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Original Article

NURSES' PERSPECTIVES ON INTERDISCIPLINARY COLLABORATION AND ITS IMPACT ON PATIENT CARE IN HOSPITALS

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Abstract

Background: Interdisciplinary collaboration (IPC) is widely recognized as a cornerstone of high-quality healthcare delivery, contributing to improved patient outcomes, safety, and system efficiency. Nurses play a pivotal role in interdisciplinary teams due to their continuous patient contact and involvement in care coordination. This study aimed to assess nurses' perspectives on interdisciplinary collaboration and its perceived impact on patient care outcomes in public and semi-autonomous hospitals in Khyber Pakhtunkhwa (KP), Pakistan.

Methodology: A cross-sectional descriptive design was employed, involving 256 registered nurses working in inpatient settings. Data were collected using a structured, self-administered questionnaire, including a modified Nurse–Physician Collaboration Scale assessing communication, mutual respect, role clarity, shared decision-making, and coordination of care. Descriptive statistics and inferential analysis were performed using SPSS.

Results: The findings revealed moderate to high levels of perceived interdisciplinary collaboration, with higher mean scores for communication and mutual respect, and comparatively lower scores for shared decision-making and role clarity, indicating the presence of hierarchical barriers. Most nurses perceived IPC as having a positive impact on patient care, including improvements in quality of care, patient safety, continuity of care, and reduction of medical errors. A statistically significant association was observed between overall collaboration scores and perceived quality of care and patient safety ($p < 0.05$). Despite positive perceptions, challenges such as limited involvement in decision-making and role ambiguity were evident.

Conclusion: The study concludes that strengthening interdisciplinary collaboration through inter-professional education, role clarification, and inclusive decision-making processes may enhance patient outcomes and teamwork effectiveness in hospital settings. These findings provide valuable insights for healthcare policymakers and administrators seeking to improve collaborative practice in Pakistan's healthcare system.

Keywords: Nurses, collaboration, patient care, quality care, patient outcome

Introduction

Interprofessional collaboration (IPC) is a communication method where in two or more healthcare professionals exchange knowledge through dialogue and offer their best care for patients, their families, and health organizations [1]. One As a result, IPC is a cooperative partnership in the healthcare industry that is in charge of providing patients with high-quality care based on their needs [2]. The World Health Organization (WHO) recognizes IPC in education and practice as a special approach to health care that will also assist alleviate the global labor shortage in this field [3].

Health systems and the quality of care are both improved by collaborative practice. While some therapeutic actions and assessment procedures are carried out individually by health professionals, management goals—more especially, long-term goals—are set jointly [4]. In accordance with the demands of the patient, all team members cooperate and communicate. Additionally, IPC improves patient satisfaction, reduces medical errors, and raises the standard of healthcare [5].

In order to accomplish common objectives in patient care, interdisciplinary collaboration in healthcare refers to coordinated effort among several professional groups, including nurses, doctors, pharmacists, and allied health workers [6]. It is commonly acknowledged that high-quality healthcare delivery requires effective teamwork, which enhances patient safety, treatment results, and system efficiency. Because of their ongoing interactions with patients and participation in care coordination, nurses are essential members of interdisciplinary teams [7]. Nurses prevent medical errors, improve communication, and contribute to integrated care planning through organized collaboration. Care delivery is more in line with patients' complicated requirements when many disciplines are involved in routine clinical decision-making, particularly in acute and tertiary care settings where fragmentation is a significant concern [8].

In recent years, the rise of complex and chronic health disorders has highlighted the need for effective healthcare teams and collaboration across hospital, community, and allied health settings [9]. Assessing the effectiveness of interprofessional collaboration (IPC) involves evaluating healthcare professionals' attitudes and the barriers they face. Professionals' views of their own and others' disciplines can impact their willingness to collaborate, influencing

behavior and perceptions [10]. Successful IPC relies on trust, communication, shared management goals, understanding power dynamics in decision-making, and supportive organizational structures, while numerous barriers can negatively affect patient care and health organizations [11].

Interdisciplinary collaboration in healthcare is essential but faces challenges like communication gaps and role ambiguity, especially in resource-constrained systems like Pakistan [12]. A study in Khyber Pukhtankhwa revealed varying perceptions of nurse-physician collaboration influenced by demographics, highlighting a need for improvement. Additionally, while structured inter-professional education (IPE) shows promise in enhancing collaborative attitudes, its implementation in Pakistan is still limited [13]. The nursing staff in the current study identified role and leadership ambiguity as the main obstacle to inter-professional collaboration (IPC). Similarly, at Sheikh Zayed Hospital in Lahore, a lack of understanding of the nursing profession by other healthcare professionals and job stress were major barriers [14]. Among operating room healthcare professionals, differing perceptions and responsibilities contributed to these issues [15]. Furthermore, regulatory and medico-legal barriers as well as professional cultures were highlighted as significant impediments to effective teamwork. Recognizing the educational, systemic, and interpersonal factors influencing cultural differences can guide the creation of better educational strategies to improve IPC [16]. Research reveals a scarcity of studies on nurses' lived experiences of interdisciplinary collaboration in hospital settings, particularly regarding factors that influence collaboration and its implications for practice. This lack of understanding hinders insights into how nurses engage with collaborative practices in clinical environments. Given nurses' essential role in patient care and the importance of interdisciplinary collaboration for patient and workforce outcomes, there is a pressing need to examine nurses' experiences in Pakistan's hospital systems. This research seeks to address this gap by exploring nurses' perceptions of interdisciplinary collaboration, identifying barriers and facilitators, and suggesting opportunities for policy and practice enhancements.

Methodology

Study Design

A cross-sectional descriptive study design was employed to assess nurses’ perspectives on interdisciplinary collaboration and its perceived impact on patient care. This design was

appropriate for capturing current perceptions and experiences of nurses at a single point in time. The study was conducted in public and semi-autonomous hospitals located in Khyber Pakhtunkhwa (KP), Pakistan. These hospitals provide secondary and tertiary level healthcare services and employ multidisciplinary healthcare teams, making them suitable for exploring interdisciplinary collaboration.

Registered nurses employed in inpatient hospital settings, such as medical, surgical, emergency, and critical care units, made up the study population. The study's inclusion criteria included being a registered nurse with a valid nursing registration, having at least six months of clinical experience, being directly involved in patient care, and being willing to participate in the study. The study did not include nurses who were on long-term leave during data collection, nurses in solely administrative or management roles, or nursing students and interns.

A total sample size of 256 nurses was included in the study. The sample size was determined based on feasibility and similar cross-sectional studies conducted in hospital settings. A convenience sampling technique was used to recruit participants, allowing access to nurses who were available and willing to participate during the data collection period.

Data were collected using a structured, self-administered questionnaire consisting of three sections:

Section I: Sociodemographic Characteristics

Included age, gender, educational qualification, years of experience, department, and type of hospital.

Section II: Interdisciplinary Collaboration

Nurses' perceptions of interdisciplinary collaboration were measured using a **modified version of the Nurse–Physician Collaboration Scale (NPCS)** originally developed by **Ushiro (2009) [17]**. The instrument assesses key domains such as:

- Communication
- Shared decision-making
- Mutual respect
- Coordination of care

Responses were rated on a **5-point Likert scale**, ranging from *strongly disagree (1)* to *strongly agree (5)*. The scale has been widely used in hospital-based studies and has demonstrated good reliability and validity in assessing collaborative practices.

Section III: Impact on Patient Care

This section measured nurses' perceptions of the impact of interdisciplinary collaboration on patient outcomes, including quality of care, patient safety, continuity of care, and reduction of medical errors.

Experts in the field evaluated the questionnaire to determine its content validity. To evaluate clarity and feasibility, a pilot research was carried out on 10% of the sample (not included in the final analysis). Cronbach's alpha was used to determine internal consistency reliability, and the result was an acceptable value ($\alpha \geq 0.70$).

After receiving official authorization from hospital administrations, data were gathered over a predetermined time frame. During duty hours, participants were contacted and informed of the study's objectives. Before the questionnaire was distributed, written informed consent was acquired. Anonymity and confidentiality were assured.

Data were entered and analyzed using **SPSS (version XX)**.

Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize demographic variables and collaboration scores.

The perceived impact of interdisciplinary collaboration on patient care was analyzed using mean scores and cross-tabulations.

A **p-value < 0.05** was considered statistically significant.

Ethical Considerations

Ethical approval was obtained from the relevant **Institutional Review Board (IRB)**. Participation was voluntary, and participants had the right to withdraw at any time without penalty. All data were kept confidential and used solely for research purposes.

Results

Socio-demographic Characteristics of Participants

The study involved 256 registered nurses in total. The majority of participants were between the ages of 25 and 35, and the majority were female nurses. Most respondents had three to seven years of clinical experience, and more than half earned a Bachelor of Science in Nursing. The majority of participants worked in medical and surgical units, which is representative of the hospitals' primary inpatient workforce. These results show that early- to mid-career nurses made up the majority of the study population, which is significant since they actively participate in interdisciplinary cooperation and patient care delivery (see table 1).

Table 1: Sociodemographic Characteristics of Participants (n = 256)

Variable	**Frequency (n)**	**Percentage (%)**
Age (years)		
20–24	54	21.1
25–29	87	34.0
30–34	69	27.0
≥35	46	18.0
Gender		
Female	178	69.5
Male	78	30.5
Qualification		
Diploma in Nursing	82	32.0
BS Nursing	136	53.1
Post-RN / MSN	38	14.8
Years of Experience		
<3 years	68	26.6
3–7 years	111	43.4
>7 years	77	30.1
Department		
Medical Wards	82	32.0
Surgical Wards	74	28.9
ICU / Emergency	63	24.6
Others	37	14.5

Nurses' Perspectives on Interdisciplinary Collaboration

In general, nurses reported interdisciplinary collaboration at moderate to high levels. In contrast to collaborative decision-making and participation in care planning, communication and respect for one another scored better. The results point to a hierarchical structure in hospital settings, since nurses feel less involved in decision-making even when professional respect and communication are viewed favorably. (see table 2).

Table 2: Mean Scores of Interdisciplinary Collaboration Domains

Collaboration Domain	**Mean ± SD**
Communication among team members	3.98 ± 0.76
Mutual respect between disciplines	4.05 ± 0.72
Role clarity	3.74 ± 0.81
Shared decision-making	3.62 ± 0.84
Coordination of patient care	3.89 ± 0.78
Overall collaboration score	3.86 ± 0.69

Perceived Impact of Interdisciplinary Collaboration on Patient Care

Effective interdisciplinary teamwork has a beneficial impact on patient care outcomes, such as safety, quality of treatment, and continuity of services, according to the majority of nurses. The importance of teamwork in the provision of hospital care is reinforced by the fact that over two-thirds of nurses believed that interdisciplinary collaboration greatly improved patient outcomes (see table 3).

Table 3: Impact of Interdisciplinary Collaboration on Patient Care (n = 256)

Impact Statement	**Agree / Strongly Agree n (%)**	**Neutral n (%)**	**Disagree / Strongly Disagree n (%)**	**Mean ± SD**
Improves quality of patient care	172 (67.2%)	46 (18.0%)	38 (14.8%)	4.01 ± 0.77
Enhances patient safety	181 (70.7%)	41 (16.0%)	34 (13.3%)	4.08 ± 0.74
Reduces medical errors	166 (64.8%)	49 (19.1%)	41 (16.0%)	3.92 ± 0.82
Improves continuity of care	159 (62.1%)	55 (21.5%)	42 (16.4%)	3.88 ± 0.80

Enhances patient satisfaction	170 (66.4%)	48 (18.8%)	38 (14.8%)	3.97 ± 0.78

Association Between Interdisciplinary Collaboration and Patient Care Outcomes

Nurses reporting higher collaboration scores were more likely to perceive improved patient care outcomes. A statistically significant association was observed between overall collaboration and perceived quality of care ($p < 0.05$). These findings demonstrate that better collaboration is associated with better perceived patient outcomes, emphasizing the clinical relevance of interdisciplinary teamwork.

Table 4: Association Between Interdisciplinary Collaboration and Patient Care

Variable	Mean ± SD	p-value
Collaboration vs Quality of Care	3.86 ± 0.69	<0.05*
Collaboration vs Patient Safety	3.86 ± 0.69	<0.01**

*Statistically significant at $p < 0.05$

**Highly significant at $p < 0.01$

Discussion

In this study, the demographic profile of the nursing workforce in Pakistan revealed a predominance of female nurses, primarily early- to mid-career professionals aged 25–35 years. This aligns with regional trends indicating a relatively young and female workforce in nursing. Over half of the nurses held a Bachelor of Science in Nursing, with most having 3–7 years of clinical experience, reflecting a cohort that is no longer at entry-level but still not in senior positions [18]. This educational and experiential mix is significant, as higher qualifications and clinical exposure tend to enhance nurses' perceptions of teamwork and communication in interdisciplinary environments, correlating with better collaboration and shared decision-making engagement [19].The findings indicate that the representation of nurses from various critical units, including medical, surgical, ICU, and emergency, reflects the essential nature of teamwork in inpatient services. In these high-acuity areas, nurses face complex patient needs that require effective interdisciplinary communication and coordination, with prior research highlighting that clinical context significantly affects

collaborative behaviors, especially in environments like ICUs and emergency departments [20].

Nurses perceive positive communication (3.98) and mutual respect (4.05) in interdisciplinary collaboration, essential for effective teamwork and care coordination. However, lower scores in shared decision-making and role clarity indicate hierarchical structures may limit nurses' involvement in collaborative processes, causing feelings of marginalization [21]. This reflects global evidence showing satisfactory communication but limited participation in decision-making due to traditional professional boundaries [22].

A majority of nurses in this study believe that interdisciplinary collaboration enhances patient care outcomes such as quality, safety, and satisfaction while reducing medical errors. This aligns with broader evidence that effective teamwork among healthcare professionals facilitates coordinated care and comprehensive planning, thereby improving safety and quality metrics [23]. The findings emphasize the important role of nursing in collaborative care, as their involvement in decision-making contributes to safer clinical practices and patient advocacy [24].

The study demonstrates a significant association between collaborative teamwork in healthcare and improved clinical outcomes, affirming existing research that links effective collaboration with quality patient care and safety [22]. Barriers such as hierarchical communication and unclear roles hinder teamwork and negatively influence outcomes. Conversely, teams characterized by open communication and respect show better efficacy and safety improvements [25]. While nurses in Khyber Pukhtankhwa hospitals view collaboration positively, there are essential areas for progress, notably in shared decision-making and role clarity. Enhancements could be achieved through inter-professional education, structured communication tools, and strategies fostering joint decision-making and role recognition [13].

This study highlights nurses' perspectives on interdisciplinary collaboration in Khyber Pukhtankhwa hospitals, acknowledging limitations such as a cross-sectional design that restricts causal interpretations, potential bias from convenience sampling, data limited to public and semi-autonomous hospitals, social desirability bias from self-reported questionnaires, and the exclusion of other healthcare professionals' views. It calls for careful interpretation of the findings and recommends future multi-center, mixed-methods research involving a broader range of healthcare professionals for a more comprehensive understanding of collaboration in hospital settings.

Conclusion

This study investigated nurses' views on interdisciplinary collaboration and its effects on patient care in Khyber Pakhtunkhwa, Pakistan. Predominantly consisting of early- to mid-career female nurses with Bachelor of Science in Nursing, the workforce is actively engaged in medical and surgical units. Nurses reported moderate to high levels of interdisciplinary collaboration, valuing communication and mutual respect, although shared decision-making and role clarity were less emphasized, indicating hierarchical barriers. Despite these limitations, nurses believed that effective collaboration enhances patient care quality, safety, and continuity. A significant link was found between collaboration and positive patient care outcomes, highlighting the need for improved integration of nurses in decision-making processes to reinforce interdisciplinary teamwork.

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