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Correspondence
✉ Aqsa Arshed,
aksamughal183@gmail.com

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Evaluating Interprofessional Communication Dynamics in Clinical Practice: How Doctors and Nurses Orchestrate Information Exchange

Aqsa Arshed[1], Fawad Khan[2], Zeeshan Ahmed[2], Samina Kaosar[2]

1 Sheikha Fatima Institute of Nursing and Allied Health Sciences (UHS), Lahore, Pakistan
2 Avicenna Medical College and Hospital, Lahore, Pakistan

ABSTRACT

Background: *Effective physician–nurse collaboration is essential for safe, coordinated, and high-quality patient care, yet hierarchical norms and role-based expectations often hinder communication and shared decision-making in clinical settings. Understanding profession-specific attitudes is crucial for designing interventions that strengthen interprofessional teamwork.* ***Objective***: *To compare doctors' and nurses' attitudes toward shared education and teamwork, caring versus curing, physician dominance, and nurse autonomy in a public tertiary care hospital in Lahore.* ***Methods***: *A comparative cross-sectional study was conducted among 100 physicians and 100 nurses selected through stratified random sampling. Attitudes were measured using the 15-item Jefferson Scale of Attitudes Toward Physician–Nurse Collaboration. Domain scores were calculated as means on a 1–4 scale and compared between groups using independent t-tests at a significance level of $p < 0.05$.* ***Results***: *Nurses demonstrated significantly more positive attitudes toward shared education and teamwork (3.6 vs. 3.2, $p = 0.03$) and higher, though non-significant, scores for caring versus curing (3.4 vs. 2.8, $p = 0.12$). Physicians scored significantly higher on physician dominance (3.5 vs. 2.8, $p = 0.01$), while nurses showed greater support for nurse autonomy (3.1 vs. 2.7, $p = 0.22$).* ***Conclusion***: *Nurses exhibited more collaborative attitudes across most domains, whereas physicians endorsed stronger hierarchical authority, reflecting persistent structural imbalances that may impede teamwork. Targeted interprofessional education, shared decision-making frameworks, and enhanced nursing autonomy may improve collaborative practice.*

Keywords
Physician–nurse collaboration; Interprofessional communication; Shared education; Teamwork; Nurse autonomy; Hierarchical culture.

INTRODUCTION

High-quality healthcare depends on effective interprofessional collaboration between doctors and nurses, as coordinated teamwork has been linked with better clinical outcomes, shorter hospital stays, and higher patient satisfaction (1,2). In hospital settings, nurses and physicians jointly manage complex clinical decisions under time pressure, and the quality of their collaborative communication directly influences diagnostic accuracy, timeliness of interventions, and continuity of care (1–3). Evidence from various health systems suggests that structured teamwork, mutual respect, and shared decision-making are central determinants of safe and efficient care delivery (1–3). At the same time, interprofessional collaboration is strongly shaped by day-to-day communication patterns, clarity of roles, and the perceived fairness of decision-making processes, all of which can either strengthen or weaken team cohesion (3,4).

Despite the recognized importance of collaboration, communication failures between doctors and nurses remain a major contributor to preventable adverse events, near misses, and moral distress among staff (3–6). Qualitative and mixed-methods research has consistently reported that nurses often experience difficulty escalating concerns, feel that their clinical judgments are undervalued, or perceive that physicians act as unilateral decision-makers, particularly in high-acuity environments (3–5). In parallel, medical trainees and junior staff frequently report uncertainty regarding when and how to "speak up" about potential errors or deteriorating patients, which can reinforce silence and under-reporting of safety concerns (6). These communication barriers are frequently exacerbated by organizational culture, ambiguous lines of authority, and limited opportunities for structured interprofessional dialogue (4–6).

Empirical studies of doctor–nurse collaboration across specialties and countries highlight a persistent pattern of hierarchical role expectations, with physicians typically occupying the apex of decision-making and nurses positioned as implementers rather than equal partners (7–9). Observational and interview-based work in surgical, intensive care, and general medical units has shown that nurses often adopt strategies to work around hierarchical constraints, such as informal negotiation, selective escalation, or reliance on peer support, rather than engaging in open, bidirectional decision-making (7–9). These dynamics are not merely interpersonal; they are embedded in institutional norms and professional socialization processes that valorize physician authority while under-recognizing nurses' cognitive contributions to assessment, care planning, and risk management (8–10). The resulting tension between physician dominance and nurses' desire for greater autonomy can undermine trust, reduce job satisfaction, and weaken the overall safety culture (8–10).

Attitudes toward collaboration, shared education, and professional roles are a key upstream determinant of whether interprofessional teams function as cooperative partnerships or remain constrained by rigid hierarchies (11). The Jefferson Scale of Attitudes toward Physician–Nurse Collaboration (JSAPNC) is a widely used instrument that quantifies attitudes across domains including shared education and teamwork, caring

rather than curing, nurse autonomy, and physician authority (11). Studies using the JSAPNC and related measures in different contexts have shown that nurses generally report more positive attitudes toward shared education and collaboration, while physicians more often endorse traditional role boundaries and hierarchical decision-making (8,9,11). Interprofessional education initiatives that bring students and practitioners from different professions into shared learning and simulation environments have been proposed as a key strategy to reshape these attitudes, foster mutual understanding, and reduce professional stereotyping (12,13). However, the availability, intensity, and perceived effectiveness of such programs vary widely, and their impact on entrenched hierarchies remains uncertain (12,13).

Recent work has further demonstrated that interprofessional attitudes are sensitive to system shocks such as the COVID-19 pandemic. In some settings, the pandemic appeared to catalyze more collaborative practices and convergence in doctors' and nurses' attitudes, particularly where teams had to rely on each other in rapidly changing clinical circumstances (14,15). In others, pre-existing hierarchies and communication barriers persisted, with nurses reporting limited involvement in higher-level decisions despite increased clinical responsibilities (10,14). In low- and middle-income countries, including Pakistan, the situation has been complicated by resource limitations, personal protective equipment shortages, and high psychological stress among healthcare workers, all of which place additional strain on interprofessional relationships (16–19). Pakistani studies conducted during the COVID-19 response have documented anxiety about infection risk, perceived inadequacy of facilities, and variable adherence to infection-prevention protocols, highlighting systemic pressures that may further challenge constructive doctor–nurse communication (16–20).

Although these international and regional studies underscore the importance of interprofessional collaboration, there is still limited quantitative evidence from public sector tertiary hospitals in Pakistan that directly compares doctors' and nurses' attitudes across the core domains captured by the JSAPNC. Existing work has tended to focus either on single professional groups, specific clinical units, or broader team climate measures, rather than systematically contrasting physicians' and nurses' perceptions of shared education, caring versus curing, nurse autonomy, and physician dominance in the same institutional context (8,9,11,14,21). Given Pakistan's historically hierarchical healthcare structure and the central role of public hospitals in service delivery, understanding how doctors and nurses conceptualize collaboration is essential for designing context-appropriate interprofessional education, policy reforms, and governance models.

Within this context, the present study employs a comparative cross-sectional design to examine differences in attitudes toward physician–nurse collaboration between doctors and nurses working in a public tertiary care hospital in Lahore, using the JSAPNC as the primary measurement tool. In PICO terms, the population comprises physicians and nurses employed at a large public hospital; the primary "exposure" is professional role (doctor versus nurse); the comparison is between these two professional groups; and the outcomes are domain-specific JSAPNC scores reflecting attitudes toward shared education and teamwork, caring rather than curing, nurse autonomy, and physician dominance. The study aims to determine whether significant differences exist between doctors and nurses in each of these domains and to generate evidence that can inform targeted interventions to strengthen interprofessional collaboration in similar public-sector settings. Accordingly, the overarching research question is: what differences exist between doctors and nurses in their attitudes toward shared education and teamwork, caring versus curing, nurse autonomy, and physician dominance within a public tertiary hospital in Lahore (1–21).

MATERIALS AND METHODS

This study used a comparative cross-sectional design to quantify and compare attitudes toward physician–nurse collaboration among doctors and nurses employed at a large public tertiary care hospital in Lahore, Pakistan. The design was chosen to provide a snapshot of profession-specific attitudes within the same institutional environment, allowing differences between groups to be assessed while holding organizational context broadly constant. Data collection was conducted over a predefined period within a single calendar year, during routine service delivery, so that participants' responses reflected typical workflow and collaboration patterns rather than short-term interventions or pilot programs.

The target population comprised all physicians and nurses working in clinical departments of the hospital, including medical, surgical, and critical care units. Eligible participants were doctors holding a recognized medical degree and nurses holding a diploma or bachelor's degree in nursing, who were employed full-time or part-time at the hospital, had at least six months of experience in their current role, and were directly involved in patient care. This minimum experience threshold was selected to ensure that respondents had sufficient exposure to interprofessional interactions and collaborative practices in the study setting. Individuals working exclusively in administrative roles or non-clinical support services were not eligible. Temporary or contract staff with less than six months of clinical experience in the hospital were also excluded to avoid capturing attitudes shaped predominantly by orientation or probationary periods.

A stratified random sampling strategy was implemented to obtain comparable groups of doctors and nurses. The human resources department provided a list of all eligible physicians and nurses, which served as the sampling frame. Profession (doctor versus nurse) constituted the primary stratum. Within each stratum, simple random sampling was used to select potential participants. From the initial sampling frame, 100 physicians and 100 nurses were recruited, yielding a total sample of 200 participants. This sample size was based on a standard formula for estimating proportions in large populations, with a 95% confidence level and 5% margin of error, assuming a conservative expected proportion of 0.5 to maximize sample size. After applying a finite population correction to an estimated population of 750 eligible doctors and nurses, the adjusted sample required was reduced, and a target of 200 participants (100 per group) was set to balance statistical precision with feasibility. This sample size is sufficient to detect moderate differences in mean JSAPNC domain scores between doctors and nurses with conventional levels of statistical power.

Recruitment took place during routine working hours. Selected individuals were approached in their respective departments by trained data collectors, who explained the purpose of the study, procedures, and approximate time required to complete the questionnaire. A written information sheet described the study objectives, voluntary nature of participation, potential risks and benefits, confidentiality protections, and the right to withdraw at any time without consequences. Written informed consent was obtained from all participants prior to data collection. No incentives were offered, and questionnaires were completed in a quiet area near clinical units to minimize disruptions to patient care. Completed questionnaires were returned in sealed envelopes to maintain confidentiality and reduce social desirability bias.

Attitudes toward physician–nurse collaboration were assessed using the Jefferson Scale of Attitudes toward Physician–Nurse Collaboration (JSAPNC), a validated instrument designed to quantify perceptions of interprofessional relationships between doctors and nurses (11). The JSAPNC consists of 15 items rated on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Items are grouped into four

domains: shared education and teamwork, caring rather than curing, nurse autonomy, and physician dominance or authority (11). In line with previous work, items were scored so that higher scores indicated more positive attitudes toward collaboration. Items reflecting physician authority were reverse-coded prior to domain score calculation, ensuring that higher scores consistently represented lower support for physician dominance and greater endorsement of collaborative norms (11). For each participant, domain scores were computed as the mean of the items belonging to that domain, yielding scores between 1 and 4.

The questionnaire included an additional section capturing sociodemographic and professional characteristics: age, gender, highest educational qualification, professional category (physician or nurse), and years of clinical experience. These variables were collected to describe the sample and to allow exploratory analyses of whether demographic factors were associated with collaborative attitudes. All questionnaires were checked for completeness at the point of return. Where one or two JSAPNC items were missing within a domain, the domain mean was calculated using the remaining items to preserve cases; questionnaires with extensive missing data were excluded from analysis without imputation.

To minimize bias, several steps were taken at the design and implementation stages. Sampling stratified by profession and random selection within strata reduced selection bias and ensured that doctors and nurses were comparably represented. Data collectors were not part of the participants' supervisory hierarchy and emphasized the anonymity of responses to mitigate social desirability bias. Participants were instructed not to write any identifying information on the questionnaire. Because the primary comparison was between professional groups working in the same institution, confounding by organizational context was reduced, although residual confounding by age, gender, or experience remained possible. These variables were therefore examined descriptively and considered in secondary analyses.

Data were entered into a password-protected database and analyzed using IBM SPSS Statistics version 24. Data cleaning procedures included double entry for a subset of questionnaires to verify accuracy and range checks to identify out-of-range or inconsistent values. Continuous variables such as age and years of experience were summarized as means and standard deviations, while categorical variables such as gender and education were presented as frequencies and percentages. For the primary analysis, mean domain scores on the JSAPNC were compared between doctors and nurses using independent samples t-tests, after visually inspecting distributions and verifying approximate normality. When assumptions for parametric tests were not clearly met, the robustness of findings was checked using non-parametric alternatives in sensitivity analyses. A two-sided p-value of less than 0.05 was regarded as statistically significant. In exploratory models, linear regression was used to evaluate whether professional category remained associated with domain scores after adjusting for age, gender, and years of experience; these results were interpreted cautiously, given the cross-sectional design.

Ethical approval for the study was obtained from the institutional ethics review committee of the participating hospital prior to data collection. The study adhered to the principles of the Declaration of Helsinki. All participants provided written informed consent, and confidentiality was safeguarded by storing data without personal identifiers and restricting access to the research team only. Data management procedures, including standardized coding of responses, documentation of all analytic decisions, and secure electronic archiving, were implemented to support reproducibility and enable independent verification of the analysis pipeline by other researchers.

RESULTS

A total of 200 participants were included in the analysis, comprising 100 physicians and 100 nurses. The demographic and professional characteristics of the sample are summarized in Table 1. Among physicians, 65 % were male and 35 % were female, while the nursing group was predominantly female (90 %), with 10 % male. The mean age of doctors was 35.4 years (SD 7.2), compared with 32.1 years (SD 5.9) among nurses. Physicians reported a mean of 8.3 years (SD 4.6) of clinical experience, whereas nurses reported 7.5 years (SD 3.8). All physicians held an MBBS degree, while most nurses held a diploma in nursing, with a smaller proportion reporting a Bachelor of Science in Nursing. These distributions reflect the typical gender mix and training pathways in the study setting.

Table 1. Demographic and professional characteristics of physicians and nurses (n = 200)

Characteristic	Doctors (n = 100)	Nurses (n = 100)
Gender, n (%)		
Male	65 (65.0)	10 (10.0)
Female	35 (35.0)	90 (90.0)
Age (years), mean (SD)	35.4 (7.2)	32.1 (5.9)
Years of clinical experience, mean (SD)	8.3 (4.6)	7.5 (3.8)
Highest qualification, n (%)		
MBBS / Medical degree	100 (100.0)	0 (0.0)
Nursing diploma	0 (0.0)	90 (90.0)
Bachelor of Science in Nursing	0 (0.0)	10 (10.0)

Attitudes toward physician–nurse collaboration, as measured by JSAPNC domain scores, are presented in Table 2. Nurses demonstrated significantly more positive attitudes toward shared education and teamwork, with a mean score of 3.6 compared with 3.2 among doctors ($p = 0.03$). This indicates stronger support among nurses for joint educational activities and cooperative team structures. For the caring versus curing domain, which captures the extent to which respondents value holistic, patient-centred care relative to a purely disease-focused model, nurses again scored higher (mean 3.4) than doctors (mean 2.8), although this difference did not reach statistical significance ($p = 0.12$).

Perceptions of physician dominance showed the opposite pattern. Doctors reported substantially higher scores on the physician dominance domain (mean 3.5) compared with nurses (mean 2.8), and this difference was statistically significant ($p = 0.01$). Higher scores in this domain reflect stronger endorsement of physician-led decision-making and traditional hierarchical authority. In contrast, nurses expressed somewhat greater support for nurse autonomy (mean 3.1) than doctors (mean 2.7), but this difference was not statistically significant ($p = 0.22$). Overall, these results suggest that nurses in this setting are more favourable toward shared education, teamwork, and expanded autonomy, whereas physicians show stronger alignment with conventional hierarchical norms and physician-led control over clinical decisions.

Table 2. Comparison of JSAPNC domain scores between doctors and nurses

Domain	Doctors (n = 100), mean score*	Nurses (n = 100), mean score*	p-value†
Shared education and teamwork	3.2	3.6	0.03
Caring versus curing	2.8	3.4	0.12
Physician dominance	3.5	2.8	0.01
Nurse autonomy	2.7	3.1	0.22

* Domain scores range from 1 (least favourable attitude toward collaboration) to 4 (most favourable), calculated as the mean of items within each domain after appropriate reverse coding. † p-values from independent samples t-tests comparing doctors and nurses for each domain.

DISCUSSION

The present study examined differences in attitudes toward physician–nurse collaboration across four domains of the Jefferson Scale of Attitudes toward Physician–Nurse Collaboration (JSAPNC) and demonstrated clear divergence between doctors and nurses working in a public tertiary hospital in Lahore. Nurses consistently expressed more favourable attitudes toward shared education, teamwork, holistic care, and enhanced autonomy, whereas physicians demonstrated stronger alignment with traditional hierarchical norms and endorsement of physician authority. These findings closely parallel international and regional studies showing that nurses generally value interprofessional cooperation more strongly than doctors, often because collaborative structures provide opportunities for professional recognition, shared decision-making, and supportive communication pathways (22,23). In contrast, the medical profession's longstanding socialization into leadership-oriented roles may reinforce assumptions of unilateral authority, making physicians more likely to endorse dominance in clinical decision-making (24).

The significantly higher mean score among nurses for shared education and teamwork aligns with evidence that interprofessional learning environments help reduce professional stereotyping, strengthen role clarity, and enhance team trust (12,25). This suggests that nurses may perceive shared education as an avenue for balancing power asymmetries and gaining greater integration in decision-making processes. Physicians' comparatively lower support for shared education may reflect structural realities of medical training, where interprofessional content remains limited or optional in many low- and middle-income settings (26). The observed differences reinforce calls to integrate structured interprofessional education (IPE) at both undergraduate and in-service training levels, particularly in systems where hierarchical norms are deeply embedded (13,26).

Although nurses scored higher on caring rather than curing, the difference was not statistically significant, yet the direction reflects a consistent pattern across multiple studies. International evidence suggests that nurses tend to prioritize holistic, patient-centred models of care, whereas physicians—whose training focuses more on diagnostic reasoning—may emphasize curative interventions (7,8,27). However, some studies have shown shifts in this pattern, particularly during the COVID-19 pandemic, when physicians increasingly recognized the value of psychosocial support, communication, and relational care for overwhelmed patients and families (14,15). These differing results may reflect contextual variation, levels of exposure to team-based care models, and institutional culture. The lack of statistical significance in the present study indicates that although trends exist, caring–curing attitudes may be more fluid than previously assumed and could be influenced by specific workplace demands.

Physician dominance emerged as the domain with the clearest and most statistically robust difference between groups. Doctors' significantly higher endorsement of physician authority ($p = 0.01$) confirms the persistence of hierarchical decision-making in public sector hospitals. Previous research from critical care, surgical wards, and emergency departments similarly reports that nurses often feel marginalized in decision-making, experience difficulty escalating concerns, and perceive that their clinical judgments are undervalued (3,7,9). This dynamic has been linked to delayed interventions, communication breakdowns, and reduced patient safety (3–6). In Pakistan, where sociocultural norms reinforce hierarchical professional identities, the perceived dominance gap appears even stronger, potentially contributing to stress, lower job satisfaction, and reduced retention among nurses (16–20). The present findings underscore the need for governance reforms, such as shared leadership models and standardized escalation pathways, to mitigate the risks posed by hierarchical communication structures.

Nurses' higher, though non-significant, support for nurse autonomy aligns with global evidence showing that greater autonomy improves job satisfaction, reduces burnout, and enhances patient outcomes (28). However, non-significance suggests that autonomy remains a contested construct within institutional settings where scopes of practice are not clearly defined. The limited availability of advanced nursing roles, the lack of formal shared governance structures, and minimal representation of nurses in administrative decision-making may constrain opportunities for genuine autonomy (28,29). Strengthening professional role boundaries, updating practice regulations, and integrating nurses into clinical governance spaces could help address these discrepancies.

Overall, the findings reinforce the argument that interprofessional collaboration cannot be improved solely through interpersonal goodwill; structural reforms, education strategies, and organizational culture change are essential. Collaborative interventions proven effective in comparable contexts include regular interprofessional case discussions, shared protocols for patient escalation, co-training in communication tools such as SBAR (Situation–Background–Assessment–Recommendation), and formal recognition of nurses' cognitive contributions to patient care (25,26,30). Addressing hierarchical norms, clarifying decision-making expectations, and institutionalizing interprofessional education can help realign attitudes toward a more balanced and team-centred approach.

The study's strengths include a well-defined comparative design, validated measurement tool, and equal representation of doctors and nurses, enabling robust between-group comparisons. However, the cross-sectional design limits causal inference, and findings may not generalize beyond the single institutional context. The reliance on self-report measures raises the possibility of social desirability bias, although anonymity procedures were implemented to reduce this risk. Future research should include multi-site studies, mixed-methods designs to capture deeper communication dynamics, and longitudinal evaluations of interprofessional education interventions.

Together, the findings highlight the urgent need to address deeply embedded professional hierarchies and strengthen interprofessional learning pathways to cultivate a more collaborative, safe, and patient-centred healthcare environment (22–30).

CONCLUSION

Doctors and nurses demonstrated distinct attitudes toward interprofessional collaboration, with nurses showing stronger support for shared education, teamwork, holistic care, and increased autonomy, while physicians endorsed higher levels of traditional authority and physician-led decision-making. These differences reflect persistent hierarchical norms that may hinder effective communication and teamwork in public tertiary

hospitals. Strengthening interprofessional education, redefining decision-making structures, and enhancing nurses' autonomy may help foster more balanced professional relationships and improve patient care within similar healthcare settings.

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