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The level of patient satisfaction with nurses' caring behavior and influencing factors

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Abstract

The implementation of nurses' caring attitudes and behaviors can improve patient satisfaction. This study analyzed patient satisfaction with nurses' caring behavior and factors influencing it at the National Brain Centre Hospital. A quantitative, cross-sectional design with descriptive analysis was used. The inclusion criteria included inpatients at the National Brain Centre Hospital Mahar Mardjono who were willing to fill out the patient satisfaction questionnaire. Independent variables included demographic data, age, gender, employment status, insurance, length of stay, functional status, and caring-based nursing care. Patient satisfaction was the dependent variable. The modified Indonesian Caring-Based Stroke Patient Satisfaction Questionnaire (InCa_SPSQ), Barthel Index score, and patient medical records were used as instruments. Descriptive analysis, Paired t Test, and observational analysis were applied to analyze the data. 161 patients participated in the study, with 60.2% very satisfied with caring-based nursing care. No respondents were dissatisfied. Functional status at discharge was significantly associated with satisfaction ($p=0.0001$), whereas demographic factors showed no significant correlation. Most patients were very satisfied with caring-based nursing care, and functional status at discharge significantly impacted satisfaction.

Introduction

Patient satisfaction is a crucial indicator of healthcare quality, and nurses' caring behaviors play a central role in enhancing patient satisfaction. Studies have demonstrated that patients' perceptions of the quality of nursing care, particularly in terms of the caring behaviors exhibited by nurses, significantly influence their overall satisfaction with hospital services. Caring behaviors, including attentiveness, empathy, and the provision of physical and emotional support, contribute to a positive patient experience, which in turn improves healthcare outcomes.¹

Several factors influence the level of patient satisfaction with nurses' caring behavior. Demographic variables such as age, gender, and socioeconomic status have been found to affect patients' expectations and experiences of care. Younger patients, for example, may have different expectations of care compared to older patients, and those from lower socioeconomic backgrounds might experience healthcare services differently due to disparities in access and communication². Moreover, the nurse-patient relationship, shaped by the nurse's attitude and behavior, has been shown to impact patient trust and satisfaction significantly.³

Additionally, healthcare settings, particularly Intensive Care Units (ICUs), present unique challenges and opportunities for improving patient satisfaction. ICU patients often face heightened anxiety and stress, making compassionate care essential in alleviating their psychological distress. Studies have indicated that nursing behaviors, especially those characterized by compassion and emotional support, are critical in reducing patients' anxiety and promoting recovery.⁴

Furthermore, institutional factors such as organizational support, training, and nurse workload are important in shaping the quality of nursing care provided. Well-supported and adequately trained nurses tend to demonstrate more caring behaviors, which directly impacts patient satisfaction.⁵

Therefore, understanding the factors that influence patient satisfaction, particularly in relation to nurses' caring behaviors, is essential for improving nursing practice and enhancing the overall patient care experience.

Stroke is the main cause of disability in adults.⁶ Administering thrombolysis therapy less than 4.5 hours from the onset of stroke symptoms can improve the patient outcomes.⁷ Nurses' caring attitudes and behavior have been proven to be able to shorten door-to-door time of thrombolysis therapy and improve the quality of nursing care.^{8,9} The implementation of nurses' caring attitudes and behavior is also able to increase the patient's sense of comfort and self-esteem, increase the patient's self-confidence, and make the patient more compliant and able to work together well in participating in the treatment program.¹⁰

Nurses as a profession are committed to being caring or caring in interacting with patients, always trying to maintain and respect human dignity.¹¹ Nurses provide nursing care focusing on the human

side and welfare of patients, which is based on the science and knowledge they possess.¹² Nurses' caring attitudes and behavior have been proven to increase patient and family satisfaction.¹³

Research in Spain on 258 respondents showed that there was a significant relationship between functional status outcomes and patient satisfaction.¹⁴

The National Brain Center Hospital Mahar Mardjono is a top referral hospital for neurology and neurosurgery cases in Indonesia. Patient management of nursing care uses a multidisciplinary team approach consisting of doctors, nurses, dietitians, a team of therapists and clinical psychologists. In 2020, Nursing Committee has revised the nursing white paper, that the provision of nursing care services at the National Brain Center Hospital is caring-based. Every new nurse is given a new employee orientation program, and one of the materials is the eticolegal aspects of neurology nursing, which are applied to nurses' caring attitudes and behavior. Nurses' caring attitudes and behavior are integrated into every stage of the nursing process starting from assessment, intervention, implementation and nursing evaluation. As yearly program, the hospital has conducted regular surveys on patient satisfaction with hospital services, but only evaluate patient satisfaction in general and have not focused on patient satisfaction with nurses' caring behavior.

This study aimed to analyze the level of patient satisfaction regarding nurses' caring behavior at the National Brain Centre Hospital. Additionally, it sought to identify and examine the various factors that may influence this satisfaction, including demographic and clinical variables. By exploring these aspects, the research aims to provide a comprehensive understanding of how nurses' caring behaviors impact patient satisfaction in a hospital setting.

Material and Methods

Research design

The research design is cross sectional. Inclusion criteria for inpatients were being willing to fill out a questionnaire, having complete demographic data, and having Bartel Index data before discharge. The sample size was calculated using the "Rules of Thumb" method, which suggests multiplying the number of independent variables by 30. Since there are 6 independent variables in this study, the sample size was initially calculated as $6 \times 30 = 180$. However, to account for potential dropouts and ensure the sample size remains sufficient for analysis, an additional 10% was added, resulting in a final sample size of 165 respondents. This adjustment ensures that the study maintains statistical power and reliability in the analysis despite possible attrition. The number of variables in this research consists of 6 independent variables and 1 dependent variable.

Variable, instrument and data collection

The independent variables of this study were patient demographic parameters (age, gender, employee status, insurance, length of stay, functional status, and patient satisfaction) and caring-based nursing care. The functional status of patients at discharge was dependent variable. Demographic data, the modified of Indonesian Caring Based Stroke Patient Satisfaction Questionnaire (the InCa_SPSQ), Bartel Index score and patient medical records were utilized as instruments. The research instrument used the stroke patient satisfaction level survey form developed by Mulyatsih (2023).¹⁵ The contents of the questionnaire were modified from the statement regarding the care of stroke patients to the care of patients with neurological cases. The number of question items which was originally 29 items was added with one question about whether nurses maintain patient privacy so that the total number of questions became 30 question items. Data were collected from inpatient while discharge and medical records by Electronic Health Records or EHR. The collecting data was carried out by the primary nurse at wards, that every patient who is going home from inpatient care is asked to fill out a questionnaire via Google Form. After collecting 165 respondents, the respondent data was verified from the medical records.

Data analysis

Software SPSS Version 23 was used to analyze the data. When the patient discharged, patient or family fulfilled fill the patient satisfaction questionnaire by google form. Demographic data and functional status were completed from patient medical record. A data normality test was performed based on the patient satisfaction level. The data was homogeneous, therefore parametric tests, such as the t test and paired t test, were performed.

Results

Data collection started in accordance with the inclusion criteria are presented in Figure 1. Based on medical record data at the Prof. National Brain Center Hospital Mahar Mardjono, there were 2600 stroke patients who were hospitalized during the period January to June 2021. After screening complete medical record data, demographic data, National Institutes of Health Stroke Scale (NIHSS) scores and Bartel Index scores, 130 respondents were selected, distributed around 21 or 22 patients per month.

Table 1 shows that most respondents (60.2%) stated that they were very satisfied with caring-based nursing care. Respondents who stated they were satisfied were 35.4%, and only 4.3% said they were quite satisfied. There were no respondents who stated they were dissatisfied or very dissatisfied (0%).

Analysis of patient satisfaction levels based on nurses' caring attitudes and behavior

This study aims to analyze patient satisfaction levels based on nurses' caring attitudes and behaviors, which are considered essential components of quality nursing care. Understanding how patients perceive nursing care is important, as it reflects not only clinical outcomes but also the interpersonal aspects of healthcare delivery. Therefore, this study examines the relationships between patient satisfaction and several influencing factors, including functional status at discharge and demographic characteristics (Table 2).

Analysis of data normality test

Before carrying out the bivariate analysis test, we conducted the Kolmogorov Smirnov normality test, and the results were that the data was assumed to be normally distributed with $p\text{-value} > 0.05$.

Analysis of the correlation between functional status and patient satisfaction

Table 3 illustrates that there was a significant relationship between the patient's functional status at discharge and the level of patient satisfaction ($p\text{ value} < 0.001$).

Correlation between demography (gender, age maturities, employee, diagnosis, surgery, insurance) and patient satisfaction

Table 4 illustrates that there was not a significant correlation between demographic data and score of patient satisfaction (gender, $p\text{ value} = 0.796$; age maturities, $p\text{ value} = 0.534$; employee, $p\text{ value} = 0.111$; diagnosis, $p\text{ value} = 0.644$; surgery, $p\text{ value} = 0.554$; and insurance, $p\text{ value} = 0.799$).

Discussion

Our study assessed patient satisfaction of nurses' caring behavior across several dimensions' customer satisfaction. The model used to explain customer satisfaction in this study is the ACSI (American Customer Satisfaction Index) model which was first developed in 1994 at the Ross School of Business, University of Michigan, United States. The ACSI model is a continuation of the original model implemented in Sweden in 1989, known as the Swedish Customer Satisfaction Barometer (SCSB). Dimensions, attributes, or indicators used to measure consumer satisfaction with products or services The five dimensions measured from caring attitudes and behavior include the dimensions of reliability, assurance, tangibles, empathy, and responsiveness.¹⁶

The mean age of respondents of this study was 49 years old, with the lowest age being 1 year and the oldest being 99 years old. In contrast to this research, the results of a study in Nepal on patient satisfaction in hospitals with 204 patient respondents showed that the average age of inpatients was

39.1 years.² The national brain center is relatively higher because most of the respondents in this study were adult inpatients. The inpatient capacity for the National Brain Center Hospital is around 94% adults and 6% pediatric patients.

In general, most respondents (95.6%) of this study stated that they were very satisfied and satisfied with caring-based nursing care. There were no respondents who stated they were dissatisfied or very dissatisfied. In line with this research are the results of a study in the USA of 3,026 respondents who had undergone total hip and knee replacement surgery, that patient satisfaction after hospitalization reached 93%.^{17,18} Different results occurred in the Ethiopia, that of 407 respondents, only 54.3% said they were satisfied with nurses' caring behavior.¹⁹

This study illustrated that there was a significant relationship between the patient's functional status at discharge and the level of patient satisfaction. In line with this study are the results of research in Finland on 79 respondents who underwent adult spinal deformity correction, which illustrates that there is a significant relationship between patient outcomes and the level of patient satisfaction.²⁰ Another study in the Orthopedics department at the Department of Orthopedic Surgery, University of California-San Francisco, San Francisco, California showed that there was a significant relationship between outcomes and the level of patient satisfaction.²¹

Different results were presented by Chimatiro *et al.*, that the level of patient satisfaction was not influenced by post-stroke patient outcomes²². Even though the outcomes and quality of life of post-stroke patients are poor or low, patients still feel satisfied with the nursing care provided well by nurses.² Likewise, the same results can be seen in the results of research on The Association Between Patient Satisfaction and Patient-Reported Health Outcomes in the USA on 9166 respondents, that physical health score was not associated with an increased odds of poor satisfaction, however patients with a poor mental health score were more likely to report poor overall satisfaction.²³

National Brain Center Hospital is a special hospital for patients with neurology and neurosurgery cases. Most patients have been discharged with residual symptoms, especially stroke patients. Post-stroke patient outcomes are assessed based on the severity of the stroke and the patient's functional status. Stroke severity was measured using the NIHSS scale while functional status was assessed using the Bartel Index. Due to in this study the respondents were not only stroke patients but patients with other neurology and neurosurgery cases, we used the Bartel Index to assess the patient's functional status as patient outcome. Based on the result of our study, there was a significant relationship between the patient's functional status at discharge and the level of patient satisfaction in National Brain Centre Hospital. The better the functional status or the better the

outcome, the higher the patient satisfaction.

This study also illustrated that there was not a significant correlation between demographic data (gender, age maturities, employee status, diagnosis, surgery status, insurance) and patient satisfaction. Somewhat different from the results of this study are the results of a study of 532 inpatients in Ethiopia, which showed that patients who had health insurance had higher satisfaction than the group of patients who did not have insurance.²⁴ The factors that influence the low level of satisfaction in patients who do not have insurance are the level of education, availability of drugs in the pharmacy and the cost of hospital stay.²⁴ Patients with middle and upper education have higher satisfaction than those with lower education. Patients who get all the medicines they need from the pharmacy have four times higher satisfaction than patients who do not get a complete set of medicines from the pharmacy. Likewise, patients who paid less than 100 Ethiopian birr for hospitalization were almost five times more satisfied than patients who paid between 100 and 500 Ethiopian birr.²⁴

The different result also we found from research in the USA on 9166 inpatients with various diagnoses described namely poor physical health and mental health causing low patient satisfaction. Patients who were younger, male, Black/African American, covered by Medicaid, and from lower socioeconomic backgrounds were more likely to report lower levels of satisfaction.²³ Meanwhile, other factors that influence low patient satisfaction are the cleanliness of toilets, the presence of waiting rooms, doctor services, laboratories, radiology services, pharmaceutical services and nutritional services.²⁵ In addition, the results of research in the USA regarding the level of satisfaction of patients undergoing surgery show that various factors that influence patient satisfaction include the patient's knowledge of how to deal with post-operative symptoms, expectations before surgery, and the relationship between the patient and the health team.²⁶

Demographic factors (gender, age maturity, employee status, diagnosis, surgical status, insurance) do not influence the satisfaction of patients hospitalized at the National Brain Center Hospital. It is possible that this is related to hospital policy, that each inpatient is allowed to be waited on by one person waiting for the patient, so that both men and women are always there to accompany the patient during their stay in the hospital. Likewise, pediatric patients are awaited by their parents so there is no difference in satisfaction between pediatric and adult patients. In addition, more than 80% of inpatients are covered by national health insurance, so patients who are retired, housewives and even patients who have undergone surgery say they are very satisfied and satisfied.

Conclusions

Caring-based patient nursing care can increase inpatient satisfaction. Nurses who apply caring attitudes and behavior at every stage of the nursing care process, both when assessing, implementing, and evaluating nursing, will make patients feel very satisfied or satisfied with the nurse's performance. Patient outcome, namely the patient's ability to care for themselves, also influences patient satisfaction. The higher the patient's self-care ability, the higher the level of patient satisfaction. In contrast to the results of other studies which state that demographic factors influence patient satisfaction, however, in this study it was found that gender, age maturity, employment status, and ownership of health insurance did not significantly influence patient satisfaction. In conclusion, Caring-based nursing care can increase patient satisfaction.

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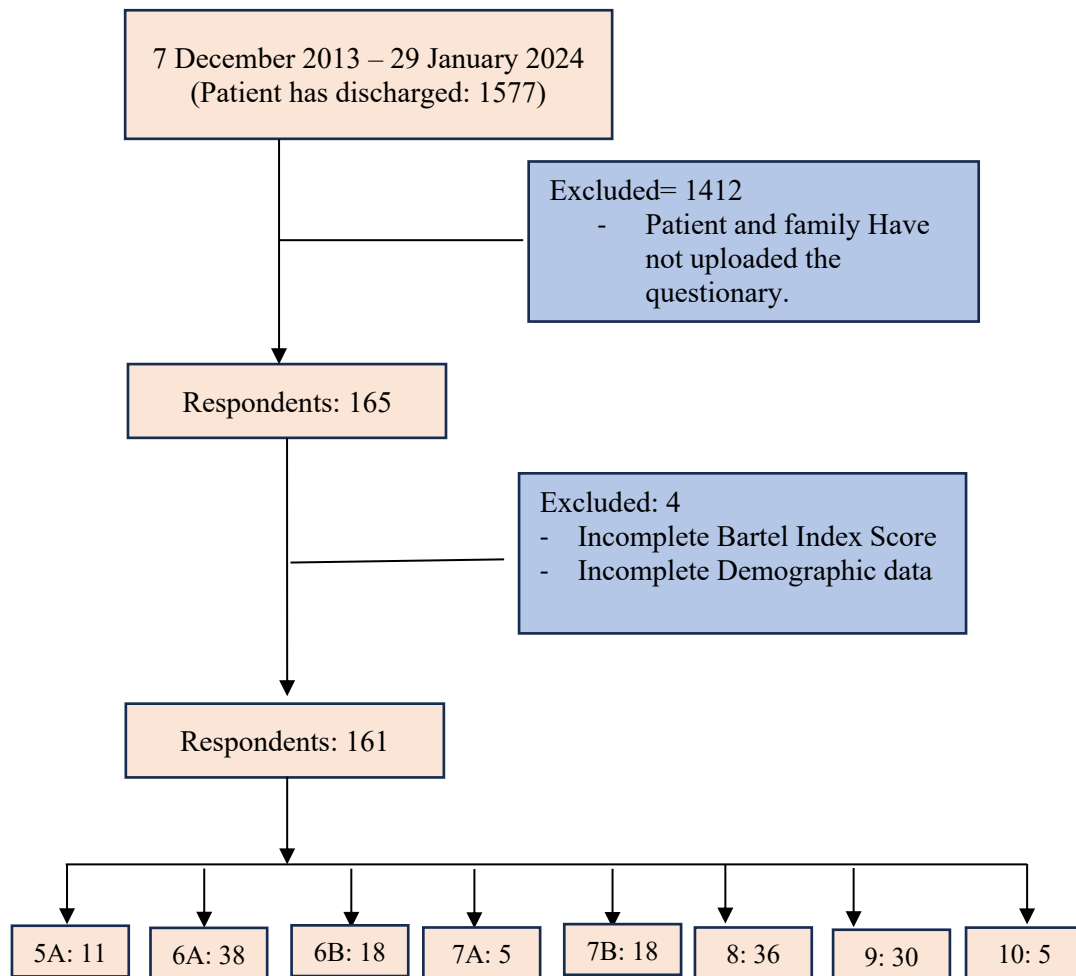


Figure 1. Flow of collecting respondents

Table 1. Analysis the patient satisfaction with caring-based nursing care (n=161).

Variable	Frequency	Percentage (%)
Very satisfied	97	60,2
Satisfied	57	35,4
Quite satisfied	7	4,3
Unsatisfied	0	0
Very unsatisfied	0	0

Table 2. Analysis of correlation between functional status and patient satisfaction (n=161)

Variable	n	Mean	SD	P Value*
Bartel Index	91	12.35	6.479	<0.001
Patient Satisfaction	70	132.61	14.559	

*Significant *p-value* < 0,05

Table 3. Analysis of correlation between demography (gender, age maturities, employee, diagnosis, surgery, insurance) and patient satisfaction (n=161)

Variable		Mean	SD	P Value*
Gender				
Male	91	132.18	14.362	0.796
Female	70	133.17	14.897	
Age maturities				
Adult	139	132.14	14.534	0.534
Pediatric	21	135.81	15.025	
Employee				
Employee	58	130.17	14.183	0.111
Non-employee	103	133.98	14.657	
Diagnosis				
Stroke	84	133.12	14.690	0.644
Non-stroke	77	132.05	14.491	
Surgery				
Surgery	25	134.20	11.669	0.554
Non-Surgery	136	132.32	15.049	
Insurance				
National Insurance (BPJS)	140	133.10	14.234	0.799
Privat	21	130.50	20.506	

*Significant *p-value* < 0,05

Contributions:

MG Enny Mulyatsih, conceptualization, data curation, formal analysis, methodology, validation, writing-original draft, review and editing; Nursalam Nursalam, conceptualization, formal analysis, methodology, validation, review and editing; Sriyono Sriyono, formal analysis, resources, validation, writing-original draft, review and editing; Ruth Berlian, investigation, formal analysis, validation, writing-original draft; Juni Esni Siagian, investigation, resources, review and editing.

Conflict of Interest:

The authors declare no conflict of interest

Ethics approval and consent to participate:

The research has received ethical approval from the Research Ethics Commission, National Brain Centre Hospital, based on ethical certificate DP.04.03/D.XXIII.9/158/2023. During the research, the researcher pay attention to the ethical principles of information to consent, respect for human right, beneficence and nonmaleficence.

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Written informed consent was not applied

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