Original Research Article

Patients' Perception of Nurses' Communication in a University Hospital Center Zagreb: A Cross-Sectional Study

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Abstract

Background: Communication between nurses and patients is crucial for the quality of healthcare, as well as for patient satisfaction and safety. Research shows that effective communication increases trust and leads to better treatment outcomes, while its absence can result in dissatisfaction.

Aim: This study aimed to examine patients' perceptions of communication with nurses and to identify factors influencing it.

Methods: A cross-sectional study was conducted at the University Hospital Centre (UHC) Zagreb during March and April 2025. Hospitalised patients from the Department of Internal Medicine were included. Data were collected using a customised survey questionnaire and analysed using descriptive and inferential statistical methods.

Results: A total of 309 participants took part in the study. The average satisfaction score with communication was 4.41 on a scale from 1 to 5. The highest satisfaction was recorded for approachability, kindness, and consistency in care, while the lowest scores were given for nurse introductions (average 4) and family involvement (average 4.1). A statistically significant association was found between patient gender and satisfaction with communication, with male patients giving higher average ratings (4.5) than female patients (4.3; p=0.007), as well as between the presence of support from loved ones and satisfaction with communication, where patients with support rated communication higher (4.43) compared to those without support (3.97; p=0.031). No statistically significant association was found between patient age or type of hospital accommodation and satisfaction with nurse communication.

Conclusion: The majority of patients participating in the study had a positive perception of communication with nurses. The results highlight the importance of continuous development of communication skills and may serve as a basis for improving work organisation and nurse education in Croatian hospitals.

Keywords: nurse-patient relations; patient satisfaction; communication; nursing care; hospitals

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Introduction

Communication in nursing represents a fundamental process of exchanging information, emotions, and attitudes between nurses and patients, as well as among members of the healthcare team, through verbal, nonverbal, and written forms. It is a two-way process in which patients express their concerns and fears, while nurses provide information about illness, treatment, and rehabilitation, demonstrating empathy, honesty, and discretion (1). Clear and accurate communication in healthcare settings is essential for patient involvement in care and decision-making, and numerous studies have confirmed that effective communication significantly contributes to quality care and patient recovery (2,3).

Effective communication requires a wide range of skills, including active listening, clarity of expression, understanding of patients, and empathy. Nurses, as healthcare professionals who spend the most time with patients, face daily challenges related to communication that extend beyond information exchange to building trust, providing emotional support, recognising individual needs, and respecting cultural and personal differences (2,3). In addition to verbal communication, nonverbal communication—such as facial expressions, gestures, posture, and physical distance—plays a crucial role in nurse–patient interactions. Active listening, involving full attention and awareness of both verbal and nonverbal messages, is essential for understanding patients' needs.

High-quality communication improves treatment outcomes, increases patient satisfaction, and contributes to nurses' professional satisfaction. Therefore, the development of communication skills is a key component of nursing education and continuous professional development, as these skills are necessary for delivering humane, safe, and effective healthcare (8). Poor communication, on the other hand, may lead to misunderstandings, patient confusion, and compromised safety (9).

Empathy is a concept frequently emphasised in the literature on nursing communication. Empathic communication enables nurses to better understand patients' emotions and experiences, fostering trust and improving the quality of care and treatment outcomes. Although its importance is widely recognised, empathic communication is not yet clearly defined in the scientific literature, particularly in hospital settings, highlighting the need for further research (3,4).

Several studies have identified significant barriers to effective communication, including language differences, workload, staff shortages, organisational factors, family interference, and stressful working environments (5,7). These barriers negatively affect nurses' motivation, emotional well-being, and ability to establish meaningful relationships with patients. Research also shows that patient dissatisfaction and complaints are often related to a lack of empathy, respect, and individualised care, which can reduce trust in the healthcare system (6).

Although some of the cited studies originate from healthcare and cultural contexts different from Croatia, they were included because they address universal dimensions of nurse–patient communication—such as empathy, respect, and clarity—which are consistently recognised as fundamental components of quality nursing care across diverse settings.

Overall, existing evidence clearly indicates that the quality of communication between nurses and patients is a crucial determinant of healthcare outcomes. Despite extensive research, there remains a need for further investigation into factors influencing communication perception, particularly within specific healthcare contexts such as large clinical hospital centers in Croatia. Such research is necessary to identify existing weaknesses, support continuous improvement of communication skills, and enhance the overall quality of nursing care.

This study aimed to examine patients' perceptions of the communication of nurses and to identify the factors influencing it.

Materials and Methods

Study design

A cross-sectional study was conducted.

Ethics

The study protocol was approved by the Ethics Committee of the University Hospital Centre Zagreb (approval number: 02/013 AG, March 3, 2025). This approval ensured compliance with ethical standards of the research process, including the protection of participants' rights, dignity, and safety. Prior to participation, all patients provided written informed consent, which explained the purpose of the study, data usage, anonymity, and the right to withdraw from the study at any time without any negative consequences for their care. The informed consent form specified that all collected data would be used solely for scientific purposes.

Study Setting and Period

The study was conducted at the Department of Internal Medicine, University Hospital Centre Zagreb (UHC), Croatia. Data were collected during March and April 2025. This time frame allowed for an adequate period of data collection.

Participants

The study population consisted of adult hospitalised patients. A convenience sample was used, comprising patients aged 18 years or older who were hospitalised at the Department of Internal Medicine, University Hospital Centre (UHC), Zagreb, during the study period. Patients with cognitive impairments that prevented them from completing the questionnaire were excluded from the study.

Procedures

The study used a questionnaire originally developed and validated in the study *Patients' perceptions of nurses' communication in public hospitals of Harari Regional State, Eastern Ethiopia* by Yazew Bekele et al., published in SAGE Open Medicine in 2022 (1). The instrument uses a Likert-type response scale. For the purposes of this study, the questionnaire was translated and culturally adapted to the Croatian context, including minor linguistic modifications and the exclusion of one item not applicable to nursing practice in Croatia. Although a pilot test was conducted to assess clarity and comprehensibility, the Croatian version of the questionnaire has not undergone full psychometric validation. Therefore, the results should be interpreted with caution.

The questionnaire used in this study consisted of three parts. The first part included five items related to participants' socio-demographic characteristics, such as gender, age, level of education, employment status, and perceived support from family and/or friends during treatment.

The second part comprised four items assessing hospitalisation-related characteristics, including length of hospital stay, previous hospitalisation experience, type of hospital room (single or shared), and perception of the hospital environment (e.g., noise and activity level).

The third part consisted of 24 items assessing patients' perceptions of nurses' communication during hospitalisation. Responses were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The items covered multiple dimensions of nurse–patient communication, including respect and courtesy, empathy, emotional support, responsiveness to patient needs, clarity and accuracy of information, involvement of patients and their families in care, protection of privacy and confidentiality, as well as verbal and nonverbal communication behaviours. The item related to informing patients about test results was excluded from the original questionnaire, as this responsibility does not fall within the scope of nursing practice in Croatia.

The questionnaires were completed anonymously. Paper-based questionnaires were distributed to patients during hospitalisation. Although nurses employed at the Department of Internal Medicine assisted in facilitating access to patients, data collection was organised in a way that ensured that nurses were not present during questionnaire completion and did not influence patients' responses.

Data Analysis

The first step of data analysis involved describing the basic characteristics of the participants and their responses. For categorical variables, such as sex, age groups, or type of hospital accommodation, frequencies and percentages were calculated.

For continuous variables, such as ratings of different aspects of nurses' communication (e.g., kindness, clarity of information, family involvement), means (arithmetic averages) and standard deviations were calculated.

Data were analysed using descriptive and inferential statistical methods. Categorical variables were presented as frequencies and percentages, while continuous variables were expressed as means and standard deviations. Differences between groups were examined using a t-test and ANOVA. Statistical significance was set at $p<0.05$. All analyses were performed using appropriate statistical procedures to address the study objectives. All statistical analyses were performed using SPSS version 28 (IBM Corp., USA), which enables accurate and reliable data processing.

Results

A total of 309 hospitalised patients participated in this study. During the study period, questionnaires were distributed to 322 eligible patients, of whom 309 completed and returned the questionnaire, corresponding to a response rate of 96%. The socio-demographic characteristics of the participants are presented in Table 1. The distribution by sex showed an almost equal representation of males and females in the sample. Of the total number of participants, 162 (52%) were female, and 147 (48%) were male. Regarding age distribution, the largest proportion of participants were aged over 65 years, comprising a total of 99 patients. Other age groups were relatively evenly represented, although younger patients accounted for a slightly smaller proportion, indicating a higher frequency of hospitalisation among the older population (Table 1).

Analysis of educational level showed that most of participants (N=141; 46%) had completed secondary education. As shown in Table 1, a smaller proportion of participants had higher educational attainment, including college or university education, indicating a predominance of secondary education among hospitalised patients.

Characteristics of Hospitalisation and Hospital Stay Conditions

Hospitalisation characteristics of the participants and conditions of hospital stay are presented in Table 2. Regarding the length of hospitalisation, stays longer than five days were the most frequently reported, representing the largest proportion of the sample. In terms of previous hospitalisation experi-

Table 1. *Socio-demographic characteristics of participants (n = 309)*

Characteristic	Category	Frequency	Percentage (%)
Gender	Female	162	52
	Male	147	48
Age	18–24 years	13	4.2
	25–34 years	26	8.4
	35–44 years	35	11
	45–54 years	61	20
	55–64 years	75	24
	65+ years	99	32
Level of education	Primary school	40	13
	Secondary school	141	46
	College	53	17
	Undergraduate degree	20	6.5
	Graduate degree	47	15
	PhD	8	2.6

ence, the majority of participants (80%) reported having been hospitalised previously.

Regarding the type of accommodation, the majority of participants (85%) were accommodated in shared rooms during hospitalisation. Furthermore, when asked whether the hospital environment was noisy and busy, most participants (68%) did not perceive it as noisy (Table 2).

Perception of Nurses' Communication

The mean scores of patients' ratings of various aspects of nurses' and communication are presented in Table 3 and provide insight into patients' perceptions of healthcare staff communication during hospitalisation.

The highest mean scores were recorded for items related to direct and expected

Table 2. *Characteristics of hospitalisation and conditions of stay (n = 309)*

Characteristic	Category	Frequency	Percentage (%)
Family support	Yes	299	96.8
	No	10	3.2
Length of hospital stay	1–2 days	42	14
	3–4 days	64	21
	≥5 days	203	66
Previous hospitalisation	Yes	246	80
	No	63	20
Type of room	Private	45	15
	Shared	264	85
Noise level	Noisy	98	32
	Quiet	211	68

Table 3. *Average ratings of patients' perceptions of nurses' communication at UHC Zagreb (n = 309)*

Variable	Mean	SD
1. The nurse greeted me upon admission.	4.7	0.60
2. Nurses were helpful and showed care to reduce stress, anxiety, hopelessness, and pain.	4.6	0.76
3. Nurses respected my privacy and confidentiality.	4.6	0.77
4. Nurses showed me empathy.	4.3	1.03
5. Nurses earned my trust.	4.5	0.78
6. When I had physical or psychological needs, nurses provided appropriate support.	4.5	0.74
7. Nurses introduced themselves.	4.0	1.22
8. Nurses were attentive to my physical and psychological needs.	4.6	0.67
9. Nurses addressed my concerns/complaints.	4.4	0.90
10. Nurses gave me time to express my feelings to them.	4.2	1.05
11.Nurses addressed me by name.	4.3	1.07
12. Nurses responded to my calls for help.	4.6	0.69
13. Nurses maintained appropriate eye contact during communication.	4.3	0.91
14. Nurses discussed my preferences regarding medication administration.	4.4	0.93
15. Nurses encouraged me and my family to communicate freely.	4.3	0.95
16. Nurses were humble and kind during communication.	4.5	0.81
17. Nurses made efforts to clarify all my doubts.	4.3	0.93
18. Nurses displayed pleasant nonverbal gestures.	4.3	0.88
19. Nurses provided accurate information about the tests I needed.	4.4	0.90
20. Nurses sought my consent before performing procedures.	4.5	0.88
21. Nurses used appropriate tone and voice.	4.4	0.84
22. Nurses communicated with my family and included them in the care process.	4.1	1.07
23. Nurses delivered care according to the agreed plan.	4.6	0.64

nurse–patient interactions. For example, the statement "Nurses provided care as agreed" received a very high mean score of 4.6, indicating a high level of professionalism and consistency in patient care.

Factors Associated with the Perception of Nurses' Communication

This section focuses on factors associated with patients' satisfaction with communication with nurses, specifically sex, age, type of accommodation (private or shared room), and perceived support from family and friends, as presented in Table 4. The results indicate a difference in communication ratings according to patient sex. Male patients reported a higher mean satisfaction score for communication (4.52), whereas female patients reported a slightly lower mean score (4.31). This difference was statistically significant (p=0.007), indicating that male patients were more satisfied with communication with nurses than female patients.

Analysis of mean satisfaction scores across age groups showed that perceptions of communication slightly increased with age; however, the oldest age group was not necessarily the most satisfied. The highest mean score was reported by patients aged 55–64 years (4.53), while patients older than 65 years rated communication at 4.46. Younger age groups also reported high levels of satisfaction, with mean scores ranging from 4.23 to 4.42.

The type of accommodation (private or shared room) was not significantly associated with perceptions of communication with healthcare staff. Patients in private rooms reported a mean score of 4.42, while those in shared rooms had a mean score of 4.41. The difference was minimal and not statistically significant (p=0.884).

The presence of support from family members or friends during hospitalisation emerged as an important factor associated with satisfaction with communication. Patients who received support from close persons reported a mean score of 4.43, whereas patients without such support reported a substantially lower mean score of 3.97. This difference was statistically significant (p=0.031), indicating a positive influence of emotional and practical support on patients' communication experiences with nurses.

Discussion

This study, conducted among a convenience sample of hospitalised patients, showed that patients generally reported a high level of satisfaction with nurses' communication, with mean scores above 4.0 on a 1–5 scale. The highest-rated aspects were respect for privacy, professionalism, and consistency in care delivery, while the lowest-rated aspects were nurse introductions and family involvement. These findings indicate that patients value fundamental human and professional qualities, in line with previous research.

Similar results were observed in Bekele et al. (2020) in Harar, Ethiopia, where patients rated privacy and consent highly, while

Table 4. *Statistically significant factors associated with patient perceptions of nurses' communication at UHC Zagreb (n = 309)*

Factor	Category	Mean Satisfaction Score	p-value
Patient sex	Female	4.31	0.007
	Male	4 .52	
Patient age	Younger age groups	4.23-4.42	
	55-64 years	4.53	
	65+ years	4.46	
Types of hospital accommodation	Private room	4.42	0.884
	Shared room	4.41	
Support from Family / Friends	Yes	4.43	0.031
	No	3.97	

formal communication elements, such as introductions and family inclusion, received lower scores (1). Empathetic and consistent communication has been highlighted as key to patient satisfaction in other studies, including Babaii et al. (2021) in Iran (4).

Significant associations were found between patient satisfaction and sex as well as family support, while age and room type showed no significant effect. Male patients rated communication higher than females, contrasting with findings from Ethiopia, where women reported greater satisfaction. This may reflect cultural differences in expectations; in Croatia, men may have lower expectations or evaluate communication less critically. Similar gender patterns were reported in Sweden, where women more frequently expressed dissatisfaction, suggesting that gender differences in perception may be context-dependent.

Older patients (65+) rated communication highly, but the highest satisfaction was among those aged 55–64, consistent with Iranian and Ethiopian studies where older patients exhibit greater tolerance and lower expectations (5,1). Family support emerged as a crucial factor, significantly enhancing patient satisfaction, aligning with previous studies. Emotional support reduces stress and fosters a sense of security, facilitating communication.

Unlike Bekele et al., no significant difference was observed between private and shared rooms, suggesting that professional nursing care in Croatian public hospitals compensates for the physical environment. Overall, the average satisfaction score in this study (4.41/5) was considerably higher than in Ethiopia (41.9% positive perception), although low-rated aspects—introductions and family involvement—were consistent across contexts (1).

Prior research has identified barriers to effective nurse–patient communication, including workload, fatigue, time constraints, and organisational factors such as staff shortages, stress, and motivation (7,10). Although patients in this study rated communication highly, these systemic challenges may still limit consistency in practice. Empathy and interpersonal skills remain crucial, as they help reduce patient anxiety and improve outcomes (3,4).

In conclusion, patients value basic human approachability, kindness, and consistency, whereas formal communication and family involvement are less consistently practiced. These findings align with the international literature but also highlight context-specific factors, such as the standardized quality of care in Croatian hospitals.

Strengths and Limitations

A major strength of this study is that it provides valuable insight into hospitalised patients' perceptions of nurses' communication at one of Croatia's largest clinical centers, UHC Zagreb. Including patients from various departments of the Clinic for Internal Medicine allowed for diverse experiences and perspectives, offering a broader view of communication satisfaction.

The main limitation is the restricted generalisability of the results. Although 309 patients participated, this sample represents only a small proportion of the annual hospitalised population at UHC Zagreb (59,943 patients in 2022) and includes only one clinic. Thus, the findings may not be representative of all hospitalised patients at UHC Zagreb or other hospitals in Croatia. Younger patients were underrepresented, and the cross-sectional design prevents establishing causal relationships between factors and communication perceptions. Additionally, the questionnaire used in this study was not formally validated, as it represents a translated version of an existing instrument; therefore, the findings should be interpreted with caution and may serve as a basis for future validation and pilot research.

Recommendations for Future Research

Future studies should consider a longitudinal design to monitor communication perceptions throughout hospitalisation, capturing dynamic changes and factors influencing satisfaction at different stages. Including nurses' perspectives would provide valuable

insight into their experiences, challenges, and training needs related to patient communication. Given that the questionnaire used in this study was not formally validated, future research should also focus on its validation and psychometric evaluation. Cross-country comparisons within Europe could further reveal sociocultural influences on communication perceptions. Finally, intervention studies assessing the impact of communication training programmes for nurses could contribute to improving care quality and patient satisfaction.

Conclusion

The study demonstrates that hospitalised patients generally perceive communication with nurses and medical technicians positively, with the highest satisfaction reported for basic human kindness, courtesy, and consistency in care. Lower ratings for nurse introductions and family involvement highlight areas for improvement and potential targets for staff training. Male patients and those with family support reported higher satisfaction, while room type did not significantly influence perceptions, suggesting that standardised professional care can mitigate environmental differences. These findings emphasise the critical role of clear, empathetic, and consistent communication in enhancing patient experience and guiding organisational and educational interventions.

Declarations

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Authors' contributions: BV and KN contributed to the conception and design of the study. BV was responsible for data collection. BV and KN performed data analysis. BV, KN and MV performed the data interpretation. MV drafted the manuscript. All authors critically revised the manuscript for important intellectual content, approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Ethics Considerations: The study protocol was approved by the Ethics Committee of the University Hospital Centre Zagreb (approval number: 02/013 AG, March 3, 2025).

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Data Sharing Statement/Data Availability: The data that support the findings of this study are available from the corresponding author upon request.

References

1. Bekele Y, Worku T, Atnafe G, Debella A, Habte S, Goshu AT, Assebe T. Patients' perceptions of nurses' communication in public hospitals of Harari Regional State, Eastern Ethiopia. SAGE Open Medicine. 2022;10:20503121221097270.
2. Al-Hawaiti MR, Sharif L, Elsayes H. Assertiveness in nursing: a systematic review of its role and impact in healthcare settings. Nurs Rep. 2025;15(3):102.
3. Haribhai-Thompson J, McBride-Henry K, Hales C, Rook H. Understanding of empathetic communication in acute hospital settings: a scoping review. BMJ Open. 2022;12(9):e063375.
4. Babaii A, Mohammadi E, Sadooghiasl A. The meaning of the empathetic nurse-patient communication: a qualitative study. J Patient Exp. 2021;8:23743735211056432.
5. Norouzinia R, Aghabarari M, Shiri M, Karimi M, Samami E. Communication barriers perceived by nurses and patients. Glob J Health Sci. 2015;8(6):65-74.
6. Skär L, Söderberg S. Patients' complaints regarding healthcare encounters and communication. Nurs Open. 2018;5(2):224-32.
7. Gheshlagh RG, Nemati SM, Negarandeh R, Bahramnezhad F, Saqqezi PS, Mahmoodi H. Identifying communication barriers between nurses and patients from the perspective of Iranian nurses: a Q-methodology-based study. BMC Nurs. 2024;23(1):458.
8. Riley JB. Communication in nursing. 10th ed. St. Louis: Elsevier; 2023.
9. Ulutasdemir N, editor. Nursing. 1st ed. London: IntechOpen; 2018.
10. Kargar Jahromi M, Ramezanli S. Evaluation of barriers contributing in the demonstration of an effective nurse-patient communication in educational hospitals of Jahrom, 2014. Glob J Health Sci. 2014;6(6):54-60.