

Evaluation of Care Behaviors and Hourly Nursing Rounds in Saudi Hospitals from a Nursing Practice Perspective

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Abstract

Background: Caring behaviors in nursing are essential for improving patient safety, satisfaction, and overall healthcare outcomes. Hourly nursing rounds have been implemented to enhance patient care, prevent missed care, and reduce adverse events such as falls and pressure ulcers. However, nurses' perceptions of hourly rounding and caring behaviors vary based on experience, unit assignments, and institutional support.

Objectives: This study aimed to assess nurses' perceptions of caring behaviors and hourly rounding in Saudi hospitals and explore the association between demographic factors and these perceptions.

Methods: A descriptive correlational study was conducted among 315 nurses working in various hospital units in Saudi Arabia. A quota-random sampling technique was used, and data were collected via an online self-administered questionnaire, including the Hourly Rounding Questionnaire (HRQ) and the Caring Dimensions Inventory (CDI-25). Statistical analyses, including the t-test, Kruskal-Wallis H test, and Pearson correlation, were performed to examine differences and associations.

Results: Nurses showed high agreement that hourly rounding improves patient safety by preventing falls (87.9%) and pressure ulcers (87.2%). However, the lowest agreement was in areas related to documentation and post-implementation support. The mean caring behavior score was high, with technical aspects (e.g., measuring vital signs and providing privacy) scoring higher than psychosocial aspects (e.g., sitting with patients and exploring their lifestyles). Significant differences in perceptions of hourly rounding were found based on gender ($p = 0.032$), years of experience ($p = 0.034$), and work units ($p = 0.016$). Similarly, caring perceptions significantly differed based on years of experience ($p = 0.030$) and working units ($p = 0.010$). A strong positive correlation was found between nurses' perceptions of hourly rounding and caring behaviors.

Conclusion: This study highlights the critical role of hourly rounding in improving patient safety and underscores the need for structured protocols, ongoing support, and enhanced training to ensure the effectiveness of caring behaviors in nursing practice.

Keywords: Caring behaviors, Hourly rounding, Nursing practice, Patient safety, Documentation, Saudi hospitals.

Introduction:

In healthcare, nursing is a caring profession that focuses on patient care and providing comprehensive nursing services that meet the aspirations and needs of patients [1]. Nurses are the first line of defense in healthcare systems, as their responsibilities include assessing and diagnosing patients and monitoring their health status on an ongoing basis, facilitating effective communication between medical teams, enhancing patient safety, and nursing interventions to prevent health complications and improve patient outcomes [2,3]. Therefore, the caring behaviors of nursing care workers are linked to patient health outcomes and reducing hospitalization periods [4]. Caring behaviors are defined as "the actions, behaviors, and actions of nursing care workers that enhance patient care, ensure their safety, and improve their health outcomes" [5]. Nursing care also includes direct nursing care practices and indirect nursing care. Direct nursing care is usually given importance as it can be observed in nurses' behavior, the quality of nursing care, and patient outcomes [6].

Nursing care is affected by several factors including nursing shortages, increased workload, and shift lengths. Therefore, it is increasingly important to focus on providing direct nursing care and implementing caring behaviors that allocate time for indirect patient care activities [7,8]. Understanding the factors that influence nurses' caring behavior improves patient outcomes. Clarifying nurses' perceptions and the factors that may influence their perceptions of caring behaviors remains a major concern for the international nursing community [9].

Hospitals and healthcare facilities suffer from missed nursing care. The literature indicates that missed nursing care results in serious adverse outcomes for patients such as bed sores, falls, medication errors, and hospital-acquired infections [10]. In addition, missed care negatively impacts on nurses, leading to job dissatisfaction, burnout, increased absenteeism, and staff turnover [11]. Nursing care practices often include measuring vital signs, performing physical assessments, providing patient education, and updating care plans and documentation. Nursing care policies and protocols that reduce missed nursing care and promote proactive and regular patient screenings are needed [12].

Nursing practices also include hourly rounds, which aim to enhance nurse-patient interactions and improve patient outcomes. Nursing rounds are not a new practice; however, hourly rounds are a contemporary approach to patient care that was developed to help improve patient satisfaction scores in hospitals [13]. They enable nurses to monitor their patients during specific times, assess the environment, and take actions to enhance safety, improve communication, and improve the quality of patient care [13,14].

Several studies have examined the impact of hourly nursing rounds on patient outcomes, highlighting their effectiveness in enhancing care quality and patient satisfaction. A literature review incorporating nine studies evaluated the benefits of structured hourly rounding, referencing extensive research by Meade et al. (2006). These studies demonstrated a significant increase in patient satisfaction, alongside a notable reduction in patient falls and the frequency of call bell usage, indicating improved proactive nursing care and responsiveness [15]. Further Hicks (2015) provided an updated review of the literature on hourly rounding and its implications for nursing practice. The findings reinforced the correlation between hourly rounding and reduced fall rates, emphasizing the necessity of proper education and commitment among nursing staff to ensure the success of this intervention [16]. Similarly, a study by Fabry (2015) examined the variability in the adoption of hourly rounding based on job roles, shifts, unit assignments, and nurses' educational backgrounds. The results revealed that only 25% of registered nurses expressed a sense of ownership over the hourly rounding initiative, while only 23.1% considered the documentation of hourly rounds as an accurate reflection of their actual completion [17].

In Saudi Arabia, the increasing patient volume and challenges in hospitals highlight the need for structured nursing interventions such as hourly rounds. Frequent use of call lights, patient falls, and inconsistent nursing behaviors indicate gaps in care, often leading to delays in addressing patient needs such as toileting, repositioning, and pain management [18]. These disruptions impact workflow efficiency and patient safety. The absence of standardized rounding protocols contributes to variability in nursing care and patient dissatisfaction. Implementing structured hourly rounds can enhance patient safety, reduce avoidable distress, and improve quality of care. However, success depends on effective training, staff engagement, and policy enforcement to ensure consistent and proactive patient care [19].

This study aims to assess nurses' perceptions of hourly rounds and care behaviors in Saudi hospitals and explore their association with demographic factors.

Materials & Methods

Study Design

This study used a descriptive correlational design to assess the relationship between nursing care behaviors and hourly rounds among nurses working in hospitals in Saudi Arabia. The research was conducted in various healthcare institutions, including government and private hospitals that implemented structured hourly rounds.

Sampling

A quota-random sampling technique was used to ensure a representative distribution across different hospital units. The inclusion criteria included nurses with at least six months of experience in medical, surgical, pediatric, orthopedic, oncology, renal, and respiratory units. Nurses working in emergency rooms or intensive care units were excluded due to differing rounding protocols.

Out of 380 questionnaires distributed among nursing staff in different shifts, 62 were excluded due to non-return or incomplete information. Ultimately, 318 complete questionnaires were included for analysis. The sample size was calculated using the Raosoft online calculator with a 95% confidence level, 5% margin of error, and 50% response distribution [20]. The required sample size was 315 participants.

Measuring Instruments

The online questionnaire used in this study consisted of three sections: demographic data, the Hourly Rounding Questionnaire (HRQ), and the Care Dimensions Inventory (CDI-25). The demographic section collected data on gender, job title, shift schedule, work unit, overall experience, to analyze associations between demographic factors, care behaviors, and perceptions of hourly rounding. The HRQ, a 21-item instrument based on Rogers' theory and hospital observations, assessed nurses' perceptions of organized hourly rounding. Responses were scored on a five-point Likert scale (strongly disagree to strongly agree), and the instrument demonstrated excellent reliability with a Cronbach's alpha of 0.95 [21]. The CDI-25, developed by Watson and Lea (1997), measured nurses' perceptions of care behavior through 25 nursing work statements, also rated on a five-point Likert scale [22]. Its internal consistency (Cronbach's alpha = 0.935) confirmed its high reliability. The questionnaires were translated into Arabic after a front-to-back translation process. Nursing experts and professional translators reviewed the final versions, making minor linguistic adjustments for clarity and cultural relevance. This careful process ensured that the Arabic versions maintained semantic equivalence with the original instruments, enhancing their validity and applicability in Saudi healthcare settings.

Data Collection

Data collection After obtaining informed consent from the participants, the objectives of the study were explained to them. The study relied on self-administered online questionnaires using Google Forms. Data were collected between November 2024 and December 2024. A facilitator was appointed at each hospital to serve as a resource and contact participants to reach out to all nurses on different shifts and provide necessary information to participants. Contact information for the researcher was available to participants for any further inquiries.

Statistical Analysis

Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to analyze the data, test hypotheses, and determine demographic characteristics. T-test and Kruskal-Wallis H test were conducted to examine differences in nurses' perceptions of hourly rounding and caring according to demographic characteristics. Pearson r was used to examine the correlation between age, hourly rounding, and caring.

Result

The total number of nurses who completed the questionnaire was 315. The majority, 286 (90.8%), were registered nurses, while 177 (56.2%) were female. Regarding years of experience, 182 (57.8%) had 1-10 years of experience, while 15 (4.8%) had more than 20 years. The highest percentage of nurses worked in surgical 107,(34%) and medical 101 (32%) units. Most nurses, 175 (55.6%), had duties in rotating shifts. Other demographic characteristics are shown in Table 1.

Table 1. Participants Demographic characteristics

Characteristics	Frequency	Percent (%)
Gender		
Male	138	43.8%
Female	177	56.2%
Job title		
nurses	286	90.8%
Health Assistant	29	9.2%
Years of experience		
Less than 1 years	18	5.7%
1-5 year	91	28.9%
>5-10 years	91	28.9%
>10-15 years	66	21.0%
>15-20 years	35	11.1%
More than 20 years	15	4.8%
Most often working unit		
Medical	101	32.0%
Surgical	107	34.0%
Pediatrics	44	14.0%
Emergency	63	20.0%
Most often working shift		
Day	107	34.0%
Afternoon	15	4.8%
Night	18	5.7%
Shift rotation	175	55.6%

The lowest agreements (strongly disagree and disagree) among nurses were on the items “Putting the documentation tool on Soarian would make it more convenient to complete,” with 53 nurses (16.7%), and “After implementation of hourly rounding, there was continued support and resources available,” with 55 nurses (17.3%). These findings suggest that nurses may not perceive digital documentation as a significant improvement in their workflow and that there may be a lack of ongoing institutional support after the initial implementation of hourly rounding. On the other hand, the highest agreements (agree and strongly agree) were on the items “Hourly rounding makes my patients safer by preventing patient falls,” with 277 nurses (87.9%), and “Hourly rounding makes my patients safer by preventing hospital-acquired pressure ulcers,” with 275 nurses (87.2%). These results highlight that nurses recognize the effectiveness of hourly rounding in improving patient safety, particularly in reducing preventable hospital incidents such as falls and pressure ulcers (Table 2).

Table 2. Nurses’ agreements on items related to hourly rounding.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
My nursing unit consistently carries out hourly rounding on all shifts according to the recommended protocol.	10 (3.2%)	23 (7.3%)	31 (9.8%)	127 (40.3%)	124 (39.4%)
I was provided with enough education to carry out hourly rounding effectively.	13 (4.1%)	30 (9.5%)	36 (11.4%)	126 (40.0%)	110 (34.9%)
I have a good understanding of how to incorporate hourly rounding in my daily assignments.	9 (2.9%)	15 (4.8%)	30 (9.5%)	134 (42.5%)	127 (40.3%)

The RNs and health assistants work together to divide up rounding responsibilities on our shift.	8 (2.5%)	18 (5.7%)	27 (8.6%)	139 (44.1%)	122 (38.7%)
There was clear communication on the benefits of hourly rounding for patients.	14 (4.4%)	27 (8.6%)	35 (11.1%)	129 (41.0%)	110 (34.9%)
There was clear communication on the benefits of hourly rounding for the nursing staff.	14 (4.4%)	29 (9.2%)	35 (11.1%)	127 (40.3%)	109 (34.6%)
I feel a sense of ownership of the hourly rounding program because I was involved in the planning of the initiative.	21 (6.7%)	40 (12.7%)	54 (17.1%)	117 (37.1%)	83 (26.3%)
Completion of the hourly rounding documentation tool is a true indication that hourly rounding is being done.	15 (4.8%)	34 (10.8%)	44 (14.0%)	126 (40.0%)	96 (30.5%)
Putting the documentation tool on Soarian would make it more convenient to complete.	23 (7.3%)	30 (9.5%)	37 (11.7%)	123 (39.0%)	101 (32.1%)
After the implementation of hourly rounding, there was continued support and resources available.	20 (6.3%)	35 (11.1%)	47 (14.9%)	130 (41.3%)	83 (26.3%)
Improved patient satisfaction scores are a good reflection of safe and high-quality patient care.	11 (3.5%)	17 (5.4%)	29 (9.2%)	135 (42.9%)	124 (39.4%)
Hourly rounding has contributed to better management of patients' pain.	9 (2.9%)	17 (5.4%)	31 (9.8%)	146 (46.3%)	112 (35.6%)
I use scripted statements such as, 'Is there anything else I can do for you? I have the time.'	10 (3.2%)	22 (7.0%)	28 (8.9%)	137 (43.5%)	118 (37.5%)
When I am doing my rounds, I always address my patient's pain level.	7 (2.2%)	14 (4.4%)	32 (10.2%)	141 (44.8%)	120 (38.1%)
When I am doing my rounds, I always address my patients' positions.	4 (1.3%)	12 (3.8%)	24 (7.6%)	135 (42.9%)	139 (44.1%)
When I am doing my rounds, I always address personal needs, such as toileting.	8 (2.5%)	20 (6.3%)	36 (11.4%)	135 (42.9%)	116 (36.8%)
Hourly rounding makes my patients safer by preventing patient falls.	6 (1.9%)	13 (4.1%)	19 (6.0%)	122 (38.7%)	155 (49.2%)
Hourly rounding makes my patients safer by preventing hospital-acquired pressure ulcers.	6 (1.9%)	13 (4.1%)	21 (6.7%)	130 (41.3%)	145 (46.0%)
The education I received included the current research that hourly rounding decreases patient call light use.	9 (2.9%)	19 (6.0%)	28 (8.9%)	127 (40.3%)	132 (41.9%)
I believe that having an hourly rounding resource person or unit-based champion on each shift would help us improve the process.	8 (2.5%)	17 (5.4%)	26 (8.3%)	127 (40.3%)	136 (43.2%)
I believe that hourly rounding is the right thing to do for our patients.	8 (2.5%)	17 (5.4%)	26 (8.3%)	127 (40.3%)	136 (43.2%)

The mean of the participants' total caring scores was high, indicating a strong perception of caring behavior among nurses. The highest mean scores were observed for the items “measuring the vital signs of a patient (e.g., pulse and blood pressure)” ($M = 4.62$, $SD = 0.74$), “providing privacy for a patient” ($M = 4.59$, $SD = 0.77$), and “being technically competent with a clinical procedure” ($M = 4.49$, $SD = 0.78$). These findings suggest that nurses prioritize technical aspects of care, ensuring that vital patient needs are met efficiently and professionally. The emphasis on providing privacy is particularly relevant in healthcare settings where patient dignity and cultural sensitivities play a crucial role. On the other hand, the lowest mean scores were recorded for the items “sitting with a patient” ($M = 3.85$, $SD = 1.05$), “exploring a patient’s lifestyle” ($M = 3.7$, $SD = 1.12$), and “sharing personal problems with a patient” ($M = 2.3$, $SD = 1.58$). The relatively lower scores for psychosocial interactions, such as spending time with patients and learning about their personal lives, may be attributed to high workloads and time constraints, which limit nurses' ability to engage in deeper personal connections with their patients. Additionally, the lowest-rated item, sharing personal problems, aligns with professional nursing boundaries, as nurses are expected to maintain a level of emotional detachment while providing compassionate care (Table 3).

Table 3. Nurses’ responses of the (CDI-25) items.

CDI #	Item	Mean	SD
1	Assisting a patient with an activity of daily living (washing, dressing, etc.)	4.1	1.15
2	Making a nursing record about the patient	4.25	.98
3	Feeling sorry for a patient	3.95	1.04
4	Getting to know the patient as a person	4.00	1.14
5	Explaining a clinical procedure to a patient	4.38	0.87
6	Being neatly dressed when working with a patient	4.5	0.86
7	Sitting with a patient	3.85	1.05
8	Exploring a patient’s lifestyle	3.7	1.12
9	Reporting a patient’s condition to a senior nurse	4.42	0.85
10	Being with a patient during a clinical procedure	4.36	0.83
11	Being honest with a patient	4.47	0.81
12	Organizing the work of others for a patient	4.43	0.8
13	Listening to a patient	4.4	0.82
14	Consulting with a doctor about a patient	4.48	0.79
15	Instructing a patient about an aspect of self-care (washing, dressing, etc.)	4.2	0.91
16	Sharing your personal problems with a patient	2.3	1.58
17	Keeping relatives informed about a patient	4.05	1.0
18	Measuring the vital signs of a patient (e.g., pulse and blood pressure)	4.62	0.74
19	Putting the needs of a patient before your own	4.15	0.97
20	Being technically competent with a clinical procedure	4.49	0.78
21	Involving a patient in his or her care	4.3	0.87
22	Giving reassurance about a clinical procedure	4.42	0.8
23	Providing privacy for a patient	4.59	0.77
24	Being cheerful with a patient	4.39	0.86
25	Observing the effects of a medication on a patient	4.41	0.83

Differences in Nurses' Perceptions of Hourly Rounding According to Selected Variables

The Kruskal–Wallis H test revealed significant differences in nurses’ perceptions of hourly rounding in relation to their working unit $\chi^2(2) = 8.231$, $P = 0.016$. Nurses working in intensive care units (ICUs) reported the highest mean rank ($MR = 568.35$), while those in surgical wards had the lowest mean rank ($MR = 495.17$). This suggests that ICU nurses, who frequently monitor critically ill patients, perceive hourly rounding as more essential compared to nurses in surgical wards, where patients are

generally more stable. Additionally, the t-test showed significant differences in nurses' perceptions according to gender ($t(1062) = -2.14$, $P = 0.032$). Female nurses reported higher mean scores (85.42) compared to male nurses (82.36), aligning with studies suggesting that female nurses tend to prioritize structured care activities, such as hourly rounding, due to their multitasking abilities and attention to detail.

Furthermore, the Kruskal–Wallis H test indicated significant differences based on years of experience $\chi^2(2) = 6.745$, $P = 0.034$. Nurses with more than 10 years of experience had the highest mean rank ($MR = 570.19$), while those with less than 5 years of experience had the lowest mean rank ($MR = 503.28$). This may be due to senior nurses' deeper understanding of the importance of hourly rounding in patient safety and workflow efficiency.

Differences in Nurses' Perceptions of Caring According to Selected Variables

Nurses' perceptions of caring significantly differed according to years of experience and working unit, while no statistically significant differences were found based on gender.

A Kruskal–Wallis H test revealed significant differences in nurses' perceptions of caring based on years of experience, $\chi^2(2) = 6.982$, $P = 0.030$. Nurses with more than 10 years of experience reported the highest mean rank ($MR = 572.48$), while those with less than 5 years of experience had the lowest mean rank ($MR = 498.65$). This suggests that as nurses gain more experience, their perception of caring improves, possibly due to increased confidence, skill development, and deeper patient interactions over time.

Additionally, significant differences were found in nurses' perceptions of caring based on their working units, $\chi^2(2) = 9.154$, $P = 0.010$. Nurses working in intensive care units (ICUs) reported the highest mean rank ($MR = 583.21$), while those in surgical wards had the lowest mean rank ($MR = 502.37$). This difference may be due to the nature of patient care in ICUs, where nurses provide continuous, high-intensity care, fostering a stronger perception of caring. In contrast, surgical ward nurses may focus more on postoperative management, where interactions with patients are structured differently. T-test showed no significant differences in nurses' perceptions of caring based on gender ($t(1062) = -0.84$, $P = 0.401$), indicating that both male and female nurses perceive caring similarly in their practice.

These findings highlight the impact of experience and work environment on nurses' perceptions of caring. Hospitals should consider these factors when designing training programs and policies to enhance the quality of patient care across different units and experience levels.

Discussion

The findings of this study indicate that nurses recognize the importance of hourly rounding in enhancing patient safety, particularly in preventing falls and pressure ulcers. This aligns with previous research emphasizing that structured rounding reduces patient reliance on call bells and allows nurses to proactively address patient needs [23]. However, many participants expressed that documenting hourly rounding is burdensome, which is consistent with studies indicating that documentation requirements increase workload and divert attention from direct patient care [24,25]. The perception that documentation is a low priority may stem from time constraints and a lack of streamlined processes. Furthermore, there was a notable lack of continuous support and resources after the implementation of hourly rounding, reflecting concerns about the role of leadership in sustaining this practice [25,26]. Without visible administrative support, nurses may struggle to integrate hourly rounding consistently into their workflow.

Regarding caring behaviors, the study found a high perception of caring among nurses, particularly in technical aspects such as measuring vital signs. This finding supports the notion that vital sign assessment is an integral part of nursing practice and patient monitoring [27, 28]. Providing privacy was also highly ranked, likely due to cultural and religious influences emphasizing respect for patient dignity [29]. Additionally, professional appearance was considered an important aspect of caring, consistent with studies highlighting its role in patient perceptions of competence and professionalism [9]. Conversely, psychosocial aspects of nursing, such as sitting with patients and exploring their lifestyle, were ranked lower, which aligns with previous research suggesting that heavy workloads limit nurses' ability to engage in these interactions [27]. The lowest-ranked item, sharing personal problems with patients, reflects the professional boundary nurses maintain in their relationships with patients.

Significant differences were found in nurses' perceptions of hourly rounding based on work unit, gender, and experience. ICU nurses reported the highest perception of hourly rounding, likely due to the critical need for continuous patient monitoring, whereas surgical ward nurses had the lowest. Female nurses had a higher perception of hourly rounding than male nurses,

consistent with studies suggesting that female nurses are more detail-oriented and structured in their approach to patient care [30]. Additionally, experienced nurses had higher perceptions of hourly rounding, possibly due to their deeper understanding of its role in patient safety and workflow efficiency.

In terms of caring perceptions, experienced nurses and ICU nurses demonstrated the highest scores, supporting the idea that extensive patient interaction and clinical experience enhance caring behaviors [31]. Unlike hourly rounding perceptions, no significant gender differences were found in caring perceptions, suggesting that both male and female nurses value caring behaviors equally. Additionally, a positive correlation was observed between perceptions of hourly rounding and caring, reinforcing previous studies that suggest a strong link between structured nursing interventions and patient-centered care [15].

These findings highlight the need for stronger leadership support, streamlined documentation processes, and enhanced training programs that emphasize the balance between technical and psychosocial aspects of patient care. Future research should explore strategies to integrate hourly rounding more effectively and examine its impact on both nurses and patient satisfaction.

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