

# Nurses' perception of nursing care quality and associated factors in Jimma Town public hospitals, 2023—A mixed study

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**Abstract:** Nurses' perceptions of nursing care quality are related to their impression of the quality of care, and various countries emphasize improving it. However, studies from various countries have shown that people perceive the quality of nursing care to be poor. Despite this, there is a paucity of information about nurses' perceptions of nursing care quality in our country. This study aimed to assess nurses' perception of nursing care quality and associated factors in Jimma Town public hospitals, Southwest, Ethiopia, 2023. A mixed study design was employed among nurses working in Jimma Town public hospitals. Data were collected using a self-administered questionnaire and a semi-structured interview by simple random and purposive sampling techniques. Data were analysed using SPSS for quantitative data and thematic analysis for qualitative data. Of the total 364 nurses, about 50.50% (95% CI, 45.39, 55.71) of them perceived nursing care quality as good. Work experience of >10 years (AOR = 5.16, 95% CI (1.87, 14.24), having an educational level of BSc and above (AOR= 4.04, 95% CI (1.65, 9.95), working in referral hospital, (AOR = 4.13, 95% CI, (1.72, 9.89)), working in the favorable work environment (AOR = 3.29, 95% CI (1.90, 5.66) and being satisfied on one's job (AOR = 2.20, 95% CI (1.30, 3.74) were statistically associated with nurses perception of nursing care quality. Nurses working in Jimma Town public hospitals are split in half on their perception of the nursing care quality they render to the patients. Therefore, nurses, hospitals, and nurse managers have to work together to address factors affecting nurses' perception of nursing care quality.

**Keywords:** nurses perception; perception of quality care; quality of care; Jimma; Ethiopia

## 1. Introduction

Quality of care is prioritized by the healthcare sector all over the world, including Ethiopia. (Ryan et al., 2017; Federal Democratic Republic of Ethiopia MOH, 2017; Habte et al., 2020). Nurses play a significant role in achieving high-quality health services through the provision of safe, effective, and efficient patient-centered care (Apostolidi et al., 2022; Yamamoto-Mitani et al., 2018; Alshehry et al., 2019).

In nursing, quality of care is defined in terms of treating patients as a whole

and meeting their physical, psychological, social, and spiritual needs or expectations with the aim of the best patient outcomes (Peršolja, 2021; Stavropoulou et al., 2022). According to Donabedian, quality of care refers to the good interaction between structure, process, and outcome (Neves et al., 2020). Whereas the Ministry of Health of Ethiopia (MOH) describes it in terms of care that is safe, effective, efficient, patient-centred, affordable, and timely delivered (Terefe et al., 2024).

Nurses' perceptions of nursing care quality are related to their personal opinions, beliefs, and evaluations of the level and standard of care given to patients (Göktepe, 2021). Moreover, the process through which nurses organize and provide care for patients is what nurses perceive as nursing care quality (Tenza et al., 2024). According to cognitive appraisal theory, nurses' perceptions of nursing care quality are not merely factual responses to the work environment, but are subjective interpretations shaped by a two-step appraisal that determines the meaning and emotional effect of their clinical context (Hu et al., 2025).

Despite efforts in different countries to improve nursing care quality (American Nurses Association (ANA), 2023; Kenneth et al., 2019) and some nurses having a good perception of the nursing care quality, studies from various countries have revealed that nursing care quality is perceived as poor by 16.3%, 29%, and 70.5% of nurses in Spain, China, and Jordan, respectively (Elayan and Ahmad, 2017; Moreno-Casbas et al., 2018; You et al., 2013). In Nigeria, 36% of nurses perceived it as poor (Odunaiya et al., 2019).

Nurses' perception of nursing care quality is influenced by work overload, nurse-patient communication, technical competencies, nurse-physician relationships, experience, adequacy of resources, management and leadership styles, and inter-professional collaboration (Alloubani et al., 2018; Gür and Ekici, 2020; Liu and Aunguroch, 2018; Mert Boğa et al., 2020). According to the Ethiopian context, there is a focal information gap about how these characteristics influence nurses' perceptions of nursing care quality.

Nurses' perceptions of nursing care quality vary by country, system, culture, institution, and even within the same institution from individual to individual. Some nurses perceived nursing care quality as poor, while others perceived it as good. However, in the Ethiopian context, there is a paucity of such information.

Additionally, only a few previous studies covered the perspective of patients, nurse supervisors, and physicians on nursing care quality, but there is a paucity of information about how nurses perceive the quality of care they deliver for the patients. Further study is recommended from the literature to understand nurses' perception of nursing care quality using both qualitative and quantitative studies (Darega et al., 2016). Therefore, identifying factors that affect nursing care quality based on the perception of nurses is important to enhance good patient outcomes and design an appropriate strategy to provide quality nursing care. This study aimed to assess nurses' perception of nursing care quality and its associated factors in Jimma Town public hospitals.

## **2. Design and methods**

A convergent mixed methods study was conducted in public hospitals in Jimma Town from May 21 to June 21, 2023. The quantitative data were supported by

qualitative data.

## 2.1. Setting and sample

Jimma Town is located 352 km from Addis Ababa, the capital city of Ethiopia. According to the 2021 population projection, the total population of Jimma Town is 239,022 (FDRE, 2021). According to the Jimma Town Health Department report, there are two public hospitals and four health centres in Jimma Town. The current study was conducted at Jimma Medical Centre and Shenen Gibe General Hospital. The study examined the relationships between nurses' perception of nursing care quality and nurses' personal characteristics, organizational factors, nurses' work environment, and job satisfaction.

All nurses working in Jimma Town public hospitals were the source population. The study population was all sampled nurses and nurse Managers, supervisors, head nurses, and nurses who are working as quality officers working in Jimma Town public hospitals. All nurses who had served six months or more in Jimma Town public hospitals and were available during the data collection period were included in the study by using a simple random sampling procedure, which is a computerized method and purposive sampling was used for qualitative data. Finally, 364 nurses and nine key informants' were included in the study.

The sample size was calculated by using a single population proportion formula:

$$\frac{Z(\alpha/2)^2 P(1 - P)}{d^2},$$

with 95% Confidence level, 5% margin of error, and a Proportion of nurses with a good perception of nursing care quality in Bale zone hospitals was 67.4% (Darega et al., 2016), a 10% non-response rate was added, and the final sample size was 372. For the qualitative study, nine key informants were selected for in-depth interviews from Jimma town public hospitals. The number of key informants was determined by saturation of data or until data repeated the prior interviews, and no new information was revealed.

## 2.2. Data collection tool and methods

Data was collected using self-administered questionnaires. The questionnaire comprises five parts. The first is nurses' personal characteristics-related questions. The second is organizational factors-related questions. The third is nurses' perception of nursing care quality-related questions, which were adapted from the quality of nursing care scale developed by Martins et al. (2016), which contains seven subscales. These include Patient satisfaction, health promotion, prevention of complications, well-being and self-care, functional readaptation, nursing care organization, and responsibility and rigor. This tool contains 25 items and is rated into four Likert-type scales: (1) never; (2) rarely; (3) often; (4) always. The perception instrument was checked by two experts and reliability of the tool was also checked by using Cronbach's alpha coefficients of 0.93 for the overall scales. It is categorized based on the mean score of nursing care quality scale questions as perceived good nursing care quality if nurses' response is greater or equal to the overall mean score and perceived poor nursing care quality if

nurses' response is less than the overall mean score (Alshehry et al., 2019).

The fourth category consisted of questions focused on nurses' work environments. These questions were adopted from the practice environment scale of the nursing work index (Weldetsadik et al., 2019) and grouped into five subscales. The subscales included: nurse participation in hospital affairs (nine items); nursing foundation for quality of care (ten items); Nurse Manager ability in leadership and support of nurses (five items); staffing, resource adequacy, and workload (four items); and collegial relations between nurses and physicians (three items). Based on the mean, the nurse work environment is grouped into a favorable work environment if the nurses' response mean is greater than or equal to 2.5 and an unfavorable work environment if the nurses' response mean is less than 2.5.

The last part is the nurses' job satisfaction-related question, containing 20 items and rated on a 5-point Likert scale with 1 strongly dissatisfied and 5 strongly satisfied. The questionnaire was adopted from the Minnesota satisfaction questionnaire, and it is categorized based on the overall sum of satisfaction items as satisfied if nurses scored the sum of all the satisfaction items more than 60 and dissatisfied if nurses scored the sums of all the satisfaction items 60 and below (Gedif et al., 2018). Qualitative data was collected by the principal investigator using a semi-structured interview guide. The investigator was engaged by listening attentively to participants' responses, encouraging the participants to share their perceptions about nursing care quality, and using probing. The interviews were conducted by translating into Afan Oromo and Amharic languages and lasted thirty to thirty-six minutes. Permission was asked for the audio recording of an interview guide. All interviews were recorded and transcribed.

### **2.3. Data analysis procedures**

First, the data facilitator was oriented on the objective of the study, confidentiality of information, participants' rights, and informed consent before the actual data collection. The reliability of the instruments was checked by a pre-test on 5% (19 nurses) of the total sample size at Agaro General Hospital two weeks before data collection. Based on the pre-test results, a necessary correction was made to the questionnaire. Principal investigators and data facilitators checked the data for its completeness.

The data was checked for completeness. Then the data were entered into Epidata version 4.6 and then exported to SPSS version 25. A bivariate binary logistic regression was used to sort the candidate variables for multivariable logistic regression, having a  $p$ -value less than or equal to 0.25, and multivariable logistic regression was used to identify the significant association of independent variables with nurses' perception of nursing care quality. The final statistical significance was declared at a  $p$ -value  $< 0.05$  and a 95% confidence interval. Multicollinearity was checked to see the linear correlation among the independent variables by using the variance inflation factor and tolerance test ( $VIF < 2.07$ , tolerance test  $> 0.48$ ). Model fitness was checked by Hosmer and Lemeshow's test of goodness of fit, which was found to be insignificant ( $p$ -value = 0.67), and the Omnibus test, which was significant ( $p$ -value = 0.000), indicating the model was fitted. For qualitative data was ATLAS.ti software was used to enter

data and analysed by using thematic analysis. Then, the final result was discussed by triangulating with quantitative findings in the form of texts, tables, and graphs.

### 2.4. Ethical consideration

An ethical clearance letter was obtained on 05/15/2023 from the Ethical Review Board (ERB) of Jimma University, the Institute of Health, Ref. No. JUIH/IRB/399/23. Official letters were submitted to both hospitals, and ethical clearance letters were also obtained from Jimma University Institute of Health and submitted to each hospital. Written informed consent was obtained from the study participants. All nurses were informed about the purpose of the study. The participants were informed that their participation was voluntary and could be withdrawn at any time for any reason without penalty. Confidentiality is also assured by omitting participants' names from the informed consent form. This decision was in accordance with the National Research Ethics Review Guideline and was consistent with the Declaration of Helsinki.

## 3. Result

### 3.1. Sample characteristics

The data consists of nurses from various backgrounds in terms of age, gender, educational level, marital status, work experience, and monthly salaries. Of the total nurses, 364 nurses participated in this study, giving a 97.80% response rate, and 2.20% of respondents did not return a complete questionnaire. The mean age of nurses was  $31.84 \pm 5.91$  SD, and 78.00% of them were between the ages of 18 and 35 years. Of the total nurses, 61.50% were female.

Three hundred thirty (90.70%) nurses have a bachelor's degree and above educational level. Of the total nurses, two hundred forty-one (66.20%) were married. The mean of the respondents' years of experience was  $6.49 \pm 3.37$  SD, and 48.60% of nurses have experience less than or equal to 5 years. The mean of nurses' monthly salary was  $7,191.12 \pm 1,285.73$  SD, and two hundred thirty-seven (65.10%) nurses got a monthly salary between 5,000 and 8,000 (**Table 1**).

**Table 1.** Sociodemographic characteristics of nurses working in Jimma Town public hospitals, Southwest Ethiopia, 2023.

Characteristics	Category	Frequency	Percent (%)
Age in years	18–35	284	78.00
	36–59	80	22.00
Sex	Male	140	38.50
	Female	224	61.50
Educational level	Diploma	34	9.30
	B.Sc. and above	330	90.70
Marital status	Married	241	66.20
	Single	117	32.10
	Others*	6	1.60
Total experience	≤5	177	48.60
	6–10	159	43.70
	>10	28	7.70

**Table 1.** *Cont.*

Characteristics	Category	Frequency	Percent (%)
Monthly salary	<5,000	25	6.90
	5,000–8,000	237	65.10
	>8,000	102	28.00

Note: \*Others (divorced, widowed and separated).

For qualitative, nine nurses who have a position in the hospital, such as quality officer, nurse director, nurse supervisor, and head nurse, participated in in-depth interviews. Seven of the nurses were bachelor’s degree holders. Five of them have greater than or equal to ten years of work experience (**Table 2**).

**Table 2.** Sample characteristics of nurses who participated in the in-depth interview among nurses working in Jimma Town public hospitals, Southwest Ethiopia, 2023.

Participant code	Age	Sex	Position	Level of education	Experience in year
P1	32	Female	Ward’s head	BSc	12
P2	32	Female	Nurse director	BSc	10
P3	30	Male	Quality officer	BSc	12
P4	30	Male	Nurse supervisor	BSc	9
P5	26	Male	Quality officer	BSc	3
P6	35	Male	Vice supervisor	BSc	8
P7	33	Male	Vice nurse director	MSc	8
P8	35	Male	Ward’s head	BSc	12
P9	35	Male	Ward’s head	MSc	11

### 3.2. Organizational factors

Of the total number of respondents, the majority of nurses, 329 (90.40%), were working in a referral hospital. Among the total number of nurses, 190 (52.20%) were working in two-shift schedules, while 99 (27.20%) were working in three-shift schedules. Additionally, out of the sixteen working units, 52 (14.30%) nurses were working in OR units, followed by 49 (13.5%), 44 (12.10%), and 40 (11.00%) in the Pediatric unit, OPD, and surgical unit, respectively.

### 3.3. Nurses’ work environment

The study shows that 231 (65.10%) nurses perceived their work environment as favorable. Concerning the five nurses’ work environment subscales, a higher mean score was observed in the collegial relationship between nurse and physician (mean = 2.84, SD = 0.71) and the nursing foundation for quality of care (mean = 2.83, SD = 0.53) subscales. This revealed that nurses were comfortable with teamwork between physicians, and nurses and nurses’ involvement in nursing care quality. More than half of nurses reported that the working environment was not conducive in terms of staffing, resource adequacy, and workload (53.80%). Two hundred seventy-nine (76.60%) nurses reported that there is no continuous training program for nurses; on the contrary, 82.30% of nurses reported that there is an active quality assurance and enhancement program (**Table 3**).

**Table 3.** Nurses’ work environment among nurses working in Jimma Town public hospitals, 2023.

Subscales	Mean	SD
Nurse participation in hospital affairs	2.43	0.56
Nursing foundation for quality of care	2.83	0.53
Nurse manager ability, leadership, and support of nurses	2.77	0.79
Staffing, resource adequacy, and workload	2.30	0.72
Collegial relations between nurses and physicians	2.84	0.71
Nurses’ work environment category	Favorable	231 (65.10%)
	Unfavorable	133 (34.90%)

Note: SD: standard deviation.

### 3.4. Nurses’ job satisfaction

The overall job satisfaction among nurses working in Jimma Town public hospitals was 38.20%. This has adverse psychological outcomes such as emotional exhaustion, depersonalization, reduced personal accomplishment and burnout (Getie et al., 2025). Concerning nurses’ job satisfaction items, two hundred twelve (58.30%) nurses responded that they are satisfied with the feeling they get after accomplishing their job. Concerning their payment, only twenty-four (6.50%) nurses are satisfied with their payment. Also, only 16.80% and 18.70% of nurses are satisfied with their working conditions and the praise they receive after completing their jobs.

### 3.5. Perceived nursing care quality

On a 1–4-point scale, the overall mean score for perceived nursing care quality as rated by nurses was 2.98 (SD = 0.52). About 184 (50.50%) (95% CI, 45.39, 55.71) nurses perceived nursing care quality as good. Considering each subscale of perceived nursing care quality, a higher mean score was observed in nursing care organizations (mean = 3.39, SD = 0.60), while functional readaptation rated the lowest (mean = 2.70, SD = 0.61).

Of the total items of perceived nursing care quality, skilful use of the nursing record system (mean = 3.49, SD = 0.69), their knowledge about hospital policy (mean = 3.40, SD = 0.79), and their responsibility for the decisions they make, practice, and delegate to prevent complications were rated the highest (mean = 3.37, SD = 0.75). This revealed that nurses possess a strong level of skill and knowledge regarding the nursing record system, a good understanding of their hospital’s policies, and they take responsibility for their decisions. Conversely, planning patient discharge (mean = 2.07, SD = 1.01) and supervising the activities they delegate were rated the lowest (mean = 2.16, SD = 1.02). This suggests that nurses are less likely to engage in thorough planning for patient discharge and effectively supervise activities they delegate to others (**Table 4**).

**Table 4.** Perceived nursing care quality among nurses working in Jimma Town public hospitals, Southwest Ethiopia, 2023.

Subscale	Mean	SD
Patient Satisfaction	2.95	0.68
Health promotion	2.96	0.66
Prevention of complication	3.07	0.68

**Table 4.** *Cont.*

Subscale	Mean	SD
Wellbeing and self-care	3.04	0.67
Functional readaptation	2.70	0.61
Nursing care organization	3.39	0.60
Responsibility and rigor	2.78	0.63

Note: SD: standard deviation.

The majority of qualitative key informants also believe that the nursing care quality they deliver should satisfy patients, meet the standard of care, and enhance patient recovery through respectful and compassionate care.

For example, one of the key informants said: “...*When patients are satisfied with the nursing care they receive, this is referred to as nursing care quality...*” (Participant 3), while the others stated that:

“...*Nursing care quality means providing nursing care according to the standard...*” (Participant 4); “...*If a nurse is kind, and gives care for everyone as his brother, father, and family and thinks that what happens to the patient can happen to my family tomorrow, I think that is nursing care quality...*” (Participant 6); “...*Nursing care quality is when the patient recovers from the disease after nurses provide nursing care...*” (Participant 5).

Generally, the findings of qualitative data indicate that four themes were created. Those include Holistic care, environmental factors, job satisfaction, and personal factors (see **Table 5**).

**Table 5.** Emerged codes, categories, and themes from the thematic analysis among nurses working in Jimma Town public hospitals, Southwest Ethiopia, 2023.

Code	Category	Theme
Recovery patient satisfaction	Good patient outcome	Holistic care
Provision of standard care	Standard care	
Having a good relationship caring for the patient in a compassionate way	Compassionate and respectful care	
Staff shortage	Resource	
Lack of equipment		
Overcrowding	Organizational factor	Environmental factor
Working schedule		
Lack of training		
Management		
Lack of integration	Professional collaboration	
Lack of teamwork		
Absence of incentives	Payment	Job satisfaction
Low salary		
Lack of transportation	Service	
Lack of home and loan service		

**Table 5.** *Cont.*

Code	Category	Theme
Lack of knowledge Lack of skill and experience	Competence	Personal factor
Negligence Inferiority	Personal Characteristics	

### 3.6. Factors associated with nurses' perception of nursing care quality

Based on the bivariate analysis, eight variables, namely sex, educational level, hospital level, working unit, work schedule, experience, nurses' work environment, and nurses' job satisfaction, were identified as candidate variables for multivariable logistic regression.

In multivariable logistic regression, five variables were found to be statistically significant with nurses' perception of nursing care quality. Those variables, including nurses' work experience, educational level, hospital level, work environment, and job satisfaction, were significantly associated with nurses' perception of nursing care quality.

Nurses with more than 10 years of experience were 5.16 times more likely to rate nursing care quality as good than those with five or fewer years of experience [AOR = 5.16, CI = 95% (1.87, 14.24),  $p = 0.002$ ].

Concerning nurses' educational level, nurses who had a BSc and above educational level were 4.04 times more likely to rate nursing care quality as good than those nurses who had a diploma educational level [AOR = 4.04, CI = 95% (1.65, 9.95),  $p = 0.002$ ].

A key informant perceived that a well-educated nurse appeared to be necessary to provide quality nursing care. "...Degrees and diplomas are not the same when it comes to delivering nursing care. As your educational level increases, the nursing care quality you deliver will also increase..." (Participant 2).

Regarding organizational factors, nurses who work in referral a hospital were 4.19 times more likely to rate nursing care quality as good than those who work in a general hospital [AOR = 4.13, CI = 95% (1.72, 9.89),  $p = 0.001$ ].

Relating to the work environment, nurses who work in a favorable work environment were 3.29 times more likely to rate nursing care quality as good than those who work in unfavorable work environments [AOR = 3.29, CI = 95% (1.90, 5.66),  $p < 0.001$ ].

This is supported by qualitative findings. A key informant reports that the imbalance between the number of nurses and patients is considered one of the factors that hinder nurses from providing quality nursing care. "...When we see the ratio of nurses to patients in our hospital, it's surprising, and it is difficult in terms of the quality of nursing care because one nurse provides care for 20 patients; it is not possible to provide quality nursing care in this mode, even though it is decreasing." (Participant 5).

Also, another key informant perceived that continuous training is important to provide nursing care quality, "...Science is dynamic. For example, in the past, when a baby was born, we turned them down, and we blew on their back. Now, however,

science is considered a tradition. If they are not trained, they practice that tradition. So updated science is now called evidence-based. Evidence-based care means that someone is trained and knows what science says currently. If not, they can malpractice on the patient...” (Participant 9).

Additionally, key informants perceived that nursing care quality can also be influenced by management. “...I have worked for at least ten years. I have seen different management styles; all of them manage this hospital based on their own needs rather than those of patients or staff. Many are based on the desires for how to get their future growth or on the desires of the above manager. This leads to staff dissatisfaction with their jobs, which leads them not to deliver nursing care quality for their patients...” (Participants 9).

Regarding nurses’ job satisfaction, nurses who are satisfied with their jobs were 2.20 times more likely to rate nursing care quality as good than those who are dissatisfied. [AOR = 2.20, CI = 95% (1.30, 3.74),  $p = 0.004$ ]. This is supported by qualitative findings (Table 5).

A key informant explained that nurses tend to provide quality nursing care to their patients when they feel satisfied with their jobs. “...About 60% of care was covered by nurses, but our salaries are not related to the work. There is no incentive; duty is not paid on time, and there are no other benefits. Other professionals have services for home, transportation, a loan service, a card, and an allowance, but nurses work for a community and are exposed to many risks; no one cares for them. So, the staff has been disappointed and dissatisfied. Not only have they become dissatisfied, but they are also changing their profession, which leads to decreased nursing care quality...” (Participant 5) (Table 6).

**Table 6.** Multivariable logistic regression showing factors affecting nurses’ perception of nursing care quality among nurses working in Jimma Town public hospitals, Southwest, Ethiopia, 2023.

Variables	Category	Nurses’ perception of nursing care quality		COR (95% CI)	AOR (95% CI)	p-value
		Good (%)	Poor (%)			
Experience	<5 years	77(43.50)	100(56.50)	1		
	6–10 years	86(54.10)	73(45.90)	1.53(1.99, 2.35)	1.39(0.86, 2.25)	0.170
	>10 years	21(75.00)	7(25.00)	3.89 (1.57, 9.63)	5.16 (1.87, 14.24) *	0.002
Educational level	Diploma	8(23.50)	26(76.50)	1		
	BSc and above	176(53.40)	154(46.60)	3.71(1.63, 8.44)	4.04 (1.65, 9.95) *	0.002
Hospital level	Referral hospital	174(52.90)	155(47.10)	2.81(1.31, 6.03)	4.13 (1.72, 9.89) *	0.001
	General hospital	10(28.60)	25(71.40)	1		
Nurses work environment	Unfavorable	36(28.30)	91(71.70)	1		
	Favorable	148(62.40)	89(37.60)	4.47(2.36,8.48)	3.29 (1.90, 5.66) *	<0.001
Nurses job satisfaction	Dissatisfied	89(39.50)	136(60.50)	1		
	Satisfied	95(68.30)	44(31.70)	3.30(2.11,5.15)	2.20 (1.30, 3.74) *	0.004

Note: 1 = Reference group, \* significant association at  $p$ -value < 0.05, COR: crude odd ratio, AOR: adjusted odd ratio, CI: confidence interval.

#### 4. Discussion

The study’s findings indicate that nurses’ perception of nursing care quality at public hospitals in Jimma Town is split in half. About 50.50% of nurses felt that

nursing care quality was good, while their perception varied depending on their level of education, experience, the type of hospital, the work environment, and their job satisfaction. This suggests that the nursing care provided to patients may not have been up to the expected standard. This could potentially lead to negative consequences such as healthcare-associated infection, wastage of resources, morbidity, and mortality.

The findings of this study are in line with the findings of a study done in Egypt, where 51.90% of nurses perceive nursing care quality as good (Fahim et al., 2020). But lower than the findings of studies done in Spain (83.7%) (Moreno-Casbas et al., 2018). The discrepancy might be due to the high nurse-to-patient ratio, lack of adequate resources, and low nurses' work experience in this study. In Spain, the mean of nurses' work experience was 16.4 years, and the ratio of nurses to patients was 1:8. Additionally, the length of the study period was two years. These factors may have contributed to a discrepancy in the perceived nursing care quality provided, especially when compared to developed countries. This finding is also lower than the study done in the Bale zone (67.4%) (Darega et al., 2016). This discrepancy might be due to differences in the sample size. In Bale, only 43 nurses participated, and only one item was used to measure their perception of nursing care quality.

Nurses with more than ten years of experience were five times more likely to rate nursing care quality as good than those with five or fewer years of experience. This is consistent with the findings of studies conducted in Canada, Japan, and Saudi Arabia (Alshehry et al., 2019; Boscart et al., 2018; Nakano et al., 2021). The possible explanation might be that as nurses grow with experience, they may consider various aspects to compare in judging the current condition of nursing care quality. Their years of experience give them a deep understanding of patient needs, technical skills, and knowledge regarding nursing care quality (Go et al., 2025).

Concerning nurses' educational level, nurses who had a BSc and above educational level were four times more likely to rate nursing care quality as good than those nurses who had a diploma educational level. This is consistent with the study findings from Iraq, Taiwan, and California (Aziz and Mansi, 2017; Blegen et al., 2013; Tsai et al., 2018). The possible reason might be that higher educational levels equip nurses with advanced knowledge and skills in various aspects of nursing care (Li et al., 2024). Additionally, nurses with BSc degrees and above have undergone a broader range of theoretical knowledge, practical skills, and evidence-based practice, which may contribute to their higher perception of nursing care quality. The key informant's idea supports this data. *"Degrees and diplomas are not the same when it comes to delivering nursing care. As your educational level increases, the nursing care quality you deliver will also increase..."*

Regarding organizational factors, nurses who work in a referral hospital were four times more likely to rate nursing care quality as good than those who work in a general hospital. This is consistent with the findings of studies conducted in California and Turkey (Blegen et al., 2013; Gür and Ekici, 2020). The possible reason might be that the referral hospital has more equipment and more experienced nurses, and they get more support from students who practice in the hospital than those nurses who work in the general hospital. Such factors may contribute to the higher rate of nursing care

quality they deliver in referral hospitals. Referral hospitals have higher resources and more advanced technology than other hospitals, which may also contribute to the higher rate of nursing care quality (Ferede et al., 2024).

Regarding the work environment, nurses who work in a favorable work environment were three times more likely to rate nursing care quality as good than those who work in unfavorable work environments. This is consistent with the findings of studies done in Virginia, China, and Jordan (Baernholdt et al., 2013; Elayan and Ahmad, 2017; You et al., 2013). The possible reason might be that a favorable nurses' work environment makes nurses feel happier about their care (Koy, 2019). Adequate staffing and a supportive work environment create conditions that promote high nursing care quality and contribute to their confidence in the care they provide (Losty et al., 2026). This may contribute to the higher rate of nursing care quality in a favorable work environment. This is supported by qualitative data. *"...I have worked for at least ten years. I have seen different management styles; all of them manage this hospital based on their own needs rather than those of patients or staff. Many are based on the desires for how to get their future growth or on the desires of the above manager. This leads to staff dissatisfaction with their jobs, which leads them not to deliver nursing care quality for their patients..."* This is also supported by cognitive appraisal theory: if environments have adequate resources that exceed demand, they are considered potentially beneficial. In practice, this means nurses in favorable environments will view their workplace as supportive, increasing their perceived ability to deliver quality care. Conversely, cognitive appraisal theory suggests that nurses in less favorable environments will assess their workplace as stressful, decreasing their perceived ability to deliver quality nursing care (EBSCO, 2024; Peyton and Zigarmi, 2024).

Regarding nurses' job satisfaction, nurses who are satisfied with their jobs were two times more likely to rate nursing care quality as good than those who are dissatisfied. This is consistent with the findings of studies done in Minnesota, Turkey, Canada, and Pakistan (Aron, 2015; Farman et al., 2017; Gür and Ekici, 2020; Spence and Fida, 2015). The possible reason might be that when nurses are satisfied with their pay, working conditions, how their manager handles them, the relationships of their co-workers, and hospital policy, it creates a conducive environment for providing quality nursing care. Satisfied nurses are more likely to be engaged, motivated, and committed to providing high-quality nursing care to their patients (Zhao et al., 2025). Such factors may contribute to the higher rate of nursing care quality among nurses who are satisfied with their jobs. Qualitative data supports this idea *"...About 60% of care was covered by nurses, but our salaries are not related to the work. There is no incentive; duty is not paid on time, and there are no other benefits. Other professionals have services for home, transportation, a loan service, a card, and an allowance, but nurses work for a community and are exposed to many risks; no one cares for them. So, the staff has been disappointed and dissatisfied. Not only have they become dissatisfied, but they are also changing their profession, which leads to decreased nursing care quality..."*

## **5. Limitations**

It's important to note that the sample characteristics such as gender (male domination in qualitative and female domination in quantitative data) educational level, and hospital level were not proportional. This may have had an impact on the results. Additionally, it's important to consider that the nature of the study design did not allow for the establishment of cause-and-effect relationships. Perception of quality is measured by the same nurses who deliver the care, with evident risk of social desirability bias and the absence of burnout and psychological distress assessment as confounding variables.

## **6. Implications**

This study has significantly contributed to identifying nurses' perceptions of the nursing care quality they deliver to patients. It also identifies the association between nurses' perception of nursing care quality and their work environment, level of education, year of experience, job satisfaction, and hospital level. Overall, the findings of this study show that nurses' perception of nursing care quality should be improved. This finding helps hospital and nurse managers to take the initiative to develop work environments that are conducive to the professional practice of nurses and to establish good working conditions to make nurses feel more satisfied in their jobs.

Additionally, it provides valuable data to hospital managers on the staff's response to their work environment. This helps hospital managers to identify areas that need improvement and to make informed decisions to enhance the work environment for staff and ultimately improve patient care. Also, this finding promotes teamwork and collaboration among nurses to improve the quality nursing care they provide to their patients. Finally, it provides information for hospitals and nurse managers that nurses have varying perceptions regarding the nursing care quality they provide to patients based on their educational level.

## **7. Conclusion**

Nurses working in Jimma Town public hospitals are split in half on their perception of the nursing care quality they render to patients, which is lower than the previous findings of the studies done in both developing and developed countries. Nurses' work experience, educational level, hospital level, nurses' work environment, and nurses' job satisfaction were the identified independent variables that had a significant effect on nurses' perception of nursing care quality. Therefore, Hospital and nurse managers have to create a favorable nurse work environment to establish good working conditions and work in a way that increases nurses' job satisfaction.

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curation, BWI, GNG, TSB, DDG, MDK, FRG, LKS and DET; writing—original draft preparation, BWI; visualization, BWI, GNG, TSB, DDG, MDK, FRG, LKS and DET; supervision, GNG, TSB, DDG, MDK, FRG, LKS and DET; project administration, GNG and TSB. All authors have read and agreed to the published version of the manuscript.

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## Abbreviations

ANA	American Nurse Association
AOR	Adjusted Odd Ratio
COR	Crude Odd Ratio
FDRE	Federal Democratic Republic Ethiopia
IRB	Institutional Review Board
JUIH	Jimma University Institution of Health
MOH	Ministry of health
OPD	Out Patient Department
OR	Operation Room
PhD	Doctor of Philosophy
VIF	Variance Inflation Factor

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