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Research Paper

Patients' perceptions of caring behaviors at referral hospitals in Ethiopia: A cross-sectional survey



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ABSTRACT

Objective: The purpose of this study was to determine patients' perceptions of nurse caring behaviors and to identify factors associated with these perceptions.

Methods: A cross-sectional study was conducted at three referral hospitals in Ethiopia. A consecutive sample of male and female patients ($n = 652$, response rate 98.8%) was interviewed using the Amharic version of the Caring Behaviors Inventory-16 (CBI-16, including four subscales: Assurance, Knowledge and skill, Respectful, and Connectedness) and the Patient Satisfaction Instrument (PSI). Socio-demographic and clinical factors associated with perceptions of caring behaviors were identified using multiple linear regression analysis.

Results: Patients' perceptions of nurse caring behaviors were high (total Mean = 4.86, SD = 0.72). Behaviors related to the Assurance subscale were rated the highest. The multiple linear regression analysis result showed several socio-demographic and clinical factors statistically significantly associated with patients' perceptions of caring behaviors (total mean scores). Patients who were 40–49 years ($B = -0.19$, $P = 0.012$) and single ($B = -0.13$, $P = 0.03$) scored lower on total CBI-16 scores. Whereas, patients who had a higher educational level ($B = 0.35$, $P = 0.001$), cared for at surgery units ($B = 0.11$, $P = 0.027$), and reported having spent more time with a nurse in the past 8-h shift ($B = 0.16$, $P < 0.001$) were more likely to have higher perceptions of the care they received. The CBI-16 was positively correlated with satisfaction with received care, as measured with the Patient Satisfaction Instrument ($r = 0.62$, $P < 0.001$).

Conclusion: Hospitalized patients in Ethiopia have overall high perceptions of nurse caring behaviors, especially with regard to physical-based caring, while their expectations of emotional-focused care are lower. We identified patients who were in need of care, patients aged 40–49 years and single. The time spent with nurses plays a pivotal role in patients' perceptions of nurse caring behaviors.

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What is known?

- Caring is a universally recognized concept and an essential component of the nursing profession. Caring behaviors have shown to be associated with quality of care and patient

outcomes such as functional recovery, pain relief, and satisfaction with care.

- Patients' feelings of being cared for stem from the enactment of nurse caring behaviors. There is, however, a scarcity of data concerning patients' perspectives of nurse caring behaviors in developing countries.

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What is new?

- Hospitalized patients in Ethiopia perceive physical-oriented nursing and technical behaviors as important indicators of caring, while they appear to have lower expectations of expressive or emotional-oriented caring actions.
- The factors associated with patients' perceptions of caring in the Ethiopian context are similar to those reported in high-income countries. Patients with a low perception of nurse caring behaviors were more likely to be 40–49 years old, single, lacking formal education, having little contact with the nurse, and less satisfied with the care they received.

1. Introduction

Patient care is multidimensional and involves attending to the patient's physical-based and psychological care needs [1]. Nurses convey caring to the patient through caring behaviors that manifest throughout the interactions between the nurse and the patient [2]. Nurse caring behaviors are actions, conducts, and behaviors enacted by professional nurses when providing concern, protection, and attention to the patient [3]. Such caring behaviors can be physical action-oriented (nursing interventions including any treatments, procedures, or teaching moments) or expressive caring behaviors (psychological aspects of care) that are intended to communicate caring to the patient and to improve the patient's comfort, healing, and health [4]. These behaviors play a significant role in clinical practice since the extent to which patients feel cared for derives from them [5].

Several studies comparing patients' and nurses' perceptions of caring behaviors have found that the two groups differ in their ratings [4]. While patients place greater importance on behaviors that demonstrate nurses' knowledge and skill, as expressed by instrumental and technical skills [4,6,7], nurses themselves perceive expressive caring behaviors, such as psychological care, to be more central [4]. Most of these findings are based on studies performed in high-income countries and may not reflect care settings with limited access to health care services. The understanding with respect to patients' perceptions of nurse caring behaviors and associated factors in low-income countries, including Africa, is inadequate. Moreover, studies conducted in Ethiopia report nurses' perceptions of caring behaviors [8,9].

Several factors have been found to be related to patients' perceptions of caring behaviors, including patients' demographic characteristics such as age, sex, marital status, level of education [10], socioeconomic status [11], culture-specific expectations of caring behaviors [12], perceived health conditions, and experience of pain and suffering [13]. Studies have also shown that clinical experiences such as number of admissions to hospital, length of hospital stay, patient satisfaction with the care they receive [14], amount of time the nurse spent with the patient [15,16], type of unit [17], and system factors such as accessibility of healthcare [18] may contribute to differences in patients' perceptions of caring behaviors.

The Ethiopian Federal Ministry of Health has undertaken various measures to improve the quality of nursing care and patient satisfaction over the past decade through provision of training in compassionate and respectful care [19]. Therefore, evaluation of the nurse-patient relationship is necessary for designing strategies to improve the quality of practice [11]. However, studies on patients' perceptions of nurse caring behaviors and the factors associated with such perceptions in Ethiopia is scarce. Such information could be used to inform policy makers and service providers to improve service provision. Therefore, this study aimed to determine

patients' perceptions of nurse caring behaviors at referral hospitals in Ethiopia and to identify factors associated with these perceptions.

2. Methods

2.1. Research design, setting, and sample

A cross-sectional study was conducted from March to May 2021. Data were collected from three randomly selected referral hospitals in Amhara Regional State. The following criteria were used for eligibility to participate: age 18–65 years, admitted to internal medicine and surgery units for at least two days (in order to have received nursing care and be able to evaluate it), cognitively aware, and able to communicate in Amharic.

An internal pilot study was conducted ($n = 88$) to determine the standard deviation (SD) of patients' perceptions of nurse caring behaviors. The SD was used to recalculate the sample size using a formula for estimating a population mean [20].

$$n_i = \left(\frac{z_{\alpha/2} s}{d} \right)^2$$

Where n_i = minimum sample size required for the study

$z_{\alpha/2}$ = the value of the normal distribution at $\alpha/2$, for α is 0.05 the value of z is 1.96

s = the standard deviation (0.51)

d = tolerable error ($d = 5\%$)

The initial sample size was $n = 399.68$. Then, using a design effect of 1.5 and 10% non-response rate, the final sample size raised to $n = 660$. The sample was allocated proportionally to each referral hospital, and a consecutive sample of respondents was approached and interviewed. The study is based on survey data from hospitalized patients, and reported in accordance with the Consensus-Based Checklist for Reporting of Survey Studies (CROSS) guidelines [21].

2.2. Data collection and tools

Data were collected with a structured interview-based survey that included study-specific items assessing patients' socio-demographic (age, sex, educational level, marital status, residence) and clinical characteristics (reason for admission, duration of hospitalization, admission in the preceding five years). The survey also included two standardized instruments: the Caring Behaviors Inventory-16 (CBI-16) Ethiopian Amharic version, and the Patient Satisfaction Instrument (PSI).

2.2.1. The Caring Behaviors Inventory-16

The CBI is one of the earliest instruments developed based on Jean Watson's theory of human caring [1]. The CBI-16 measures perceptions of nurse caring behaviors in 16 items divided into four subscales: Assurance (Giving your treatments and medications on time), Knowledge and skill (Demonstrating professional knowledge and skill), Respectful (Treating you as an individual), and Connectedness (Including you in planning your care) [22]. Response options range from 1 = never to 6 = always [23]. Mean scores are calculated for the total scale and for the four subscales with higher ratings reflecting more frequent caring behaviors encountered by care recipients [1]. The CBI has been applied in different clinical settings and countries [13,24] and shown to be psychometrically sound indicating validity [22,25,26] and internal

consistency reliability of 0.95 [23]. The psychometric properties of the CBI-16 Ethiopian Amharic version has been examined and found to be sound [22].

2.2.2. The Patient Satisfaction Instrument

The PSI is a 25-item scale that is used to measure patient satisfaction with the nursing care received [27]. Responses are measured on a five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). The scale is computed by calculating mean score of the 25 items, total response scores ranging from 1 to 5, with higher scores indicating higher satisfaction with received care. The original PSI was translated into the Amharic language using standard forward and back translation procedures [28].

2.2.3. Duration of hospitalization

The patients' duration of hospitalization was collected from the patients' medical records and ranged from 2 to 21 days. Based on distribution of the data, duration of hospitalization was categorized into ≤ 5 days and ≥ 6 days.

2.2.4. Self-reported time spent with a nurse

The respondents were asked to report the time they spent with a nurse during the last 8-h shift. Responses were given on a scale ranging from 1 (0–10 min) to 5 (>60 min). The time spent with a nurse ranged from 15 to 60 min and was not normally distributed, therefore, categorized into ≤ 30 min and 31–60 min (S1 Table).

2.2.5. General comments

At the end of each interview, the respondents were asked to provide any thoughts about the care they received by responding to the question: "If you have any additional comments about the care given to you by the nurse, you can add them here".

2.3. Data quality control

To reduce bias, none of the data collectors had been involved in providing direct care to patients in the units where interviews were carried out. Training was provided to the data collectors by the primary investigator. Inter-rater reliability was examined using Krippendorff's α (α -reliability) with values of >0.90 considered highly reliable, and >0.80 acceptable [29]. The α -reliability estimate, $\alpha = 0.94$, showed strong inter-rater reliability. The questionnaires were coded before data collection and cross-checked for consistency and completeness every day. To help respondents memorize the responses during the interviews, we used cards with numbered response options written on them. Internal consistency reliability of the instruments was computed using Cronbach's α , for which values between 0.70 and 0.90 were considered good [30]. The Cronbach's α values for the CBI-16 and the PSI were 0.91 and 0.85, respectively.

2.4. Data management and analysis

Statistical analysis was performed using Stata-16 [31]. Descriptive statistics were calculated to summarize socio-demographic and clinical data. Assumptions for parametric testing including linearity, normality, homoscedasticity, multicollinearity, and undue influence of outliers were checked. A linear mixed model was computed to check for the presence of clustering in the data and to detect sources of variability corresponding to the different levels (individual level, unit level, and hospital level). The linear mixed model did not provide evidence of clustering; therefore, a multiple linear regression model was performed to examine the relationship between patients' perceptions of nurse caring behaviors and to identify the factors related to these perceptions. The Pearson

correlation coefficient was used to check the relation between the total score of the CBI-16 and PSI. Significance was set at $P < 0.05$ with a 95% confidence interval (CI), model fitness indices were also computed. The respondents' general comments regarding nurses' caring were extracted and summarized.

2.5. Ethical approval and consent to participate

The study followed the ethical principles outlined by the Council for International Organizations of Medical Sciences (CIOMS) and the WHO [32] and approval was obtained from the Institutional Review Board of the University of Gondar (Ref. No. V/P/RCS/05/7L/2020). Permission was also obtained from each respective referral hospital. The data collectors read the information sheet about the study procedures to each participant, and approval was obtained verbally.

Participant confidentiality was maintained by coding the questionnaires and making the data only accessible to the principal investigator. The participants were informed that there was no financial compensation for participating in the research, that participation would not have any impact on their care, that the gathered data were to be used only for the intended research, and that the results of the study would be published in a reputable journal, with no identifiable information linked to the participants.

3. Results

A total of 660 patients were approached for possible participation and 652 of them were included in the study. Eight partially completed questionnaires, with more than 25% incomplete items, were removed from the analysis giving a response rate of 98.8%. A majority (59.7%) of the respondents were male, and 40.2% were in the age range 18–29 years. Most participants were married (59.2%) and from rural residency (51.7%), and half of the participants (51.8%) were admitted to the internal medicine units (Table 1).

3.1. Patients' perceptions of nurse caring behaviors

The overall Mean (SD) of patients' perceptions of nurse caring behaviors was 4.86 (0.72). The Mean (SD) of the subscales ranged from 4.35 (1.06) (Connectedness subscale) to 5.10 (0.75) (Assurance subscale). The Assurance subscale was rated highest, indicating that respondents placed high value on nurses being readily available for their physical needs (Table 2).

3.2. Factors associated with patients' perceptions of nurse caring behaviors

The multiple linear regression analysis revealed that age, marital status, level of education, type of unit, time spent with the nurse, and satisfaction with care were associated with patients' perceptions of caring behaviors. The model explained 43% of the variability in patients' perceptions of nurse caring behaviors; $F = 26.73$ $P < 0.001$ (see Table 3). The correlation between the total score of the CBI-16 and the PSI was statistically significant and positive ($r = 0.62$, $P < 0.001$).

A few comments were given at the end of the interviews ($n = 20$) concerning the care patients received, most of which were positive. Summary of the comments included messages addressing that nursing care as a whole was very good, a wish that nurses' willingness to help should continue at the same level, compliments to nurses for being skillful and empathetic towards their patients, and expectations of additional duties to be carried out by nurses.

Respondents expressed expectations for nurses to spend more

Table 1
Characteristics of patient respondents at referral hospitals in Ethiopia 2021 (n = 652).

Characteristic	n (%)
Sex	
Male	389 (59.7)
Female	263 (40.3)
Age	
18–29	262 (40.2)
30–39	170 (26.1)
40–49	102 (15.6)
50–65	118 (18.1)
Marital status	
Married	386 (59.2)
Single	223 (34.2)
Divorced	43 (6.6)
Level of education	
No formal education	191 (29.3)
Can read and write	77 (11.8)
Elementary school	113 (17.3)
High school	145 (22.3)
Diploma	85 (13.0)
Bachelor degree and above	41 (6.3)
Residence	
Rural	337 (51.7)
Urban	315 (48.3)
Reason for admission	
Acute disease	398 (61.0)
Non-acute disease	254 (39.0)
Type of unit	
Internal medicine	338 (51.8)
Surgery	314 (48.2)
Duration of present hospitalization	
≤5 days	400 (61.4)
≥6 days	252 (38.6)
Admission in the preceding five years	
Once	404 (62.0)
Two or more times	248 (38.0)
Self-reported time spent with a nurse (range 15–60 min)	
≤30 min	381 (58.4)
31–60 min	271 (41.6)
Satisfaction with care (Mean ± SD) ^a	3.66 ± 0.32

Note: ^a Measured using the Patient Satisfaction Instrument.

Table 2
Mean values of the Caring Behaviors Inventory-16 item, subscale and overall scores (n = 652).

Subscales	Mean ± SD
Assurance	5.10 ± 0.75
Returning to you voluntarily	5.03 ± 1.09
Talking with you	4.97 ± 1.19
Responding quickly when you call	4.71 ± 1.11
Giving your treatments and medications on time	5.53 ± 0.83
Relieving your symptoms	5.27 ± 0.91
Knowledge and Skill	4.93 ± 0.78
Being confident with you	4.88 ± 1.09
Demonstrating professional knowledge and skill	4.93 ± 1.02
Treating your information confidentially	5.51 ± 0.82
Meeting your stated and unstated needs	4.40 ± 1.14
Respectful	4.85 ± 0.83
Attentively listening to you	4.70 ± 1.09
Treating you as an individual	4.84 ± 1.04
Supporting you	5.04 ± 0.96
Being empathetic or identifying with you	4.83 ± 1.13
Connectedness	4.35 ± 1.06
Giving instructions or teaching you	4.50 ± 1.23
Spending time with you	4.54 ± 1.16
Including you in planning your care	4.00 ± 1.76
Overall	4.86 ± 0.72

time with patients. They also asked if nurses could inform patients of laboratory test results, if certain laboratory tests and medications

Table 3
Multiple linear regression analysis for factors associated with Caring Behaviors Inventory-16 score (n = 652).

Variables	B	95% CI	P
Sex			
Male	1		
Female	0.036	−0.060, 0.132	0.465
Age			
18–29	1		
30–39	−0.075	−0.192, 0.043	0.211
40–49	−0.191	−0.340, 0.042	0.012
50–65	−0.045	−0.196, 0.105	0.554
Marital status			
Married	1		
Divorced	0.104	−0.077, 0.284	0.261
Single	−0.127	−0.242, −0.012	0.030
Level of education			
No formal education	1		
Can read and write	−0.002	−0.151, 0.147	0.978
Elementary school	0.039	−0.101, 0.180	0.582
High school	−0.008	−0.154, 0.139	0.919
Diploma	0.071	−0.094, 0.236	0.399
BSc and above	0.353	0.142, 0.563	0.001
Residence			
Rural	1		
Urban	−0.028	−0.129, 0.073	0.587
Reason for admission			
Acute disease	1		
Non-acute disease	0.019	−0.084, 0.122	0.715
Type of unit			
Internal medicine	1		
Surgery	0.112	0.013, 0.211	0.027
Duration of present hospitalization			
≤5 days	1		
≥6 days	0.076	−0.013, 0.165	0.095
Admission in last 5 years			
Once	1		
Two or more times	0.013	−0.083, 0.109	0.794
Self-reported time spent with a nurse			
≤30 min	1		
31–60 min	0.159	0.071, 0.246	<0.001
Satisfaction with care	1.434	1.295, 1.574	<0.001

were available in the hospital, and if meals were served based on the patient's diet and needs.

4. Discussion

4.1. Patients' perceptions of nurse caring behaviors

This study demonstrated that hospitalized patients in Ethiopia have high perceptions of the care they receive. The total mean score is in line with studies conducted in some European countries [5] and Iran [33], while higher than results from Eastern Asia [24,34,35], other European countries [5], and West Africa [36]. Caring provided by nurses is identified by patients as nurse caring behaviors, in this particular case behaviors that reflect knowledge and competency in physical-based and technical abilities. This may be partly explained by socio-demographic and socio-cultural characteristics (social cohesion in the study setting). In Ethiopian culture, family members and relatives regularly provide support during times of illness, and patients may therefore have few expectations from healthcare providers. However, since nurse caring behaviors are a universal feature of the nursing profession [4], understanding patients' perceptions of caring behaviors would highlight areas of improvement in nurse-patient relationships [36]. The total mean score, on the other hand, is lower than studies conducted in Hungary, Finland, Cyprus [5], and Türkiye [37]. The differences in mean CBI scores may be related to differences in organizational structures, cultural contexts and healthcare delivery

systems [36].

The respondents gave the highest ratings on behaviors related to the Assurance subscale, i.e., competency in physical-based skills and technical abilities. This finding is similar to some previous studies [34,35], but in contrast with others that have found the highest scores on the Knowledge and skill subscale [5,7,13,15,38]. The highest ratings on the Assurance subscale may explain that patients value most for nursing interventions like giving medications and treatments [4,6,39]. The Connectedness subscale, concerning behaviors that reflect emotional aspects of caring, was rated lowest among the four subscales. Several studies have indicated that patients prioritize physical-based caring. Once these caring needs are met, then patients seek the expressive or emotional aspects of care [15].

4.2. Factors associated with patients' perceptions of nurse caring behaviors

Age of the patients was associated with perceptions of nurse caring behaviors in that patients aged 40–49 years scored lower than younger patients. This is in contrast with a study that reported a positive association between patients' age and subscale scores [13,40]. Marital status correlated with patients' total perception scores in that single patients scored lower. This finding is consistent with a study that reported that married patients scored higher in the Respectful subscale [40]. Single patients probably need more service from nurses than married patients. These findings indicate that patients' personal characteristics influence their perceptions of care [13].

A higher level of education in this study was significantly associated with patients' perceptions of nurse caring behaviors. This is in line with findings from a previous study [10]. The literature on caring presents controversial results regarding the importance of the level of education on patients' perceptions of nurse caring behaviors. Some studies have shown insignificant associations [13,41] and other studies have shown a negative relationship [42]. A possible explanation for the positive association could be that patients with a higher level of education are better able to receive more information from nursing staff and have a better understanding of their own health conditions, the nursing care and the healthcare system than patients with lower levels of education [10]. This may contribute to higher perceptions of caring behaviors and higher satisfaction with care received.

Not surprisingly, self-reported time spent with the nurse was associated with patients' perceptions of nurse caring behaviors. Respondents expressed in their comments that they expected nurses to spend more time with them. As time spent with the nurse increases, patients have more opportunities to interact with the nurse, which in turn can improve perceptions of caring behaviors. This is supported by studies that have found that low levels of nurse-patient interactions are associated with lower perceptions of caring behaviors and lower patient satisfaction [15,16]. Policy-makers and nurse managers are recommended to take this into account when developing strategies to improve patient care, i.e., increasing the time nurses spend with patients may improve the provision of comprehensive care.

Being admitted to surgery units was significantly associated with patients' perceptions of nurse caring behaviors. Most of the patients admitted to surgery units during the study period had acute disease with pain and suffering. When patients experience pain and suffering, they may need and receive more frequent contact, monitoring, and follow-up from nurses, which increases the time spent with the patient and increases patients' perception scores [17]. In contrast to this finding, patients with planned admissions gave higher total CBI scores [13]. This may be related to

the study setting and to the hospital units' infrastructure in high-income and low-income countries.

The positive correlation between patients' perceptions of nurse caring behaviors (total CBI-16) and satisfaction with care (total PSI) is in line with other studies [43,44]. Patient satisfaction with the care received reflects the perception of care received compared with the care expected, and has been used as an indicator of the quality of services provided [45].

Patients' expectations of care influence their perceptions of caring behaviors and of the healthcare system. Therefore, nurses who are aware of the patients' expectations may have a distinct advantage in providing care congruent with patients' needs and influencing outcomes of care [18,46]. When patients expressed opinions about nurses' caring in their comments, they mentioned that meals should be served according to their needs. Patients often have reduced appetite while in hospital if there is a failure to consider patients' dietary habits, tastes, religious beliefs, and nutritional status [47]. Therefore, nutritional assessment should be part of the admission interview in order to be able to address patients' dietary needs. Some of the patients' expressed expectations of nurses, such as ensuring accessibility of healthcare including laboratory tests and availability of medications, which fall under the responsibilities of the healthcare system. When nurses feel that these expectations have failed to be fulfilled, they may bear guilt for reasons that they have no influence or authority over [48]. Respondents expressed appreciation for nurses expressing empathy and willingness to help whenever they call for help. Studies have emphasized the establishment of an empathetic nurse-patient relationship as an important step in providing professional care. Patients often seek compassion and willingness to help from nurses during their hospital stay [49].

4.3. Limitations

A limitation of this study stems from the use of self-reported time spent with the nurse; however, observation was not possible. Furthermore, the data were collected during the COVID-19 pandemic, which may have affected the responses. Patient respondents were not homogenous by medical diagnosis or surgical procedures. Definitive cause and effect relationships cannot be determined. However, the hospitals featured in this study are located far apart and provide care for more than five million people each and enabled the inclusion of a diverse population.

5. Conclusion

This study contributes to the body of knowledge regarding patients' perceptions of nurses' caring behaviors and related factors. Hospitalized patients in Ethiopia have overall high perceptions of nurse caring behaviors, especially with regard to physical-based nursing, while their expectations of emotional-focused (expressive) care are lower. We identified predictors of patients who were more likely to report low perceptions of the care they received. This group was single, low educated (no university degree), and not satisfied with the care they received.

The time spent with nurses plays a pivotal role in patients' perceptions of nurse caring behaviors. We recommend future research to explore Ethiopian patients' experiences of nurse caring behaviors using qualitative approaches in order to gain a deeper understanding of patient-centered care in low-income settings.

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analysis, or decision to publish. The corresponding author has access to all the data and accountability.

Data availability statement

The datasets generated and analyzed during this study are available from the Mendely Data Repository (<https://data.mendeley.com/datasets/ky9gd9vrhn/2>).

CRediT authorship contribution statement

Abebaw Jember Ferede: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Validation, Visualization, and Writing - original draft. **Lena Wettergren:** Conceptualization, Methodology, Supervision, Validation, and Writing - review & editing. **Kerstin Erlandsson:** Methodology, Supervision, Validation, and Writing - review & editing. **Lemma Derseh Gezie:** Methodology, Supervision, Validation, and Writing - review & editing. **Helena Lindgren:** Supervision, Validation, and Writing - review & editing. **Biftu Geda:** Conceptualization, Methodology, Supervision, Validation, and Writing - review & editing.

Declaration of competing interest

The authors have declared no conflict of interest.

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Appendices. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijnss.2023.06.015>.

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