Review Article

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A Quantitative Systematic Review of Nurses' Caring Behaviour: A Comparison of Nurses' and Patients' Perspectives

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ABSTRACT

Background: Caring is a fundamental nurse's behavior that may affect patient satisfaction and quality of care. **Objectives:** This quantitative systematic review aims to explore and synthesize evidence comparing perceptions of nurses' caring behavior from nurses' and patients' perspectives and the influencing factors of these perceptual differences across diverse healthcare settings. **Methods:** A systematic search was conducted in January 2026 in CINAHL, PubMed, and Scopus, following the PRISMA 2020 framework. Peer-reviewed quantitative studies published in English between January 2013 and January 2026 were included in this review. A total of 864 records were identified; 77 were screened, and 14 cross-sectional comparative studies met the inclusion criteria. Methodological quality was assessed using the Joanna Briggs Institute Critical Appraisal Checklist, and the findings were synthesized using a narrative approach. **Results:** Overall, this review revealed a positive perception of nurses' caring behavior by both nurses and patients. Higher perceptions of caring behavior were found among nurses than patients in eight studies. Both nurses and patients prioritize technical proficiency, clinical competence, and physical safety, but the perceptual divergence emerges in the execution of relational and affective care. Demographic factors showed limited and inconsistent associations with caring perceptions, with only 4 studies identifying that clinical setting, patient age, and prior hospital experience influence specific caring domains. **Conclusion:** Overall, this review indicates a perceptual gap between nurses and patients related to nurses' caring behavior. Future reviews could benefit from studies using mixed-method designs to provide deeper insight into the lived experiences of caring and to examine other influencing factors.

Keywords: Caring Behavior; Caring Perception; Nurses; Systematic Review, Patient Perception

INTRODUCTION

The role of nurses transcends mere scientific procedures that embody compassion, empathy, and a profound commitment to enhanced patient outcomes. Central to this role is the nurses' caring behavior that contributes to overall healthcare efficacy (Alikari *et al*., 2023). However, the concept of caring has remained complex and subjective since the late nineteenth century. Ranging from Swanson's Theory of Caring to Watson's Grand Theory of Human Caring, the theoretical basis of caring was explored and focused on concrete facts and illustrative examples to explain what caring behavior means. Numerous definitions highlight the fact that there is a range of perspectives regarding caring behaviors. Additionally, scholarly works of literature strive to explore this concept from various contexts related to professional nursing practice (Jafari *et al*., 2020). In the contemporary nursing context, theories of caring continue to evolve, emphasizing transpersonal caring concepts in home care settings to address the patients' sociocultural needs (Tonin *et al*., 2025).

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There is no nursing without caring (Watson, 2008). Caring was perceived as the nurse-patient relationship, protection and support, nurses' intervention, and aspects linked to biological and psychological factors (Keresi *et al*., 2019; Vujanić *et al*., 2022). Caring for transpires in therapeutic relationships where patients appreciate constant expression of care (Lee *et al*., 2022). Recent studies agreed that caring is the combination of technical skill, passion, and empathetic behavior of the nurses that significantly improves patients' satisfaction (Apostolidi *et al.,* 2022; Alikari *et al*., 2023; Mohammed *et al*., 2024). Nurses' caring shapes the conditions and environment, which leads to positive patient experience, especially those with chronic conditions, and is associated with improved clinical outcomes (Hämel *et al*., 2022; Tunsi *et al*., 2023).

The caring perceptions and the level of caring behavior vary across studies. Nurses define caring as their professional responsibility, with technical competency being the core aspect (Jafari *et al*., 2020; Alikari *et al*., 2023). Meanwhile, patients, as the care recipient, value emotional connectedness and emphasize the relational aspect of care from nurses (Alikari *et al*., 2023; Cheruiyot & Brysiewicz, 2019; Vujanić *et al*., 2022). In most studies, nurses' perceived level of caring was higher compared to patients and family members (Jafari *et al*., 2020; Alikari *et al*., 2023). A recent study in Ethiopia found that poor patients' perceptions of nurse caring behaviors, specifically citing limited time spent with nurses and long waiting times as primary constraints (Ewunetu *et al*., 2025). These diverse perceptions across groups are apparently significant. Moreover, caring perceptions were found to be influenced by the demographic attributes, and prior caring experiences and significant relationships were evident between patient satisfaction and nurses' caring behavior (Ahmed *et al*., 2022; Arsat *et al*., 2023; Ku & Yu, 2024; Mohammed *et al*., 2024). Recent evidence reported that nurses with higher levels of professional knowledge and positive attitudes demonstrate significantly higher caring behaviors (Essien-Aleksi *et al*., 2026).

The professional nursing context requires one to be highly knowledgeable, skillful, and compassionate in delivering nursing care, encompassing not only clinical proficiency but also the human connection that defines quality care. However, nurses were reported to become less caring when they are emotionally challenged (Carnesten *et al*., 2022; Meneghini *et al*., 2024). Certain clinical circumstances, such as increased workloads, time pressures, extensive documentation, and insufficient training, further complicate the sustainability of caring behavior (Waterfield & Barnason, 2022; Arsat *et al*., 2023). Further complicating the caring behavior is the current healthcare landscape, marked by systemic pressures from an aging population with multimorbidity and resource constraints. Therefore, as healthcare systems evolve, understanding and enhancing nurses' caring behavior becomes increasingly critical.

This systematic review seeks to explore and synthesize existing quantitative literature on caring behavior among nurses. The review aims to determine the differences between nurses' and patients' perceptions of caring behavior in healthcare settings and identify the contributing factors leading to perception differences. The findings may elucidate the multifaceted impact of nurses' caring behavior and identify avenues for further research and improvement.

METHODOLOGY

This systematic review was guided using the PICO framework: (P) registered nurses and patients in clinical settings as the population, (I) the issue of perceptions of nurses' caring behavior, (C) the comparison between nurses' and patients' perceptions, and (O) the identified differences in caring behavior perception and factors influencing the diverse perception. The protocol was registered under PROSPERO, International Prospective Register of Systematic Reviews (ID: CRD420261367895). The article selection uses the PRISMA framework for systematic review and meta-analysis (Page *et al*., 2021) (Figure 1). The literature search was conducted in January 2026 using Cumulative Index to Nursing and Health-Related Literature (CINAHL), Scopus and PubMed. To expand the search and to find as many relevant articles as possible, Google Scholar was also used. 864 articles were found from the primary search descriptors of "nurses" and "caring behaviour" used. Expanding the search, medical subject headings (MeSH) and text words for each keyword and database were applied. To ensure reproducibility, the search string used for PubMed were ("Empathy"[Mesh] OR "caring behavior*"[tiab] OR "caring behaviour*"[tiab] OR "caring attitude*"[tiab] OR "caring perception*"[tiab] OR "nurse caring"[tiab] OR "nurses caring"[tiab]) AND ("Nurses"[Mesh] OR nurse*[tiab]) AND ("Patients"[Mesh] OR patient*[tiab]) AND ("2013/01/01"[dp] : "2026/01/31"[dp]) AND English[la]

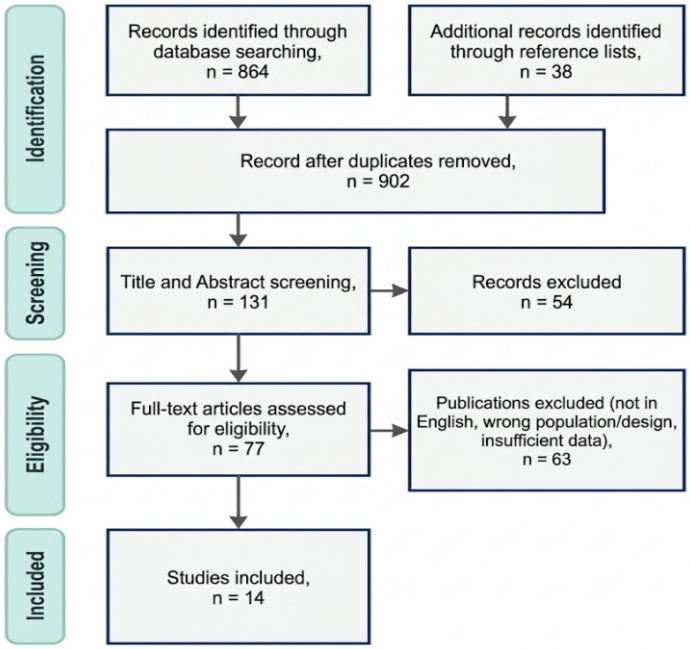


Figure 1: PRISMA Flow Diagram

Inclusion and exclusion criteria

Searches were limited to peer-reviewed articles and English publications between January 2013 and January 2026. Original articles employing quantitative design, including cross-sectional, cohort, or comparative designs among registered nurses and patients within any formal clinical healthcare settings with no geographical restrictions, were included in the review. All published articles reporting the differences in perception scores using validated psychometric scales providing explicit mean difference scores, rankings, or associated statistical factors influencing these perceptions were included to meet the review objectives. Meanwhile, review papers, editorials, and protocols were excluded to ensure the findings are based on raw, verifiable data. Studies that captured single perspectives without any comparative analysis were excluded to maintain focus on the perceptual gap in nurses' caring behavior. All qualitative studies were also excluded to maintain the review's objective of quantifying caring behavior and its numerical determinants.

Data extraction and synthesis

Data extraction was performed independently by the first and second authors. A standardized data extraction form that included author, year published, country, clinical setting, sample size (nurses vs. patients), instrument used, main findings (perception scores), and identified predictive factors was used to ensure consistency. All disagreements were resolved through consensus, and consultation with the third author was made accordingly. Initial searching yielded 864 records from CINAHL, PubMed, Scopus, and Google Scholar, with 38 additional records identified through reference chasing (total n = 902). Following automated and manual deduplication, 771 duplicates were removed, leaving 131 unique records.

Title and abstract screening, as well as full-text assessments, were performed independently by two reviewers. Inter-rater reliability was tracked using Cohen's kappa (κ=0.86 for title/abstract screening; κ=0.91 for full-text eligibility). Disagreements were resolved via consensus with a third independent reviewer. A total of seventy-seven full-text articles were evaluated; 63 were excluded due to non-comparative designs (n=28), qualitative/mixed methodologies (n=19), insufficient quantitative or psychometric data (n=11), and non-English language (n=5), resulting in 14 included studies.

The narrative synthesis was conducted guided by a structured framework (Popay *et al*., 2006) due to substantial heterogeneity in the review, which does not permit a quantitative meta-analysis. All data were then

systematically grouped accordingly to meet the review objectives: (i) the quantitative differences between patient and nurse perception scores, (ii) the highest and lowest caring domains perceived by both groups, and (iii) associated factors for caring. The findings were subsequently analyzed by comparing directionality, significance levels, and score ranges across studies to derive overarching conclusions.

Quality Appraisal

Included articles were critically appraised for their methodological quality by all authors using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Moola *et al*., 2020). Each article was evaluated across eight domains: clearly defined inclusion criteria, detailed description of subjects and setting, valid/reliable exposure measurement, objective and standard condition measurement, identification of confounding factors, stated strategies for handling confounders, valid/reliable outcome measurement, and appropriate statistical analysis. Studies were categorized as High Quality (Low Risk of Bias: 70–100%), Moderate Quality (Moderate Risk of Bias: 50–69%), or Low Quality (High Risk of Bias: <50%). The overall strength of evidence was interpreted contextually based on these ratings, with sensitivity considerations applied during synthesis, in which findings from low-quality studies were downgraded in weight when formulating the conclusions. Discrepancies in appraisal scores were resolved through discussion and consensus among all authors.

Table 1: Quality Appraisal Scores for Selected Studies

Author (year)	**Domains of the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies**								**Score**
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	
Alikari *et al*. (2023)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Asadi *et al*. (2023)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Aupia *et al*. (2018)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Calong & Soriano (2018)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Delmas *et al*. (2020)	Y	Y	Y	Y	Y	N	Y	Y	7/8 (87.5%)
Gaber *et al*. (2023)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Hajinezhad & Azodi (2014)	Y	Y	Y	Y	Y	Y	Y	Y	8/8 (100.0%)
Hashempour *et al*. (2023)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Jafari *et al*. (2020)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Karlou *et al*. (2015)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Kiliç & Öztunç (2015)	Y	Y	Y	Y	Y	Y	Y	Y	8/8 (100.0%)
Ogugu *et al*. (2015)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Sossong & Poirier (2013)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)
Vujanić *et al*. (2022)	Y	Y	Y	Y	N	N	Y	Y	6/8 (75.0%)

RESULTS

All studies included in the review utilized a descriptive, cross-sectional comparative design. The structural and methodological standards across all studies are uniform and classified as High Quality (Low Risk of Bias), with appraisal scores consistently ranging from 75% to 100%. The perceived nurses' caring behavior was measured using established instruments grounded in Watson's Theory of Human Caring, with validated psychometric variations that range from the Caring Behaviors Inventory (CBI-42, CBI-24, CBI-16), the Caring Behavior Inventory for Elders (CBI-E), the Caring Nurse-Patient Interaction (CNPI-70), and the

Caring Behavior Assessment (CBA). The instrument's internal consistency was met in all studies, with Cronbach's alpha ranging from 0.7 (Aupia *et al.,* 2018) to 0.98 (Delmas *et al.,* 2020).

Incongruence Between Nurses' and Patients' Perceptions of Caring Behaviors

Overall, the review reveals a global trend in perceptions towards nurses' caring behavior between the two groups of nurses and patients. Although a high level of nurses' caring behavior was reported in general, perceptual divergence exists. In most studies, nurses reported higher perceived caring scores compared to patients. The finding was statistically significant in six out of the eight studies that observed this trajectory (Calong & Soriano, 2018; Gaber *et al*., 2023; Hajinezhad & Azodi, 2014; Hashempour *et al*., 2023; Kiliç, 2015; Ogugu *et al*., 2015). Two studies reported specific caring domains with limited statistical significance (Alikari *et al.,* 2023; Sossong & Poirier, 2013). On the contrary, an inverse pattern was observed in four studies, in which patients reported significantly higher perceptions of nurses' caring behavior than nurses themselves (Delmas *et al*., 2020; Jafari *et al.,* 2020; Karlou *et al*., 2015; Vujanić *et al*., 2022), and in the remaining two studies, the overall score differences were found to be non-significant (Asadi *et al*., 2023; Aupia *et al.,* 2018).

Perceived Important Caring Domains

In the quantitative measures of most instruments, caring behavior was divided into a few domains. Studies using CBI compared caring domains within their samples using "Assurance of Human Presence," "Knowledge and Skill," "Respectful Deference to Others," and "Positive Connectedness." A similar perception in caring domains was evident, while a clear, systematic pattern emerged regarding what nurses prioritize and what patients value. Across multiple instruments used to measure caring perceptions, the technical domain (knowledge and skills) was strongly consistent, scoring the highest among nurses (Aupia *et al*., 2018; Gaber *et al*., 2023; Jafari *et al*., 2020; Karlou *et al*., 2015). In contrast, patients consistently prioritize the affective domain, such as "Positive Connectedness," "Assurance of Human Presence," and emotional support (Aupia *et al*., 2018; Karlou *et al*., 2015; Kiliç, 2015; Ogugu *et al*., 2015). Patients highly valued nurses' expressive behaviors, including "hope and spirituality," "active sensitivity and undivided attention," and "nurses returning to check on them voluntarily" (Ogugu *et al*., 2015; Aupia *et al*., 2018; Delmas *et al*., 2020). These findings reveal a critical misalignment in the therapeutic relationship. While nurses view caring through their professional obligations and individual morality (Karlou *et al*., 2015; Kiliç, 2015), nurses' scores are significantly lower in the affective domains that patients value most (Karlou *et al*., 2015; Aupia *et al*., 2018; Delmas *et al*., 2020; Vujanić *et al*., 2022; Gaber *et al*., 2023).

Factors Affecting Caring Perception among Nurses and Patients

The evidence to predict the contributing factor of nurses' caring behavior was found to be limited in only six studies, which has limited the generalization. However, the synthesis of scarce data provided evidence of demographic attributes as weak predictors, whereas environmental and experiential factors were significant predictors of nurses' caring behavior from both group perceptions. In most studies, the nurses' attributes of age, gender, level of education, marital status, workplace, working experience, and place of residence did not influence their caring perceptions (Asadi *et al*., 2023; Vujanić *et al*., 2022). However, a study reported that female nurses were found to significantly report higher overall caring scores and domain of assurance of human presence (Hashempour *et al*., 2023). In addition, a significant influence of nurses' clinical area of work towards their caring perception was found (Sossong & Poirier, 2013). Meanwhile, patients' perception of nurses' caring behavior was not affected by their age, gender, level of education, place of residence, type of disease, hospitalization experience, frequency of being hospitalized, and length of stay (Vujanić *et al*., 2022). Karlou *et al*. (2015) found a significant association between nurses' marital status, patient education, and prior hospitalization with perceived caring scores (p<0.05). Patients' age was found to be associated with caring domain perception, which was respectful deference and positive connectedness (Aupia *et al*., 2018). Moreover, previous positive hospital experience increases the caring overall score and all caring domains,

while the medical diagnosis increases the score in the "knowledge and skill" domain (Hashempour *et al*., 2023). A study also found that the clinical area of hospitalization influences the patients' perception of overall caring behavior of nurses (Sossong & Poirier, 2013).

Table 2: Characteristics of Included Studies (n=14)

Serial No.	Author, year	Design	Instrument	Results
1.	Asadi *et al.* (2023)	Cross-sectional descriptive comparative - ICU settings, Iran - 70 nurses (census) - 70 elderly patients (purposive)	Caring Behavior Inventory for Elders (CBI-E)	- Overall, high perception of caring behaviors across both nurses and elderly patients - Overall caring score (p = 0.38); Nurses: 83.80 (SD 22.93), Patients: 80.09 (SD 26.00) - Highest scored item from both: "responding quickly to a patient's call" - Lowest scored item from both: "patient participation in the caring process" - Significant difference where nurses scored higher than patients (p<0.05) • *Listening to patients, helping patients and families with decision - making, meeting patients' needs before being asked, respect for privacy, concern about patients' interests, pain management* - No significant difference (p>0.05) in caring perceptions based on demographic backgrounds of both groups
2.	Alikari *et al*. (2023)	Cross-sectional descriptive comparative - six public general hospitals in Greece - 329 nurses - 310 hospitalized patients	Caring Behaviors Inventory-16 (CBI-16) Greek version	- Overall, high perception of caring behaviors across both groups - Mean CBI-16 score; Nurses: 80.27 ± 9.36, Patients: 78.94 ± 17.85 - Perceived Important Caring Behaviors • Nurses: *Treating patients' information confidentially, treating patients as individuals, giving treatments and medications on time* • Patients: *demonstrating professional knowledge and skills, treating information confidentially, giving treatments and medications on time* - Perceived Least Important Caring Behaviors • Nurses: *Returning to the patient voluntarily, spending time with the patient* • Patients: *Including patients in planning care, treating patients as individuals* - Statistically significant differences in caring domain perception, with nurses rating them higher than patients (p<0.05) • *Attentively listening to the patient, treating the patient as an individual, being empathetic, responding quickly to patient calls*
3.	Aupia *et al.* (2018)	Descriptive comparative cross - sectional - A public hospital in Indonesia - 53 nurses - 53 patients	Caring Behavior Inventory-42 (CBI-42)	- No significant difference in total caring behavior scores among nurses and patients (p > 0.05) - Highest caring domain perceived by both groups: *Knowledge and Skills* - Lowest caring domains perceived by both groups: *Attentiveness* - Patients' age was positively correlated with: Respect (r = 0.28, p < 0.05), Connectedness (r = 0.31, p < 0.05)
4.	Calong & Soriano, (2018)	Descriptive correlational - Three hospitals in Manila, Philippines - 47 nurses - 101 medical surgical - patients - Purposive sampling	Caring Nurse-Patient Interaction Scale (CNPI-70)	- Nurses rated their own caring behaviors significantly higher than patients did (p < 0.05). - Nurses perceived comforting care as the most frequently demonstrated behavior, whereas patients rated clinical care as the highest. - Relational care was rated lowest by both groups. - Despite lower ratings than nurses, patients reported being satisfied with nursing care, particularly in patient education and trust. - A significant positive relationship was found between patients' perceived caring behaviors and patient satisfaction (ρ = 0.203, p = 0.042).
5.	Delmas *et al.* (2020)	Comparative descriptive cross - sectional - 10 haemodialysis unit, Switzerland - 202 patients and 115 nurses (convenience sampling)	Caring Nurse–Patient Interaction Scale (CNPI-70)	- High frequency of caring attitudes and behaviors across most dimensions among nurses and patients - Patients rated caring behaviors significantly higher than nurses on all dimensions except spirituality (p<0.05) - The highest-rated dimensions for both groups included humanism, helping relationships, environment, and needs. - Spirituality received the lowest ratings, patients scoring it significantly lower than nurses (p<0.05).
6.	Gaber *et al.* (2023)	Cross-sectional comparative study - Stockholm, Sweden - women in homelessness (WIH) (n = 37), Registered Nurses (n = 92) (convenience sampling)	Caring Behaviors Inventory–24 (CBI-24)	- Overall caring score (p<0.01); WIH (Mean=4.1±1.1), Nurses (Mean=5.2+0.5) - Highest caring score for "Knowing how to give shots, IVs, etc." from both groups - Lowest caring score for "Helping the patient to grow" from both groups - Significant differences existed between both groups in overall and domain scores (p < 0.001). - Instrumental caring behaviors (knowledge, technical skills) were rated higher than expressive behaviors (connectedness, growth).
7.	Hajinezhad & Azodi (2014)	Cross-sectional descriptive - comparative study - Medical and surgical wards in hospitals in Bushehr, Iran - Patients: n = 150; Nurses: n = 50 (convenience sampling)	Caring Behaviors Inventory (CBI-42)	- Total Caring Behaviors Score (p<0.05); Patients (Mean = 4.89±0.97), Nurses (Mean = 5.16+0.52) - Highest domain rated by nurses: *Human presence* and *Other's experience* - Highest domain rated by patients: *Knowledge and skill* and *Other's experience* - Lowest domain rated by nurses: *Positive connectedness* - Lowest domain rated by patients: *Positive connectedness* and *Respectful deference to others* - Significant differences were found in: Human presence (p < 0.001), Other's experience (p = 0.002)

8.	Hashempour *et al*. (2023)	Descriptive-comparative cross-sectional study - Oncology Departments in Iran - Patients undergoing chemotherapy: n = 97, Oncology nurses: n = 39 (convenience sampling)	Caring Behaviors Inventory (CBI-24)	- Total Caring Behaviors Score (p<0.05); Patients (Mean = 4.64±0.87), Nurses (Mean = 5.02±0.47) - Nurses' highest-rated subscale: *Assurance of human presence* (5.18 ± 0.55), Patients' highest -rated subscale: *Knowledge and skill* (4.91 ± 0.89) - Lowest-rated subscale by both groups: *Positive connectedness* - Associated factors among nurses • Gender correlated with *Assurance of human presence* (p = 0.02) and *Overall caring behaviors* (p = 0.04) • Female nurses scored higher than male nurses; Assurance of human presence: 5.25 ± 0.49 vs 4.65 ± 0.69 - Associated factors among patients • Previous hospitalization experience showed significant positive correlations in overall caring score and across all caring dimensions (p<0.05) • Medical diagnosis was associated with knowledge and skill dimension (p<0.05) and highest scores in respiratory cancer patients: 5.32 ± 0.91
9.	Jafari *et al*. (2020)	Comparative descriptive cross - sectional study - Imam Khomeini Hospital, Khalkhal, Iran - Patients: n = 200, Nurses: n = 60 (simple random sampling)	Caring Behavior Inventory (CBI-42)	- Overall Caring Behavior Score (p<0.05); Patients (Mean = 5.42±0.94), Nurses (Mean = 5.30±0.59) - Highest-rated dimension by both group; *Professional knowledge and skills* (p>0.05) - Lowest-rated dimension by both group; *Positive communication and orientation* (p>0.05) - Both nurses and patients prioritized technical competence over relational and communication aspects of care.
10.	Karlou *et al.* (2015)	Descriptive, correlational study, with cross-sectional comparisons - Three cancer hospitals in Attica, Greece - Patients: n = 138, Nurses: n = 72 (convenience sampling)	Caring Behavior Inventory-24 (CBI-24)	- Nurses generally rated their own caring behaviors lower than patients (p < 0.05) - Highest Rated Behaviors: All groups agreed on technical skills, such as *"Knowing how to give shots, IVs, etc."* - Least rated behaviors by both groups: *"Including the patient in planning his or her care"* and *"Discussing with the patient"* - Married nurses rated caring behaviors higher than single, divorced, or widowed colleagues (p < 0.05) - Patients with primary education reported more positive perceptions in *"Assurance of Human Presence"* and *"Positive Connectedness"* compared to those with university degrees (p < 0.05) - Hospitalization History: Patients with previous hospitalization rated *"Knowledge and Skills"* significantly lower than first-time patients (p<0.05).
11.	Kiliç & Öztunç (2015)	Comparative descriptive cross-sectional study - University hospital, Turkey - Patients: n = 270, Nurses: n = 78 (convenience sampling)	Caring Behavior Inventory-24 (CBI-24)	- Overall Caring Behavior Score (p<0.05); Patients (Mean = 5.08± 0.97), Nurses (Mean = 5.28 ±0.45) - Perceived Important Caring Domain: Nurses: *Knowledge and skill,* Patients: *Assurance* - Perceived Least Important Caring Domain by both groups: *Positive Connectedness*, - In domain of Respectful Deference: Patients prioritized "attentively listening," whereas nurses prioritized "treating the patient as an individual" - In domain of Assurance: Patients prioritized "giving treatments and medications on time," while nurses focused on "reducing the patient's pain" - In domain of Connectedness: Both groups agreed "being patient or tireless" was the most privileged behavior
12.	Ogugu *et al*. (2015)	Cross-sectional descriptive - Kenyatta National Hospital in Kenya - Patients; n = 348, Nurses: n = 190 (convenience sampling)	Caring Behaviors Assessment (CBA)	- Significant incongruence between the two groups with nurses generally rated higher scores across most subscales (p<0.05) - Perceived Important Caring Behaviors • Nurses: *"Treat patient as an individual"* and *"Know how to give injections, IVs"* • Patients: *"Give me treatments and medications on time"* and *"Help me with my care until I am able to do it for myself"* - Both groups rated the least in the *Helping/Trust and Spiritual/Existential* subscales
13.	Sossong & Poirier (2013)	Comparative cross-sectional descriptive - Medical centre, United States of America - Patients: n = 228, Registered nurses: n = 216	CBI-Elderly (CBI-E)	- Generally, nurses scored higher than patients, notably high in *"Responding quickly to your call"*, "*Checking on you"* and "*Managing your pain"* - Both groups rated high in interpersonal behaviors, such as helping patients feel comfortable, being pleasant, and protecting privacy/safety - Both groups rated low scores in behaviors related to decision-making, spiritual needs, and *"appreciating my life story"* - Significant difference in caring perception (p<0.05) from those in rehabilitation, oncology and respiratory units
14.	Vujanić *et al*. (2022)	Cross-sectional study - Clinical Hospital Center (CHC), Republic of Croatia - Patients: n = 291, Nurses, n = 155	Caring Nurse–Patient Interactions Scale (CNPI-70)	- Overall Caring Behavior Score (p<0.05); Patients (Mean = 4.39± 0.48), Nurses (Mean = 4.17 ± 0.46) - No significant differences were found between nurses and patients in the subscales of "Environment" and "Spirituality" - Both patients and nurses attached the highest importance to the "Needs" subscale, focusing on physical assistance and dignified care (p<0.05) - Least important caring beahviour; Patients: "Problem-solving" (Mean = 4.28±0.74), Nurses: "Sensibility" (Mean = 3.86±0.64) (p<0.05) - Sociodemographic factors significantly does not influence the caring perceptions between both groups

DISCUSSION

Generally, the review demonstrated that nurses' caring behavior was perceived as positive and at a high level. Despite variation in the clinical contexts across the instruments used, the shared perception reinforces the

view that caring is a fundamental behavior in nursing practice (Hynnekleiv *et al*., 2024). In addition, the consistency of perceived overall caring behavior across studies may have been strengthened by the use of instruments that were grounded in Watson's theory. The cross-cultural difference in overall perception was not evident in this review, as common international perspectives on the universality concept of caring are apparent (Permana *et al*., 2024). A distinct pattern in overall caring scores was observed despite overall positive perceptions, suggesting incongruence in perception among nurses and patients regarding the concept of caring. The perceptual gap may be associated with how caring is conceptualized, taught, and operationalized across healthcare settings and cultural contexts (Aupia *et al*., 2018; Asadi *et al*., 2023). However, since the included studies in the current review were predominantly cross-sectional, this may have limited these factors as established determinants.

In six studies, nurses' self-perceptions of caring were significantly higher than patients' perceptions, and significant differences in ratings were observed in more than half. A probable justification for higher scores is that nurses perceived their professional responsibility, such as carrying out interventions and routine duties, as the core element of their caring behavior rather than the relational aspect (Jafari *et al*., 2020; Alikari *et al*., 2023). Even though in only four studies, patients rated higher than nurses themselves, the variation suggests the influence of professional and experiential perspectives. Nurses who are morally stressed may undervalue their caring behavior, and some patients appreciate visible acts of caring. Recent evidence indicates that caring is a critical factor for nurses' resilience. While nurses with professional satisfaction were more likely to highly perceive caring behaviors, their greater empowerment of humanistic caring practice was reported to have significantly lower turnover intention (Tesema *et al*., 2025; Nal *et al*., 2026).

These review findings highlight the multidimensional nature of caring that combines technical competence, emotional connectedness, passionate care, and empathetic behavior to increase patients' satisfaction (Apostolidi *et al.,* 2022; Alikari *et al*., 2023; Mohammed *et al*., 2024). Both groups perceived technical competence and patient safety as the most important caring dimension. However, the persistent perceptual gaps in caring domains between nurses and patients highlight a misalignment in how caring is perceived and prioritized. It can be observed through the difference in highly rated caring domains across all studies. While nurses focus on their knowledge and clinical skills, patients put more value on communication, attentiveness, humanistic care, and emotional connectedness. One possible explanation for the greater emphasis on technical aspects of caring among nurses is the influence of organizational factors such as workload, time constraints, and task-oriented clinical environments. Although several studies have discussed these factors, the cross-sectional nature of the available evidence prevents conclusions regarding their causal effects on caring perceptions (Ahmed *et al*., 2022; Waterfield & Barnason, 2022; Arsat *et al*., 2023; Mohammed *et al*., 2024). In opposition, patients in several studies perceived emotional and relational aspects of caring as important behavior. The actions that include spending time with patients, offering spiritual support, and demonstrating authentic concern were consistently raised as meaningful indicators that reinforce the caring concept that patients view caring primarily through interpersonal engagement. These review findings suggest the importance of the therapeutic relationship, with constant.

Expression of care (Keresi *et al*., 2019; Lee *et al*., 2022). These findings suggest that caring is a multidimensional construct. Technical competence must be balanced with expressive, relational caring, as task-oriented care may limit interpersonal communication, creating emotional distance, which may diminish patient trust. Consequently, they may impose a significant economic toll on healthcare systems (Dorisnita *et al*., 2026). Furthermore, nurses need to be empowered with humanistic care to bridge this gap, reduce turnover intention, and foster a more stable, resilient healthcare environment (Nal *et al*., 2026).

The review focused on synthesizing the evidence on factors affecting nurses' caring behavior; however, the evidence remains limited. In addition, the demographic non-significance findings suggest that caring perception is an intrinsic human experience, with limited evidence pointing toward situational and environmental determinants. Only two studies reported on the significant influences of gender and work areas on nurses' perceptions of caring (Sossong & Poirier, 2013; Hashempour *et al*., 2023). Traditionally, nursing is a female-dominated profession, and increased emotional sensitivity among females may support this notion of gender influence. Female nurses are more empathetic and compassionate compared to their male counterparts

(Hashempour *et al*., 2023). However, the limited number of male nurses participating in the study may suggest that the influence of gender on nurses' caring behavior is less robust, and further exploration is therefore necessary.

Meanwhile, diverse clinical settings can define varying patient acuity and needs; hence, nurses' work environment may directly influence their caring behavior. Recent studies have argued that caring remains a core value across all areas of nursing practice, despite diverse clinical demands and environments (Babapour *et al*., 2022; Maghsoud *et al*., 2022). In addition, more studies may examine how nurses' internal drivers further influence their caring behavior, as evidenced by a recent study that found that emotional intelligence (EI) is a powerful predictor of variation in caring practices among nurses (Dorisnita *et al*., 2026).

Conversely, while most demographic factors did not influence the patients' perception, age was found to be linked to caring domains of respectful deference and positive connectedness, in which elderly patients reported higher scores in these domains (Aupia *et al*., 2018). It is understandable that patients who are old demand respect from nurses who are predominantly younger than them. Moreover, it could be related to the embedded cultural aspect that shapes the norm of respect. Few studies found the influence of positive hospital experience, medical diagnosis, and area of hospitalization that increases the caring overall score and most caring domains (Sossong & Poirier, 2013; Hashempour *et al*., 2023). Apparently, nurses working in different areas may have different levels of caring behavior and thus shape patients' perceptions. Some patients may have great experiences with nurses who cared for them, but some may have encountered those who are less caring, leading to reduced caring perception. As for medical diagnosis, patients with chronic illness require frequent hospitalization, and as they went through their treatment journey, they may have further developed their understanding of the clinical environment and the challenges that nurses were facing. Frequent nurse-patient interactions may provide greater opportunities for relationship-building and mutual understanding, which could be associated with more favorable perceptions of caring. Nevertheless, this interpretation remains speculative because temporal relationships cannot be established from cross-sectional data.

Limitations

A primary limitation of the current review paper is the methodological heterogeneity across all studies. While the included studies were identified as high-quality during quality checking and appraisal, variations exist. Cultural differences across studies may have contributed to a limited understanding and expression of caring behavior, thereby influencing perceptions. At the same time, varied instruments may use different scoring systems, affecting the consistency and comparability of findings across studies. In addition, causal inferences are limited, as they rely only on cross-sectional comparative studies and do not adequately identify or statistically control for potential confounding variables. Only a small number of studies applied multivariable analytical approaches, while the majority relied on bivariate analyses. Therefore, the influence of demographic, clinical, and environmental factors on caring perceptions should be interpreted with caution, as unmeasured confounding may have affected the reported associations.

Future Scope

Future review can benefit from including studies with longitudinal designs to evaluate how caring perceptions evolve over time. Studies evaluating the confounding factors that look beyond participant demographics may synthesize the impact of nurse-patient ratios, systemic pressures, and work satisfaction towards nurses' caring behavior.

CONCLUSION

This current review aims to discover the difference in caring perception among nurses and patients. While nurses were generally perceived as caring, an incongruent perception in the specific domain of caring remains prominent across studies. Nurses put greater emphasis on technical competence encompassing knowledge and skills across the globe, while patients value relational and emotional aspects of care the most. The review findings suggest the need for ongoing training and guidelines for nurses incorporating communication skills and a holistic care approach in addressing the patients' needs that may eventually enhance their perceptions in these areas of care. The perceptual gaps identified may provide evidence for

healthcare organizations to identify the confounding factors of work pressures and staff shortages that may have limited nurse-patient interactions. Further on, regular assessments of nurses' caring behavior may benefit nurses and the institution with valuable feedback for initiatives in aligning professional practice with patients' expectations. Future review could benefit from studies with mixed-methods designs for a deeper insight into patients' and nurses' lived experiences of caring. In addition, examining other factors such as organizational and environmental factors that may influence caring behavior and cross-cultural comparative studies to enhance understanding of how cultural values shape perceptions of caring is a way forward.

Credit Authorship Contribution Statement

N.S.: contributed to the original concept of the review paper, methodology, screening and extraction, writing the original draft, editing, and preparing the final manuscript. **Z.M.S.:** screened and reviewed the selected articles, assisted in data extraction, and checked the first review draft. **A.A.:** validated the reviewed findings during article screening and extraction discrepancies. All authors have read and agreed to the published version of the manuscript.

AI Assistance Declaration

This paper uses AI assistance (Gemini) during manuscript preparation and revision to optimize the language structure and the layout formatting of summary tables. All authors thoroughly reviewed, verified, and edited all generated material to ensure the accuracy and clarity of the review against the primary data and are fully responsible for the integrity of the published work.

Conflict of Interest

The authors declare that they have no competing interests.

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REFERENCES

Ahmed, F. R., Saifan, A. R., Dias, J. M., Subu, M. A., Masadeh, R., & AbuRuz, M. E. (2022). Level and predictors of caring behaviours of critical care nurses. *BMC Nursing, 21*(1), 341. https://doi.org/10.1186/s12912-022-01125-4

Alikari, V., Gerogianni, G., Fradelos, E. C., Kelesi, M., Kaba, E., & Zyga, S. (2023). Perceptions of caring behaviors among patients and nurses. *International Journal of Environmental Research and Public Health, 20*(1), 396. https://doi.org/10.3390/ijerph20010396

Apostolidi, T. P., Apostolidi, N., & Malliarou, M. (2022). How nurses perceive care and their relationship with their compassion: A literature review. *International Journal of Caring Sciences, 15*(1), 702–710. https://international journalofcaringsciences.org/docs/73.pp_702_710-Malliarou.pdf

Arsat, N., Nik Lah, N. A. S., Thomas, D. C., Soong, S. F., Chong, L. T., Sawatan, W., Dasan, N., & Wider, W. (2023). The effect of work setting and demographic factors on caring behaviour among nurses in the public hospitals and public health services, Sabah, Malaysia. *BMC Nursing, 22*(1), 194. https://doi.org/10.1186/s12912-023-01359-w

Asadi, S. E., Khademi, M., Yarahmadi, S., Ebrahimzadeh, F., & Mohammadi, E. (2023). A comparison of nurses and elderly patients' perceptions of caring behaviors in intensive care units. *Enfermería Intensiva (English ed.), 34*(2), 80–89. https://doi.org/10.1016/j.enfie.2022.04.001

Aupia, A., Lee, T.-T., Liu, C.-Y., Wu, S.-F. V., & Mills, M. E. (2018). Caring behavior perceived by nurses, patients and nursing students in Indonesia. *Journal of Professional Nursing, 34*(4), 314–319. https://doi.org/10.1016/j.

profnurs.2017.11.013

Babapour, A.-R., Gahassab-Mozaffari, N., & Fathnezhad-Kazemi, A. (2022). Nurses' job stress and its impact on quality of life and caring behaviors: A cross-sectional study. *BMC Nursing, 21*(1), 75. https://doi.org/10.1186/s12912-022-00852-y

Calong, K. A. C., & Soriano, G. P. (2018). Caring behavior and patient satisfaction: Merging for satisfaction. *International Journal of Caring Sciences, 11*(2), 697–704. https://internationaljournalofcaringsciences.org/docs/9_soriano_original_10_2.pdf

Carnesten, H., Wiklund Gustin, L., Skoglund, K., & Von Heideken Wågert, P. (2022). Battling extraordinary situations and conflicting emotions—A qualitative study of being a newly graduated Registered Nurse in the emergency department during the COVID-19 pandemic. *Nursing Open, 9*(5), 2370–2380. https://doi.org/10.1002/nop2.1250

Cheruiyot, J. C., & Brysiewicz, P. (2019). Patient perceptions of caring and uncaring encounters in inpatient rehabilitation settings. *Africa Journal of Nursing and Midwifery, 21*(2). https://doi.org/10.25159/2520-5293/5973

Delmas, P., Antonini, M., Berthoud, L., O'Reilly, L., Cara, C., Brousseau, S., Bellier-Teichmann, T., Weidmann, J., Roulet-Schwab, D., Ledoux, I., Pasquier, J., Boillat, E., Brandalesi, V., & Konishi, M. (2020). A comparative descriptive analysis of perceived quality of caring attitudes and behaviours between haemodialysis patients and their nurses. *Nursing Open, 7*(2), 563–570. https://doi.org/10.1002/nop2.421

Dorisnita, Hartati, & Nuriyansyah, M. (2026). Emotional intelligence and caring behavior among nurses at Dr. M. Djamil General Hospital Padang. *Science Midwifery, 13*(6), 1509-1518. https://doi.org/10.35335/midwifery.v13i6.2201

Essien-Aleksi, I. E., Zhang, Y., Roosan, D., McPadden, T., Rideout, L., Martin, M., Beniers, P. J., Lund, A., Leone-Sheehan, D., & Wurcel, A. (2026). Association between nurses' knowledge and attitudes and caring behaviors toward people with opioid use disorder. *PLoS One, 21*(3), e0325874. https://doi.org/10.1371/journal.pone.0325874

Ewunetu, M., Abere, Y., Kassie, Y. T., Hailu, M. K., Baye, A. A., Belay, B. M., Tassew, S. F., Mekonnen, G. B., & Kebede, M. (2025). Patients' perceptions of nurse caring behaviours and determinant factors at Debre Tabor Comprehensive Specialised Hospital in Debre Tabor city, Ethiopia: A cross-sectional survey. *BMJ Open, 15*(3), Article e090557.

Gaber, S. N., Klarare, A., Mattsson, E., & Rosenblad, A.K. (2023). A comparison of perceptions of caring behaviours among women in homelessness, Registered Nurses and nursing students. *Scandinavian Journal of Caring Sciences, 37*(4), 959–969. https://doi.org/10.1111/scs.13071

Hajinezhad, M. E., & Azodi, P. (2014). Nurse caring behaviors from patients' and nurses' perspective: A comparative study. *European Online Journal of Natural and Social Sciences, 3*(4), 1010–1017.

Hämel, K., Röhnsch, G., Heumann, M., Backes, D. S., Toso, B. R. G. O., & Giovanella, L. (2022). How do nurses support chronically ill clients' participation and self-management in primary care? A cross-country qualitative study. *BMC Primary Care, 23*, 85. https://doi.org/10.1186/s12875-022-01687-x

Hashempour, F., Ilkhani, M., Rohani, C., & Nasiri, M. (2023). A comparative study of nurses' and patients' perceptions of caring behaviors in oncology departments. *Medical-Surgical Nursing Journal, 12*(4), e150609. https://doi.org/10.5812/msnj-150609

Hynnekleiv, I. I., Jensen, J. K., Giske, T., Lausund, H., Mæland, E., & Heggdal, K. (2024). Patients' and nurses' experiences of caring in nursing: An integrative literature review across clinical practices. *Journal of Clinical*

Nursing, 33(4), 1233–1255. https://doi.org/10.1111/jocn.16964

Jafari, M., Aghamohammadi, V., Moradi, T., Piri, M., Ebadi, J., & Nasiri, K. (2020). Comparing nurses and patients' views about caring behaviors and its dimensions in nurses. *International Electronic Journal of Medicine, 9*(3), 105–110. https://doi.org/10.34172/iejm.2020.19

Karlou, C., Papathanassoglou, E., & Patiraki, E. (2015). Caring behaviors in cancer care in Greece: Comparison of patients', their caregivers' and nurses' perceptions. *European Journal of Oncology Nursing, 19*(3), 244–250. https://doi.org/10.1016/j.ejon.2014.11.005

Keresi, Z., Carlsson, G., & Lindberg, E. (2019). A caring relationship as a prerequisite for patient participation in a psychiatric care setting: A qualitative study from the nurses' perspective. *Nordic Journal of Nursing Research, 39*(4), 218–225. https://doi.org/10.1177/2057158519866393

Kılıç, M., & Öztunç, G. (2015). Comparison of nursing care perceptions between patients who had surgical operation and nurses who provided care to those patients. *International Journal of Caring Sciences, 8*(3), 625–632.

Ku, B. R., & Yu, M. (2024). Hospital organisational health as a mediator between positive nursing organisational culture, caring behaviour, and quality of nursing care. *Humanities and Social Sciences Communications, 11*(1), 1203. https://doi.org/10.1057/s41599-024-03731-w

Lee, H.-J., Park, B.-M., Shin, M.-J., & Kim, D.-Y. (2022). Therapeutic communication experiences of nurses caring for patients with hematology. *Healthcare, 10*(12), 2403. https://doi.org/10.3390/healthcare10122403

Maghsoud, F., Rezaei, M., Asgarian, F. S., & Rassouli, M. (2022). Workload and quality of nursing care: The mediating role of implicit rationing of nursing care, job satisfaction and emotional exhaustion by using structural equations modeling approach. *BMC Nursing, 21*(1), 273. https://doi.org/10.1186/s12912-022-01055-1

Meneghini, A. M., Colledani, D., Morandini, S., De France, K., & Hollenstein, T. (2024). Emotional engagement and caring relationships: The assessment of emotion regulation repertoires of nurses. *Psychological Reports, 127*(1), 212–234. https://doi.org/10.1177/00332941221110548

Mohammed, E. A., Tsegaye, D., & Hailu, A. (2024). Patients' satisfaction with the quality of nursing care: A cross-section study. *International Journal of Africa Nursing Sciences, 20*, 100690. https://doi.org/10.1016/j.ijans.2024.100690

Moola, S., Munn, Z., Tufanaru, C., Aromataris, E., Sears, K., Sfetcu, R., Currie, M., Qureshi, R., Mattis, P., Lisy, K., & Mu, P.-F. (2020). Chapter 7: Systematic reviews of etiology and risk. In E. Aromataris & Z. Munn (Eds.), *JBI Manual for Evidence Synthesis*. JBI. https://doi.org/10.46658/JBIMES-24-06

Nal, B., Nal, M., Topuz, İ., Bektaş, G., & Sütlü, C. (2026). Humanistic care ability and nurse turnover intention: The mediating role of caring behaviors. *BMC Nursing, 25*(1), 227. https://doi.org/10.1186/s12912-026-04316-5

Ogugu, E., Odero, T., Ong'any, A., & Wagoro, M. (2015). Nurses' and patients' perceptions on the importance of nurse-caring behaviors: A study at the surgical wards of Kenyatta National Hospital, Nairobi. *International Journal for Human Caring, 19*(2), 55–61. https://doi.org/10.20467/1091-5710-19.2.55

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*, n71. https://doi.org/10.1136/bmj.n71

Permana, B., Yusuf, A., & Bakar, A. (2024). Nursing student caring behaviors: A systematic review. *International Journal of Public Health Science, 13*(1), 472–478. https://doi.org/10.11591/ijphs.v13i1.22920

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). *Guidance on the conduct of narrative synthesis in systematic reviews*: A product from the ESRC methods programme. Lancaster University.

Sossong, A., & Poirier, P. (2013). Patient and nurse perceptions of caring in rural United States. *International Journal for Human Caring, 17*(1), 79–85. https://doi.org/10.20467/1091-5710.17.1.79

Tesema, T. M., Golja, E. A., Atomsa, L., & Berisa, Y. M. (2025). Perception of caring behaviors and associated factors among nurses working in public hospitals of East Wollega Zone, Ethiopia, 2023: Mixed method study. *Frontiers in Public Health, 13*, 1513819. https://doi.org/10.3389/fpubh.2025.1513819

Tonin, L., Lacerda, M. R., Diogo, P. M. J., Brandão, M. A. G., Wall, M. L., & Vale, P. R. L. F. (2025). Construction of a middle-range nursing theory for transpersonal home care. *Revista Brasileira de Enfermagem, 78*(1), e20240200. https://doi.org/10.1590/0034-7167-2024-0200

Tunsi, A., Alhelal, R., Mujalled, R., Alhadrami, E., Alsulami, R., Alhofaian, A., Alaamri, M., & Babkair, L. (2023). Chronic illness patients' perceptions of quality of care during hospitalization: A qualitative study. *SAGE Open Nursing, 9*, 23779608221150706. https://doi.org/10.1177/23779608221150706

Vujanić, J., Mikšić, Š., Barać, I., Včev, A., & Lovrić, R. (2022). Patients' and nurses' perceptions of importance of caring nurse–patient interactions: *Do they differ? Healthcare, 10*(3), 554. https://doi.org/10.3390/healthcare10030554

Waterfield, D., & Barnason, S. (2022). The integration of care ethics and nursing workload: A qualitative systematic review. *Journal of Nursing Management, 30*(7), 2194–2206. https://doi.org/10.1111/jonm.13723

Watson, J. (2008). Nursing: *The philosophy and science of caring* (Rev. ed.). University Press of Colorado. https://www.watsoncaringscience.org/wp-content/uploads/2016/01/Jean-revJAN29-CV2016Jean-Watson-.pdf