

Perceived Nursing Communication Among Cardiology and Neurology Inpatients: A Cross-Sectional Comparative Study

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Abstract

Communication is a recurrent component of inpatient nursing care, yet patient-reported communication quality can vary across clinical contexts and across specific relational behaviours.

This study examined perceived nursing communication among adult Cardiology and Neurology inpatients, compared departmental scores, and identified communication behaviours that were experienced more or less favourably.

A quantitative cross-sectional comparative design was used with 124 adult inpatients, equally allocated to Cardiology (n = 62) and Neurology (n = 62). Participants completed a 10-item Perceived Nursing Communication Questionnaire assessing clarity, comprehensibility, listening, respect, responsiveness, empathy, comfort in asking questions, reassurance, non-verbal attentiveness, and checking understanding. Total scores ranged from 10 to 50. Descriptive statistics, internal-consistency analysis, Welch's independent-samples t test, effect size estimation, and supplementary associations with demographic and hospitalization characteristics were examined.

The mean communication score was 31.77 (SD = 8.78; range = 13–50), and internal consistency was good (Cronbach's α = .891). Respectful communication had the highest item mean (M = 3.38), whereas comfort in asking questions (M = 2.92) and empathy (M = 2.98) were lower. Cardiology participants reported somewhat higher communication scores (M = 33.08, SD = 8.91) than Neurology participants (M = 30.45, SD = 8.51), but the difference was not statistically significant, Welch's $t(121.75) = 1.68$, $p = .096$, $d = .30$.

Submitted : July 30, 2026

Published : August 30, 2026

DOI: doi.org/10.65320/jce.vol.1.issue4.41

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Patient perceptions were broadly comparable across departments, but item-level findings indicate potentially actionable gaps in psychological safety and empathic communication. Behaviour-specific patient feedback may be more useful for quality improvement than broad departmental ranking.

Keywords: Nurse-Patient Communication | Patient-Centred Care | Inpatient Experience | Cardiology | Neurology | Therapeutic Communication

I. INTRODUCTION

Hospital admission is not only a biomedical event. It places patients inside an unfamiliar social and organizational environment in which ordinary routines are interrupted, information is delivered under conditions of uncertainty, and many basic activities become dependent on healthcare professionals. For patients, the quality of care is therefore experienced partly through interpersonal encounters: whether explanations are understandable, whether questions are welcomed, whether concerns are heard, and whether staff responses communicate respect and attentiveness. Patient-centered care frameworks have long treated these interpersonal processes as integral to quality rather than as optional additions to technical treatment (Institute of Medicine, 2001; Epstein & Street, 2011).

Nurses occupy a distinctive position in this environment because contact is repeated across shifts and across multiple phases of inpatient care. A physician consultation may be episodic, whereas nursing communication occurs during medication administration, monitoring, procedures, mobility assistance, symptom reporting, education, discharge preparation, and responses to immediate requests. The patient's impression of communication is therefore cumulative. It is formed through many brief interactions, not necessarily through one extended conversation. This cumulative character makes nursing communication especially relevant to patient experience and also makes it difficult to reduce quality to a single global judgment.

Communication in nursing includes informational and relational functions. Informationally, nurses explain procedures, clarify instructions, respond to questions, and check whether important messages have been understood. Relationally, they listen, acknowledge concerns, communicate respect, provide realistic reassurance, and use non-verbal behaviours that indicate attentiveness. Kourkouta and Papathanasiou (2014) described communication as fundamental to nursing practice because assessment, education, support, and care coordination all depend on effective information exchange. Kwame and Petrucka (2021) similarly emphasized that patient-centered nurse–patient communication is shaped by institutional, environmental, personal, and communication-related conditions rather than by interpersonal skill alone.

The distinction between informational accuracy and patient-perceived communication quality is important. Information can be clinically correct yet remain difficult to understand. A courteous interaction can still leave a patient uncertain if opportunities for clarification are absent. Conversely, a patient may receive an explanation that is technically concise but experience it as supportive because the nurse notices confusion, adapts the wording, and invites questions. Patient-centered communication therefore involves more than the transmission of facts; it includes the creation of shared understanding and a relationship in which the patient can participate meaningfully (Epstein & Street, 2011; Street et al., 2009).

Street et al. (2009) proposed several pathways through which clinician–patient communication may influence health-related outcomes, including knowledge, therapeutic alliance, emotional management, social support, patient agency, and decision quality. The model is useful for nursing because routine inpatient communication may activate several of these pathways simultaneously. A clear explanation can improve understanding, an invitation to ask questions can support participation, and an empathic response can help the patient feel recognized. Evidence from randomized trials also suggests that the quality of the patient–clinician relationship can have measurable, although generally modest, effects on healthcare outcomes (Kelley et al., 2014).

Recent evidence continues to support communication as a modifiable component of care. Jesus et al. (2025), in a systematic review of interventions intended to improve patient experience with provider communication, found that implementation intensity matters; substantial training and coaching strategies were more promising than minimal interventions. Li et al. (2025) similarly reported in a systematic review and meta-analysis that nursing interventions incorporating communication, education, interaction, and rounds improved several dimensions of patient experience. These findings do not imply that communication alone determines patient outcomes, but they support its relevance as an actionable quality domain.

Measurement remains a central challenge. Patient experience, satisfaction, communication quality, therapeutic relationship, and service quality are related constructs but are not interchangeable. Global satisfaction can be influenced by expectations, amenities, treatment outcome, waiting time, and prior experiences. Behaviour-specific communication questions can provide more direct information about what patients actually experienced. Ahmed et al. (2014) emphasized the conceptual and methodological complexity of patient-experience measurement, including the need to distinguish specific

experiences from broad evaluative judgments. A communication instrument that asks about observable or recognizable behaviours may therefore offer more actionable information than a single overall satisfaction rating.

Contemporary reviews also indicate that nursing communication measurement is heterogeneous. Al Sulaimi et al. (2026) reviewed instruments used to assess the quality of nurses' communication during acute hospitalization and highlighted variation in measurement approaches. Their review reinforces two methodological points relevant to the present study: first, communication is multidimensional; second, instrument scores should be interpreted in relation to the behaviours actually represented rather than treated as a universal measure of all nurse–patient interaction. This is particularly important when a study-specific questionnaire is used.

Cardiology and Neurology are useful contexts for examining these issues because both involve serious illness and repeated nursing contact while creating different communication demands. Cardiology patients may need explanations concerning monitoring, procedures, medication, activity, risk, recurrence, and self-management. Neurology patients may face uncertainty about mobility, sensation, cognition, speech, memory, independence, and recovery. Even when patients with severe communication or cognitive impairment are excluded from survey research, neurological illness may increase the need for pacing, repetition, non-verbal attentiveness, and opportunities to clarify information.

Departmental comparisons should nevertheless be interpreted cautiously. A specialty label does not determine communication quality. Staffing, workload, acuity, ward routines, leadership, case mix, language, health literacy, and individual patient expectations can all influence communication. Department is therefore best treated as a contextual grouping variable rather than a causal exposure. A statistically significant departmental difference, if observed, would

identify a pattern requiring explanation; a nonsignificant difference would not prove that communication processes are identical.

The psychological concept of uncertainty provides an additional rationale for examining communication during hospitalization. Mishel (1988) proposed that uncertainty arises when illness-related events are ambiguous, complex, unpredictable, or difficult to structure. Nursing communication cannot remove uncertainty inherent in disease, but it can reduce avoidable ambiguity by explaining what is known, what will happen next, and how the patient can seek clarification. In this sense, communication quality may influence how manageable the hospital environment feels even when it does not alter the underlying diagnosis.

The present study focused on patient-perceived nursing communication among adult Cardiology and Neurology inpatients. Rather than treating communication as a single undifferentiated construct, the questionnaire represented ten behaviours: explaining treatment and procedures, using understandable language, listening to concerns, communicating politely and respectfully, responding promptly, showing empathy, creating comfort in asking questions, providing reassurance, using attentive non-verbal communication, and checking understanding. These behaviours map onto informational, relational, and participatory dimensions of patient-centered care.

The study had three linked aims. First, it described the overall level and item-level pattern of perceived nursing communication. Second, it compared communication scores between Cardiology and Neurology inpatients using balanced departmental groups. Third, it examined whether basic demographic and hospitalization characteristics were associated with communication scores in supplementary analyses. The principal null hypothesis was that perceived nursing communication would not differ significantly between Cardiology and Neurology inpatients. Because the design was cross-sectional

and nonexperimental, all interpretations were restricted to observed associations and group differences rather than causal effects.

A. 1.1 Conceptual and Empirical Rationale

Patient-centered care provides the broad service-quality framework for interpreting nursing communication. The Institute of Medicine (2001) defined patient-centeredness in terms of care that is respectful of and responsive to individual patient preferences, needs, and values. In practical terms, responsiveness cannot occur without communication. Patients must be able to receive information in a form they can understand, express concerns, and obtain responses that acknowledge their perspective. Epstein and Street (2011) further argued that patient-centered care has both ethical and clinical value: respect for persons is important in itself, while communication can also influence understanding, trust, decisions, and engagement. These arguments make communication a substantive component of care quality rather than a hospitality attribute.

Peplau's interpersonal view of nursing, although developed in an earlier clinical era, remains conceptually relevant because it treats the nurse-patient relationship as part of the therapeutic process rather than as a neutral channel through which technical tasks are delivered. Contemporary inpatient care is faster, more technologically complex, and more fragmented across teams, yet the patient still encounters nursing care through relationships. A medication is administered by a person; a procedure is prepared through explanation; deterioration is often first communicated through the patient's report of symptoms; discharge education depends on dialogue. The interpersonal dimension therefore persists even when care becomes more technologically intensive.

The communication pathway model proposed by Street et al. (2009) helps connect these relational processes with outcomes without assuming a direct or deterministic effect. Communication may work by improving access to information, creating shared understanding, strengthening the

therapeutic relationship, helping patients manage emotion, supporting social connection, increasing agency, or improving decisions. For an inpatient nurse, these pathways may be activated through ordinary behaviours. Explaining why a test is delayed can reduce avoidable ambiguity; acknowledging a patient's fear can help emotional processing; inviting a question can increase participation; checking understanding can prevent an incorrect interpretation from persisting. The model therefore supports behaviour-level measurement.

This pathway perspective also guards against an exaggerated interpretation of communication effects. Health outcomes are produced by disease severity, treatment effectiveness, physiology, social circumstances, psychological resources, and healthcare systems as well as interpersonal care. Kelley et al. (2014) found that patient-clinician relationship interventions produced a small overall improvement in health outcomes across randomized trials. A small effect in this context is not trivial; it is consistent with the idea that relationship quality is one influence within a multicausal system. The same logic applies to patient experience: communication can matter substantially without explaining all variation in how patients evaluate care.

Nursing communication also occurs under organizational constraints. Patient-centered ideals can be difficult to enact when nurses face high workload, interruptions, inadequate privacy, language discordance, or competing clinical priorities. Kwame and Petrucka (2021) emphasized barriers and facilitators at patient, provider, and system levels. This multilevel view is essential for interpreting patient ratings. A low score for responsiveness may reflect interpersonal behaviour, but it may also reflect staffing pressure or workflow design. A low score for comprehensibility may reflect wording, but it may also reflect health literacy, language, fatigue, medication effects, or sensory impairment. Patient report captures the experience that results from these interacting conditions; it does not identify the cause by itself.

For this reason, behaviour-specific feedback is preferable to punitive interpretation. If patients consistently report that they do not feel comfortable asking questions, the quality-improvement response should examine interaction norms, staff workload, hierarchy, language, and opportunities for participation rather than simply instructing nurses to "communicate better." Similarly, a comparatively low empathy score can prompt observation and coaching around acknowledgment, listening, and non-verbal attention. The purpose of measurement is strongest when it supports diagnosis of a process problem and evaluation of improvement.

The distinction between communication experience and satisfaction also has methodological consequences. Satisfaction asks whether care met or exceeded expectations; experience asks what occurred. Two patients can receive the same communication and report different satisfaction because their expectations differ. Conversely, patients may express high satisfaction despite identifiable communication gaps because they are grateful for treatment or reluctant to criticize staff. Ahmed et al. (2014) noted the conceptual complexity of measuring patient experience and the importance of clear construct definition. The present study therefore used statements about recognizable nursing behaviours and interpreted the resulting total as perceived communication quality rather than global satisfaction.

Recent systematic reviews reinforce both the value and the complexity of communication improvement. Jesus et al. (2025) reviewed provider-communication interventions and implementation strategies and found that stronger implementation approaches, including substantial training and coaching, were more likely to improve selected patient-experience outcomes. Li et al. (2025) reported that nursing interventions involving communication, education, interaction, and rounds improved several patient-experience dimensions. Together, these reviews suggest that communication is modifiable, but they also imply

that improvement is unlikely to result from slogans or one-off reminders. Skill acquisition, feedback, reinforcement, and supportive work systems are likely to be necessary.

The present Cardiology–Neurology comparison was motivated by context rather than an assumption that one specialty should communicate better. Cardiology care frequently requires rapid explanation of investigations, procedures, medications, monitoring, and risk. Patients may need to integrate immediate inpatient information with longer-term self-management. Neurology care can involve similarly high information demands while adding possible changes in cognition, speech, attention, sensation, or mobility. These features may affect both the patient’s communication needs and the ease with which communication is achieved. A balanced comparison can therefore identify whether broad specialty context is associated with patient ratings, while item-level results can reveal needs that cut across specialties.

Finally, the study’s emphasis on item-level interpretation reflects the multidimensional nature of communication. Clarity, listening, respect, responsiveness, empathy, reassurance, non-verbal attentiveness, participation, and confirmation of understanding are related but not interchangeable. A nurse can perform strongly in one domain and less strongly in another. A total score is useful for statistical comparison, but it compresses this profile. For clinical application, the profile matters because interventions need a behavioural target. The present analysis therefore reports both the reliable total score and the individual item means, allowing statistical economy without losing practical specificity.

II. METHOD

A quantitative, cross-sectional comparative design was used. The design was selected because the study sought to estimate patient-reported communication scores at one period of hospitalization and to compare two clinical departments without manipulating care. The

analytic emphasis was descriptive and associational. No causal inference was intended. The study population comprised adult inpatients receiving care in Cardiology or Neurology. The final analytic sample contained 124 participants, with equal allocation to Cardiology ($n = 62$) and Neurology ($n = 62$). Equal group sizes improved the precision and interpretability of the direct departmental comparison. Recruitment was most accurately characterized as department-stratified consecutive sampling with equal allocation: eligible patients were approached within each department until the target number was reached. This description avoids implying random selection in the absence of a complete sampling frame and formal randomization mechanism.

Participants were adults aged 18 years or older who were admitted to Cardiology or Neurology, clinically stable enough to participate, able to understand the study, and able to provide meaningful self-report. Patients who were critically unstable, unconscious, severely cognitively impaired, unable to provide informed consent, or affected by a communication impairment that prevented valid self-report were excluded. These criteria mean that the findings apply to survey-capable adult inpatients and should not be generalized automatically to intensive care, severe cognitive impairment, or patients requiring specialized augmentative communication.

Demographic and hospitalization information included age, gender, educational level, department, length of current hospital stay, and admission status (first admission or readmission). Participant codes rather than names were used in the analytic dataset.

Perceived nursing communication was assessed with a 10-item study-specific Perceived Nursing Communication Questionnaire. Items asked whether nurses clearly explained treatment and procedures, provided information in an understandable way, listened carefully to concerns, communicated politely and respectfully, responded promptly when assistance was needed,

showed empathy and understanding, made the patient feel comfortable asking questions, provided reassurance during worry or uncertainty, used attentive non-verbal communication, and checked whether information or instructions had been understood. Responses ranged from 1 (strongly disagree) to 5 (strongly agree). Item scores were summed to produce a total score from 10 to 50, with higher scores indicating more favourable perceived nursing communication.

The instrument was intentionally described as study-specific rather than as a standardized nursing communication scale. Internal consistency was evaluated using Cronbach's alpha and corrected item-total correlations. This distinction is important because high internal consistency in one sample does not establish construct validity, test-retest reliability, criterion validity, or cross-cultural invariance. The total score was used only after confirming that the items functioned coherently as a set.

Data were screened for missing values, duplicate participant identifiers, out-of-range item responses, and internal inconsistencies before analysis. Descriptive statistics summarized participant characteristics and communication scores. Continuous variables were reported using means, standard deviations, medians, and ranges where informative; categorical variables were summarized using frequencies and percentages. Item-level means and standard deviations were examined to identify relatively stronger and weaker communication behaviours.

The primary departmental comparison used Welch's independent-samples *t* test because it provides valid inference without requiring equal population variances. The magnitude of the group difference was summarized using Cohen's *d* and a confidence interval for the mean difference. Distributional assumptions were examined rather than inferred from sample size alone. Supplementary analyses assessed the relationship of communication scores with age and length of stay using Pearson correlations and examined communication differences by gender, admission

status, and education. An exploratory multiple regression was considered only as a secondary analysis because the study was not designed to establish a multivariable causal model.

All tests were two-sided with alpha set at .05. Statistical significance was not treated as the sole criterion for interpretation. Effect sizes, confidence intervals, direction of estimates, and the study design were considered together. This approach is particularly important in a sample of 124 participants, where small effects may be imprecisely estimated and nonsignificant results may still be compatible with clinically relevant differences.

Participation was voluntary, and the questionnaire was designed without direct personal identifiers. The study materials state that refusal would not affect treatment or hospital services and that responses were intended for academic and research purposes. For journal submission, the final manuscript should report the institutional ethics committee and hospital approval identifiers exactly as documented in the study records; these identifiers were not present in the dissertation file used to prepare this manuscript and are therefore not invented here.

III. RESULTS

The analytic dataset contained 124 participant records. Cardiology and Neurology each contributed 62 participants. No missing values or duplicate participant identifiers were reported in the communication dataset. The mean age was 56.15 years (*SD* = 11.98; range = 20–82), and the mean length of stay was 8.61 days (*SD* = 3.37; range = 4–17). Men represented 54.0% of the sample and women 46.0%. Graduates formed the largest educational category (36.3%), followed by secondary education (29.0%), primary education (21.0%), and postgraduate education (13.7%). Most participants were experiencing a first-time admission (71.0%).

Table 1

Participant demographic and hospitalization characteristics

Characteristic	Category	n	%
Department	Cardiology	62	50.0
	Neurology	62	50.0
Gender	Male	67	54.0
	Female	57	46.0
Education	Primary	26	21.0
	Secondary	36	29.0
	Graduate	45	36.3
	Postgraduate	17	13.7
Admission status	First-time admission	88	71.0
	Readmission	36	29.0

The Perceived Nursing Communication Total had a mean of 31.77 (SD = 8.78), a median of 32, and an observed range from 13 to 50. The corresponding average item score was approximately 3.18 on the five-point response scale. The observed range and dispersion indicate that participants did not simply provide uniformly positive responses; perceptions varied substantially across the sample.

Internal consistency of the ten communication items was good, Cronbach's $\alpha = .891$. Corrected item-total correlations ranged from approximately .58 to .70, and removal of individual items did not improve reliability meaningfully. These results support summation of the items for analysis in this sample while not establishing broader validation of the questionnaire.

Item-level analysis showed a differentiated pattern. Polite and respectful communication received the highest mean rating (M = 3.38, SD = 1.20). Ease of understanding and checking understanding both averaged 3.27, while reassurance and attentive non-verbal communication each averaged 3.24. The lowest mean concerned comfort in asking nurses questions (M = 2.92, SD = 1.33), followed by empathy and understanding (M = 2.98, SD = 1.20). Thus, the most favourable ratings concerned courtesy, whereas the less favourable ratings involved psychological safety in asking questions and perceived empathic engagement.

Table 2

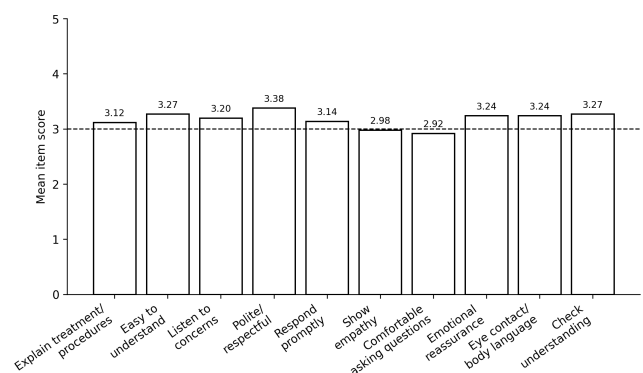
Perceived nursing communication item descriptives

Item	Communication behaviour	M	SD
1	Explain treatment/procedures	3.12	1.25
2	Easy to understand	3.27	1.20
3	Listen to concerns	3.20	1.26
4	Polite/respectful	3.38	1.20
5	Respond promptly	3.14	1.20
6	Show empathy	2.98	1.20
7	Comfortable asking questions	2.92	1.33
8	Emotional reassurance	3.24	1.23
9	Eye contact/body language	3.24	1.23
10	Check understanding	3.27	1.24

The item-level pattern is summarized visually in Figure 1. The profile shows that respectful communication was rated most favourably, whereas comfort in asking questions and perceived empathy were lower than the other communication behaviours.

Figure 1

Mean Perceived Nursing Communication Item Scores



Note. Item means are based on N = 124. Items were rated from 1 (strongly disagree) to 5 (strongly agree). The dashed horizontal line marks the scale midpoint of 3.00. Higher scores indicate more favourable perceived nursing communication.

The primary departmental comparison showed that Cardiology participants reported a mean

communication score of 33.08 (SD = 8.91), whereas Neurology participants reported a mean of 30.45 (SD = 8.51). The mean difference was 2.63 points. Welch's t test yielded $t(121.75) = 1.68$, $p = .096$. The 95% confidence interval for the mean difference extended from -0.47 to 5.73 , and Cohen's d was $.30$. The point estimate therefore favoured Cardiology by a small standardized magnitude, but the interval included no difference and the null hypothesis was not rejected at the $.05$ level. Levene's test was nonsignificant ($p = .579$), and the overall communication score did not show evidence of marked departure from normality (Shapiro–Wilk $p = .224$).

Table 3

Departmental comparison of perceived nursing communication

Department	n	M	SD	Mean difference	Effect size
Cardiology	62	33.08	8.91	2.63	$d = .30$
Neurology	62	30.45	8.51		

Note. Welch's $t(121.75) = 1.68$, $p = .096$; 95% CI for the mean difference $[-0.47, 5.73]$.

Figure 2 displays the departmental means and 95% confidence intervals. The visual overlap is consistent with the inferential result: the Cardiology mean was higher, but the uncertainty around the estimates was sufficient that a clear departmental separation could not be established.

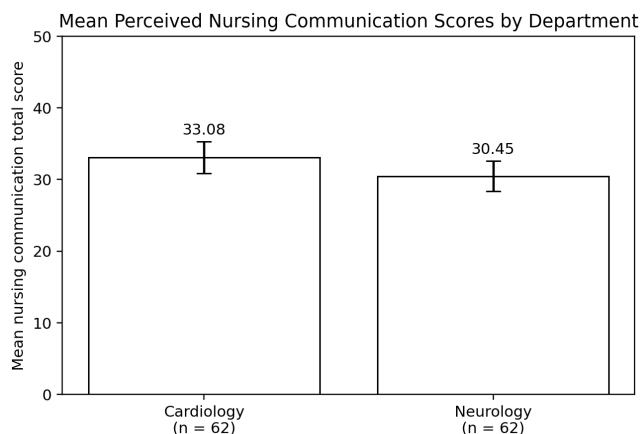


Figure 2. Mean perceived nursing communication scores by department. Error bars represent 95% confidence intervals. The departmental difference

was not statistically significant, Welch's $t(121.75) = 1.68$, $p = .096$, Cohen's $d = .30$.

Supplementary analyses did not identify strong demographic or hospitalization correlates of communication. Age showed a small positive correlation with communication, $r = .162$, $p = .073$, whereas length of stay was essentially unrelated to communication, $r = .005$, $p = .955$. Communication scores did not differ significantly by gender, $t = .279$, $p = .781$, $d = .05$, or by admission status, $t = .307$, $p = .760$, $d = .06$. Educational groups also did not differ significantly, $F = .767$, $p = .515$, $\eta^2 = .019$. These estimates suggest that the communication score was not strongly patterned by the basic characteristics measured in this sample.

Table 4

Supplementary associations with perceived nursing communication

Characteristic	Analysis	Statistic/effect	p
Age	Pearson correlation	$r = .162$	.073
Length of stay	Pearson correlation	$r = .005$	.955
Gender	Independent t test	$d = .05$	.781
Admission status	Independent t test	$d = .06$	.760
Education	One-way ANOVA	$\eta^2 = .019$	.515

IV. DISCUSSION

This study examined how adult Cardiology and Neurology inpatients perceived nursing communication and whether broad departmental context was associated with those perceptions. Three findings are most informative. First, the overall communication score showed substantial variability and good internal consistency, indicating that participants discriminated meaningfully among their experiences rather than responding uniformly. Second, respectful and polite communication was rated most favourably, whereas comfort in asking questions and

perceived empathy were lower. Third, Cardiology patients reported a somewhat higher mean communication score than Neurology patients, but the difference was small and did not reach conventional statistical significance. Basic demographic and hospitalization characteristics were also weakly related to communication.

The overall mean of 31.77 on a possible 10–50 scale places the sample around the middle-to-moderately-positive portion of the response range rather than near the maximum. This is important because inpatient communication studies can be vulnerable to ceiling effects when patients are reluctant to criticize care or when instruments use broad satisfaction wording. The observed range from 13 to 50 and standard deviation of 8.78 suggest that the questionnaire captured heterogeneous experiences. Behaviour-specific wording may have helped participants distinguish between dimensions of communication that were more and less consistently present.

The internal consistency estimate of $\alpha = .891$ supports use of the summed score in this sample. However, reliability should not be confused with validity. A study-specific questionnaire can be internally coherent while omitting important dimensions, overlapping with general satisfaction, or functioning differently across settings. Al Sulaimi et al. (2026) highlighted substantial variation in how nurse communication is measured during acute hospitalization. The present findings therefore support the questionnaire as a coherent descriptive measure for this dataset, not as a universally standardized instrument. Further work should examine content validity, dimensionality, test–retest reliability, convergent validity, and measurement invariance before wider use.

The strongest item concerned politeness and respect. This is consistent with patient-centered care models in which dignity and respectful treatment are foundational features of quality (Institute of Medicine, 2001; Epstein & Street, 2011). Courtesy is visible and readily judged by patients, even in short interactions. It may also be

reinforced by professional norms and organizational expectations. Yet the comparatively favourable score should not be interpreted as evidence that all communication needs were met. Respect is necessary but not sufficient: a patient can be treated courteously while remaining uncertain, hesitant to ask questions, or emotionally unsupported.

The lowest item, comfort in asking nurses questions, is particularly important because it reflects more than information availability. It reflects whether the interaction creates enough psychological permission for the patient to participate. Patients may remain silent because they fear interrupting busy staff, do not want to appear difficult, assume that professionals should not be questioned, or are uncertain about what they are entitled to ask. In hierarchical healthcare environments, a simple invitation such as “What questions do you still have?” may be more effective than “Do you understand?” because it normalizes clarification rather than requiring the patient to admit confusion. This distinction aligns with patient-centered communication models that treat participation as relationally enabled rather than solely as an individual patient trait (Street et al., 2009; Kwame & Petrucka, 2021).

The relatively low empathy rating also deserves attention. Empathy in inpatient nursing does not necessarily require long counselling encounters. It can be conveyed through recognition of concern, a brief validating response, appropriate non-verbal attention, and realistic acknowledgement of uncertainty. The challenge is that workload and clinical urgency can compress communication into task-focused exchanges. When this occurs repeatedly, patients may receive technically appropriate care but experience the interaction as emotionally thin. Contemporary measurement evidence has likewise identified empathic and non-verbal communication as dimensions requiring careful attention in acute hospital settings (Al Sulaimi et al., 2026).

The distinction between empathy and reassurance is also clinically relevant. Reassurance was rated

more favourably than empathy in the present sample. Reassurance can be helpful when it is anchored in truthful information and a clear next step, but generic reassurance can inadvertently close conversation. A statement that “everything will be fine” may be experienced differently from a response that acknowledges the patient’s worry, explains what is currently known, and describes what the team will monitor. Therapeutic communication therefore depends not only on positive tone but on responsiveness to the meaning of the patient’s concern.

The departmental comparison produced a small effect favouring Cardiology ($d = .30$), but $p = .096$ and the confidence interval for the mean difference crossed zero. The appropriate interpretation is not that the departments were identical. Rather, the available evidence was insufficient to establish a reliable departmental difference in the population from which these participants were drawn. The point estimate leaves open the possibility of a modest difference, and a larger multi-site sample could estimate the departmental contrast more precisely. Reporting the effect size and confidence interval is therefore more informative than reducing the result to a binary “significant/nonsignificant” label.

Several explanations could account for the absence of a clear departmental difference. Communication may be shaped more strongly by ward-level practices, individual nurse behaviour, staffing, patient acuity, language, and moment-to-moment clinical demands than by specialty itself. Cardiology and Neurology also contain heterogeneous diagnoses and care pathways. Treating department as a proxy for a uniform communication environment would therefore be conceptually weak. The current result supports a cautious view: specialty provides context, but it should not be assumed to determine communication quality.

At the same time, Neurology can involve distinctive communication challenges. Even among patients capable of self-report, neurological illness may affect processing speed,

attention, fatigue, speech, memory, sensory function, or confidence. These features can increase the need for repetition, pacing, non-verbal attentiveness, and checking understanding. The slightly lower Neurology mean may therefore be clinically interesting even though it was not statistically conclusive. Future studies should measure communication-related impairment directly rather than infer it from department.

The weak associations with age, gender, education, admission status, and length of stay are also informative. None of these variables showed a statistically significant relationship with communication at the .05 level, and the estimated effects were generally small. This suggests that patient-perceived communication in this sample was not simply a reflection of basic demographic composition. However, nonsignificant effects should not be generalized as universal null relationships. The sample was moderate in size, categories were broad, and potentially important variables such as health literacy, language concordance, disease severity, pain, anxiety, staffing, and nurse–patient ratio were not measured.

Age showed the largest supplementary association, although it remained small and nonsignificant ($r = .162$, $p = .073$). Older patients sometimes report more favourable healthcare experiences, but age can also introduce sensory or cognitive barriers that complicate communication. These competing processes may vary across settings. Education was also weakly related to communication in the present data. Formal educational attainment is an imperfect proxy for health literacy; future research should measure health literacy directly if the goal is to understand comprehension and question asking.

The findings have practical implications for communication improvement. The item pattern argues against relying solely on generic customer-service training. Courtesy was already the strongest domain. Improvement efforts may yield greater value by focusing on behaviours that create participation and emotional recognition:

explicit invitations to ask questions, active listening, teach-back, acknowledgment of worry, and visible attentiveness. Jesus et al. (2025) found that stronger communication interventions tended to involve substantial training and coaching rather than minimal exposure. Li et al. (2025) likewise found that nursing interventions incorporating communication, education, interaction, and rounds can improve patient-experience outcomes. The present descriptive findings help identify which behaviours may merit emphasis.

Teach-back is especially relevant to the item concerning checking understanding. Asking “Do you understand?” can produce a socially desirable “yes” even when the patient remains uncertain. A more interactive approach asks the patient to explain the key information in their own words, allowing the nurse to identify gaps without framing misunderstanding as failure. Although the present study did not test teach-back as an intervention, its patient-centered logic fits the observed need to strengthen question asking and confirmation of understanding.

Communication improvement should also be approached as an organizational issue. Individual nurses communicate within systems that determine workload, interruptions, staffing, continuity, privacy, and time. Kwame and Petrucka (2021) emphasized that barriers to patient-centered communication occur at multiple levels. Consequently, low patient ratings should not be used automatically as evidence of individual professional failure. Aggregate patient feedback is better suited to identifying patterns, designing supportive interventions, and evaluating whether organizational conditions permit the communication behaviours that policy expects. For hospital quality programs, behaviour-specific measures can complement conventional indicators. Mortality, medication safety, length of stay, and readmission are indispensable, but they do not reveal whether patients felt able to ask questions or whether explanations were understandable. Communication data can therefore add a patient-experience layer to quality

monitoring. However, scores should be interpreted with case mix and context in mind. Ranking wards or individual nurses without adjustment or qualitative follow-up risks turning a developmental measure into a punitive metric.

The study also has implications for health psychology. Hospitalization can involve uncertainty, reduced autonomy, fear, and cognitive load. Mishel’s (1988) uncertainty framework helps explain why clarity and responsive interaction may matter psychologically even when communication does not change the disease itself. Patient-centered communication can help patients organize information and understand what will happen next. Although the present manuscript does not make claims about emotional well-being because the dissertation materials contain inconsistent documentation regarding the provenance of WHO-5 responses, the communication findings alone identify an interpersonal feature of hospitalization that is relevant to psychological adaptation.

Several strengths support the present analysis. The two departments were equally represented, allowing a balanced comparison. The communication questionnaire assessed specific behaviours rather than a single global satisfaction item. Internal consistency was evaluated before interpreting the total score. The analysis reported effect size and confidence intervals in addition to p values, reducing reliance on dichotomous significance testing. The item-level results also provide direct practical information that would be lost if only the total score were reported.

The limitations are equally important. The cross-sectional design prevents temporal or causal inference. Consecutive sampling is practical in inpatient settings but does not provide the same population representativeness as probability sampling. The communication questionnaire is study-specific and requires broader psychometric validation. Both communication ratings and demographic information were self-reported, and social desirability may have influenced responses. The study did not measure staffing, nurse

characteristics, language concordance, health literacy, disease severity, pain, anxiety, sleep, prognosis, or treatment burden. Patients with severe cognitive or communication impairment were excluded, which limits generalization to some Neurology populations.

A further limitation concerns setting documentation. The dissertation source used to prepare this manuscript did not provide a publishable hospital identifier, ethics committee approval number, or approval date. These details must be inserted from the authentic study records before journal submission. They should never be reconstructed or inferred from the dataset. Transparent reporting of recruitment dates, setting, ethical approval, and consent procedures will be necessary for compliance with journal and human-participant reporting standards.

Future research should use larger multi-hospital samples and validated communication instruments or undertake formal validation of the present questionnaire. Stratified analyses could examine diagnosis, disease severity, language, health literacy, sensory impairment, and nurse–patient ratio. Repeated measurement could determine whether perceptions change across admission, treatment, and discharge. Qualitative interviews could clarify why some patients hesitate to ask questions and what behaviours they interpret as empathic. Intervention studies could then test whether communication coaching, teach-back, structured question prompts, or patient-centered rounds improve the specific domains identified as weaker.

The findings also suggest a useful measurement strategy for future work: combine a total communication score with domain-specific interpretation. A reliable total score is efficient for comparison and modelling, but item-level patterns identify the behavioural target. If a future intervention improves the total score, investigators should still ask which behaviours changed. Conversely, a stable total score can conceal meaningful improvement in one domain and deterioration in another. Patient-centered

communication is multidimensional, and evaluation should preserve that complexity.

In summary, the study did not establish a statistically significant Cardiology–Neurology difference in perceived nursing communication, but it did reveal a clinically interpretable pattern within communication itself. Respect and courtesy were comparatively strong; empathy and comfort in asking questions were weaker. The practical implication is that communication quality improvement should move beyond politeness toward psychological safety, active participation, and empathic recognition. These are specific, observable behaviours that can be taught, supported, and evaluated without overstating what a cross-sectional patient survey can prove.

An additional interpretive issue is the possibility of common response tendencies. Patients who are generally reluctant to criticize healthcare professionals may rate several communication behaviours favourably, whereas patients who have experienced a difficult admission may evaluate multiple interactions more negatively. Behaviour-specific items reduce but do not eliminate this possibility. Future studies could combine patient report with structured observation, audio-recorded encounters, or nurse self-assessment. Triangulation would help determine whether low ratings reflect specific interaction behaviours, broader ward experience, or differences in patient expectations.

Cross-cultural and linguistic validation is another priority. Communication is interpreted through cultural expectations about hierarchy, eye contact, emotional expression, family involvement, and appropriate questioning of professionals. An item such as “I feel comfortable asking nurses questions” may therefore carry different meanings across patient groups. Translation alone is insufficient; investigators should examine semantic equivalence, cognitive interviewing, and measurement invariance. Such work would strengthen the interpretability of communication scores in multilingual Indian

hospital settings and improve the basis for comparisons across institutions.

A useful implication for implementation is that communication training should be linked to workflow rather than delivered as an abstract interpersonal-skills module. For example, checking understanding can be embedded into medication education and discharge preparation; question invitations can be incorporated into routine bedside rounds; empathic acknowledgment can be practiced in responses to pain, uncertainty, or delayed procedures. Embedding behaviours into recurrent clinical moments makes them observable and easier to reinforce. It also permits quality teams to evaluate fidelity through targeted patient questions rather than relying on attendance at training sessions as evidence that practice has changed. This approach is consistent with the implementation emphasis in Jesus et al. (2025), where intervention intensity and implementation strategy influenced the likelihood of improvement.

The present results also illustrate why statistical and practical interpretation should remain separate. The departmental comparison did not meet the conventional .05 threshold, yet the point estimate was not exactly zero. A small standardized difference of $d = .30$ may or may not matter operationally depending on the context, precision of measurement, and cost of improvement. Conversely, a statistically significant result in a much larger sample could be too small to justify a major service redesign. Reporting the confidence interval, effect size, and item profile allows decision makers to consider magnitude and uncertainty rather than treating p values as a substitute for judgment. This reporting approach is consistent with contemporary expectations for transparent quantitative research.

There is also value in separating patient communication measurement from individual performance appraisal. A patient's rating is an outcome of an interaction embedded within a system. It can reveal that a communication need

was not met, but it cannot by itself determine why. Individual skill, staffing levels, continuity, interruptions, ward layout, language support, clinical urgency, and patient condition may all contribute. Quality improvement is therefore more defensible when communication scores are aggregated, interpreted alongside contextual indicators, and followed by qualitative inquiry or observation. Such an approach protects the validity of patient feedback while avoiding simplistic attribution.

For future Cardiology–Neurology research, a more informative design would move beyond department labels to measure the communication demands that differ between patients. Variables such as hearing or visual impairment, expressive or receptive language difficulty, cognitive screening, health literacy, anxiety, pain, fatigue, and preferred language could be assessed directly. Nurse-level and ward-level variables could then be incorporated using multilevel models if the sample is sufficiently large. This would allow investigators to distinguish patient characteristics from organizational context and to identify whether specific communication adaptations are associated with better patient-reported experiences.

Patient involvement should also extend to the design of future communication measures. Cognitive interviewing with patients can identify wording that is ambiguous, culturally uncomfortable, or interpreted differently from the researcher's intention. Patient representatives can help determine whether important experiences are missing, such as communication with family caregivers, consistency of information across shifts, privacy during conversations, or communication during delays. This participatory approach can strengthen content validity while keeping the instrument focused enough for routine inpatient use. It may also reveal whether the same questionnaire functions appropriately in Cardiology and Neurology or whether a common core should be supplemented with specialty-sensitive items. In this way, measurement

development becomes part of patient-centered practice rather than merely a statistical exercise.

These refinements would also improve reproducibility. A future validation study should preregister scoring rules, missing-data handling, primary contrasts, and the interpretation of total versus item-level scores. Reporting the questionnaire verbatim as supplementary material, together with reliability and factor-analytic evidence, would allow other researchers to evaluate the construct and replicate the work. Such transparency is especially important when a locally developed patient-reported measure is used in place of an established standardized scale.

V. CONCLUSION

Among 124 adult Cardiology and Neurology inpatients, perceived nursing communication showed substantial individual variation and good internal consistency. Cardiology participants reported somewhat higher total communication scores than Neurology participants, but the departmental difference was small and statistically inconclusive. The most favourable ratings concerned polite and respectful communication, whereas comfort in asking questions and perceived empathy were comparatively weaker. These item-level differences are more actionable than a simple departmental ranking. They suggest that inpatient communication initiatives should preserve courtesy while strengthening explicit invitations to participate, empathic acknowledgment, active listening, and confirmation of understanding. Because the study was cross-sectional, based on consecutive sampling, and used a study-specific communication questionnaire, the results should be interpreted as descriptive and comparative rather than causal. Multi-site validation and intervention research are needed to determine whether targeted communication practices improve patient experience across clinical specialties.

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