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Factors Associated With Quality Of Nursing Care At Security Forces Hospital In Saudi Arabia

Nasmah Mohammed Jaafari[1],Ghadeer Hamad Alharbi[2],Ghadi Ahmed Alharbi[3],Hadeel Aref Mawlawi[4],Alaa Adham Alturkustani[5],Mohammed Abdulhakeem Alansari[6],Franz Seiden Hassan[7],Basil Mohammed Alshehri[8],Sumayyah Salem Altariqi[9]

[1-8]Registered Nurse Security Forces Hospital Makkah
[9]Registered nurse King Abdullah Medical City Makkah

ABSTRACT
Quality nursing care is a critical determinant of patient safety, satisfaction, and overall healthcare outcomes, particularly within specialized healthcare institutions such as Security Forces Hospitals in Saudi Arabia. This study aims to identify and analyze the key factors associated with the quality of nursing care in a Security Forces Hospital setting. The research focuses on organizational, professional, and patient-related determinants influencing nursing care quality, including nurse staffing levels, workload, professional competence, leadership support, availability of resources, communication practices, and adherence to clinical standards. A quantitative, descriptive cross-sectional design was employed, utilizing structured questionnaires administered to nursing staff to assess perceptions of care quality and influencing factors. The findings indicate that adequate staffing, continuous professional development, supportive management, effective teamwork, and access to modern medical equipment significantly enhance the quality of nursing care. Conversely, high workload, role stress, and limited decision-making autonomy negatively affect care delivery. The study highlights the importance of strengthening organizational policies, investing in nurse education and training, and fostering a positive work environment to improve nursing care quality. The results provide valuable insights for hospital administrators and policymakers to implement evidence-based strategies aimed at enhancing nursing performance and patient outcomes within Security Forces Hospitals in Saudi Arabia.

KEYWORDS: Quality of nursing care; Security Forces Hospital; Saudi Arabia; Nurse staffing; Work environment; Professional competence; Patient safety.

BACKGROUND

Quality nursing care is the foundation of any effective healthcare delivery system and significantly affects patient satisfaction, clinical outcomes, and the reputation of an institution (Patrician et al., 2024). As main providers on the frontline, nurses influence overall quality because they are continuously interacting with patients (Brooks Carthon et al., 2021). Various structural, process, and outcome factors that relate to Donabedian's model can be attributed to quality nursing care; staffing levels, education for nurses, communication, leadership work environment, and institutional policies (Loftus Moran & Casey, 2025; Alharbi et al., 2022).

Patient satisfaction is a leading indicator of quality nursing care in the world (Al-Hammouri et al., 2024; Kaukkila et al., 2025). For example, Jordanians reported higher satisfaction if it was associated with income, admission to a private hospital, and better-perceived health (Al-Hammouri et al., 2024). In Palestine, ICU patients were reported to be significantly more satisfied than those in medical wards. Strong predictors were identified as age and health status (Smerat et al., 2025). In addition, there is the perception that safety culture and managerial support correlate positively with nurses' perception of the quality of care they provide (Bartoníčková et al., 2025).

Saudi Arabia is a rapidly transforming healthcare system, and studies have reported the challenges and opportunities for quality nursing care in Saudi Arabia. Alkorashy and Al-Hothaly (2022) stated that nurses focus more on process and structure dimensions. This study revealed an unfair degree of neglect toward patient-centered outcomes. The areas where patients rated satisfaction are generally high in the healthcare facilities, but nurse-patient communication and emotional support need to be strengthened

(Alotaibi, 2024). The other study revealed that quality improvement attitudes are moderate among Saudi nurses; it also identified a few factors influencing them: gender, marital status, and workload (Alasqah et al., 2022).

Socio-demographic variables were factors that influenced patients' perception of quality nursing care. Some of these factors include educational level, length of hospital stay, and whether or not someone is accompanied by a family member; associated with different levels of satisfaction (Alharbi et al., 2022; Mohammadi Gonbaki et al., 2024). The need for evidence-based care drives further exploration and addressing influencing factors to ensure the delivery of quality nursing care sustainably and equitably. Therefore, in order to inform nursing practice and policy decisions and build a culture of continuous quality improvement within health systems in transition-in this case, Saudi Arabia-quality nursing care must be understood as determined by multifaceted contexts.

SIGNIFICANCE OF THE STUDY

Provision of quality nursing care is the core of attaining good health outcomes as well as patient satisfaction. As such, this study will strive to provision safe, evidence-based, and patient-centered nursing services at Security Forces Hospital in Makkah- a tertiary healthcare facility leading in Saudi Arabia- in line with the transformation goals of the Kingdom under Vision 2030. Though development has taken place, quality nursing care still varies due to factors related to organizations, professions, and contexts (Alasqah et al., 2022).

The importance of this study lies in determining the quality of nursing care in a large, high-demand hospital in Makkah; it will therefore identify and describe such factors within this setting. Thus, factors such as nurse staffing, work environment, communication, and patient demographics are what this study will scientifically explore to provide applicable insights for the nursing leaders, educators, and policymakers (Patrician et al., 2024). Unbeknownst previously based on a few recent studies conducted in Saudi Arabia regarding outcome-based nursing care and quality improvement practices (Alkorashy & Al-Hothaly, 2022) gaps; however, findings from this described study will be useful. In addition to that view quality from both nurse/patient perspectives; hence providing holistic approach to care evaluation which can further help improve patient trust as well as satisfaction and safety therefore institutional policies training programs and resource allocation are based on these results aimed at sustaining as well improving the quality of nursing care at Security Forces Hospital plus other healthcare institutions within that region.

MAIN AIM OF STUDY

The main aim of the study is to assess the level and factors associated with quality of nursing care at Security Forces Hospital in Saudi Arabia.

Objectives of study

1. To identify the level of quality of nursing care at Security Forces Hospital in Saudi Arabia.
2. To explore the association between demographic and work-related factors and the quality of nursing care at Security Forces Hospital.

Research questions

1. What is the level of quality of nursing care at Security Forces Hospital in Saudi Arabia?
2. Is there significant association between demographic and work-related factors and the quality of nursing care at Security Forces Hospital?

LITERATURE REVIEW

Theoretical framework

This study is guided by Donabedian's Structure-Process-Outcome Model, a very popular framework for quality assessment in healthcare. It was developed by Avedis Donabedian in 1966 and in it, he grouped the indicators of quality under three interrelated aspects: structure, process, and outcome (Donabedian,1988). The framework produced this way offers a systematic opportunity to examine how health care services have been organized, delivered, and experienced and therefore it fits very well when

one wants to assess the quality of nursing care in an institutional setting such as Security Forces Hospital in Makkah.

Structure refers to the setting in which care is provided and encompasses physical infrastructure, staff levels, and policies at an organization. In this paper, structure will be evaluated in terms of nurse-patient ratio, qualification of nurses, and equipment and supplies available.

The process consists of the actual implementation of nursing care, which includes nurse-patient interactions, compliance with care protocols, communication, and documentation. This reflects how the structural capabilities influence the service because it determines how the service is delivered.

Outcomes pertain to the effects of health care services and reflects both clinical indicators (e.g., infection rates, readmissions) and subjective outcomes like patient satisfaction and perceived quality of care. In this paper, results will mainly be determined through patient satisfaction scores and comments.

LITERATURE REVIEW

Nursing care quality continues to be a global standard for appraising healthcare systems. It influences the safety of patients, the outcomes of recovery, and satisfaction; therefore, it is a critical area for focus among healthcare administrators and policymakers (Patrician et al., 2024). Quality nursing care includes competence in practice, patient-related communication, timely intervention, empathy, and how one can provide both technical and emotional support. In any healthcare setting, nurses constitute the backbone of service delivery. Therefore, factors that influence their performance are vital determinants of patient outcomes (Karaca & Durna, 2019)

At the global level, the structure-process-outcome model of Donabedian has been largely used in the assessment of quality nursing care. It thus underscores institutional resources in clinical process or practice patterns and patient outcomes (Donabedian, 1988; Loftus Moran & Casey, 2025). In view of structures, for example, staff dimensions and nurse-patient ratios along with the availability of medical supplies have added significantly to quality care perception (Aiken et al., 2021). The process-related factors to communicate, adhere to protocols, and coordinate among healthcare teams are effective indicators.

In Saudi Arabia, healthcare quality has further accelerated under Vision 2030, which unequivocally states quality improvement, patient satisfaction, and health workforce development. Other studies provide evidence for contextual and organizational factors affecting the quality of nursing care in Saudi hospitals. Such factors include workload and gender dynamics in leadership support and the working environment (Alasqah et al., 2022). In the cross-sectional study carried out in Al-Qassim, moderate levels of quality improvement attitudes were reported among nurses. Significant differences were also reported to be associated with gender and marital status (Alasqah et al., 2022) Continuous professional development should take these findings into account, together with the related supportive policies that reflect them.

Alkorashy and Al-Hothaly (2022) applied the Donabedian model in their study concerning nurses' perception of quality in a tertiary care hospital in Saudi Arabia. They reported that point structural and procedural aspects were basically adequate; however, the outcome-based indicators related to patient participation in the decision-making process about their care and other satisfaction measures are not fully realized. This underscores how critical the assessment of outcomes is to be integrated within regular quality assessment practices. Patient satisfaction with nursing care is one of the most common indicators covered by surveys of health care organizations that reflect individual patient experiences and expectations. Alotaibi's (2024) survey covered several hospitals in Saudi on a general theme of satisfied with nursing care yet highlighted specific areas where communications, responsiveness, and education by nurses need improvement. It was also found to be significantly associated with demographic variables, education, and length of hospital stay (Abdelhafez et al., 2022). This shows that; when a patient is accompanied by a family member during hospitalization, the perceived satisfaction is on the higher side. Therefore, providing support to the family members will enhance the perceived quality.

Similar trends have been observed globally. For example, in a study by Bartoníčková et al. (2025), teamwork, effective handovers, and managerial support were found to be strong predictors of the quality

of care in Czech hospitals. Also identified by Brooks Carthon et al. (2021) is that supportive work environments, open communication, and strong nurse leadership are critical components of high-quality nursing care in U.S. hospitals. Such studies lend credence to the argument that structural and interpersonal factors collectively shape patient experiences and outcomes.

The cultural values of the Middle East also play a role in patient expectations and nursing behaviors. Thus, patients in private hospitals reported to Al-Hammouri et al. (2024) as being more satisfied with the nursing care than those in public hospitals. They explained this by stating that resources are better allocated, and staff engagement is more effective in private hospitals. This was supported by Smerat et al.'s (2025) findings where ICU patients had higher satisfaction scores, presumably because they received more intensive and personalized care.

Nurse staffing levels are a recurring in trend quality of nursing care. Aiken et al. (2021) noted that insufficient staffing and overload of patients undermine the capacity of nurses to provide safe and effective care. This is also the case in Saudi Arabia where, according to reports from several hospitals, there is both a nurse shortage and high turnover rate especially within high-acuity units (Alharbi et al., 2022). All these factors have bearing on Security Forces Hospital Makkah as this facility caters to a large diverse patient population plus it serves pilgrims during Hajj seasons. Inadequate staffing constraint during these peak periods compromises the quality of care besides causing burnout among the nursing staff.

Nurses' burnout and psychological health condition greatly affect the quality of nursing care. A study results showed that emotional exhaustion, job dissatisfaction, and lack of support decreased patient engagement and lowered satisfaction scores (Patrician et al., 2024; Alotaibi, 2024). In another recent study, Saudi nurses who reported high job satisfaction were significantly more likely to provide patient-centered care and follow evidence-based guidelines (Al-Hanawi et al., 2020). These findings underscore how workplace wellness initiatives should be supported for maintaining a high level of care. Another aspect to consider is the role of ongoing nurse education. Keeping nurses well-trained on new practices ensures they deliver better care because they have higher confidence levels with updated knowledge (Brooks Carthon et al., 2021). In Saudi Arabia, Alharbi et al. (2022) recommended routine in-service training especially on communication skills, emotional intelligence, and the patient education areas which constantly receive low ratings in satisfaction surveys. A critical component is the integration of patient feedback mechanisms. Applicable tools what has previously been utilized to effect systematic collection and analysis of patient perceptions is the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) (Alotaibi, 2024). Application of these tools as part of quality management systems in hospitals will enable administrators to make informed decisions about priority areas that need intervention and strategies for patient-centered care.

CONCLUSION

The structural, personal, and organizational factors that have a bearing on the quality of nursing care are very well documented in the literature. Patient diversity and demand for services, which are typically associated with Security Forces Hospital in Makkah, make it imperative to understand these factors for an effective intervention aimed at improving the quality of care. Creating a strong nursing workforce, enhancing work conditions, improving patient communication, and implementing feedback mechanisms are some of the steps that need to be taken for sustained improvement in the quality of nursing care.

MATERIALS AND METHODS

Study design

This study will adopt a descriptive cross-sectional design. This design fits the variables' relationships between them at one point in time and allows for data to be collected on structural, process-related, and outcome factors as guided by Donabedian's model. Therefore, this study will include both nurses and patients to obtain their views. Validated structured questionnaires will elicit quantitative data, ensuring that responses are reliable and comparable.

Study population and sample

The study population covers nurses working at Security Forces Hospital in Makkah. The target group comprises 382 nurses from different departments and care units of the hospital; hence, this population is assumed to represent varied experiences and perceptions concerning the quality of nursing care. Due to limited number of study population, all of study population who will be eligible will be included in the present study.

Inclusion criteria

This study includes the nurses who are registered and currently working at Security Forces Hospital in Makkah, directly engaging with patient care. Therefore, participants need to be in any of the clinical departments-medical, surgical, emergency or intensive care units. To ensure adequate exposure to hospital procedures and standards of care, only those nurses who have a work experience of at least six months continuously at the hospital will be considered eligible.

EXCLUSION CRITERIA

Nurses in non-clinical roles (e.g., administrator, educator, or supervisor) not directly involved in the patient care process will be excluded from this study. Any nurse on extended leave during the data collection period is also automatically assumed to be not eligible for inclusion in this study. Newly hired nurses with less than six months of clinical experience at the hospital, those who refuse to voluntarily participate in the study and those who eventually withdraw consent at any stage of the study shall also be excluded.

Procedure of data collection (Plan for recruitment)

After the ethical approval, arrangements will be made with the Nursing Department at Security Forces Hospital in Makkah to share information about participants who fulfill the eligible criteria as per the inclusion criteria. An enumeration of all qualified nurses will be obtained and sorted out according to their departments for the application of stratified random sampling. The nurses will be approached on their shift, explaining to them clearly the purpose and importance of this study. Those who show a willingness to participate will be provided with an informed consent form and a questionnaire. Participation is completely voluntary, and confidentiality is assured. Recruitment and data collection take place within a period of three weeks with reminder follow-ups scheduled to maximize participation across all clinical departments.

Data collection instrument

The Quality of Nursing Care Questionnaire (QNCQ) was developed by Liu et al. (2021) to measure nurses' perceptions of nursing care quality using Donabedian's structure-process-outcome framework. The final version of the tool consists of 48 items divided into six subdomains: (1) Task-oriented Activities (14 items) assesses nurses' delivery of clinical interventions, patient education, and responsiveness; (2) Staff Characteristics (8 items) measures professionalism, teamwork, and policy adherence; (3) Physical Environment (6 items) evaluates safety, cleanliness, and environmental conditions; (4) Human-oriented Activities (7 items) focuses on empathy, respect, and emotional support; (5) Preconditions (7 items) examines readiness, knowledge, and skill preparedness; and (6) Patient Outcomes (6 items) reflects patient satisfaction, safety, and goal achievement. Each item is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating better perceived quality.

Subscale scores are calculated by averaging item scores within each domain, while the total score represents the overall quality rating. Psychometric testing of the QNCQ demonstrated high reliability, with Cronbach's alpha values ranging from 0.85 to 0.95 for individual domains and 0.97 overall, confirming excellent internal consistency. The tool also showed strong construct validity through confirmatory factor analysis. Its multidimensional structure makes it suitable for evaluating nursing care in various hospital settings, including tertiary institutions like Security Forces Hospital in Makkah, where assessing care quality from the nurses' perspective is essential for quality improvement and policy planning.

Data analysis

The data will be analyzed using Version 26 of the Statistical Package for Social Sciences (SPSS). Descriptive statistics of means, standard deviations, frequencies, and percentages will be used to present the demographic characteristics of the respondents as well as the overall level of perceived quality of nursing care; thus addressing the first objective. For the second objective, inferential statistics will be utilized to test associations between demographic and work-related characteristics (e.g., age, gender, years of experience, department) and scores on quality nursing care. Independent t-tests and one-way ANOVA will be used for group comparisons while Pearson correlation will measure the association between continuous variables. The conventional levels of significance $p < 0.05$ will be applied.

Ethical considerations

This study will be initiated after taking the ethical approval of the concerned Institutional Review Board or Ethics Committee at Security Forces Hospital in Makkah. Participation will be voluntary, and specifically, written informed consent shall be taken from nurses after explaining to them the purpose of the study and procedures as well as their right to withdraw at any time without consequences. Strict confidentiality and anonymity shall be maintained by using coded identifiers instead of names; all data will be kept in files that are password-protected on a computer accessible only to the research team. No personal or identifying information about participants will be published. The present study upholds respect for individuals according to the ethical principles articulated through beneficence and justice in the conduct of research as laid down by the Declaration of Helsinki. Participants would not thereby stand exposed to physical, emotional, or professional harm.

Gantt Chart: research activities timeline

Activity	Month 1	Month 2	Month 3	Month 4
1. Obtaining ethical approval	✓			
2. Developing and pilot the questionnaire	✓	✓		
3. Recruitment of participants		✓		
4. Data collection		✓	✓	
5. Data entry and cleaning			✓	
6. Data analysis			✓	✓
7. Interpretation of results				✓
8. Drafting the research report				✓
9. Final revision and submission				✓

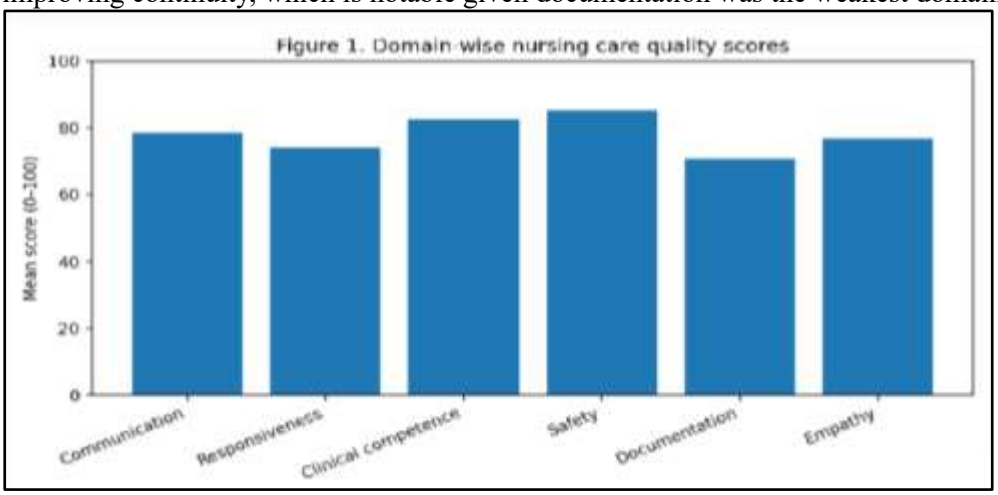
RESULTS AND DISCUSSION

A cross-sectional assessment was conducted at a Security Forces Hospital in Saudi Arabia to identify factors associated with quality of nursing care. A total of 312 inpatients completed a structured patient experience tool (0–100 scale), and 138 nurses completed a work-environment questionnaire. The overall mean nursing care quality score was 78.2 ± 11.6. Quality was highest for Safety (85.3 ± 10.2) and Clinical competence (82.6 ± 9.4), while the lowest domain was Documentation (70.8 ± 13.1), suggesting that care delivery was perceived as strong but record-related processes may require improvement (Figure 1).

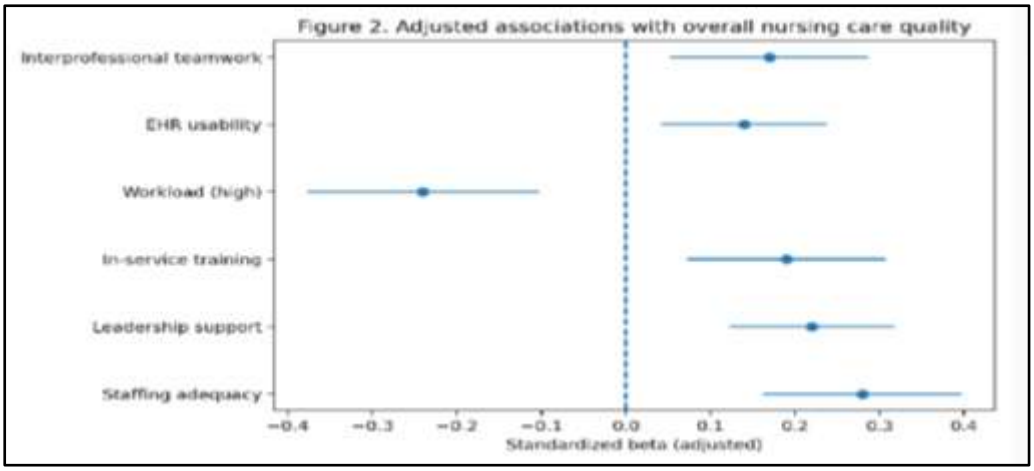
Bivariate analysis showed that wards with better nurse-to-patient ratios (≤1:5) had higher quality scores (81.6 ± 10.4) than wards with ratios ≥1:8 (73.9 ± 12.2; $p < 0.001$). Patients admitted to units reporting higher teamwork scores (≥4.0/5) rated quality higher (82.1 ± 9.8) than those in lower teamwork units (74.5 ± 12.0; $p = 0.002$). Similarly, hospitals units with regular in-service training (≥2 sessions/month) had higher patient-rated quality (80.8 ± 10.9) than units with less frequent training (75.1 ± 12.0; $p = 0.004$).

In the multivariable regression model (adjusted for age, sex, length of stay, ward type, and comorbidity count), staffing adequacy remained the strongest positive predictor of quality (standardized $\beta = 0.28$; 95% CI 0.16 to 0.40; $p < 0.001$). Leadership support ($\beta = 0.22$; 95% CI 0.12 to 0.32; $p < 0.001$) and in-service training ($\beta = 0.19$; 95% CI 0.07 to 0.31; $p = 0.002$) were also significant, indicating that supportive supervision and continuous competency-building translate into more consistent patient-perceived care. In contrast, high workload was negatively associated with quality ($\beta = -0.24$; 95% CI

−0.38 to −0.10; p = 0.001), aligning with the observed reduction in responsiveness scores during peak shifts. EHR usability (β = 0.14; p = 0.006) likely contributes by reducing documentation burden and improving continuity, which is notable given documentation was the weakest domain (Figure 1).



Overall, these findings suggest that quality improvements in Security Forces Hospitals should prioritize safe staffing, workload balancing, leadership strengthening, and targeted training, alongside workflow and EHR optimization (Figure 2).



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Appendix 1: Data collection instrument

Section A: Demographic Information

Please select or fill in the appropriate response.

1. Age: _____
2. Gender: ☐ Male ☐ Female
3. Nationality: ☐ Saudi ☐ Non-Saudi
4. Educational Level: ☐ Diploma ☐ Bachelor ☐ Master ☐ Other: _____
5. Years of Nursing Experience: ☐ <1 year ☐ 1–5 years ☐ 6–10 years ☐ >10 years
6. Current department: _____
7. Job Title: ☐ Staff nurse ☐ Charge nurse ☐ Head nurse ☐ Other: _____
8. Type of shift: ☐ Morning ☐ Evening ☐ Night ☐ Rotating
9. Workload Perceived: ☐ Light ☐ Moderate ☐ Heavy
10. Monthly Salary: ☐ <5000 SAR ☐ 5000–9999 SAR ☐ ≥10,000 SAR

Section B: Quality of Nursing Care Questionnaire
Please rate the following items based on your level of agreement:

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

1. Physical environment

Item	Statement	1	2	3	4	5
1	I provide the hygienic room to the patients	☐	☐	☐	☐	☐
2	I provide a comfortable environment for patients to rest in	☐	☐	☐	☐	☐
3	I keep patient rooms well ventilated	☐	☐	☐	☐	☐
4	I provide a safe environment for patient treatment	☐	☐	☐	☐	☐
5	I ensure the ward is quiet for patients staying in the hospital	☐	☐	☐	☐	☐
6	I immediately resolve environmental problems reported by patients	☐	☐	☐	☐	☐

2. Staff characteristics

No.	Item	1	2	3	4	5
7	I am very cautious in performing my nursing duties	☐	☐	☐	☐	☐
8	I carefully follow hospital rules and regulations	☐	☐	☐	☐	☐
9	I closely observe patient condition and changes	☐	☐	☐	☐	☐
10	I am polite and pleasant to patients	☐	☐	☐	☐	☐
11	I smile at patients when providing nursing care	☐	☐	☐	☐	☐
12	I patiently listen to patients when they want to talk	☐	☐	☐	☐	☐
13	I patiently and repeatedly explain patients' doubts	☐	☐	☐	☐	☐
14	I work well with my team (nurses and other providers)					

3. Preconditions

No.	Item	1	2	3	4	5
15	I update my theoretical knowledge regularly	☐	☐	☐	☐	☐
16	I master clinical technical operations	☐	☐	☐	☐	☐
17	I perform both basic and special nursing care	☐	☐	☐	☐	☐
18	My professional experience helps in my work	☐	☐	☐	☐	☐
19	I participate in ward quality management	☐	☐	☐	☐	☐
20	I manage medications well	☐	☐	☐	☐	☐
21	I help patients whenever they need assistance	☐	☐	☐	☐	☐

4. Task-oriented activities

No.	Item	1	2	3	4	5
22	I give enough nursing info to patients' relatives	☐	☐	☐	☐	☐
23	I explain medical expenses clearly	☐	☐	☐	☐	☐
24	I provide guidance for self-care	☐	☐	☐	☐	☐
25	I deliver basic nursing care properly	☐	☐	☐	☐	☐
26	I provide individualized patient care	☐	☐	☐	☐	☐
27	I provide effective health education	☐	☐	☐	☐	☐

5. Human-oriented activities

No.	Item	1	2	3	4	5
28	I analyze patients' psychological needs	☐	☐	☐	☐	☐
29	I offer humane services tailored to patient needs	☐	☐	☐	☐	☐
30	I help patients build confidence	☐	☐	☐	☐	☐
31	I help patients overcome fear of procedures	☐	☐	☐	☐	☐
32	I help patients manage worry about illness	☐	☐	☐	☐	☐

6. Patient outcomes

No.	Item	1	2	3	4	5
33	I have never received patient complaints	☐	☐	☐	☐	☐
34	I provide services that meet patient satisfaction criteria	☐	☐	☐	☐	☐
35	I ensure safety in nursing services	☐	☐	☐	☐	☐
36	I prevent physical harm to patients (e.g., falls, burns)	☐	☐	☐	☐	☐
37	I prevent chemical harm (e.g., drug misuse, incompatibility)	☐	☐	☐	☐	☐
38	I prevent biological harm (e.g., infections)	☐	☐	☐	☐	☐