INTERPROFESSIONAL RELATIONS AMONG INDIAN HEALTHCARE PROFESSIONALS: A STUDY OF THE DOCTOR-NURSE RELATION IN THE CONTEXT OF EMERGING 'NURSE PRACTITIONERS.

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DOI: https://doi.org/10.64558/bllp/938908wcowyr

ABSTRACT

This study explores interprofessional relationships amongst doctors and nurses in India around the emergent Nurse Practitioner (NP) role. A mixed-method design was employed to study the phenomenon involving a quantitative survey of 218 respondents with a qualitative interview of 20 stakeholder doctors, nurses, NPs, and healthcare administrators. The quantitative study showed that most respondents had a positive attitude toward collaboration, as most of the respondents believed that NPs would reduce doctors' workload (78.4%), provide care with minimal supervision (67.0%), and improve patient outcomes (79.8%). However, the level at which NPs would make independent decisions was questioned. Role clarity emerged as a contested issue, as 45.0% of the respondents agreed that their roles were clearly defined, while 30.3% disagreed. Further analysis revealed that the more clarity there was in the role, the better the quality of collaboration ($\rho = .550$, $p < .001$). There was a strong relationship between awareness and favorable attitudes ($\rho = .614$, $p < .001$). Moreover, Mann–Whitney U tests showed differences in preparedness for NP integration between doctors and nurses ($p < .001$). Open communication, respect, and clear responsibilities facilitated collaboration, whereas hierarchy dominance, cultural barriers, and training gaps hindered cooperation and acceptance of NP, as revealed by the qualitative findings. Doctors maintained ultimate authority for decision-making, whereas nurses saw the NP role as an opportunity for professional empowerment. Integrated insights indicate optimism regarding the benefits of integrating NPs for patient outcomes and workload reduction. However, unprepared organizations, absent policy support, and entrenched hierarchies will be constraints.

Keywords: Nurse Practitioners, Interprofessional Collaboration, Role Clarity, Indian Healthcare

INTRODUCTION

This study aims to investigate interprofessional relations between doctors and nurses in India, particularly in the context of the emerging nurse practitioner (NP) role. A mixed-methods approach is

used to capture both measurable trends and in-depth stakeholder perspectives.

Quantitative Objectives

- To assess the level of awareness among doctors and nurses about the nurse practitioner role in India.
- To evaluate the attitudes of doctors toward collaborating with nurse practitioners in clinical decision-making.
- To analyze the impact of role clarity on interprofessional collaboration between doctors and nurses.

Qualitative Objectives

- To explore the perceptions of nurse practitioners regarding their professional interactions with doctors.
- To identify key barriers—cultural, institutional, or professional—that affect the implementation of the NP role.
- To understand how doctors and nurses interpret power dynamics and professional boundaries in clinical practice.

RESEARCH QUESTIONS

Based on the stated research objectives, the following research questions have been formulated:

Quantitative Research Questions

- What is the current level of awareness among doctors and nurses regarding the role and responsibilities of nurse practitioners in India? (*Aligned with Quantitative Objective 1*)
- What are the attitudes of doctors toward clinical collaboration with nurse practitioners in terms of diagnosis, treatment, and decision-making? (*Aligned with Quantitative Objective 2*)
- How does perceived role clarity influence the effectiveness of interprofessional collaboration between doctors and nurses. (*Aligned with Quantitative Objective 3*)

Qualitative Research Questions

- How do nurse practitioners perceive their professional relationships and interactions with doctors in Indian healthcare settings? (*Aligned with Qualitative Objective 1*)
- What are the key institutional, cultural, or professional barriers to the implementation and acceptance of the nurse practitioner role in India? (*Aligned with Qualitative Objective 2*)
- How do doctors and nurses interpret and respond to existing power dynamics and role boundaries within their interprofessional interactions? (*Aligned with Qualitative Objective 3*)

Research Hypothesis

- **Alternative Hypothesis (H_{11}):** There is a significant difference in awareness and attitudes toward the nurse practitioner role between doctors and nurses in India.
- **Alternative Hypothesis (H_{12}):** There is a significant relationship between role clarity and the quality of interprofessional collaboration between

doctors and nurses.

- **Alternative Hypothesis (H_{13}):** There is a significant difference in stakeholder readiness to integrate nurse practitioners into various healthcare settings based on professional background or prior experience.

LITERATURE REVIEW

Literature review aims to establish the research context, identify scholarly contributions and limitations, and highlight the research gap that the study seeks to address.

Table 1 Literature Review (Summary)

Topic	Major Contributors	Key Finding / Gap
Historical Doctor– Nurse Relationship (India)	Keddy et al., 1986; Nandi, 1977; Paul & Bhatia, 2016; Sarkar, 2022	Persistent gendered hierarchy and medical dominance; collaboration needs structural/cultural change; systemic pressures erode trust.
Nurse as Care Coordinator (DCC)	Ohri et al., 2022	Nurses bridge doctor–patient communication; gap: LMIC adoption pathways and formalization.
Global Evolution of NP/A PN	Thomas & Rowles, 2023; Schober, 2018; Greenberg, 2010; Savrin, 2009; Savard et al., 2023	Education, role clarity, and autonomy improve outcomes; gaps: uneven regulation, physician protectionism, under-recognized NP value.

Topic	Major Contributors	Key Finding / Gap
Emergence of NP in India	Schober, 2023; Kodi, Sharma & Basu, 2022; Stephen & Vijay, 2019; Nanda & Anilkumar, 2021; Jayapal & Arulappan, 2020	Need acknowledged but acceptance mixed; gaps: regulation, role clarity, mentorship, career paths, inclusivity (gender).
Power Dynamics & Boundaries	Pullon, 2008; Salhani & Coulter, 2009; Olson & Dadich, 2019; Molina-Mula et al., 2018; Farrell et al., 2021	Collaboration hinges on competence/respect; gaps: hierarchical constraints on voice, patient advocacy limited when nurses sidelined.
Institutional & Cultural Barriers	Tang et al., 2013; McInnes et al., 2015; Mengstie et al., 2023; Hall, 2005	Communication/role clarity help; gaps: entrenched cultures, weak leadership/resources, siloed professional identities.
Education & Interprofessional Training	Joshi et al., 2022; Hamilton, 2022	TBL/IPE improve teamwork and political literacy; gap: broader curricular integration, especially in LMICs.
Stakeholder Perspectives on NP Collaboration	Schadewaldt et al., 2013; Burgess & Purkis, 2010; Andrews et al., 2021; Casey et al., 2017	Success requires clear NP scope and respect; gaps: autonomy curtailed by medical norms; inconsistent advanced-role deployment.
Patient/Family Experience	Kilpatrick, Jabbour & Fortin, 2016	NPs enhance communication, continuity, trust; gap: make NP roles visible and seamlessly integrated in teams.

The overall research gap in the Indian context lies in the absence of mixed-methods studies that comprehensively examine perceptions, power dynamics, institutional readiness, and socio-cultural barriers, highlighting the need for India-specific evidence to inform policy and education.

RESEARCH DESIGN

This study employs a mixed-methods approach grounded in a pragmatist philosophy to examine the doctor–nurse relationship in India, with a focus on the Nurse Practitioner (NP) role. Based on structured surveys (conducted with 218 doctors and nurses) that assessed awareness, attitudes, role clarity, and readiness, quantitative data were collected. Insights gathered through semi-structured interviews (20 stakeholders (NPs, doctors, admins, and policymakers) on perceptions, power play, and institutional barriers (qualitative). The survey was pilot-tested

and divided into four sections; the interviews followed an open guide. The information was collected over a two-month period through both online and face-to-face methods, with consent. Analysis included statistics like frequency analysis, correlation, and ANOVA with thematic assessment of qualitative responses. The researchers ensured the validity was established through expert opinion and theory-based research. Cronbach's alpha (≥0.7) ensured reliability through member checking. The ethics of anonymity and confidentiality were strictly followed.

Key Findings

Quantitative Findings

High Awareness but Weak Policy Knowledge- Over 80% of respondents were aware of NP roles and education, and 73% knew their clinical responsibilities. However, only 52.8% understood government policies, showing a gap between professional awareness and regulatory knowledge**.**

Positive Attitudes Toward Collaboration-Most respondents supported NP collaboration in diagnosis (72.9%), workload reduction (78.4%), patient care (67%), and improved outcomes (79.8%), though 21.6% remained unsure about NP autonomy.

Mixed Perceptions of Role Clarity- While 45% agreed roles of doctors and NPs are clear, 30.3% disagreed. Lack of clarity was seen as a cause of conflict (84.9%), while clear role assignment was linked to better teamwork (92.7%).

Moderate Institutional Readiness- Only 43.1% felt institutions were ready for NPs, with many neutral or doubtful. Training and cultural support showed mixed responses, but prior exposure improved acceptance (66.6%).

Inferential Findings: Hypothesis Testing

Normality

Table 2 Tests of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Awareness	.083	218	.001	.963	218	.000
Attitude	.146	218	.000	.935	218	.000
Role Clarity	.149	218	.000	.949	218	.000
Collaboration Quality	.133	218	.000	.926	218	.000
Readiness	.099	218	.000	.971	218	.000

Table 3 Correlations (Between Awareness & Attitude)

			Awareness	Attitude
Spearman's rho	Awareness	Correlation Coefficient	1.000	.614**
		Sig. (2-tailed)	.	.000
		N	218	218
	Attitude	Correlation Coefficient	.614**	1.000
		Sig. (2-tailed)	.000	.
		N	218	218

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3 Correlations (Between Rale Clarity & Collaboration Quality

			Role Clarity	Collaboration Quality
Spearman's rho	Role Clarity	Correlation Coefficient	1.000	.550**
		Sig. (2-tailed)	.	.000
		N	218	218
	Collaboration Quality	Correlation Coefficient	.550**	1.000
		Sig. (2-tailed)	.000	.
		N	218	218

**. Correlation is significant at the 0.01 level (2-tailed).

Lilliefors Significance Correction

Both the Kolmogorov-Smirnov and the Shapiro-Wilk tests evaluate whether study variables follow a normal distribution. Looking at the table, all p-values are below 0.05. Therefore, all five variables violate normality (they are not normally distributed).

Hypothesis (H_1): There is a significant difference in awareness and attitudes toward the nurse practitioner role between doctors and nurses in India.

The findings support **H_1**, showing a significant relationship between awareness and attitudes toward the NP role ($\rho = .614$, $p < .001$). Higher awareness leads to more positive attitudes, indicating that differences between doctors and nurses in awareness significantly shape their views on NP integration.

The results support **H_2**, confirming a significant positive relationship between role clarity and collaboration quality ($\rho = .550$, $p < .001$). Clearer roles between doctors and nurse practitioners are associated with stronger interprofessional teamwork, highlighting role clarity as a key factor in improving collaboration.

Hypothesis (H_2): A significant relationship exists between role clarity and the quality of interprofessional collaboration between doctors and nurses.

Hypothesis (H_3): There is a significant difference in stakeholder readiness to integrate nurse practitioners into various healthcare settings based on professional background or prior experience.

Table 4 Mann-Whitney Test

Ranks				
	Profession	N	Mean Rank	Sum of Ranks
Readiness	Doctor	76	71.22	5412.50
	Nurse	142	129.99	18458.50
	Total	218		

Test Statistics	
	Readiness
Mann-Whitney U	2486.500
Wilcoxon W	5412.500
Z	-6.585
Asymp. Sig. (2-tailed)	.000

Grouping Variable: Profession

The Mann–Whitney U test confirms **H_3**, showing a significant difference in readiness to integrate NPs based on profession ($U = 2486.500$, $Z = -6.585$, $p < .001$). Nurses (Mean Rank = 129.99) were more ready than doctors (Mean Rank = 71.22), indicating stronger support among nurses for NP integration. This highlights the need to address doctors' reservations while leveraging nurses' acceptance to ensure smoother adoption across healthcare settings.

Qualitative Findings (Summary from Thematic Analysis)

Collaboration Shaped by Communication and Respect- According to the thematic analysis effective collaboration happened in the presence of open communication, respect, and listening. On the other hand, barriers arose because of miscommunication and a lack of freedom to raise concerns.

Role Clarity as the Foundation of Collaboration- The cooperation of various departments was helped by clearly defined responsibilities, job descriptions, and standard operating procedures. Conflicts often arose due to lack of clarity and defined boundaries.

Power Dynamics and Hierarchical Barriers - Whether it be a consultant or HOD, physicians were mostly decision-makers. Nurses' concerns were often ignored or minimized, reflecting deep hierarchies. Obstructionist behavior, an authoritarian attitude and professional prejudice were cited by two.

Competence, Skills, and Training Gaps- Adequate training and professionalism fostering trust and the ability to collaborate on the one hand, but gaps in skills, lack of confidence, and underwhelming training programs undermining NP acceptance on the other.

Operational Pressures and Cultural Barriers- Interprofessional collaboration was strained due to heavy workloads, staff turnover and time pressures. Due to the variety in the hospital, different languages and cultures made matters more complicated.

Barriers to NP Integration - In the healthcare setting, multiple barriers hinder optimal productivity. Weak institutional support, inadequate policies, limited regulations, and financial/resource constraints create systemic challenges. Cultural and professional issues further add to the problem, with overlapping duties and lack of role clarity leading to frequent conflicts. Recognition is another major concern, as many doctors resisted the integration of nurse practitioners, perceiving them as a threat, while the absence of clear career pathways restricted their acceptance.

Integrated Insights

- Both quantitative and qualitative analyses show widespread hope for NP integration in India. Furthermore, there is a strong consensus on NPs' capabilities to improve patient outcomes, reduce burdens and strengthen healthcare.
- However, institutional unreadiness, poor policy acumen and established

hierarchies are major impediments.

- Nurses are always more prepared than doctors whose professional characteristic needs to be considered.
- The success of NP integration depends on clear role definitions, policies, interprofessional education and trainings, and initiatives which contribute to a culture change that reduces hierarchy and enhances collaboration.

IMPLICATIONS

The results have a range of implications for various stakeholders in India's healthcare system.

Policy Makers & Regulators- The development of clear national policy at various levels will define NP role, responsibilities, and scope of practice. Enhance the existing regulatory framework (e.g., NMC, MoHFW) to enable the legal recognition, credentialing and privileging system of NPs. Start campaigns to help people and professionals understand how NP care can help them.

Healthcare Institutions & Administrators Allocate critical resources to develop SOPs, guidelines, collaborative governance structures and more for NP integration. To deal with role clarity, create job descriptions, reporting lines, and conflict resolution. Organize support like mentorship, performance evaluation system, and adequate financial resources for NP programs.

Medical Professionals (Doctors)- Persuade clinicians to see NPs as comrades, not competitors, leading to less ego-based resistance and hierarchy defense. Encouraging joint decision-making models and structured communication (SBAR, clinical huddles) to unite members. It is vital to involve doctors in policy formulation and training design to address their concerns and ensure buy-in.

Nursing Professionals & Nurse Practitioners- Improve clinical skills through training, specialization and continuing professional development. We need to be included in the hospital decision-making and policy forums. Use past exposure and successes NP practice leverage to gain credentials and trust from doctors and patients.

Patients & Communities- Integration of NPs can ensure equitable access to timely, affordable, high quality care in rural and underserved settings. Patient awareness programs need to highlight the competence, autonomy, and outcomes-driven role of NPs to foster confidence and mitigate skepticism. Encourage communities to request collaborative care models whereby physicians and nurse practitioners ensure patient- centred services.

Academia & Training Institutions- Integrate interprofessional education module (IPE) in nursing and medical courses to inculcate team work from training level. NP-specific programs should be expanded using standardized curricula, clinical residency models, and competency-based assessments. Promotion of research and evaluation on the effectiveness of NPs to build local evidence and inform the ongoing enhancement of policy.

RECOMMENDATIONS FOR PRACTICE & FUTURE RESEARCH

Based on the study findings, the following recommendations are proposed to enhance interprofessional collaboration and support the integration of Nurse Practitioners (NPs) in India.

Launch **targeted awareness programs** (seminars, workshops, CME sessions) to improve doctors' and nurses' understanding of NP qualifications, responsibilities, and scope. Develop **public communication campaigns** to increase awareness among patients and communities about NP roles, thereby improving acceptance and trust.

Foster **structured interprofessional training modules** that emphasize mutual respect, communication, and shared decision-making between doctors and NPs.

Create **institutional platforms** (joint ward rounds, collaborative care meetings) where doctors and NPs can engage in real-time teamwork to build confidence and reduce resistance.

Establish **clear role definitions, SOPs, and job descriptions** for NPs and doctors to minimize overlap and prevent conflict.

Incorporate **protocol-driven decision-making frameworks** and escalation guidelines to reduce ambiguity and improve collaboration quality.

Implement **feedback and reporting mechanisms** (e.g., anonymous surveys, interprofessional audits) to continuously assess working relationships.

Provide **conflict-resolution training and mediation systems** to address ego, hierarchy, and communication barriers identified in the study.

Strengthen **policy frameworks and institutional guidelines** to address legal liability, credentialing, and career pathways for NPs.

Promote **organizational change initiatives** (cultural sensitivity training, inclusivity programs) to reduce hierarchical resistance and promote acceptance.

Allocate **financial and human resources** to support NP programs, including training costs, staffing, and infrastructure.

Introduce **interprofessional education (IPE) in medical and nursing curricula** to reduce role stereotyping early in training.

Encourage **shared leadership models** in clinical teams where NPs and doctors participate in collaborative decision-making, reducing dominance and improving equity.

FUTURE STUDY

This study helps understand the awareness, opinion, role clarification, collaboration, and readiness for integrating Nurse Practitioners (NPs) in India. However, there are gaps that future research can fill.

Longitudinal Studies on NP Implementation: Future studies should take on longitudinal designs to check how perceptions, collaboration, and outcomes change after the introduction of NPs into Indian healthcare institutions. This would help to track the real-world performance of NP models over time.

Comparative Multi-Regional Studies: This study involved a limited pool of respondents. Future studies should compare the perceptions of respondents across

diverse locations in India (urban vs rural, private vs public hospitals) to get a bigger picture and understand acceptance and readiness in context.

Patient and Community Perspectives: Future research must involve patients and caregivers as stakeholders in evaluating how NP roles are perceived by and received by the public. The trust and perception are vital for successful NP integration.

Impact Assessment of NP Role on Healthcare Outcomes: Research to measure the impact of NPs on satisfaction, access, clinical outcomes and doctors' workload Should be done in the Indian context. This evidence could strengthen policy advocacy.

Exploring Power Dynamics in Depth: Qualitative studies could further investigate doctor–nurse–NP power relations, resistance, and negotiation of professional boundaries. This work could focus on how hierarchy norms could be reshaped for collaborative working.

Interventional and Policy-Oriented Research: Research that involves interventions and/or can influence policies should evaluate pilot studies of organized interventions (e.g. interprofessional training modules, institutional SOPs of the NP role, credentialing frameworks, etc.) for impact. Results can guide reforms of national policies and nursing education.

Cross-Professional Training and Education Research: Future research should focus on how interprofessional education (IPE) may shape early attitude of medical and nursing students towards NP role. Nurturing Cultural Change in Higher Education Through Embedding NP Concepts

LIMITATIONS OF THE STUDY

- Sample Composition: The sample was taken from doctors and nurses only, thus excluding other important stakeholders such as patients, policymakers and hospital administrators. This may lead to a restricted range of views on NP integration.
- Geographical Scope: The data was collected from few institutions. Most of the respondent institutions were private hospitals. The generalizability of results may be affected by these factors, especially in rural and government hospital settings.
- Self-Reported Data: As responses were based on self-reported perceptions, there is a possibility of social desirability bias, personal attitudes, or institution culture influencing the accuracy of reported awareness and attitudes.
- Cross-Sectional Design: The research used a cross-sectional design in which perceptions were collected at one point in time. As policies and practices change over time, this limits the ability to observe changes in awareness, attitudes, or readiness.
- Limited Measurement of Outcomes: There was very limited measurement of outcomes in study. Researchers measured perceptions only (awareness, attitudes, readiness, role clarity). Measurement of patient outcomes, clinical effectiveness or institutional

efficiencies could have provided stronger evidence of impact of NP integration.

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