doi.org/10.5281/zenodo.18949950>

Keywords

Collaboration, interpersonal, Healthcare provider, professional, Patient outcome, Quality of care.

Article History

Received: 11 January 2026

Accepted: 24 February 2026

Published: 11 March 2026

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Corresponding Author: *

Shakeela Areejo

Abstract

Background: Interprofessional collaboration (IPC) among health care providers is a essential component for effective, safe & high quality of care for the patient, communities' families & client care it is complex and dynamic health systems, no single professional group can meet all patient needs alone. Collaboration between nurses, physicians, pharmacists, and other allied health professionals enhances communication, strengthens decision-making, and improves the overall quality and safety of patient care. However, many health care settings still face challenges such as unclear professional roles, poor communication, and lack of teamwork, which can negatively affect patient outcomes.

Objective: To determine the interprofessional collaboration among healthcare provider & its impact on patient outcome and overall quality of care at PMC Hospital Shaheed Benazirabad.

Methodology: This study was descriptive cross-sectional conducted at People Medical Collage Hospital Nawabshah in this study purposive sampling was used in which 61 nurses ,61 doctor & 61 paramedic were include conducted among 300 healthcare personal.

Results: The results showed that from 183 the participants' female(54.10%) & male ((45.90%),& those who had recieved IPC training (51.91%) &(48.09%) not received Moreover 36%of the participants were affilaited with the medical ward neraly half (50%) reported having more than six month clinical experience the result srevealed that considerable majority of respondents (approximately 74% to 87 %) percieved that effective collaboration among health professionals significantly contribute to improved teamwork, client satisfication clear role identification ,reduce medical error ,effective communication ,mutual understanding ,decision making ability ,fastory recovery & discharge of clients statistical analysis further revealed a significant association ariable p=.05.

Conclusion: This study highlights strong collaboration among healthcare provider enhance patient outcome by improving communication, ensure patient satisfactions reduce the medical error support the treatment planning encourage

interpersonal training creative support work environment are key strategies to strength collaboration & ensure high quality, patient centered care.

Introduction: Interprofessional collaboration (IPC) happens when a mixture of healthcare professionals from various fields gives out their services using to work with patients, their families, and the process by which professionals from different health professions to work together for the patient's benefit positively. (1,2 ,3) Further, raising shortage of skilled workers and the fall in healthcare and community settlement complexities have made it necessary for many health systems. In such cases, IPC was included in the effectiveness of IPC. (2 ,3) The hospitals which reported IPC as an effect of their interventions had benefits such as increased quality of care, better care continuity, and improved patient satisfaction. (4,5) Moreover, the healthcare team was well-organized and professionals were more satisfied with their jobs than before. (6) The interprofessional interventions and their outcomes. Interprofessional collaboration (IPC) between health professionals contributes to improved patient outcomes, efficiency gains, and even increased job satisfaction. (7,8) Interprofessional education (IPE) program increasingly promotes IPC where students from different health professions learn from, with, and about each other to foster collaboration and improve the quality of care. (9,10) The significance of IPC for improvements in healthcare is emphasized high performing care, describing IPC as essential for team-based and coordination of care Interpersonal collaboration is the fundamental tool for the providing the quality of care (11). The interpersonal communication is a basic and effective tool for providing care basically the IPC is the exchange of ideas, views, emotions, and understanding through verbal and non-verbal means via it communicate with each other and with the patient.(12) Interpersonal collaboration is the fundamental tool for the providing the quality of care for the IPC the interpersonal communication is basic and effective tool for providing care basically the IPC is the exchange of idea ,views emotion and understand through verbal & nonverbal via it

communicate with each other &with patient enable patient to participate comprehend their health condition &actively participate in their care easily effective interpersonal communication is essential because the it enhance patient satisfactions(13,14,15) There are various reasons why IPC is an essential part of healthcare, and these include: There are various reasons why IPC is an essential part of healthcare, and these include: First, IPC is very helpful since it augments patient satisfaction and treatment. (16,17). Additionally, there are various factors that act as barriers to having successful IPC, and these include physician dilemma that states that doctors are unable to share responsibilities due to loss of power and status Due to this dilemma, IPE programs are supposed to reduce hierarchy and enhance shared care and responsibility of various professions in the field of healthcare for the purpose of IPC and improving patient healthcare. (18,19).

Material & Methods This study was cross sectional study, which is conducted from November 2025 to January 2026 at the tertiary care hospital at Nawabshah (SBA). The non-probability purposive sampling technique was used. The sample size was determined using the Rao-soft sample size calculator at a 95% confidence level, 5% margin of error, 50% response distribution, and a target population of 350 health care provider The required sample size was calculated as 183 health care providers.

Inclusion criteria

- 1) Those currently working in the selected tertiary care hospital.
- 2) Professionals with at least six months of continuous clinical experience in their respective roles
- 3) Members of the multidisciplinary healthcare teams including physicians, nurses, paramedical & laboratory technologists
- 4) Individual that directly involve in patient management & care delivery

3) Those that willing to participate & gives inform consent

Exclusion criteria

- 1) Personal performing non-clinical or administrative duties without involvement in direct patient care
- 2) Healthcare worker with less than six month of clinical experience
- 3) Undergraduate students, interns, trainees are not allowed
- 4) Individual who were unavailable during data collection.

Tools for Data Collection: A structured questionnaire was used in this study, which is based on the care of client by healthcare professional it consists of 16 questions to check how much a client satisfaction depends on healthcare professionals. Each question is rated from 1 (strongly disagree) to 5 (strongly agree). The total score ranges from 89 (46.6%) and 53(28%) and a score of 89 or above shows that collaboration among health personals enhance client satisfaction. The questionnaire was

personally distributed to healthcare provider during duty at hospital. The purpose of the study was explained, and written consent was taken. Health care provider were filled the questionnaires on the spot. Written informed consent was obtained from each health care provider prior to participation. The HCP were instructed to complete the questionnaires on the spot to ensure completeness and accuracy of responses. The researcher also assured the participants that all information provided would remain strictly confidential and would be used for the purposes of this research study. Data was analyzed using basic descriptive statistics: Frequencies and percentages were calculated for demographic variables. the variable was analyzed by using frequency, mean & standard deviation & for categorical variable frequency & percentage were calculated and for association among variable chi square was computed use to find out (frequency, percentage standard deviation and also chi square test and correlation analysis may also use find out relationship between HealthCare provider and impact on patient outcome. ($p = \leq .05$) somewhere were not significant.

Result:

Table no.1: Demographic information:

Ser.	Item	Frequency (percentage)
1	Distribution of age of subject Minimum age Maximum age Mean S.D	20 58 24.1927 5.9093
2	Year of experience More than one year 1 to 5 year 6 to 10 year More than 10 years	90(49%) 65 (36%) 20 (11.0%) 7 (3%)
3	Department of subject Medical Surgical Intensive care unit Emergency OPD Other	66 (36.1%) 34 (18.6%) 12(6.6) 18(9.8%) 17(9.3%) 36(19.7)

4	<p>Average participants received training of interprofessional collaboration</p> <p>Received training No received training</p>	<p>(48.09%) (51.91%)</p>
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Table no.01 showed demographic data of the study participant. Age of subject was observed minimum age 20, maximum age 58, mean, 27.26 and S.D 5.9093 In Year of experience more than one year involved 66(36.1%) 1 to 5 year experience, 65(36%) 6 to 10 year experience 20(11%) & more than 10 year experience 12 (6%)

regarding the department of participant 66 (36.1%) from medical ,34 (18.6%),from surgical 12 (6.6%) from ICU 18(9.8%) from emergency 17 (9.3%) & 36 (19.7%) from other department of hospital of SBA. The participant who received training of interprofessional collaboration about (48.9%) while (51.91%) not received training.

Table; no 02: Profession of subject compared with Section B .

Sno;	Item	1 strongly disagree	2 disagree	3 Neutral	4 agree	5 Strongly agree	P value
1	I feel comfortable during communication with other health care provider	14 (7.65)	13 (7.10)	15 (8.20)	89 (48.63)	52 (28.42)	.014
2	Collaboration among health care team improves the decision making ability	10 (5.46)	6 (3.28)	18 (9.84)	78 (42.62)	70 (38.25)	.023
3	Mutual understanding and respect seen among healthcare	13 (7.10)	4 (2.19)	43 (23.50)	73 (39.89)	50 (27.32)	.030
4	Effective management encourage interprofessional collaboration	7 (3.83)	10 (5.46)	23 (6.56)	89 (48.63)	54 (29.51)	.001
5	Poor communication major barrier of collaboration	12 (6.56)	14 (7.65)	28 (15.30)	70 (38.25)	59 (32.24)	.04

Item no: 1 majority of participant were agree 89 (48.63), strongly agree 52 (28.42) & some neutral

15 (8.20) conversely few strongly disagree 14 (7.65) disagree 13(7.10) with I feel comfortable during

communication with other health care provider there is significant association ($p=.014$)

Item no 2: Further some were reacted agree 78 (42.62) strongly agree 70 (38.25) while remaining neutral 18 (9.84) strongly disagree 10 (5.46) & disagree 6 (3.28) with Collaboration among health care team improves the decision making ability there was significant association between ($p=0.023$)

Item no:3 greater part of responded agree 73 (39.89) strongly agree 50 (27.32) while remaining were represent neutral 43 (23.50) strongly disagree 13 (7.10) disagree 4 (2.19) to the Mutual understanding and respect seen among

healthcare, there was significant association between, ($p=.030$)

Item no 4: major portion were reacted agree 89 (48.63), strongly agree 54 (29.51) some neutral 23 (6.56) conversely underrepresented disagree 10 (5.46) strongly disagree 7 (3.83) with Effective management encourage interprofessional collaboration there was statistically significant association among it profession of subject ($p=.001$)

Item no 5: majority were agreement 70 (38.25), strongly agree 59 (32.24) while remaining were responded neutral 28 (15.30) disagree 14 (7.65) strongly disagree 12 (6.56) with Poor communication major barrier of collaboration, there were strong association between it & profession of sample ($p=.04$)

Table; no 3: Profession of subject compared with Section C .

S.no;	Item	1 strongly disagree	2 disagree	3 Neutral	4 agree	5 Strongly agree	P value
1	Interprofessional collaboration reduces medical error	9 (4.91)	11 (6.01)	27 (14.75)	83 (45.35)	54 (29.50)	.035
2	Working together increase patient satisfaction	7 (3.82)	4 (3.18)	14 (7.65)	77 (42.07)	81 (44.26)	.001
3	Poor communication negatively impact on the patient outcome	4 (3.18)	8 (4.37)	15 (8.19)	74 (40.43)	79 (43.16)	.034
4	Team work improve the overall quality of care	9 (4.91)	6 (3.27)	9 (4.91)	72 (39.34)	87 (47.54)	.251
5	Collaboration contributes to faster recovery and discharge	7 (3.82)	4 (3.18)	13 (7.10)	73 (39.89)	87 (47.54)	.045

Item no:1 Most participants agreed, 83 (45.35%) strongly agreeing and 54 (29.50%) The number of those who reported neutral 27 (14.75), was small disagreed 11 (6.01) & strongly disagree 9 (4.91) However, this relationship was statistically significant ($p = .035$).

Item no 2: Regarding patient satisfaction, most participants believed that collaboration increases patient satisfaction. 77 (42.07%) agreed and 81 (44.26%) strongly agreed while lesser part were report neutral very few number strongly disagree 7 (3.82) disagree 4 (3.18) respectively this result was strongly statistically significant ($p = .001$).

Item no 3: Regarding the statement that poor communication negatively impacts patient outcomes, the majority agreed, 74 (40.43%) strongly agreeing 79 (43.16%). Although only 15 (8.19) neutral this indicates less part disagreement 8(4.37) strongly disagree4 (3.18) among participants, this relationship was also statistically significant ($p = .034$).

Item no 4: most participants agreed that teamwork improves the overall quality of care,

with and 87 (47.54%) strongly agreeing 72 (39.34%) agreeing. There were very few had negative opinions strongly disagree9 (4.91), disagree 6 (3.27) there was significant association between ($p=.251$)

Item no 5:, the majority, with 73 (39.89%) agree and 87 (47.54%) strongly agree. Further but lesser part argued neutral 13 (7.10) strongly disagree7 (3.82), disagree 4 (3.18) this result was also found to be statistically significant ($p = .045$)

Table no .04: Experience of subject Section; B

S.No	Item	1 strongly disagree	2 disagree	3 Neutral	4 agree	5 Strongly agree	P value
1	I feel comfortable during communication with other health care provider	14 (7.65%)	13 (7.10%)	15 (8.19%)	89 (48.63%)	52 (28.43%)	.031
2	Collaboration among health care team improves the decision making ability	11 (6.01%)	6 (3.27%)	18 (9.83%)	78 (42.62%)	70 (38.25%)	.002
3	Mutual understanding and respect seen among healthcare	13 (7.10%)	4 (2.18%)	43 (23.49%)	73 (39.89%)	50 (27.32%)	.775
4	Effective management encourage interprofessional collaboration	7 (3.82%)	10 (5.46%)	23 (12.56%)	89 (48.63%)	54 (29.50%)	.003
5	Poor communication major barrier of collaboration	12 (6.55%)	14 (7.65%)	28 (15.30%)	70 (38.25%)	59 (32.24%)	.007

Item no: 1 Much greater response were agreed, strongly agreed while very few neutral 15 (8.19%), strongly disagree, disagree 13 (7.10%) with the item 1 there was strong association between the ($p=.031$)

In item 2: majority of participates were agreed 78 (42.62%) strongly agreed70 (38.25%) while as

much lesser responded neutral 18 (9.83%) strongly disagree 11 (6.01%) disagree 6 (3.27%) there was strong association between ($p=.002$).

In item 3: vast responded agree 73(39.89) strongly agree some neutral 43 (23.49%) while slighter

strongly disagree 13 (7.10%), disagree with it there is no significant association between ($p=.775$)

In Item 4: huge acted upon the agreement 89 (48.63%), strongly agree 54 (29.50%) remaining negative perception few neutral 23 (12.56%) much lesser disagree 10 (5.46%)strongly disagree 7 (3.82%) There was no strong association ($p=.003$)

Item no 5: however, the majority, of participants acknowledged via agree 70 (38.25%), strongly agree 59 (32.24%) small proportion of participants either neutral 28 (15.30%) strongly disagreed 12 (6.55%) disagreed 14(7.65%) with this statement, the observed difference was statistically significant association between poor communication and reduced collaborative practice ($p=.007$)

Table No.5 Experience of subject compared Section C;

Sno;	Item	1 strongly disagree	2 disagree	3 Neutral	4 agree	5 Strongly agree	P value
1	Interprofessional collaboration reduces medical error	9 (4.91)	11 (6.01)	27 (14.75)	82 (44.80)	52 (28.41)	.029
2	Working together increase patient satisfaction	7 (3.82)	4 (2.18)	14 (7.65)	77 (42.0)	81 (44.26)	.041
3	Poor communication negatively impact on the patient outcome	7 (3.82)	8 (4.37)	15 (8.19)	74 (40.43)	79 (43.16)	.597
4	Team work improve the overall quality of care	9 (4.91)	6 (3.27)	9 (4.91)	72 (39.34)	87 (47.54)	.045
5	Collaboration contributes to faster recovery and discharge	7 (3.82)	3 (1.63)	13 (7.10)	73 (39.89)	87 (47.54)	.001

Item no 1: Most participants agreed that interprofessional collaboration reduces medical errors agree 82 (44.80%), strongly agree 52 (28.41%), while few strongly disagreed 9 (4.91%), disagreed 11 (6.01%) neutral 27(14.75%) were neutral. The difference was not statistically significant ($p = .029$).

Item 2: Most participants agreed 77 (42.0%) strongly agree 81 (44.26%), while few disagreed 4 (2.18%), strongly disagreed 7 (3.82%), and 7.65% were neutral. There was strong association ($p = .041$).

Items no 3: he majority of participants strongly agreed (43.16%) agreed (40.43%) that poor communication negatively affects patient outcomes. Fewer participants were neutral

(8.19%), disagreed (4.37%), or strongly disagreed (3.82%). The difference was not statistically significant ($p = .597$).

Item no 4: the majority of participants indicated strong agreement (47.54%) agreement (39.34%) Smaller proportions reported neutrality (4.91%), disagreement (3.27%), or strong disagreement (4.91%). The differences were statistically significant ($p = .045$).

Item no: 5 most participants strongly agreed (47.54%) or agreed (39.89%) that collaboration helps patients recover faster and leave the hospital sooner. Fewer participants were neutral (7.10%), disagreed (1.64%), or strongly disagreed (3.82%).

The differences was strong statistically significant ($p = .001$).

Discussion

This study descriptive, cross-sectional study which is conducted from November 2025 to December 2026 at People Medical Collage Hospital Nawabshah, the aim of this study is seen IPC among HCP its impact on patient outcome in this study total 183sample size the purposive sampling was used HCP were equally distributed doctor, nurses were para medics. The current study investigated identified comfortableness during communication and working together is essential to enhance understand ,building trust and supportive environment the most of the perception of respondent expressed positive perception 46.6% the statically significant $p=.034$ consist with pervious study Stewart at.el who revealed that effective collaborative interprofessional communication reduce the misunderstanding & patient dissatisfaction & showed the importance of clear & confident during communication (9,10,20,21) ,contrary to earlier finding by Dano R,A at.el 2025 nearly 45% Were dissatisfied with collaboration between nurse and practitioner despite willness to improve communication but unable due to lack of time & resources in critical care setting.(11,22,23). The current study revealed that effective management encourage the IPC majority of participant were 48.63% reveled the positive response about effective collaboration while compared with previous study not fully aligned that 43.4% of the respondent had ineffective collaboration during professional activities, nurse-physician collaboration was less than expected thus, the large number of participants had ineffective collaborations(15,26,27) also aligned with Pillar Espinoza l at.el showed that team climate was the strongest predicator of team satisfaction highlight the clear roles ,participation ,communication and transformational leadership are key for effective teamwork & staff wellbeing (19,28,29). In current study 48.63% of respondent who received training about IPC feel confident & comfortable compared with previous line that also showed that that 85.2% of students expressed that IPE played

a role in promoting their interprofessional identity and collaboration attitudes.(21,30) Additionally, findings of current study interprofessional collaboration, communication skills, teamwork attitudes, and mutual respect are consistent with prior research by Joseph A. Zorek at.el demonstrating that structured interprofessional learning experiences improve teamwork behaviors and respect among healthcare professionals. Moreover, enhanced interprofessional communication contributes to more effective team functioning and improved coordination of patient care. (22,31). The Current study, participants' comfort during communication with other healthcare providers was an important factor in effective collaboration. This aligns with findings from the PLOS ONE study, where pharmacists tailored their communication according to the situation, highlighting that interpersonal ease allows professionals to interact more openly and adaptively. Interpersonal collaboration and teamwork were also found to improve working relationships, shared decision-making, and overall care quality. Consist with, PLOS ONE emphasized that structured referral processes and awareness of each professional's role enhance teamwork, reduce errors, and support coordinated care. (23,24, 25) Current study revealed that working together increase patient satisfaction & faster recovery & discharge also related previous study The IPC intervention study showed that trained providers communicated more effectively, using practices that enhanced communication. As a result, patients responded by disclosing more medical information and communicating more openly, which led to higher patient satisfaction ratings for providers who had received training. This demonstrates a clear link between effective communication and improved patient perceptions of care.(26) Current present research identified that 38.25 were perceived that poor communication is major barrier of effective collaboration & it 40.43% demonstrated that poor communication negative impact on patient outcome $p=0.09$ in line with existing study by Aunger at. el 2025 highlight that unprofessional behavior such as bullying inciviling among healthcare provider Significantly threaten patient

safety & quality of care ,may also reduce staff performance ,increase medical error both studies showed that poor communication directly compromised patient care & satisfaction (27,31) In current study 47.54% demonstrated that the collaboration increase faster recovery & discharge compared with John S Makary at.el stated that professionalism and interpersonal skill are fundamental effective medical care. Professionalism encompasses adherence to ethical standards, respect for patient autonomy, and a commitment to continuous improvement. and teamwork, are crucial for fostering positive patient interactions and enhancing clinical outcomes the relationship between professionalism, interpersonal skills, and their impact on patient care, clinical outcomes, and client well-being.(28,29,30). When healthcare teams collaborate effectively, medical errors are reduced, patient satisfaction increases, and the overall quality of care improves. Good teamwork also supports better patient education, which helps patients recover faster and allows earlier discharge. Overall, strong collaboration and communication are essential for better patient outcomes and quality of care. (31,32,33)

Conclusion:

This study concluded effective collaboration among healthcare professionals is necessary to improve patient outcomes, care quality, and patient satisfaction. The results demonstrate that effective teamwork and clear communication lower medical errors and improve continuity of care. The study also identifies a number of problems that impede collaborative practice, including organizational barriers, unclear roles, poor communication, and an overwhelming workload.

Recommendation:

Healthcare organization should develop a supportive environment that promote open, confident & effective communication among health professional, implementation of healthcare program, workshop simulation based training is recommended to enhance collaboration among professional enabling staff to express opinion, ask

question & share concern without fear of judgment or disrespect & negative consequences..

Funding: Self.

Conflict of Interest: No any.

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