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### Patient Perceptions of Nurse Caring Behavior and its Determinant Factors: Cross-sectional Survey

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# **Cross-sectional Survey**

# **Patient Perceptions of Nurse Caring Behavior and its Determinant Factors:**

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### ABSTRACT

Introduction: Nurses caring behavior involves caring for individuals of all ages, families, groups, and communities, sick or not, in all settings. Even though nurses account for the majority of health professionals around the world, the workloads of nurses face trouble in the perception of patients. Patients' perceptions of nurse-caring behaviors had a substantial impact on patients' outcomes and satisfaction. Therefore, this study aimed to assess patients' perceptions of nurse-caring behavior and its determinant Factors.

**Methods**: A facility-based cross-sectional study was conducted among patients admitted to the inpatient ward on May 8–June 15, 2023. Systematic sampling techniques were used for 474 study participants. The interviewer-administered questionnaire was used to collect the data. The Caring Behaviors Inventory-24 was used to collect the data. Descriptive statistics were computed in the form of mean, frequency tables, and percentages. Logistic regressions were performed to identify associated factors. The odds ratio with a 95% CI at a p value <0.05 was used to determine the significance level.

**Results:** Overall, 37.4% of patients had poor perception nurse caring behavior. Waiting day in the ward (AOR=2.3 (1.6-6.4) and (3.4 (2.1-10.7)), residence (AOR = 2; 95% CI [1.3, 4.4]), education level (AOR= 1.2; 95% CI (1.12-3.42), and spent time with nurses (AOR=1.7; 95% CI (1.38-5.31)) were determinants of nurse caring behaviors.

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**Conclusion:** This finding shown that 37.4% of the patients perceived poor of nurse caring behavior. Waiting day in the wards, residency, educational level, and time spent with nurses were found to be determinants factors. Therefore, the nurse should work to increase interactions between patients and nurses during care

Key	words:	Nurse,	Caring	Behavior,	perception,	Ethiopia
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### INTRODUCTION

Care is central element that was holistic, individualized and included a process of therapeutic interventions to meet patients' and relatives' needs(1). Nursing caring behaviors are defined as "acts, conduct, and mannerisms enacted by professional nurses that convey concern, safety and attention to the patient". Nurses caring behaviors can improve the quality of care and thus cause a sense of security, a reduction in anxiety, and a consensus between the caregiver and the care recipient, which may subsequently improve patient satisfaction(2). Patient perception in nursing care refers to patients' feelings or views about the nursing care they received during their hospital stay (3). Nurses are the foundation for patient care endeavors, and they are officially trustful of the quality of the care they provide to patients(4). Nurses have the greatest patient contact time, and nursing care is performed 24 hours a day to increase patient satisfaction. However, heavy workloads, inappropriate tasks, insufficient resources, poor management, and shortages of health professionals are the main challenges in providing quality nursing care in developing countries (5).

Caring is the essence of nursing (6) and is the fundamental factor that distinguishes nurses from other health professionals (7). Caring behaviors are a distinct feature of nursing, and patients' experience caring for nurses has a significant impact on patient outcomes and patient satisfaction (8). Because nurses are involved in practically every area of patient care in a hospital, "nursing care" is a crucial factor that influences patient satisfaction as well as patients outcomes (9).

In this regard, studies conducted in showed Jordan (27%) of participants had a poor perception with nurse caring behavior. Additionally, a study conducted in Ghana showed that 11% of patients had poor experience with nurse caring behavior(<u>10</u>). Similarly, a study conducted in Ethiopia in Nagele Borena (19%), Debre Markos (36%), showed that of patients had perceived

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poor on nurse caring behavior (<u>11</u>, <u>12</u>). Pre-service expectations of the service provider, which are influenced by various factors, such as socioeconomic status and cultural background, can impact patients' experience of nursing care(<u>13</u>). Different studies performed at different times and places have shown that patient sex, age, educational level, employment status, waiting day in the wards, and spent time with nurses were determinants of patient perception in nursing care behavior(<u>11</u>, <u>12</u>, <u>14</u>, <u>15</u>).

Therefore, nurses must ensure that their caring behaviors are a distinct feature of nurses working in wards in medical-surgical and orthopedic settings, which is important for successful patient outcomes, as nurses provide supportive, physical, educational, and emotional care vital to patients' wellbeing(<u>16</u>).

In Ethiopia's hospitals, there are an insufficient number of employed nurses. Even if nurses constitute the largest proportion of healthcare employees and play an important role in the care of patients. Examining patients' perception of nurse caring behaviors has the potential to improve patient care in wards, which may eventually influence patient outcomes and nursing practices. However, there is a limitation to the findings on patients' perceptions of nurse caring behavior. Therefore, this study aimed to measure Patients' Perceptions of Nurse Caring Behavior and its determinants among admitted patients.

### **METHODS AND MATERIALS**

### Study setting, study design and study period

The study was conducted in southern Gondar, an Amhara regional state located 665 km from Addis Ababa (the capital city of Ethiopia), in Debre Tabor compressive specialized hospitals in selected medical, surgical, and orthopedic wards. The hospital, which is the largest in the South

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Gondar zone, serves more than 2.5 million people. A hospital-based, cross-sectional study was conducted from May 8 to June 15, 2023.

### **Source population**

All patients were admitted to Debre Tabor Comprehensive Specialized Hospitals, South Gondar

### **Study population**

All the selected patients were admitted to the Debre Tabor Comprehensive Specialized Hospitals in the Medical, Surgical, and Orthopedics Wards during the data collection.

### Inclusion and exclusion criteria

At the time of data collection, all adult patients aged >18 years who were present in the selected ward were included in the study. In contrast, all patients who were absent, were severely ill, were unwilling to participate, or were waiting at the selected ward for less than 24 hours were excluded from the interviews.

### **Operational definition and terms**

**Patient perception of nurse caring behaviors**: Patient perceptions regarding nurse caring behavior was defined as patient experience of nurse practice as the ability to see the skill and knowledge, respectfulness, assurance, and connectedness in hospitals.

**Good perception**: using the mean, respondents who scored above the means had positive experiences, while those who scored below the means had **poor perception**.

### Sample size determination and sampling methods

### Sample size determination

The needed sample size was determined using the single population proportion formula by taking the magnitude of patient experience with care behavior as 53.3% (1)with a 95%

confidence interval, 5% margin of error and a nonresponse rate of 10%. The final sample size was 474.

### **Sampling methods**

 A systematic random sampling technique was used. Based on the previous month's average number of patients in the three wards (surgical (880), medical (1110), and orthopedic (510), in which a totals of 2500 patients were divided by the sample size of 474, the calculated interval was every 5th patient. The first patient was randomly selected after the interval was calculated, and then, every fifth patient was selected until a sufficient sample size was achieved. Patients who were not present at the time of data collection were excluded, and the next number was included.

### Data collection tools and procedure

An interviewer-administered structured questionnaire was used to collect data from participants during the study period. The data collection was performed by three diploma nurses. The questioner has two parts, socio-demographic data and the Caring Behaviors Inventory (CBI), which are used to measure patients' perception on nurse caring behaviors. It has four dimensions: assurance (to be available to meet a patient's needs and safety), knowledge and skill (to demonstrate their proficiency and competence), respectfulness (engaging the person's dignity), and connectedness (to be constantly ready to be able to assist the patient). The Caring Behaviors Inventory 24 (CBI-24). The scale consists of 24 items, and all items are scored on a 6-point likert scale (1 = never, 2 = almost never, 3=sometimes, 4 = usually, 5=often, 6 = always). Mean scale were calculated for both subscale and overall scale. The patients were assessed on this scale, and the highest possible score was 144 points, which indicated that the higher the score was, the greater the degree of nursing care behavior.

### Data quality assurance and control

The Structure Questionnaire was translated into the local language (Amharic) and then back to English for consistency. To ensure the quality of the data, three diploma nurses were recruited for data collection from the institution (study area), and training was given for two days on how to collect the data and objective, exclusion, and inclusion criteria. The questionnaires were also pretested on thirty patients from the Woreta Primary Hospital before data collection to assess the questionnaire's reliability, consistency, and appropriateness, with subsequent correction and modification. The reliability of tool was checked with Cronbach's  $\alpha$  of CBI-24 were 0.89 which is considered as good

### Data analysis and presentation

The data were checked for completeness and consistency, after which the data were cleaned, coded, and entered into Epidata 4.6 and exported to SPSS version 25 for analysis. Descriptive statistical analysis, such as mean, standard deviation, frequency distribution and proportion, was performed. All explanatory variables with a p value of 0.25 from the binary logistic regression model were fitted into the multivariable logistic regression model, and finally, the variables that had been independently associated with the dependent variable were identified on the basis of 95% CI and a p value less than 0.05.

### RESULTS

### Socio-demographic characteristics of the respondents

A total of 474 admitted patients were included in this study, for a response rate of 100%. The mean  $\pm$ SD age of the study participants was 42.29  $\pm$ 25.84 years, and 240 (50.6%) of the total study participants were female. Of the total respondents, 247 (52.2%) of the patients admitted were from rural areas. Among the admitted patients, the majority (260; 54.8%) stayed for 1-5

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days. Additionally, two hundred tween two 222 (46.8%) study participants could not read or write. A total of 215 (45%) study participants were admitted to the medical ward. More than half (287 [60.5%] of the study participants provided free service at the hospitals [Table 1].

Table 1 Socio-demographic Characteristics of the Respondents in DTCSH Hospitals,

Variables	Categories	Frequency	Percent
Sex	Female	240	50.6
	Male	234	49.4
Age	18-34	207	43.6
	35-64	207	43.6
	65 & above	60	12.8
Residence	Urban	227	47.9
	Rural	247	52.1
	Single	17	3.5
Marital status	Married	282	59.4
	Divorced	34	7.17
	Widowed	22	4.6
	Separated	29	6.1
Education level	Can't read and	222	46.8
	write		
	Primary school	78	16.4
	Secondary	122	25.7

	College & above	52	10
Types of ward	Medical	215	45
	Surgical	208	43
	Orthopedics	57	12
waiting days in ward	1-5	260	54.
Q	6-10	146	30.
	11-14	37	7.8
	15 & above	31	6.6
Spent time with nursing	<30 minutes	287	60.
	>30 minutes	187	39.

### **Perceived Prevalence Nurse Caring Behavior**

Out of 474 respondents, 177 (37.4%) (95% CI: 29.5–40.3%) patients had poor perception with nurse caring behaviors with the overall means scales of care 4.55. On the other hand, in the subscales of caring behaviors, 40.1% had poor with the means scores of perception with "assurance," and 42.2% of patients had poor perception with the knowledge and skills of nurses. A total of 36.1% of patients had poor perceptions with respect to and full deference to others," and 30% of patients had poor perception with connectedness and caring behaviors (Table 2). Table 2 Perceived patients' nurse caring behavior in Debre Tabor Comprehensive Specialized

Hospitals, 2023

Nurse caring behaviors	Category	Frequency	Percent
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Assurance	Good	284	59.9
	Poor	190	40.1
Knowledge and skill	Good	273	57.5
	Poor	201	42.5
Respectfulness	Good	300	63.3
	Poor	174	36.7
Connected ness	Good	332	70
	Poor	142	30
Overall perception	Good	297	62.6
	Poor	177	37.4

### Determinates of patients' perception in nursing care behavior

Of the study participants, 167 (56.7%) male patients had poor perception with nurse caring behaviors. In addition, more than half of the 196 (65.3%) patients aged 35-64 years had poor perception with nursing care. More than half of the study participants were 234 (78%) urban residents who had poor perception reading about nursing care behavior, and 162 (54%) participants whose educational status could not be read or written were poor perceptions of nursing care behavior. More than half of the patients admitted to medical wards had poor nurse caring behavior [Table 3].

Table 3 Determinants that might affect patients' perceptions of nurse caring behavior, 2023

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Variable	Categories	Patient perception	of nurse car	ing behaviors	
		Good	%	Poor	%
Sex	Female	142	29.9	98	20.6
	Male	116	24.4	120	25.6
Age	18-34	120	25.6	87	18.3
	35-64	97	20.4	110	23.2
	65 & above	48	10.12	20	4.2
Residence	Urban	144	30.3	103	21.7
	Rural	106	22.3	121	25.5
Education	Can't read and	144	30.3	78	16.5
	write				
	Primary school	31	6.5	47	9.9
	Secondary	43	9.1	79	16.7
	College &	14	2.95	38	8.01
	above				
Types of	Medical	103	21.7	112	23.6
ward	Surgical	93	19.6	115	24.2
	Orthopedics	18	3.8	39	8.2
Waiting	1-5	148	31.2	112	23.6
days in	6-10	126	26.6	55	11.6
ward	11-14	22	4.6	15	3.1
	15 & above	16	3.37	15	3.1
Spent time	>30 minutes	83	17.5	204	43

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with	<30 minutes	92	19.4	95	20
nursing					

### Factors related to patients' perception with nursing care behavior

Of the four variables, that entered into multivariable waiting day in the ward (AOR = 2.3 (1.6–6.4) and 3.4 (2.1–10.7); residence (AOR = 2; 95% CI [1.3, 4.4]; education status (AOR = 1.2; 95% CI (1.12-3.42); and spent time with nurses (AOR = 1.7; 95% CI (1.38–5.31)) were found determinants of nurse caring behaviors

Patients who spent with nurse less than 30 minutes during shifting hours were 1.7 times more likely to perceive poor towards nurse caring behavior than those who spent greater than 30 minutes. Patients whose educational level was secondary were 1.2 times more likely to perceive poor nurse caring behavior than those who can't read and write (AOR = 1.2; 95% CI: 1.12–3.42). Patients whose waiting day in the ward was between 6 and 10 days were 2.3 times more likely to had perceived poor nurse caring behavior than were those who wait for less than 5 days (AOR = 2.3; 95% CI: 1.6–6.4). Finally, patients with an urban resident were 2 times more likely perceived poor nurse caring behavior as compared to rural resident (AOR=2; 95% CI (1.3-4.4)) [Table 4].

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emale Iale 3-34 5-64 5 & above rban ural an't read and	perception 142 116 120 97 48 144 106 144	perception         98         120         87         110         20         103         121         78	1       1.49       0.57       0.36       1       1.5       1	1         1.23 (0.79-1.8)         0.64 (0.72-2.14)         0.22 (0.34-1.2)         1         2(1.3-4.4)*         1
Iale       8-34       5-64       5 & above       rban       ural	116 120 97 48 144 106	120         87         110         20         103         121	1.49       0.57       0.36       1       1.5	1.23 (0.79-1.8)         0.64 (0.72-2.14)         0.22 (0.34-1.2)         1         2(1.3-4.4)*
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rimary school	31	47	1.79	1.7 (0.431-1.355)
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ollege & above	14	38	5.11	2.8(3.56-8.95)
ledical	103	112	4.7	2.34(0.87-3.77)
urgical	93	115	1.3	0.44 (0.399-1.05)
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-5	148	112	1.13	0.48(0.12-3.2)
-10	126	55	2.14	2.3(1.6 -6.4)
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ward	15 & above	16	15	1	1
Spent time	<30 minute	204	83	2.16	2(1.71-4.876)*
with	> 30 minutes	95	92	1	1
nurses					

**Note** highly significant=□ p-value <0.05, □ □ p-value <0.01

AOR =adjusted odds ratio, COR=crude odds ratio, CI=confidence interval, "1"=reference category

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### Discussion

The aim of this study was to provide patients perceptions of nurse-caregiving behavior in Debre Tabor Comprehensive Specialized Hospitals, Ethiopia. In addition, this study aimed to identify determinants' of patient perception of nurse caring behavior. The current findings showed that 37.6% of patients perceived poor nurse caring behavior. These findings were greater than those of studies performed in Ghana(17), Pakistan(1), and India(18). And also less than study done in Ethiopia Debre Marko(12). The discrepancy in the results of the Debre Markos study might be due to the use of measuring tools; for example, a previous study used the 26-item Newcastle Patient Experience with Nursing Care Scale(19). The discrepancy in Ghana might be due to differences in socio-demographic characteristics and infrastructure. This inconsistency in Pakistan might be due to differences in socio-demographics and sample sizes, with the former being a small sample size. This finding indicates a high proportion of patients' perceived poor nurse-caring behavior, and this finding helps nurses apply and advance nurse practice by sustaining nursing standards.

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We found that patients who waiting for longer days in ward were more likely to have perceived poor nurse caring behaviors than patients who were waiting for less than five days among those admitted. This study was similar to the study performed in South Wollo(20), Debre Markos(12), India (18). This finding might be due the result of extended hospital stays, which can have a negative impact on patient care, increase the risk of violence and aggression, and cause stress for service users who must take unscheduled time off.(21). Patients whose educational level was secondary school had poorer perception with nursing care behavior than patients admitted whose educational status was not read or written. This could be because people with higher educational levels are high expectation of standardizing nursing service.

On the other hand, times spent with nurses were significantly associated with patients' perceptions of nurse caring behavior. Patients who spent more than 30 minutes with nurses were two times more likely to be perceived as poor as compared to patients who spent less than 30 minutes with them. This finding supports the idea that poor nurse-patient interactions lead to dissatisfaction and perceived poor nurse caring behavior(22, 23).

In this study, the residence of the patient was significantly associated with the patient's perception with nurse caring behavior. The odds of poor experience with nursing care behavior among urban residents were greater than those among rural residents. This study was similar to the study performed in South Wollo (20). This might be related to awareness and access to health information, as there is mass media availability among urban residents.

### Strength and limitations of the study

The strength of the study was that primary data were used. As nature of cross-sectional study cannot show case and effects, longitudinal study might need to explore more. This study was also limited to one institution due to limited resources.

### Conclusion

This study showed that 37.4% of patients perceived poor nurse caring behavior. Waiting day in wards, educational level, resident, and time spent with nurses were determinants of patients' perceptions of nurse-caregiving behavior. Nurse caring behavior is one of the most essential parts of care and indicates nursing service. This research has the potential to raise nurses' consciousness and promote patient-centered thinking.

### Recommendations

Hospitals should place greater emphasis on the nursing profession because nurses encounter all aspects of patient problems. They should provide appropriate strategies to increase patients'

positive perception toward nursing by filling gaps and providing scheduled training for nurse professionals. Future researchers should also conduct qualitative

### Abbreviations

AOR: adjusted odd ratio; COR: crude odd ratio; CBI: Care Behavior Inventory; DTCSH: Debre Tabor Comprehensive Specialized Hospital.

### Acknowledgments

We would like to acknowledge Debre Tabor University. We also acknowledge the hospital administrator and ward coordinators for their help during the data collection. Finally, special gratitude goes to the study participants who shared their ideas.

### Availability of data and materials

The data used in this study are available from the corresponding author upon reasonable request.

### Declarations

### Ethics approval and consent to participate

Ethical approval for the research was obtained from Debre Tabor University's ethical review committee with *Ref.No RP/ 278/23*. The patient was informed, and written consent was obtained from each participant. The participants were not needed to write their names on the questionnaires. The respondents were informed that they had the right to refuse the interview. This study was conducted following the ethical standards of the Declaration of Helsinki.

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### **Contributions**

Mengistu Ewunetu, Yirgalem Abere, and Astewle Andargie Yohannes Tesfahun worked on developing the research idea; designing the study; being involved in writing, training and supervising the data collectors; analyzing and interpreting the results; and preparing the manuscript. Melese Kebede, Sheganew Fetene, Bekalu Mekonen, Gebrehiwot Berie, and Mulu Kebede critically revised the proposal, participated in its design, analysis and interpretation of .thor. the results, and wrote the manuscript. All the authors were involved in reading and approving the final manuscript.

### **Consent for publication**

Not applicable.

### **Competing interest**

The authors declare that they have no competing interests.

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### References

1. Abdullah S, Kousar R, Azhar M, Waqas A, Gilani S. Nurses' and patients' perception regarding nurse caring behaviors and patients satisfaction in Sir Ganga Ram hospital, Lahore, Pakistan. International Annals of Medicine. 2017;1(5):1-8.

2. Henriksson A, Lindberg J. Sjuksköterskors upplevelse av palliativ omvårdnad på en allmän vårdavdelning: en litteraturstudie. 2007.

3. Kewi S, Tesema A, Negussie B. Patient's perception towards quality of nursing care in inpatient department at public hospitals of Benishangul Gumuz Regional State, North West Ethiopia. J Nurs Care. 2018;7(4):1-10.

4. Shinde M, Kapurkar K. Patient's satisfaction with nursing care provided in selected areas of tertiary care hospital. International Journal of Science and Research. 2014;3(2):150-60.

5. Darega B, Dida N, Letimo T, Hunde T, Hayile Y, Yeshitla S, et al. Perceived quality of nursing cares practices in inpatient departments of bale zone hospitals, Oromiya regional state, Southeast Ethiopia facility-based cross sectional study. Qual Prim Care. 2016;24(1):39-45.

6. Khademian Z, Vizeshfar F. Nursing students' perceptions of the importance of caring behaviors. Journal of advanced nursing. 2008;61(4):456-62.

7. Azizi-Fini I, Mousavi M-S, Mazroui-Sabdani A, Adib-Hajbaghery M. Correlation between nurses' caring behaviors and patients' satisfaction. Nurs Midwifery Stud. 2012;1(1):36-40.

8. Kipp KM. Implementing nursing caring standards in the emergency department. JONA: The Journal of Nursing Administration. 2001;31(2):85-90.

9. Assefa F, Mosse A. Assessment of clients' satisfaction with health service deliveries at Jimma University specialized hospital. Ethiopian journal of health sciences. 2011;21(2):101-10.

10. Al Fozan H. Patients and family caregivers' satisfaction with care delivered by Saudi nurses at National Guard Health Affairs Hospitals in Saudi Arabia. Journal of Natural Sciences Research. 2013;3(12):67-74.

11. Jiru T, Salgedo W, Agago T. Determinants of adult in-patients' satisfaction and associated factors with nursing care in wards of hospitals of in Guji Zone, Oromia, South Ethiopia. J Nurs Care. 2017;6(404):2167-1168.1000404.

12. Yalew ZM, Zeleke H, Afenigus AD, Yitayew YA, Minuye B, Kassahun SA. Patient experience in nursing care and associated factors among adult admitted patients in Debre Markos and Dessie referral hospitals, Amhara Region, Ethiopia, 2019. Journal of Patient Experience. 2020;7(6):1391-7.

13. Mohebbifar R, Rafiei S, Asl AM, Ranjbar M, Khodayvandi M. Association between Hospital Accreditation and Patient Satisfaction: A Survey in the Western Province of Iran. Bangladesh Journal of Medical Science. 2017;16(1).

14. Harrison R, Walton M, Manias E. Patients' experiences in Australian hospitals. Evidence Check brokered by Sax Institute for the Australian Commission on. 2015.

15. Ewunetu M, Temesgen W, Zewdu D, Andargie A, Kebede M, Lidetu T. Patients' perception of patient-centered care and associated factors among patients admitted in private and public hospitals: a comparative cross-sectional study. Patient preference and adherence. 2023:1035-47.

16. Ogugu EG. Nurses' and patients' perception on the importance of nurse-caring behaviours: a study at surgical wards of Kenyatta National Hospital, Nairobi: University of Nairobi, Kenya; 2011.

 Afaya A, Hamza S, Gross J, Acquah NA, Aseku PA, Doeyela D. Assessing patient's perception of nursing care in medical-surgical ward in Ghana. International Journal of Caring Sciences. 2017;10(3):1329-40.

18. Samina M, Qadri G, Tabish S, Samiya M, Riyaz R. Patient's perception of nursing care at a large teaching hospital in India. International journal of health sciences. 2008;2(2):92.

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19. Walsh M, Walsh A. Measuring patient satisfaction with nursing care: experience of using the Newcastle Satisfaction with Nursing Scale. Journal of Advanced Nursing. 1999;29(2):307-15.

20. Biks GA, Worku N, Endalew B, Dellie E. Patient-Centered Care and Associated Factors among Adult Admitted Patients in South Wollo Public Hospitals, Northeast Ethiopia. Patient preference and adherence. 2022;16:333.

21. Adlington K, Brown J, Ralph L, Clarke A, Bhoyroo T, Henderson M, et al. Better care: reducing length of stay and bed occupancy on an older adult psychiatric ward. BMJ Open Quality. 2018;7(4):e000149.

22. Ferede AJ, Wettergren L, Erlandsson K, Gezie LD, Lindgren H, Geda B. Patients' perceptions of caring behaviors at referral hospitals in Ethiopia: A cross-sectional survey. International Journal of Nursing Sciences. 2023;10(3):391-7.

23. Ergezen FD, Bozkurt SA, Dincer H, Kol E. Patients' Perceptions of Knowledge, Trust, and Connectedness in Nurses' Caring Behaviors. Journal of Education & Research in Nursing/Hemşirelikte Eğitim ve Araştırma Dergisi. 2020;17(2).

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2		
3 4		Part I. Questionnaire: Socio-demographic-related factors of the
5		respondents in Debre Tabor comprehensive specialized hospitals
6		respondents in Debre Tabor comprehensive specialized hospitals
7 8	1.	Sex
9		
10		Female 🗆 Male 🗆
11		
12 13	2.	Age
14		
15		18-34 🔲 35-64 🔲 65 & above 🗔
16		
17 18	n	Desidence
19	3.	Residence
20		
21		Urban 📙 Rural 🔲
22 23		
24	4.	Marital status
25		
26		Single 🗌 Married 🔲 Divorced 🗌 Widowed 🗌
27 28		
29	5.	Education status
30		
31 32		Can't read and write $\Box$ Primary school $\Box$ Secondary $\Box$ College & above $\Box$
33	~	
34	6.	Occupation
35		
36 37		Farmer governmental private merchant
38	7	Types of word
39	1.	Types of ward
40		Medical  Surgical  Orthopedics
41 42		
43	8	Spent time with nurses
44	0.	Spont time with harbos
45 46		$<30 \text{ minutes} \square > 30 \text{ minutes} \square$
40		
48		
49	9.	Length of stay in days in the ward 1-5 $\Box$ 6-10 $\Box$ 11-14 $\Box$ above 15 $\Box$
50 51		
52		
53		
54		
55 56		
57		
58		
59		

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Part II questionnaire: Patients' experience of nursing care behavior in Debre						
<u>Tabor C</u>	omprehensive Specialized Hospita	als				
subscale	Care behavior	1 =	2 =	3=	4 =	5=often,
		never,	almost	sometimes	usually,	
1	Knowledge and Skills					
Q11	Knowing how to give shots,					

<b>X12</b>	Denig confident with the patient				
Q13	Demonstrating professional knowledge and skill				
Q14	Managing equipment skillfully				
Q15	Treating patient information confidentially				
2	Assurance of Human Presence				
Q21	Returning to the patient voluntarily				
Q22	Talking with the patient				
Q23	Encouraging the patient to call if there are problems	2.			
Q24	Responding quickly to the patient's calls	0			
Q25	Helping to reduce the patient's pain		7		
Q26	Showing concern for the patient				
Q27	Giving the patient's treatments and medications on time			2,	
Q28	Relieving the patient's symptom			5	
3	Respectful Deference of Others				
Q31	Attentively listening to the patient				
Q32	Treating the patient as an individual				
Q33	Supporting the patient				

 Q34

Q35

the patien

Q12

intravenous line

Being confident with the patient

Being empathetic or identifying with

Allowing the patient to express

feelings about his/her disease and

Page 25 of 24

	treatment			
Q36	Meeting the patient's stated and unstated needs			
4	Positive Connectedness			
Q41	Giving instructions or teaching the patient			
Q42	Spending time with the patient			
Q43	Helping the patient grow			
Q44	Being patient or tireless with the patient			
Q45	Including the patient in planning his/her care			

### Patient Perceptions of Nurse Caring Behavior and its Determinant Factors: Cross-sectional Survey

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1	Patients' Perceptions of Nurse Caring Behaviors and Determinant Factors
2	at Debre Tabor Comprehensive Specialized Hospital: A Cross-sectional
3	Survey
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31 32 33	35	ABSTRACT
34 35	36	Introduction: Nurses' caring behavior involves providing care for individuals of all ages,
36 37 38	37	families, groups, and communities, whether they are sick or healthy, in all settings. Although
39 40	38	nurses make up majority of healthcare professionals worldwide, their heavy workloads often
41 42	39	negatively impact Patients' perceptions' of their care. Patients' perceptions of nurse caring
43 44 45	40	behaviors had a substantial impact on patients' outcomes and satisfaction. Therefore, this study
46 47	41	aimed to assess patients' perceptions of nurse caring behavior and its determinant Factors.
48 49 50	42	Methods: A facility-based cross-sectional study was conducted among patients admitted to the
51 52	43	inpatient ward from May 8 to June 15, 2023. Systematic sampling techniques were employed to
53 54 55 56 57 58 59	44	select 474 study participants. The interviewer-administered questionnaire was used to collect the

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data. The Caring Behaviors Inventory-24 was used to collect the data. Descriptive statistics were
computed in the form of mean, frequency, standard deviation, and percentages. Logistic
regressions were performed to identify the factors associated with patients' perceptions of nurse
caring behavior. The odds ratio with a 95% CI at a p value <0.05 was used to determine the</li>
significance level.

Results: Overall, 37.4% of patients had poor perceptions of nurse caring behaviors. Waiting day
in the ward (AOR=2.3; 95 CI (1.6-6.4) and (3.4; 95% CI (2.1-10.7)), residence (AOR = 2; 95% CI
(1.3, 4.4), education level (AOR= 1.2; 95% CI (1.12-3.42), and spent time with nurses (AOR=1.7;
95% CI (1.38-5.31)) were identified as determinants patients' perceptions of nurse caring
behaviors.

55 Conclusion: Patients' perceptions of nurse caring behaviors were low. Waiting time in the wards,
56 residency, educational level, and time spent with nurses were identified as determinant factors
57 contributing to patients' poor perceptions of nurse caring behavior. Therefore, hospital
58 management, nursing directors, and nursing staff should collaborate to foster better interactions
59 between patients and nurses during care

**Key words**: nurse, caring behavior, perception,

61 Strength and limitations of the study

- The strength of the study was that primary data were used.
- As nature of cross-sectional study cannot show case and effects, longitudinal study might need to explore more.
  - This study was also limited to one institution due to limited resources.
  - The study acknowledges the possibility of social desirability bias and recall bias as limitations

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2		
3 4	68	INTRODUCTION
5 6	69	Care is a central element that is holistic and individualized, encompassing a process of therapeutic
7 8 9	70	interventions designed to meet the unique needs of both patients and their family's[1]. Nurse caring
10 11	71	behaviors are defined as the acts, conduct, and mannerisms enacted by professional nurses that
12 13 14 15 16	72	convey concern, safety and attention to the patient [2]. Nurses' caring behaviors can improve the
	73	quality of care, leading to a sense of security, a reduction in anxiety, and a consensus between the
16 17 18	74	caregiver and the care recipient, which may subsequently enhance patient satisfaction[3]. Patient
19 20	75	perception in nursing care refers to patients' feelings or views about the nursing care they received
21 22 23	76	during their hospital stay [4]. Nurses are the foundation of patient care endeavors, and they are
24 25	77	trustful to provide to provide high quality care to patients[5]. Nurses have the greatest patient
26 27	78	contact time, and nursing care is performed 24 hours a day to increase patient satisfaction[6].
28 29 30	79	However, heavy workloads, inappropriate tasks, insufficient resources, poor management, and
31 32	80	shortages of health professionals are the main challenges to provide quality nursing care in
33 34	81	developing countries [7].
35 36 37	82	Caring is the essence of nursing and a fundamental characteristic that distinguishes nurses from
38 39	83	other healthcare professionals [8, 9]. Caring behaviors are a distinct feature of nursing, and has a
40 41	84	significant impact on patient outcomes and patient satisfaction [10]. Because nurses are involved
42 43	85	practically in every area of patient care in a hospital [11].
44 45 46	86	. In this regard; studies conducted in Jordan revealed that 27% of participants had a poor perception
47 48	87	of nurses' caring behaviors[12]. Additionally, a study conducted in Ghana showed that 11% of
49 50	88	patients had a poor experience with nurse caring behavior[13]. Similarly, studies conducted in
51 52 53	89	Ethiopia, specifically in Nagele Borena (19%) and Debre Markos (36%), reported that a significant
55 54	90	proportion of patients had a poor perception of nurses' caring behaviors [14, 15]. Different studies

proportion of patients had a poor perception of nurses' caring behaviors [14, 15]. . Different studies 

### 

from different literatures shown that residence, sex, age, educational level, employment status,

92 waiting day in the wards, and spent time with nurses were determinant factors that affect patients'

93 perceptions of nurse caring behaviors [14-18].

94 Therefore, nurses must ensure that their caring behaviors in medical, surgical, and orthopedic
95 wards, as these behaviors are crucial for achieving positive patient outcomes-[19].

96 Ethiopian hospitals face a shortage of employed nurses, despite nurses making up the largest 97 proportion of healthcare staff and playing a critical role in patient care. Examining patients' 98 perception of nurse caring behaviors has the potential to improve patient care in wards, which may 99 ultimately influence patient outcomes.. However, there is a limitation to the findings on patients' 100 perceptions of nurse caring behavior and the previous finding inclined into nurses' perception on 101 caring behavior. Therefore, this study aimed to measure Patients' Perceptions of -nurse caring 102 behaviors and determinant factors among admitted patients.

### **103 METHODS AND MATERIALS**

### 104 Study setting, study design and study period

The study was conducted in southern Gondar zone of the Amhara regional state which is located 665 km from Addis Ababa, the capital city at Debre Tabor Comprehensive specialized hospitals in selected medical, surgical, and orthopedic wards. The hospital, which is the largest health care facility in the South Gondar zone, serves for more than 2.5 million people. A hospital-based, crosssectional study was conducted from May 8 to June 15, 2023.

1 2		
3 4	110	Source population
5 6 7	111	All patients were admitted to Debre Tabor Comprehensive Specialized Hospitals, South Gondar
8 9	112	Study population
10 11 12	113	All the selected patients were admitted to the Debre Tabor Comprehensive Specialized Hospitals
13 14	114	at Medical, Surgical, and Orthopedics Wards during the data collection.
15 16 17	115	Inclusion and exclusion criteria
18 19	116	At the time of data collection, all adult patients aged >18 years who were present in the selected
20 21 22	117	ward were included in the study. In contrast, all patients who were absent, severely ill, unwilling
22 23 24	118	to participate, and-waiting at the selected ward for less than 24 hours were excluded from the
25 26	119	interviews.
27 28 29	120	Operational definition and terms
30 31	121	Patient perception of nurse caring behaviors: Patient perceptions regarding nurse caring
32 33 34	122	behavior was defined as patient experience of nurse practice as the ability to see the skill and
35 36	123	knowledge, respectfulness, assurance, and connectedness in hospitals.
37 38	124	Good perception: using the mean, respondents who scored above the means had positive
39 40 41	125	perception while those who scored below the means had poor perception.
42 43	126	Sample size determination and sampling methods
44 45	127	Sample size determination
46 47 48	128	The needed sample size was determined using the single population proportion formula by taking
49 50	129	the magnitude of patient experience with caring behavior as 53.3% [1] with a 95% confidence
51 52 53	130	interval, 5% margin of error and a nonresponse rate of 10%. The final sample size was 474.
54 55	131	Sampling methods
56 57		
58 59 60		For peer review only - http://bmjopen.bmj.com/site/about/guidelines.xhtml

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A systematic random sampling technique was used. Based on the previous month's average number of patients in the three wards (surgical (880), medical (1110), and orthopedic (510) in which a totals of 2500 patients sample size were allocated proportionally. The interval was calculated by dividing the total number of admissions from the previous month by the sample size, resulting in an interval of every 5th patient. After calculating the interval, the first patient was randomly selected. Subsequently, every fifth patient was selected until a sufficient sample size was achieved. Patients who were not present at the time of data collection were excluded, and the next number was included. 

### 140 Data collection tools and procedure

An interviewer-administered structured questionnaire was used to collect data from study participants during the study period. The data collection was performed by three diploma nurses. The questioner has two parts, socio-demographic data and Caring Behaviors Inventory (CBI), which are used to measure patients' perception on nurse caring behaviors. It has four dimensions: assurance (to be available to meet a patient's needs and safety), knowledge and skill (to demonstrate their proficiency and competence), respectfulness (engaging the person's dignity), and connectedness (to be constantly ready to be able to assist the patientThe scale consists of 24 items, and all items are scored on a 6-point likert scale (1 = never, 2 = almost never, 3=sometimes, 4 = usually, 5=often, 6 = always). Mean scale were calculated for both subscale and overall scale. The highest possible score was 144 points, which indicated that the higher the score was, the greater the degree of nursing care behavior. 

### 52 Data quality assurance and control

153 The Structure Questionnaire was translated into the local language (Amharic) and then back to154 English for consistency. To ensure the quality of the data, three diploma nurses were recruited for

data collection out of study area, and training was given for two days on how to collect the data, exclusion, and inclusion criteria, and objectives. The questionnaires were also pretested on thirty patients from the Woreta Primary Hospital before data collection to assess the questionnaire's reliability, consistency, and appropriateness, with subsequent correction and modification. The reliability of tool was checked with Cronbach's  $\alpha$  of CBI-24 were 0.89 which is considered as good

161 Data analysis and presentation

The data were checked for completeness and consistency, after which the data were cleaned, coded, and entered into Epidata 4.6 and exported to SPSS version 25 for analysis. Descriptive statistical analysis, such as mean, standard deviation, frequency distribution and proportion; was performed. All explanatory variables with a p value of 0.25 from the binary logistic regression model were fitted into the multivariable logistic regression model, and finally, the variables that had been independently associated with the dependent variable were identified on the basis of 95% CI and a p value less than 0. 05.

- 7 169 **Patient and public involvement**
- 170 None
- **RESULTS**
- <sup>4</sup> 172 Socio-demographic characteristics of the respondents

A total of 474 admitted patients were included in this study, for a response rate of 100%. The mean ±SD age of the study participants was 42.29 ±25.84 years, and 240 (50.6%) of the total study participants were female. Of the total study participants, 247 (52.2%) were from rural areas.
Among the admitted patients, the majority 260(54.8%) stayed in hospital for 1-5 days.
Additionally, 222 (46.8%) study participants were not read or write. A total of 215 (45%) study

Page 10 of 25

participants were admitted to the medical ward. More than half 287 (60.5%) of the studyparticipants provided free service at the hospitals [Table 1].

## Table 1 Socio-demographic Characteristics of the Respondents in DTCSH

Hospitals

Variables	Categories	Frequency	Percent
Sex	Female	240	50.6
	Male	234	49.4
Age	18-34	207	43.6
	35-64	207	43.6
	65 & above	60	12.8
Residence	Urban	227	47.9
	Rural	247	52.1
	Single	17	3.5
Marital status	Married	282	59.4
	Divorced	34	7.17
	Widowed	22	4.6
	Separated	29	6.1
Education level	Can't read and	222	46.8
	write		
	Primary school	78	16.4

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	Secondary	122	25.7
	College & above	52	10.9
Types of ward	Medical	215	45
Types of ward	Surgical	208	43
	Orthopedics	57	12
waiting days in ward	1-5	260	54.8
	6-10	146	30.8
	11-14	37	7.8
	15 & above	31	6.6
Spent time with nursing	<30 minutes	287	60.5
	>30 minutes	187	39.5

## 180 Patients' perceptions of nurse caring behaviors

Out of 474 respondents, 177 (37.4%) (95% CI: 29.5–40.3%) patients had poor perceptions of nurse caring behaviors with the overall mean scores of 4.55. The lowest mean score were for item measuring "connectedness (mean (SD)) = 4.2(0.68)". However the lowest mean score for items measuring "knowledge and skills (mean (SD) =4.8(0.68)" (Table 2). On the other hand, based on the computed mean score, the subscales were dichotomized into good and poor caring behavior. The results showed that 40.1%, 42.2%, 36.1%, and 30% of patients perceived poor caring behavior in the areas of assurance, knowledge and skills, respectfulness, and connectedness, respectively (Table 3). 

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Mean(SD)

4.8(0.5)

5.2(0.72)

4.7(1,02)

4.6(0.86)

4.7(0.29)

Overall mean

4.8(0.68)

Table 2 Mean score of CBI subscale

Being confident with the patient

Managing equipment skillfully

**Assurance of Human Presence** 

Knowing how to give shots, intravenous line

Demonstrating professional knowledge and skill

Treating patient information confidentially

Subscale

**Knowledge and Skills** 

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Returning to the patient voluntarily	4.83(0.67)
Talking with the patient	4.74(0.52)
Encouraging the patient to call if there are problems	5.12(0.67)
Responding quickly to the patient's calls	4.94(0.8) 4.72(0.59)
Helping to reduce the patient's pain	4.44(0.45)
Showing concern for the patient	4.87(0.66)
Giving the patient's treatments and medications on time	4.36(0.43)
Relieving the patient's symptom	4.52(0.63)
Respectful Deference of Others	
Attentively listening to the patient	4.01(0.72)
Treating the patient as an individual	4.16(0.9)
Supporting the patient	5.04(0.33) 4.5(0.66)
Being empathetic or identifying with the patient	4.3(0.58)
Allowing the patient to express feelings about his/her disease and treatment	4.7(0.86)
Meeting the patient's stated and unstated needs	4.8(0.49)
Positive Connectedness	
Giving instructions or teaching the patient	4.2(0.81)
Spending time with the patient	4.43(0.61) 4.2(0.68)
Helping the patient grow	3.35(0.46)
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Being patient or tireless with		4.48(0.57)	
Including the patient in plann	hing his/her care	4.:	52(0.59)
Table 3 Perceived patients' n	urse caring beha	avior in Debre Tal	oor Comprehensive Sp
Hospitals, 2023			
Nurse caring behaviors	Category	Frequency	Percent
Assurance	Good	284	59.9
	Poor	190	40.1
Knowledge and skill	Good	273	57.5
	Poor	201	42.5
Respectfulness	Good	300	63.3
	Poor	174	36.7
Connected ness	Good	332	70
	Poor	142	30
Overall perception	Good	297	62.6
	Poor	177	37.4

## 192 Determinant factors of patients' perceptions of nurse caring behaviors

Of the study participants, 167 (56.7%) male had poor perceptions of nurse caring behaviors. In addition, more than half of the 196 (65.3%) study participants aged 35-64 years had poor perceptions of nurse caring behaviors. In addition, more than half of the urban residents 234 (78%) had poor perceptions of nurse caring behavior, and 162 (54%) participants whose educational

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status could not be read and written were poor perceptions of nursing care behavior. Of the study
participants, 112 (23.6%) who were admitted to the medical ward had poor perceptions of nurse
caring behaviors [Table 4].

2023					
Variable	Categories	perceptio	ons of nurse o	caring beh	aviors
		Good	%	Poor	%
Sex	Female	142	29.9	98	20.6
	Male	116	24.4	120	25.6
Age	18-34	120	25.6	87	18.3
	35-64	97	20.4	110	23.2
	65 & above	48	10.12	20	4.2
Residence	Urban	144	30.3	103	21.7
	Rural	106	22.3	121	25.5
Education	Can't read and	144	30.3	78	16.5
	write				
	Primary school	31	6.5	47	9.9
	Secondary school	43	9.1	79	16.7
	College & above	14	2.95	38	8.01
Types of ward	Medical	103	21.7	112	23.6
	Surgical	93	19.6	115	24.2

	Orthopedics	18	3.8	39	8.2	
Waiting days in	1-5	148	31.2	112	23.6	
ward	6-10	126	26.6	55	11.6	
	11-14	22	4.6	15	3.1	
	15 & above	16	3.37	15	3.1	
Spent time with	>30 minutes	83	17.5	204	43	
nursing	<30 minutes	92	19.4	95	20	

## 201 Determinant factors of patients' perceptions of nurse-caring behaviors

In the multivariable analysis, four variables were identified as determinants of patients' perception of nursing care behaviors: waiting day in the ward (AOR = 2.3;95 CI (1.6–6.4) and 3.4 (2.1–10.7); residence (AOR = 2; 95% CI [1.3, 4.4]; education status (AOR = 1.2; 95% CI (1.12-3.42); and spent time with nurses (AOR = 1.7; 95% CI (1.38–5.31)).

Patients who spent with nurse less than 30 minutes during shifting hours were 1.7 times more likely to perceive poor towards nurse caring behaviors than those who spent greater than 30 minutes. And also, study participants whose educational level was secondary school were 1.2 times more likely to perceive poor nurse caring behavior than those who can't read and write (AOR = 1.2; 95% CI: 1.12-3.42). In addition, study participants whose waiting day in the ward was between 6 and 10 days were 2.3 times more likely to had perceived poor nurse caring behavior than those who wait for less than 5 days (AOR = 2.3; 95% CI: 1.6–6.4). Finally, study participants whose resident in urban areas-were 2 times more likely perceive poor nurse caring behavior as compared to rural resident (AOR=2; 95% CI (1.3-4.4)) [Table 5]. 

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Variables	Category	Good perception	Poor perception	COR	AOR
Sex	Female	142	98	1	1 o
	Male	116	120	1.49 (1.12-34)	AOR 1 1.23 (0.7% by conserving for use seignement Superiour (AB 0.64 (0.7% by conserving for use seignement Superiour (AB 1 2(1.3-4.4% related to text and data n 1 1 1 1 1 1 1 1 1 1 1 1 1
Age	18-34	120	87	0.57 (0.34-1.23)	0.64 (0.7
	35-64	97	110	0.36 (0.29-1.45)	0.22 (0.3
	65 & above	48	20	1	1 ncludi
					1 1
Residence	Urban	144	103	1.5 (1.2-6.4)	2(1.3-4.4)
	Rural	106	121	1	lated to
Educatio	Can't read	144	70	1	o text a
Educatio	Can't read	144	78	1	1 and da
n	and write				(ABE) ta mir
	Primary	31	47	1.79) (2.2-3.55	1.7 (0.43 g
	school				Al trai
	Secondary	43	79	1.47 (1.32-4.76)	rai 1.2(1.12-يو.4
	College &	14	38	5.11(3.6-7.12)	2.8(3.56-8,9
	above				2.8(3.56-sinilar 2.34(0.87e3. 0.44 (0.399-
<b>Types of</b>	Medical	103	112	4.7(2.1-8.2)	2.34(0.87 <u>e</u> 3.
ward	Surgical	93	115	1.3 (0.89-2.77)	0.44 (0.3 <b>9</b> 9-
					2.34(0.87 <sup>5</sup> 3. 0.44 (0.3 <sup>9</sup> 9-
	Orthopedics	18	39	1	1

			-	ene epen		
						0.48(0.12-3)
	Length of	1-5	148	112	1.13 (1.63-2.13	0.48(0.12-3
	stay in	6-10	126	55	2.14 (1.56-3.69)	2.3(1.6 -6.4)
	days in					× .
	ward	11-14	22	15	1.37 (1.15-5.41)	3.4(2.1-10.7
		15 & above	16	15	1.37 (1.15-5.41) 1 2.16 (1.38-5.36) 1 io, COR=crude odds ratio, CI=	3.4(2.1-10.7 1 2(1.71-4.57 1 1 2(1.71-4.57 1 1 1 1 1 1 1 1 1 1 1 1 1
	Spent	<30 minute	204	83	2.16 (1.38-5.36)	<del>ع</del> 2(1.71-4. <b>§</b> 7
	time with	> 30 minutes	95	92	1	1 yright,
	nurses					includ
	□ p-value <0	.05, □□p-value <0.	01, 1= reference, .	AOR =adjusted odds rati	io, COR=crude odds ratio, CI=	<del>ع</del> confidence inge
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# **Discussion**

The aim of this study was to provide patients' perceptions of nurse caring behaviors at Debre Tabor Comprehensive Specialized Hospitals, Ethiopia. In addition, this study aimed to identify determinant factors of patients' perceptions of nurse caring behavior. The current findings revealed that 37.4% of patients perceived poor nurse caring behaviors, which is higher than the study done in Ghana[20], Pakistan[1], and India[21]. However, this finding was lower than the study conducted in Debre Markos [15]. The discrepancy might be due to the use of different tools, such as the 26-item Newcastle Patient Experience with Nursing Care Scale used in the previous study [22]. The discrepancy in Ghana might be due to differences in socio-demographic characteristics and infrastructure. The inconsistency in Pakistan might be due to differences in socio-demographics and sample sizes, with the former having a small sample size. This finding indicates a high proportion of patients perceived poor nurse caring behaviors, highlighting the need for nurses to improve their practice and uphold nursing standards to achieve better patient outcomes. We found that patients who stayed in the ward for more than six days were more likely to perceive poor nurse caring behaviors compared to those who stayed for less than five days. This study was similar to the study performed in South Wollo[23], Debre Markos[15], India [21]. This might be due to prolonged hospital stays, which can negatively impact patient care, increase the risk of violence and aggression, and cause stress for patients requiring unscheduled time off [24]. On the other hand, patients whose educational level was secondary school had poor perceptions of nurse caring behaviors than patients admitted whose educational status was not read and writte. This could be because people with higher educational levels are high expectation of standardizing nursing service.

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In addition, times spent with nurses were significantly associated with patients' perceptions of
nurse caring behaviors. Patients who spent less than 30 minutes with nurses were two times more
likely to be perceived as poor as compared to patients who spent more than 30 minutes with them.
This finding supports the idea that poor nurse-patient interactions contribute to dissatisfaction and
negatively influence patients' perceptions of nurse caring behaviors [25, 26].

In this study, the residence of the patient was significantly associated with patients' perceptions of nurse caring behaviors. The odds of poor perceptions of nurse caring behaviors among urban residents were more likely as compared to rural residents. This study was similar to the study done in South Wollo [23]. This might be related to awareness and access to health information, as there is mass media availability among urban residents.

#### **Conclusion**

This study showed that 37.4% of patients perceived poor nurse caring behavior. Waiting day in
wards, educational level, resident, and time spent with nurses were determinants of patients'
perceptions of nurse-caregiving behavior. Nurse caring behavior is one of the most essential
parts of care and indicates nursing service. This research has the potential to raise nurses'
consciousness and promote patient-centered care.

**Recommendations** 

Hospitals management should place greater emphasis on the nursing profession because nurses
encounter all aspects of patient problems. They should provide appropriate strategies to increase
patients' positive perception toward nursing care by filling gaps and providing scheduled training
for nurse professionals. Future researchers should consider a qualitative method to gain deeper
insights into patients' perceptions of nurse caring behavior.

#### 269 Abbreviations

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1 2		
2 3 4	270	AOR: adjusted odd ratio; COR: crude odd ratio; CBI: Care Behavior Inventory; DTCSH: Debre
5 6	271	Tabor Comprehensive Specialized Hospital.
7 8 9	272	Acknowledgments
10 11	273	We would like to acknowledge Debre Tabor University. We also acknowledge the hospital
12 13 14	274	administrator and ward coordinators for their help during the data collection. Finally, special
14 15 16	275	gratitude goes to the study participants who shared their ideas.
17 18 19	276	Availability of data and materials
20 21	277	The data used in this study are available from the corresponding author upon reasonable request.
22 23	278	Declarations
24 25		
26 27	279	Ethics approval and consent to participate
28 29	280	Ethical approval for the research was obtained from Debre Tabor University's ethical review
30 31 32	281	committee with Ref.No RP/ 278/23. The patient was informed, and written consent was obtained
33 34	282	from each participant. The participants were not needed to write their names on the questionnaires.
35 36 27	283	The respondents were informed that they had the right to refuse the interview. This study was
37 38 39	284	conducted following the ethical standards of the Declaration of Helsinki.
40 41	285	Funding
42 43	286	. The authors have not declared a specific grant for this research from any funding agency in the
44 45 46	287	public, commercial or not-for-profit sectors
47 48	288	Contributions
49 50 51	289	Mengistu Ewunetu, Yirgalem Abere, Astewle Andargie Baye and Yohannes Tesfahun kassie
52 53	290	worked on developing the research idea; designing the study; being involved in writing, training
54 55 56	291	and supervising the data collectors; analyzing and interpreting the results; and preparing the
50 57 58		
59 60		For peer review only - http://bmjopen.bmj.com/site/about/guidelines.xhtml

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2 3 4	292	manuscript. Melese Kebede Hailu, Sheganew Fetene, Bekalu Mekonen Belay, Gebrehiwot Berie
5 6 7	293	Mekonen, and Mulu Kebede critically revised the proposal, participated in its design, analysis and
7 8 9	294	interpretation of the results, and wrote the manuscript. All the authors were involved in reading
10 11	295	and approving the final manuscript. Mengistu Ewunetu serves as the guarantor of this study and
12 13 14	296	takes full responsibility for its accuracy and integrity. The study was conducted in accordance with
15 16	297	ethical guidelines, ensuring the validity of data collection, analysis, and interpretation.
17 18 10	298	Consent for publication
19 20 21	299	Not applicable.
22 23 24	300	Competing interest
25 26 27	301	The authors declare that they have no competing interests.
28 29 30	302	References
31 32 33	303 304 305	<ol> <li>Abdullah, S., et al., Nurses' and patients' perception regarding nurse caring behaviors and patients satisfaction in Sir Ganga Ram hospital, Lahore, Pakistan. International Annals of Medicine, 2017. 1(5): p. 1-8.</li> </ol>
34 35	306 307	<ol> <li>Greenhalgh, J., L. Vanhanen, and H. Kyngäs, <i>Nurse caring behaviours</i>. Journal of advanced nursing, 1998. 27(5): p. 927-932.</li> </ol>
36 37 38	308 309	3. Henriksson, A. and J. Lindberg, Sjuksköterskors upplevelse av palliativ omvårdnad på en allmän vårdavdelning: en litteraturstudie. 2007.
39 40 41	310 311 312	<ol> <li>Kewi, S., A. Tesema, and B. Negussie, Patient's perception towards quality of nursing care in inpatient department at public hospitals of Benishangul Gumuz Regional State, North West Ethiopia. J Nurs Care, 2018. 7(4): p. 1-10.</li> </ol>
42 43 44	313 314	5. Shinde, M. and K. Kapurkar, <i>Patient's satisfaction with nursing care provided in selected areas of tertiary care hospital.</i> International Journal of Science and Research, 2014. <b>3</b> (2): p. 150-160.
45 46 47	315 316 317	6. Westbrook, J.I., et al., <i>How much time do nurses have for patients? A longitudinal study</i> <i>quantifying hospital nurses' patterns of task time distribution and interactions with health</i> <i>professionals.</i> BMC health services research, 2011. <b>11</b> : p. 1-12.
48 49	318 319	7. Darega, B., et al., <i>Perceived quality of nursing cares practices in inpatient departments of bale zone hospitals, Oromiya regional state, Southeast Ethiopia facility-based cross sectional study.</i>
50 51 52	320 321 322	<ul> <li>Qual Prim Care, 2016. 24(1): p. 39-45.</li> <li>8. Khademian, Z. and F. Vizeshfar, <i>Nursing students' perceptions of the importance of caring behaviors</i>. Journal of advanced nursing, 2008. 61(4): p. 456-462.</li> </ul>
53 54 55 56 57	322 323 324	<ul> <li>9. Azizi-Fini, I., et al., <i>Correlation between nurses' caring behaviors and patients' satisfaction</i>. Nurs Midwifery Stud, 2012. 1(1): p. 36-40.</li> </ul>
57 58 59		

BMJ Open: first published as 10.1136/bmjopen-2024-090557 on 12 March 2025. Downloaded from http://bmjopen.bmj.com/ on June 13, 2025 at Agence Bibliographique de I Enseignement Superieur (ABES) . Protected by copyright, including for uses related to text and data mining, Al training, and similar technologies.

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2			
3	325	10.	Kipp, K.M., Implementing nursing caring standards in the emergency department. JONA: The
4	326		Journal of Nursing Administration, 2001. <b>31</b> (2): p. 85-90.
5	327	11.	Assefa, F. and A. Mosse, Assessment of clients' satisfaction with health service deliveries at
6	328		Jimma University specialized hospital. Ethiopian journal of health sciences, 2011. <b>21</b> (2): p. 101-
7	329		110.
8 9	330	12.	Omari, F.H., R. AbuAlRub, and I.R. Ayasreh, <i>Perceptions of patients and nurses towards nurse</i>
9 10	331	12.	caring behaviors in coronary care units in J ordan. Journal of clinical nursing, 2013. <b>22</b> (21-22): p.
11	332		3183-3191.
12	333	13.	Al Fozan, H., Patients and family caregivers' satisfaction with care delivered by Saudi nurses at
13	333 334	15.	
14	335 335		National Guard Health Affairs Hospitals in Saudi Arabia. Journal of Natural Sciences Research,
15		1.4	2013. <b>3</b> (12): p. 67-74.
16	336	14.	Jiru, T., W. Salgedo, and T. Agago, <i>Determinants of adult in-patients' satisfaction and associated</i>
17	337		factors with nursing care in wards of hospitals of in Guji Zone, Oromia, South Ethiopia. J Nurs
18	338	4 5	Care, 2017. <b>6</b> (404): p. 2167-1168.1000404.
19 20	339	15.	Yalew, Z.M., et al., <i>Patient experience in nursing care and associated factors among adult</i>
20	340		admitted patients in Debre Markos and Dessie referral hospitals, Amhara Region, Ethiopia, 2019.
21 22	341		Journal of Patient Experience, 2020. <b>7</b> (6): p. 1391-1397.
23	342	16.	Harrison, R., M. Walton, and E. Manias, <i>Patients' experiences in Australian hospitals</i> . Evidence
24	343		Check brokered by Sax Institute for the Australian Commission on, 2015.
25	344	17.	Ewunetu, M., et al., Patients' perception of patient-centered care and associated factors among
26	345		patients admitted in private and public hospitals: a comparative cross-sectional study. Patient
27	346		preference and adherence, 2023: p. 1035-1047.
28	347	18.	Mohebbifar, R., et al., Association between Hospital Accreditation and Patient Satisfaction: A
29	348		Survey in the Western Province of Iran. Bangladesh Journal of Medical Science, 2017. 16(1).
30	349	19.	Ogugu, E.G., Nurses' and patients' perception on the importance of nurse-caring behaviours: a
31	350		study at surgical wards of Kenyatta National Hospital, Nairobi. 2011, University of Nairobi,
32 33	351		Kenya.
33 34	352	20.	Afaya, A., et al., Assessing patient's perception of nursing care in medical-surgical ward in
35	353		Ghana. International Journal of Caring Sciences, 2017. 10(3): p. 1329-1340.
36	354	21.	Samina, M., et al., Patient's perception of nursing care at a large teaching hospital in India.
37	355		International journal of health sciences, 2008. <b>2</b> (2): p. 92.
38	356	22.	Walsh, M. and A. Walsh, Measuring patient satisfaction with nursing care: experience of using
39	357		the Newcastle Satisfaction with Nursing Scale. Journal of Advanced Nursing, 1999. 29(2): p. 307-
40	358		315.
41	359	23.	Biks, G.A., et al., Patient-Centered Care and Associated Factors among Adult Admitted Patients
42	360		in South Wollo Public Hospitals, Northeast Ethiopia. Patient preference and adherence, 2022. 16:
43 44	361		p. 333.
44	362	24.	Adlington, K., et al., Better care: reducing length of stay and bed occupancy on an older adult
46	363		psychiatric ward. BMJ Open Quality, 2018. 7(4): p. e000149.
47	364	25.	Ferede, A.J., et al., Patients' perceptions of caring behaviors at referral hospitals in Ethiopia: A
48	365		cross-sectional survey. International Journal of Nursing Sciences, 2023. 10(3): p. 391-397.
49	366	26.	Ergezen, F.D., et al., Patients' Perceptions of Knowledge, Trust, and Connectedness in Nurses'
50	367		Caring Behaviors. Journal of Education & Research in Nursing/Hemşirelikte Eğitim ve Araştırma
51	368		Dergisi, 2020. <b>17</b> (2).
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53	369	APPE	NDIX
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	Part I. Questionnaire: Socio-demographic-related factors of the
	respondents in Debre Tabor comprehensive specialized hospitals
1.	Sex
	Female 🗆 Male 🗆
2.	Age
	18-34 🗌 35-64 🔲 65 & above 🗌
3.	Residence
	Urban 🗆 Rural 🗆
4.	Marital status
	Single 🗌 Married 🔲 Divorced 🗌 Widowed 🗆
5.	Education status
	Can't read and write $\Box$ Primary school $\Box$ Secondary $\Box$ College & above $\Box$
6.	Occupation
	Farmer governmental private merchant
7.	Types of ward
	Medical  Surgical  Orthopedics
8.	Spent time with nurses
	$<30 \text{ minutes} \square > 30 \text{ minutes} \square$
9.	Length of stay in days in the ward 1-5 $\Box$ 6-10 $\Box$ 11-14 $\Box$ above 15 $\Box$

Part II questionnaire: Patients'	experience	of nursing	care	behavior	in	Debre
Tabor Comprehensive Specialized	Hospitals	-				

	questionnaire: Patients' experie comprehensive Specialized Hospita		nursin	g care beh	avior in	Debre	
subscale	Care behavior	1 =	2=	3=	4 =	5=often,	, 6 =
1	Knowledge and Skills	never,	almost	sometimes	usually,		alwa
Q11	Knowing how to give shots, intravenous line						Protecte
Q12	Being confident with the patient						d by
Q13	Demonstrating professional knowledge and skill						copyrigh
Q14	Managing equipment skillfully						t, inc
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Q26	Showing concern for the patient						Al tra
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Q28	Relieving the patient's symptom			5			nd sii
3	Respectful Deference of Others						nilar
Q31	Attentively listening to the patient						techr
Q32	Treating the patient as an individual						holog
Q33	Supporting the patient						ies.
Q34	Being empathetic or identifying with the patien	<u> </u>					
Q35	Allowing the patient to express feelings about his/her disease and						

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	treatment			
Q36	Meeting the patient's stated and unstated needs			
4	Positive Connectedness			
Q41	Giving instructions or teaching the patient			Protected by
Q42	Spending time with the patient			led by
Q43	Helping the patient grow			
Q44	Being patient or tireless with the patient			copyright, including
Q45	Including the patient in planning his/her care			cluding

# **BMJ Open**

## Patients' Perceptions of Nurse Caring Behaviors and Determinant Factors at Debre Tabor comprehensive specialized hospital in Debre Tabor City, Ethiopia: A Crosssectional Survey

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4	1	Patients' Perceptions of Nurse Caring Behaviors and Determinant Factors at
5 6 7	2	Debre Tabor comprehensive specialized hospital in Debre Tabor City,
8 9 10	3	Ethiopia: A Cross-sectional Survey
11 12	4	Mengistu Ewunetu* <sup>1</sup> , Yirgalem Abere <sup>1</sup> , Yohannes Tesfahun Kassie <sup>2</sup> , Melese Kebede Hailu <sup>2</sup> ,
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Patients who were admitted to the inpatient ward at Debre Tabor
spital.
No intervention was needed in this study.
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	L.
34	ABSTRACT
35	Objective: The purposes of this study was to investigate patients' perceptions of nurse caring
36	behaviors and its determinant factors at Debre Tabor comprehensive specialized hospital in
37	Debre Tabor city, Ethiopia.
38	Design: A facility-based cross-sectional study was conducted among 474 patients admitted to the
39	inpatient ward.
40	Setting: The study was conducted at Debre Tabor Comprehensive Specialized Hospital in Debre
41	Tabor City.
42	Participants: Patients who were admitted to the inpatient ward at Debre Tabor Comprehensive
43	Specialized Hospital.
44	Intervention: No intervention was needed in this study.

45 Primary and secondary outcome measures: Binary logistic regression was performed to 46 identify factors associated with patients' perceptions of nurse caring behavior. The odds ratio 47 with a 95% confidence interval (CI) and a p-value < 0.05 was used to determine statistical 48 significance.

Results: Overall, 37.4% of patients had poor perceptions of nurse caring behaviors. Waiting day
in the ward (AOR=2.3; 95% CI (1.6-6.4) and (3.4; 95% CI (2.1-10.7)), residence (AOR=2; 95%
CI (1.3-4.4)), education level (AOR=1.2; 95% CI (1.12-3.42)), and spent time with nurses
(AOR=1.7; 95% CI (1.38-5.31)) were identified as determinants of patients' perceptions of nurse
caring behaviors.

54 Conclusion: The proportions of patients' perceptions of nurse caring behaviors were poor.
55 Waiting time in the wards, being an urban resident, educational level, and time spent with nurses
56 were identified as determinant factors of poor perceptions of patients on nurse caring behavior.
57 Therefore, hospital management, nursing directors, and nursing staff should collaborate to foster
58 better interactions between patients and nurses.

59 Key words: nurse, caring behavior, perception

## Strength and limitations of the study

- The strength of the study was that primary data were used.
- Due to the nature of a cross-sectional study, it is difficult to determine cannot cause and effects dependent and independent variables. The study was also limited to one institution due to limited resources.
- The study acknowledges the possibility of social desirability bias and recall bias as limitations.

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**INTRODUCTION** Care is a central element that is holistic and individualized, encompassing a process of therapeutic interventions designed to meet the unique needs of both patients and their family's [1]. Nurse caring behaviors are defined as the acts, conduct, and mannerisms enacted by professional nurses that convey concern, safety and attention to the patient [2]. A good nurse's caring behaviors can improve the quality of care, leading to a sense of security, a reduction in anxiety, and a consensus between the caregiver and the care recipient, which may subsequently enhance patient satisfaction [3]. Patient perception in nursing care refers to patients' feelings or views about the nursing care they received during their hospital stay [4]. Nurses are the foundation of patient care endeavors, and they are trustworthy to provide high quality care to patients [5]. And also, nurses have the greatest patient contact time, and nursing care is performed 24 hours a day, which plays crucial role in improving patient outcome [6]. However, heavy workloads, inappropriate tasks, insufficient resources, poor management, and shortages of nursing staff are the main challenges to provide quality nursing care in developing countries [7]. Caring is the essence of nursing and a fundamental characteristic that distinguishes nurses from other healthcare professionals [8, 9]. Caring behaviors are a distinct feature of nursing, and has a significant impact on patient outcomes and patient satisfaction [10]. Because nurses are involved practically in every area of patient care in a hospital [11].

In this regard; , studies conducted in Jordan revealed that 27% of participants had a poor perception of nurses' caring behaviors [12]. Additionally, a study conducted in Ghana showed that 11% of patients had a poor experience with nurse caring behavior [13]. Similarly, studies conducted in Ethiopia, specifically in Nagele Borena (19%) and Debre Markos (36%), reported that a significant proportion of patients had a poor perception of nurses' caring behaviors [14,

 90 15]. Different studies from different literatures have shown that residence, sex, age, educational
91 level, employment status, waiting days in the wards, and time spent with nurses are determinant
92 factors that affect patients' perceptions of nurse caring behaviors [14-18].

93 Therefore, nurses must ensure that their caring behaviors are medical, surgical, and orthopedic
94 wards, as these behaviors are crucial for achieving positive patient outcomes [19].

Ethiopian hospitals face a shortage of employed nurses, despite nurses making up the largest proportion of healthcare staff and playing a critical role in patient care. Examining patients' perception of nurse caring behaviors has the potential to improve patient care in wards, which may ultimately influence patient outcomes. However, there is a limitation to the findings on patients' perceptions of nurse caring behavior, and the previous finding inclined into nurses' perception of caring behavior. Therefore, this study aimed to measure patients' perceptions of nurse caring behaviors and determinant factors among admitted patients.

## 102 METHODS AND MATERIALS

## 103 Study setting, study design and study period

The study was conducted in southern Gondar zone of the Amhara regional state, which is located 665 km from Addis Ababa, the capital city of Ethiopia. It was carried out at Debre Tabor Comprehensive specialized hospitals in selected medical, surgical, and orthopedic wards. The hospital, which is the largest health care facility in the South Gondar zone, serves for more than 2.5 million people. A hospital-based cross-sectional study was conducted from May 8 to June 15, 2023.

## 110 Source population

111 All patients were admitted to Debre Tabor comprehensive specialized hospitals.

## **Study population**

All the selected patients were admitted to the Debre Tabor Comprehensive Specialized Hospitalsat medical, surgical, and orthopedics wards during the data collection period.

## 115 Inclusion and exclusion criteria

At the time of data collection, all adult patients aged >18 years who were present in the selected ward were included in the study. In contrast, all patients who were absent from their bed, severely ill, unwilling to participate, or had stayed in the selected ward for less than 24 hours were excluded from the interviews.

<sup>22</sup> 23 120 Operational definition and terms

Patient perception of nurse caring behaviors: Patients' perceptions of nurse caring behavior refer to the experience of patients regarding nursing practice in the hospital and are measured by the caring behavior inventory tool, which has four subscales: knowledge and skill, respectfulness, assurance, and connectedness. Respondents who scored above the mean were considered to have a good perception, while those who scored below the mean had a poor perception.

- <sup>38</sup>
   <sup>39</sup> 127 Sample size determination and sampling methods
  - 128 Sample size determination

The needed sample size was determined using the single population proportion formula by taking the magnitude of patient experience with caring behavior as 53.3% [1] with a 95% confidence interval, a 5% margin of error, and a nonresponse rate of 10%. The final sample size was 474. 

## 133 Sampling methods

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A systematic random sampling technique was used. The sample size was allocated proportionally based on the previous month's average number of patients in the three wards: surgical (880), medical (1,110), and orthopedic (510). The interval was calculated by dividing the total number of admissions from the previous month by the sample size, resulting in an interval of every 5th patient. After calculating the interval, the first patient was randomly selected. Subsequently, every fifth patient was selected until a sufficient sample size was achieved. Patients who were not present at the time of data collection were excluded, and the next number was included. 

#### 142 Data collection tools and procedure

An interviewer-administered structured questionnaire was used to collect data from study participants during the study period. The data collection was performed by three diploma nurses. The questioner has two parts, socio-demographic data and Caring Behaviors Inventory (CBI), which are used to measure patients' perceptions of nurse caring behaviors. It has four dimensions: assurance (to be available to meet a patient's needs and safety), knowledge and skill (to demonstrate their proficiency and competence), respectfulness (engaging the person's dignity), and connectedness (to be constantly ready to be able to assist the patient). The scale consists of 24 items, and all items are scored on a 6-point likert scale (1 = never, 2 = almostnever, 3 = sometimes, 4 = usually, 5 = often, 6 = always). Mean scales were calculated for both subscales and the overall scale. The highest possible score was 144 points, which indicated that the higher the score was, the greater the degree of nursing care behavior. 

) 154

#### Data quality assurance and control

The structured questionnaire was translated into the local language (Amharic) and then back toEnglish for consistency. To ensure the quality of the data, three diploma nurses were recruited

for data collection out of the study area, and training was given for two days on how to collect the data, exclusion and inclusion criteria, and objectives. The questionnaires were also pretested on thirty patients from the Woreta Primary Hospital before data collection to assess the questionnaire's reliability, consistency, and appropriateness, with subsequent correction and modification. The reliability of the tool was assessed using Cronbach's  $\alpha$  for CBI-24, which was 0.89, indicating good reliability.

163 Data analysis and presentation

After the data were checked for completeness and consistency, the data were cleaned, coded, and entered into Epidata 4.6 and then exported to SPSS version 25 for analysis. Descriptive statistical analysis, such as mean, standard deviation, frequency distribution, and proportion, was performed. All explanatory variables with a p-value of 0.25 from the binary logistic regression model were fitted into the multivariable logistic regression model, and finally, the variables that had been independently associated with the dependent variable were identified on the basis of a 95% CI and a p-value less than 0.05.

- **Patient and public involvement**
- 172 None
- 1 173 **RESULTS**
- <sup>4</sup> 174 Socio-demographic characteristics of the respondents

A total of 474 admitted patients were included in this study, for a response rate of 100%. The mean  $\pm$  SD age of the study participants was 42.29  $\pm$  25.84 years and 240 (50.6%) of the total study participants were female. Of the total study participants, 247 (52.2%) were from rural areas. Among the study participants 260 (54.8%) were stayed in the hospital for 1-5 days. Additionally, 222 (46.8%) study participants were not able to read or write. A total of 215 (45%)

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study participants were admitted to the medical ward. More than half 287(60.5%) of the study 

participants provided free service at the hospitals [Table 1]. 

## **Table 1** Socio-demographic Characteristics of the Respondents in DTCSH Hospitals

Variables	Categories	Frequency	Percent
Sex	Female	240	50.6
	Male	234	49.4
Age	18-34	207	43.6
	35-64	207	43.6
	65 & above	60	12.8
Residence	Urban	227	47.9
	Rural	247	52.1
	Single	17	3.5
Marital status	Married	282	59.4
	Divorced	34	7.17
	Widowed	22	4.6
	Separated	29	6.1
Education level	Can't read and	222	46.8
	write		
	Primary school	78	16.4
	Secondary	122	25.7

	College & above	52	10.9
Types of ward	Medical	215	45
	Surgical	208	43
	Orthopedics	57	12
waiting days in ward	1-5	260	54.8
	6-10	146	30.8
	11-14	37	7.8
	15 & above	31	6.6
Spent time with nursing	<30 minutes	287	60.5
	>30 minutes	187	39.5

## 182 Prevalence of Patients' perceptions of nurse caring behaviors

Out of 474 respondents, 177 (37.4%) (95% CI: 29.5-40.3%) patients had poor perceptions of nurse caring behaviors with the overall mean scores of 4.55. The lowest mean score was for the item measuring "connectedness (mean (SD) = 4.2(0.68))". However, the lowest mean score for items measuring "knowledge and skills (mean (SD) =4.8(0.68))" (Table 2). On the other hand, based on the computed mean score, the subscales were dichotomized into good and poor caring behavior. The results showed that 40.1%, 42.2%, 36.1%, and 30% of patients perceived poor caring behavior in the areas of assurance, knowledge and skills, respectfulness, and connectedness, respectively (Table 3). 

## Table 2 Mean score of CBI subscale

#### Subscale

Mean(SD) Overall mean

Knowledge and Skills		
Knowing how to give shots, intravenous line	4.8(0.5)	
Being confident with the patient	5.2(0.72)	4.8(0.68)
Demonstrating professional knowledge and skill	4.7(1,02)	
Managing equipment skillfully	4.6(0.86)	
Treating patient information confidentially	4.7(0.29)	
Assurance of Human Presence		
Returning to the patient voluntarily	4.83(0.67)	
Talking with the patient	4.74(0.52)	
Encouraging the patient to call if there are problems	5.12(0.67)	
Responding quickly to the patient's calls	4.94(0.8)	4.72(0.59)
Helping to reduce the patient's pain	4.44(0.45)	
Showing concern for the patient	4.87(0.66)	
Giving the patient's treatments and medications on time	4.36(0.43)	
Relieving the patient's symptom	4.52(0.63)	
Respectful Deference of Others		
Attentively listening to the patient	4.01(0.72)	
Treating the patient as an individual	4.16(0.9)	
Supporting the patient	5.04(0.33)	4.5(0.66)
Being empathetic or identifying with the patient	4.3(0.58)	
Allowing the patient to express feelings about his/her disease and treatment	4.7(0.86)	
Meeting the patient's stated and unstated needs	4.8(0.49)	
Positive Connectedness		
Giving instructions or teaching the patient	4.2(0.81)	
Spending time with the patient	4.43(0.61)	4.2(0.68)
Helping the patient grow	3.35(0.46)	
Being patient or tireless with the patient	4.48(0.57)	
Including the patient in planning his/her care	4.52(0.59)	

Nurse caring behaviors	Category	Frequency	Percent
Assurance	Good	284	59.9
	Poor	190	40.1
Knowledge and skill	Good	273	57.5
	Poor	201	42.5
Respectfulness	Good	300	63.3
	Poor	174	36.7
Connected ness	Good	332	70
	Poor	142	30
Overall perception	Good	297	62.6
	Poor	177	37.4

# 192 Factors related to patients' perceptions of nurse caring behaviors

Of the study participants, 167 (56.7%) males had poor perceptions of nurse caring behaviors. In addition, more than half of the 196 (65.3%) study participants aged 35-64 years had poor perceptions of nurse caring behaviors. In addition, more than half of the urban residents 234 (78%) had poor perceptions of nurse caring behavior, and 162 (54%) participants whose educational status could not be read and written had poor perceptions of nurse caring behaviors. Of the study participants, 112 (23.6%) who were admitted to the medical ward had poor perceptions of nurse caring behaviors [Table 4].

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Table 4 Datamain and factors that will be effect water	,	1
Table 4 Determinant factors that might affect patients	perceptions of nurse caring be	enaviors

at Debre Tabor comprehensive specialized hospital, 2023

Variable	Categories	perception	is of nurse c	aring beh	aviors
		Good	%	Poor	%
Sex	Female	142	29.9	98	20.6
	Male	116	24.4	120	25.6
Age	18-34	120	25.6	87	18.3
	35-64	97	20.4	110	23.2
	65 & above	48	10.12	20	4.2
Residence	Urban	144	30.3	103	21.7
	Rural	106	22.3	121	25.5
Education	Can't read and	144	30.3	78	16.5
	write				
	Primary school	31	6.5	47	9.9
	Secondary school	43	9.1	79	16.7
	College & above	14	2.95	38	8.01
Types of ward	Medical	103	21.7	112	23.6
	Surgical	93	19.6	115	24.2
	Orthopedics	18	3.8	39	8.2
Waiting days in	1-5	148	31.2	112	23.6
ward	6-10	126	26.6	55	11.6
	11-14	22	4.6	15	3.1

		15 & above	16	3.37	15	3.1
	Spent time with	>30 minutes	83	17.5	204	43
	nursing	<30 minutes	92	19.4	95	20
200	Determinant fac	ctors of patients'	perceptions	of nurse-ca	aring beh	aviors
201	In the multivariab	le analysis, four va	riables were	identified a	s determin	ants of pati
202	perception of nursin	g care behaviors: wa	iting day in th	e ward (AOR	= 2.3; 95%	6 CI (1.6–6.4
203	3.4 (2.1–10.7)); res	idence (AOR = 2; 95	% CI (1.3, 4.4	4)); education	status (AC	DR = 1.2; 959
204	(1.12–3.42)); and tin	me spent with nurses	(AOR = 1.7; 9)	95% CI (1.38-	-5.31)).	
205	Patients who spent	less than 30 minutes v	with the nurse	during shiftir	ng hours we	ere 1.7 times
206	likely to perceive po	oor nurse-caring beha	viors than tho	se who spent	greater thar	n 30 minutes.
207	also, study participa	nts whose educationa	ll level was se	condary scho	ol were 1.2	times more l
208	to perceive poor nu	rse caring behavior th	an those who	can't read and	d write (AC	OR = 1.2; 95%
209	1.12-3.42). In addit	ion, study participant	s whose wait	ing day in the	ward was	between 6 an
210	days were 2.3 time	s more likely to have	e perceived p	oor nurse cari	ing behavio	or than those
211	waited for less than	5 days (AOR = 2.3;	95% CI: 1.6-	-6.4). Finally,	study parti	cipants who
212	in urban areas were	2 times more likely	to perceive p	oor nurse car	ing behavio	or as compare
213	rural residents (AOI	R=2; 95% CI(1.3-4.4)	) [ <u>Table 5]</u> .			

nurse caring behaviors at DTCSH, 2023

Variables	Category	Good perception	Poor perception	COR	AOR es
Sex	Female	142	98	1	1
	Male	116	120	1.49 (1.12-34)	1.23 (0.79-1.8

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Age	18-34	120	87	0.57 (0.34-1.23)	0.64 (0.72-
	35-64	97	110	0.36 (0.29-1.45)	0.22 (0.34-
	65 & above	48	20	1	1
Residence	Urban	144	103	1.5 (1.2-6.4)	2(1.3-4.4)*
	Rural	106	121	1	0.22 (0.34– 1 2(1.3-4.4)* 1 1 1.7 (0.43–
Education	Can't read	144	78	1	1
	and write				JII(, II)
	Primary	31	47	1.79) (2.2-3.55	1.7 (0.43- <b>1</b>
	school				<u>c</u>
	Secondary	43	<b>4</b> 79	1.47 (1.32-4.76)	1.2(1.12-3
	College &	14	38	5.11(3.6-7.12)	2.8(3.56-8
	above				
Types of	Medical	103	112	4.7(2.1-8.2)	2.34(0.87-
ward	Surgical	93	115	1.3 (0.89-2.77)	0.44 (0.39
	Orthopedics	18	39	1	1
Length of	1-5	148	112	1.13 (1.63-2.13	
stay in days in	6-10	126	55	2.14 (1.56-3.69)	2.3(1.6 -6.
ward					
	11-14	22	15	1.37 (1.15-5.41)	3.4(2.1-10
	15 & above	16	15	1	1
Spent time	<30 minute	204	83	2.16 (1.38-5.36)	0.48(0.12- 2.3(1.6 -6. 3.4(2.1-10) 1 2(1.71-4.8)

p-value <0.05, D p-value <0.01, 1= reference, AOR =adjusted odds ratio, COR=crude odds							
	1	1	92	95	> 30 minutes	with nurses	
totopertexter	tio, CI=confidence interva	OR=crude odds ratio,	OR =adjusted odds ratio,	1= reference, A	5, □□p-value <0.01,	□ p-value <0.05	
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## **Discussion**

The aim of this study was to provide patients' perceptions of nurse caring behaviors at Debre Tabor comprehensive specialized hospitals, Ethiopia. In addition, this study aimed to identify determinant factors of patients' perceptions of nurse caring behavior. The current findings revealed that 37.4% of patients perceived poor nurse caring behaviors, which is higher than the study done in Ghana [20], Pakistan [1], and India [21]. However, this finding was lower than the study conducted in Debre Markos [15]. The discrepancy might be due to the use of different tools, such as the 26-item Newcastle Patient Experience with Nursing Care Scale used in the previous study [22]. The discrepancy in Ghana might be due to differences in socio-demographic characteristics and infrastructure. The inconsistency in Pakistan might be due to differences in socio-demographics and sample sizes, with the former having a small sample size. This finding indicates a high proportion of patients perceived poor nurse caring behaviors, highlighting the need for nurses to improve their practice and uphold nursing standards to achieve better patient outcomes. 

We found that patients who stayed in the ward for more than six days were more likely to perceive poor nurse caring behaviors compared to those who stayed for less than five days. This study was similar to the study performed in South Wollo [23], Debre Markos [15], and India [21]. This might be due to prolonged hospital stays, which can negatively impact patient care, increase the risk of violence and aggression, and cause stress for patients requiring unscheduled time off [24]. On the other hand, patients whose educational level was secondary school had poor perceptions of nurse caring behaviors as compared to those who were unable to read and write. This could be because people with higher educational levels have high expectation of standardizing nursing service. 

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In addition, times spent with nurses were significantly associated with patients' perceptions of nurse caring behaviors. Patients who spent less than 30 minutes with nurses were two times more likely to be perceived as poor as compared to patients who spent more than 30 minutes with them. This finding supports the idea that poor nurse-patient interactions contribute to dissatisfaction and negatively influence patients' perceptions of nurse caring behaviors [25, 26]. In this study, the residence of the patient was significantly associated with patients' perceptions of nurse caring behaviors. The odds of poor perceptions of nurse caring behaviors among urban residents were more likely as compared to rural residents. This study was similar to the study done in South Wollo [23]. This might be related to awareness and access to health information, 

as there is mass media availability among urban residents.

**Limitations of the study** 

Due to the cross-sectional nature of the study, it is difficult to establish cause-and-effect relationships between the independent and dependent variables. Social desirability bias might be a limitation due to patients' rating their previous interaction with nurses, which could lead to some bias due to fear of getting service for the future. To reduce this bias, data collectors were selected out of the study area.

**Conclusion** 

This study showed that 37.4% of patients perceived poor nurse caring behavior. Waiting day in wards, educational level, resident, and time spent with nurses were determinants of patients' perceptions of nurse-caregiving behavior. Nurses' caring behavior is a cornerstone of quality healthcare, reflecting the essence of nursing practice and significantly influencing patient outcomes and satisfaction. This research has the potential to raise nurses' consciousness and promote patient-centered care.

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## **Recommendations**

Hospital management should place greater emphasis on the nursing profession because nurses encounter all aspects of patient problems. They should provide appropriate strategies to increase patients' positive perception toward nursing care by filling gaps and providing scheduled training for nurse professionals. Future researchers should consider a qualitative method to gain deeper insights into patients' perceptions of nurse caring behavior.

## 271 Abbreviations

AOR: adjusted odd ratio; COR: crude odd ratio; CBI: Care Behavior Inventory; DTCSH: Debre
Tabor Comprehensive Specialized Hospital.

## 274 Acknowledgments

We would like to acknowledge Debre Tabor University. We also acknowledge the hospital administrator and ward coordinators for their help during the data collection. Finally, special gratitude goes to the study participants who shared their ideas.

## 278 Availability of data and materials

279 The data used in this study are available from the corresponding author upon reasonable request.

## **Declarations**

## **Ethics approval and consent to participate**

Ethical approval for the research was obtained from Debre Tabor University's ethical review committee with *Ref.No RP/ 278/23*. The patient was informed, and written consent was obtained from each participant. The participants were not needed to write their names on the questionnaires. The respondents were informed that they had the right to refuse the interview. This study was conducted following the ethical standards of the Declaration of Helsinki.

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#### **Contributions** 90

91 Mengistu Ewunetu, Yirgalem Abere, Astewle Andargie Baye and Yohannes Tesfahun kassie worked on developing the research idea; designing the study; being involved in writing, training 92 and supervising the data collectors; analyzing and interpreting the results; and preparing the 93 manuscript, Melese Kebede Hailu, Sheganew Fetene, Bekalu Mekonen Belay, Gebrehiwot Berie 94 Mekonen, and Mulu Kebede critically revised the proposal, participated in its design, analysis 95 and interpretation of the results, and wrote the manuscript. All the authors were involved in 96 reading and approving the final manuscript. Mengistu Ewunetu serves as the guarantor of this 97 study and takes full responsibility for its accuracy and integrity. The study was conducted in 98 y of u accordance with ethical guidelines, ensuring the validity of data collection, analysis, and 99 interpretation. 00

- **Consent for publication** 01
- Not applicable. 02
- **Competing interest** 03
- 04

The authors declare that they have no competing interests.

#### References 05

- 06 1. Abdullah, S., et al., Nurses' and patients' perception regarding nurse caring behaviors and patients satisfaction in Sir Ganga Ram hospital, Lahore, Pakistan. International Annals of 07 80 Medicine, 2017. 1(5): p. 1-8.
- 09 2. Greenhalgh, J., L. Vanhanen, and H. Kyngäs, Nurse caring behaviours. Journal of advanced nursing, 1998. 27(5): p. 927-932. 10

1 2			
3	311	3.	Henriksson, A. and J. Lindberg, Sjuksköterskors upplevelse av palliativ omvårdnad på en allmän
4	312	5.	vårdavdelning: en litteraturstudie. 2007.
5	313	4.	Kewi, S., A. Tesema, and B. Negussie, <i>Patient's perception towards quality of nursing care in</i>
6	314	ч.	inpatient department at public hospitals of Benishangul Gumuz Regional State, North West
7	315		Ethiopia. J Nurs Care, 2018. 7(4): p. 1-10.
8 9	316	5.	Shinde, M. and K. Kapurkar, Patient's satisfaction with nursing care provided in selected areas of
9 10	317	5.	<i>tertiary care hospital.</i> International Journal of Science and Research, 2014. <b>3</b> (2): p. 150-160.
11	318	6.	Westbrook, J.I., et al., How much time do nurses have for patients? A longitudinal study
12	319	0.	quantifying hospital nurses' patterns of task time distribution and interactions with health
13	320		professionals. BMC health services research, 2011. <b>11</b> : p. 1-12.
14	321	7.	Darega, B., et al., Perceived quality of nursing cares practices in inpatient departments of bale
15	322	7.	zone hospitals, Oromiya regional state, Southeast Ethiopia facility-based cross sectional study.
16	323		Qual Prim Care, 2016. <b>24</b> (1): p. 39-45.
17 18	324	8.	Khademian, Z. and F. Vizeshfar, Nursing students' perceptions of the importance of caring
19	325	0.	behaviors. Journal of advanced nursing, 2008. 61(4): p. 456-462.
20	326	9.	Azizi-Fini, I., et al., Correlation between nurses' caring behaviors and patients' satisfaction. Nurs
21	327	5.	Midwifery Stud, 2012. <b>1</b> (1): p. 36-40.
22	328	10.	Kipp, K.M., Implementing nursing caring standards in the emergency department. JONA: The
23	329	10.	Journal of Nursing Administration, 2001. <b>31</b> (2): p. 85-90.
24	330	11.	Assefa, F. and A. Mosse, Assessment of clients' satisfaction with health service deliveries at
25	331	±±.	Jimma University specialized hospital. Ethiopian journal of health sciences, 2011. 21(2): p. 101-
26 27	332		110.
27 28	333	12.	Omari, F.H., R. AbuAlRub, and I.R. Ayasreh, Perceptions of patients and nurses towards nurse
20	334	12.	caring behaviors in coronary care units in J ordan. Journal of clinical nursing, 2013. <b>22</b> (21-22): p.
30	335		3183-3191.
31	336	13.	Al Fozan, H., Patients and family caregivers' satisfaction with care delivered by Saudi nurses at
32	337	10.	National Guard Health Affairs Hospitals in Saudi Arabia. Journal of Natural Sciences Research,
33	338		2013. <b>3</b> (12): p. 67-74.
34	339	14.	Jiru, T., W. Salgedo, and T. Agago, Determinants of adult in-patients' satisfaction and associated
35	340	±	factors with nursing care in wards of hospitals of in Guji Zone, Oromia, South Ethiopia. J Nurs
36 37	341		Care, 2017. <b>6</b> (404): p. 2167-1168.1000404.
38	342	15.	Yalew, Z.M., et al., Patient experience in nursing care and associated factors among adult
39	343	101	admitted patients in Debre Markos and Dessie referral hospitals, Amhara Region, Ethiopia, 2019.
40	344		Journal of Patient Experience, 2020. <b>7</b> (6): p. 1391-1397.
41	345	16.	Harrison, R., M. Walton, and E. Manias, <i>Patients' experiences in Australian hospitals</i> . Evidence
42	346	101	Check brokered by Sax Institute for the Australian Commission on, 2015.
43	347	17.	Ewunetu, M., et al., Patients' perception of patient-centered care and associated factors among
44	348	-/-	patients admitted in private and public hospitals: a comparative cross-sectional study. Patient
45 46	349		preference and adherence, 2023: p. 1035-1047.
40 47	350	18.	Mohebbifar, R., et al., Association between Hospital Accreditation and Patient Satisfaction: A
48	351	101	Survey in the Western Province of Iran. Bangladesh Journal of Medical Science, 2017. <b>16</b> (1).
49	352	19.	Ogugu, E.G., Nurses' and patients' perception on the importance of nurse-caring behaviours: a
50	353		study at surgical wards of Kenyatta National Hospital, Nairobi. 2011, University of Nairobi,
51	354		Kenya.
52	355	20.	Afaya, A., et al., Assessing patient's perception of nursing care in medical-surgical ward in
53	356		<i>Ghana.</i> International Journal of Caring Sciences, 2017. <b>10</b> (3): p. 1329-1340.
54 55	357	21.	Samina, M., et al., <i>Patient's perception of nursing care at a large teaching hospital in India.</i>
55 56	358		International journal of health sciences, 2008. <b>2</b> (2): p. 92.
50 57	555		
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60			For peer review only - http://bmjopen.bmj.com/site/about/guidelines.xhtml

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1 2 3 4	359 360	22. Walsh, M. and A. Walsh, <i>Measuring patient satisfaction with nursing care: experience of using the Newcastle Satisfaction with Nursing Scale.</i> Journal of Advanced Nursing, 1999. <b>29</b> (2): p. 307-
5 6 7 8	361 362 363	<ul> <li>315.</li> <li>Biks, G.A., et al., Patient-Centered Care and Associated Factors among Adult Admitted Patients in South Wollo Public Hospitals, Northeast Ethiopia. Patient preference and adherence, 2022. 16: n. 222</li> </ul>
9 10 11	364 365 366	<ul> <li>p. 333.</li> <li>24. Adlington, K., et al., <i>Better care: reducing length of stay and bed occupancy on an older adult psychiatric ward.</i> BMJ Open Quality, 2018. 7(4): p. e000149.</li> </ul>
12 13 14	367 368 369	25. Ferede, A.J., et al., Patients' perceptions of caring behaviors at referral hospitals in Ethiopia: A cross-sectional survey. International Journal of Nursing Sciences, 2023. 10(3): p. 391-397. 26. Ergagon, F.D., et al., Patients' Perceptions of Knowledge, Trust, and Connectedness in Nurses'.
15 16 17	370 371	26. Ergezen, F.D., et al., Patients' Perceptions of Knowledge, Trust, and Connectedness in Nurses' Caring Behaviors. Journal of Education & Research in Nursing/Hemşirelikte Eğitim ve Araştırma Dergisi, 2020. 17(2).
18 19 20	372	APPENDIX
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	Part I. Questionnaire: Socio-demographic-related factors of the
	respondents in Debre Tabor comprehensive specialized hospitals
1.	Sex
	Female 🗆 Male 🗆
2.	Age
	18-34 🔲 35-64 🔲 65 & above 🗌
3.	Residence
	Urban 🗆 Rural 🗆
4.	Marital status
	Single 🗆 Married 🔲 Divorced 🗆 Widowed 🗆
5.	Education status
	Can't read and write $\Box$ Primary school $\Box$ Secondary $\Box$ College & above $\Box$
6.	Occupation
	Farmer governmental private merchant
7.	Types of ward
	Medical  Surgical  Orthopedics
8.	Spent time with nurses
	$<30 \text{ minutes} \square > 30 \text{ minutes} \square$
9.	Length of stay in days in the ward 1-5 $\Box$ 6-10 $\Box$ 11-14 $\Box$ above 15 $\Box$

Part II questionnaire: Patients'	experience	of nursing	care	behavior	in	Debre
Tabor Comprehensive Specialized	Hospitals	-				

	I questionnaire: Patients' experie Comprehensive Specialized Hospita		nursin	<u>g care beh</u>	avior in	Debre	
subscale	e Care behavior	1 =	2=	3=	4 =	5=often,	, 6 =
1	Knowledge and Skills	never,	almost	sometimes	usually,		alwa
Q11	Knowing how to give shots, intravenous line						Protecte
Q12	Being confident with the patient						d by
Q13	Demonstrating professional knowledge and skill						copyrigh
Q14	Managing equipment skillfully						t, inc
Q15	Treating patient information confidentially						Protected by copyright, including for uses related to text and data
2	Assurance of Human Presence						r use
Q21	Returning to the patient voluntarily						s rela
Q22	Talking with the patient						ited to
Q23	Encouraging the patient to call if there are problems	2.					o text and
Q24	Responding quickly to the patient's calls	0					d data mi
Q25	Helping to reduce the patient's pain		2				ining,
Q26	Showing concern for the patient						Al tra
Q27	Giving the patient's treatments and medications on time			2/			Al training, and similar technologies.
Q28	Relieving the patient's symptom			5			nd sir
3	Respectful Deference of Others						nilar t
Q31	Attentively listening to the patient						techn
Q32	Treating the patient as an individual						olog
Q33	Supporting the patient						es.
Q34	Being empathetic or identifying with the patien						
Q35	Allowing the patient to express feelings about his/her disease and						

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	treatment			
Q36	Meeting the patient's stated and unstated needs			
4	Positive Connectedness			
Q41	Giving instructions or teaching the patient			Protected by
Q42	Spending time with the patient			led by
Q43	Helping the patient grow			
Q44	Being patient or tireless with the patient			copyright, including
Q45	Including the patient in planning his/her care			ncluding