

Nurses' Self-Assessment Of Caring Behaviors In Nurse-Patient Interactions

Meshari Hameed Hamed Alosaimi¹, Mosa Rashed Abdullah Alzahrani², Hayyaf Mohammed Alqahtani³, Sultan Meqaed Shleweeh Aloseimy⁴, Hamad Saod Fahad Alqahtani⁵, Salman Hamoud Ali Al-Harbi⁶, Hamda Mohamed⁷, Essa Saqer Alotaibi⁸, Qasem Marzouq Alotaibi⁹, Mishal Sanhat Al-Sahli¹⁰

Abstract:

Background: Nursing practice is centered on caring and nurses' behavior has an impact on the quality of patient care and it is predictive of patient satisfaction, however, many nurses, in reality, do not exhibit caring behavior when providing nursing care to patients. Nurse-patient interactions based on caring behaviors ensure better working conditions and better-quality healthcare. **The aim of this study** is to examine how nurses self-assess the frequency of applying caring behaviors in nurse-patient interactions and to identify the differences in the application frequency of caring behaviors in relation to work experience and education level. **Methods:** A cross-sectional study was conducted in different clinical departments of the Hospital in Riyadh, KSA from January to April 2023. The respondents were Bachelor of Science (BSc) nurses and nurses. The survey used the "Caring Nurse-Patient Interactions Scale (Nurse Version)". The respondents assessed the caring behaviors from the subscale "needs" as the most frequently applied (median (Me): 4.7; interquartile range (IQR): 4.4–4.9), while the least frequently applied were the procedures from the subscale "sensitivity" (Me: 3.8; IQR: 3.2–4.3). **Results:** The nurses reported applying caring behaviors to the subscales "hope" ($p < 0.001$), "problem-solving" ($p = 0.003$), and "environment" ($p = 0.021$) more frequently than BSc nurses did. Compared with less experienced respondents, the respondents with more than 30 years of work experience applied the caring behaviors on the subscales "sensitivity" ($p = 0.009$), "expression of emotions" ($p = 0.001$), "problem-solving" ($p = 0.008$), and especially "humanism" and "spirituality" ($p < 0.001$) more frequently. **Conclusion:** The results indicate that respondents are more focused on applying skills or carrying out a task than on caring behaviors which is about demonstrating compassion, loving kindness, and relationships.

Keywords: Caring Behaviors; Clinical Practice; Nurses; Nurse-Patient Relationship; Humanism.

Introduction

Nursing care behavior is an act, behavior, and mannerism enacted by professional nurses that convey concern, safety, and attention to the patient. Caring behavior has a critical part in tying nurse interactions to the patient's experiences^(1, 2). Nurse-patient interaction implies a professional and therapeutic relationship based on the planning, provision, and assessment of caring that satisfies a patient's individual needs⁽²⁾. Caring is an important part and aspect of providing nursing services and each nurse has the responsibility to develop and improve nursing services through caring behavior⁽³⁾. Caring behavior by nurses will

¹Nursing and Midwifery, Almansour phc, Saudi Arabia.

²Emergency medical services, Mokhwah general hospital, Saudi Arabia.

³Nurse specialist, Riyadh first health cluster - AlRayn General Hospital, Saudi Arabia.

⁴Specialist Nursing, ALRAYN GENERAL HOSPITAL, Saudi Arabia.

⁵Specialist nursing, AlQuwayiyah General Hospital, Saudi Arabia.

⁶Nursing technician, Primary health Care Center Al-Naseem Al-Awsat Ministry of Health Riyadh 13717, Saudi Arabia

⁷Marriage examination nurse, Taif Health, Saudi Arabia.

⁸Nursing, Ad Diriyah hospital, Saudi Arabia.

⁹Nursing, Blood Bank Center in Riyadh, Saudi Arabia.

¹⁰NURSING, Hafar Al-Batin Central Hospital, Saudi Arabia.

not only focus on the physical needs but also on the mental, social, and spiritual needs of patients. Caring behavior in nursing is a therapeutic interaction between the patient and the nurse, which relates to the presence, affectionate touch, and the approach taken by the nurse in every nursing care situation. This involves evaluating the patient's emotions, providing information, and so fulfilling their needs that the healing process in the patient is facilitated (1-3)

Caring behaviors has been proven in philosophical discussions, theories, and innovative research by Watson, Leininger, Boykin, and Swanson (4-6). These theoreticians consider caring to be the essence of nursing and the key element of both effective nurse–patient interactions and high-quality healthcare. Furthermore, health sciences are incomplete without caring science (4-8). Even though Leininger and Watson have their own original nursing theories and ideas about nursing concepts for the year 2050, they both view caring as the essence of nursing (9). From an objective perspective, caring as a concept is hard to define. Caring is what patients expect and should experience to be satisfied with their provided nursing services (3, 10-12). Many authors believe caring to be the essence which is to gain additional knowledge in clinical and research practices (13, 14) and a key concept of evidence-based nursing practices (15).

Implementation of specific nurse–patient interaction models based on caring behaviors into healthcare systems could improve working environments, provide a higher level of satisfaction in both nurses and patients (12, 16), assure a higher level of patient safety, and ensure high-quality healthcare and better economic conditions (2, 3, 11, 13). However, some authors warn that today's caring behaviors are low (12, 17, and 18). Technological advancements have significantly altered the role of nurses and their interactions with patients and other healthcare professionals (19). The impact of modern technology on healthcare varies a lot. Some authors believe that highly sophisticated technology makes the healthcare more impersonal and less humane, while others describe its neutral or even positive effects on patient satisfaction (20-22).

In the study by Coatsworth-Puspoky et al., (2006) (23), patients state that hospital technologies and procedures separate them completely from the world they live in, and they wish nurses would communicate more with them. Therefore, while aiming at providing better quality healthcare and reaching higher levels of patient satisfaction, nurses have to find and maintain the proper balance between applying modern technology and a human approach to patients. Carrying out tasks and reducing expenditure have become a priority in contemporary healthcare (24). In addition, relevant studies show that nurses often neglect caring behaviors in interactions with their patients. Instead, they prefer the application of psychomotor competences in order to perform the task technically more efficiently (25, 26). Nurses' low-level of affective care and lack of individual and humane approach are partially a consequence of their heavy workloads caused by additional work (e.g., administration) (27-29).

Felgen et al., (2003) (30) emphasize that the recipients of nursing care expect to be treated humanely and become satisfied and loyal clients if they experience humane treatment through nursing care. Moreover, the relevant literature suggests that the perception and implementation of caring behaviors are influenced by factors such as knowledge, formal education (31), and length of direct work with patients (32, 33). The importance of the early exposure to the content of caring behavior in formal nursing education is emphasized since future nurses develop their caring attributes at that early phase (34), as well as later during their work (19, 35). Recent literature describes how education and work experience correlate with the level of caring attitudes and behaviors. For example, Compton, et al., (2019) (36) described a positive correlation between education and the application of caring attitudes and behaviors, while other authors do not find any clear correlation (14). It is evident that professional environments whose management is based on business economics and strictly task-oriented provide very little in terms of the humane approach to caring (37).

Generally, there is a difference in nursing between the human caring models, which

are primarily aimed at holistic patient care and the reason why many nurses choose this profession, and the biomedical model, which is focused on task completion and maintaining the reality of institutional demands^(14, 38). Nurses in the biomedical model often have a subordinate role and carry out doctors' orders⁽²⁸⁾, which limits their autonomy in making decisions and in carrying out procedures, consequently leading to care and caring behavior becoming secondary. The theoretical framework for this study is based on Watson's human caring theory⁽¹⁾. In Watson's Theory of Caring, nursing is "concerned with promoting health, preventing illness, caring for the sick and restoring health". Watson believes that holistic healthcare is central to the practice of nursing and defines nursing as "a human science of persons and human health-illness experiences that are mediated by professional, personal, scientific, esthetic, and ethical human transactions." It places the patient in the context of the family, community, and culture, and the focus of the practice is on the patient rather than the technology. Human caring describes the attitudes and behaviors that demonstrate interest in and respect for patients' psychological, social and spiritual concerns and values^(1, 8).

The essence of Watson's theoretical contribution is captured in 10 carative factors⁽⁸⁾. Each factor contains a dynamic phenomenological component related to each individual in nursing care. Through these carative factors, nurses perform their basic professional duty. Watson's carative factors are well-accepted in the profession because they express the humanistic value of care. Watson promoted the concept of 10 carative factors during the clinical *caritas* processes^(1, 7). Caring cannot be measured or quantified objectively⁽¹³⁾. Still, specific measuring instruments can be useful as supplementary tools for assessment and self-assessment of high-quality nurse-patient interaction from the perspective of caring behaviors^(29, 39, and 40).

In 2005, Cossete developed a Nurse-Patient Interaction Scale (CNPI-70) as a reliable instrument to assess the quality of nurse-patient interactions (quality of care). The CNPI-70 consists of 70 items and 10 carative factors/subscales based on Watson's Theory of Caring⁽⁴¹⁾. All 70 items describe a respondent's attitudes towards behaviors regarding nursing care in clinical practice that can be measured in terms of importance, frequency, and applicability. The formulation of the items varies according to the target group, i.e., the respondents. Due to its items and their relevance and comprehensiveness, CNPI-70 is applicable for various groups of respondents (e.g., patients, family members, nurses, nursing students)^(25, 33, and 41).

The relevant literature identifies nurses' level of education and exposure to care as key personal factors that affect perception and application of caring behaviors^(3, 31-33). Thus, these factors are used as criteria in this study. It can be noticed that there is still an insufficient number of studies that have researched the nursing perception of caring behaviors in nurse-patient interaction using the CNPI-70 scale. This deficit affects the global understanding of the importance of caring behaviors and the importance of the ability to self-assess in order to make personal and professional progress, as well as consequently to improve whole organizations⁽²⁸⁾ [28]. Therefore, this study applies to overcome this literature gap by providing results specifying the nursing perception of applying caring behavior in their clinical practice. The aim of this study was to examine how nurses self-assess the frequency of applying caring behaviors in nurse-patient interactions and to identify the differences in application frequency of caring behaviors in relation to work experience and education level.

Methods

A cross-sectional study was conducted in different clinical departments of the Hospital in Riyadh, KSA from January to April 2023. The quantitative research approach was used and an anonymous survey was performed using a closed-ended questionnaire. Respondents were selected using the principle of availability according to the defined criteria. Thus, the study included a total of 735 registered nurses who are permanently employed at the clinics and departments, and who are in direct contact with patients and provide 24 h healthcare. According to Watson⁽¹⁾, the constant presence of a nurse is a precondition for developing and maintaining trust, effective caring behavior, consciousness, dedication, and authenticity in nurse-patient

relationships. This is why this study included nurses with high school education and training and Bachelor of Science (BSc) nurses who provide continuous and direct healthcare. Excluded nurses who had brief interactions with patients (e.g., nurses in the outpatient ward, operating block, emergency reception, and department of sterilization, intra-hospital infections, and quality departments) were not included in this research.

The sample size was calculated using the online software Sample Size Calculator from Creative Research Systems⁽⁴⁴⁾. The calculation was based on the total number of nurses with an initially defined confidence interval value of 3%, confidence level of 95%, and α level of 0.05⁽⁴⁴⁾. According to this study's calculations, the lowest sample size required was 563 respondents. Data were collected using the translated and standardized 70-item version of the Caring Nurse–Patient Interactions Scale Questionnaire (Nurse Version; CNPI-70)⁽⁴¹⁾. This version was designed by Cossette, Cara, Ricard, and Pepin in 2005 on the basis of Watson's caring theory⁽⁴¹⁾. The questionnaire items represent carative factors and are divided into 10 subscales: "humanism", "hope", "sensitivity", "helping relationship", "expression of emotions", "problem-solving", "teaching", "environment", "needs", and "spirituality"⁽⁴¹⁾.

The researchers are aware of Watson's recent work on clinical *caritas* processes and the danger of reducing the wholeness of caring. However, both the French and English versions of the CNPI have been useful not only in a research context but also for clinical and educational purposes⁽²⁵⁾. The results of a psychometric study conducted using this questionnaire showed a strong potential for use in research in clinical and educational facilities⁽⁴¹⁾. Cronbach alpha values for each of the 10 subscales ranged from 0.73 to 0.91⁽⁴⁰⁾. The CNPI-70 questionnaire was translated from English to Arabic through the following steps: forward translation by two bilingual experts independently; back translation, without any reference to the original instrument wording; comparison of the original and the translated items by another bilingual expert; and review of the translated questionnaire to comply with the system standards for clinical practice.

The reliability of both questionnaires was tested using Cronbach's coefficient. The reliability of each CNPI-70 subscale ranged from 0.75 ("humanism") to 0.90 ("problem-solving"). The overall CNPI-70 questionnaire reliability was 0.97, indicating a high reliability. To examine the frequency of caregiving in clinical practice, the question was highlighted at the beginning of the questionnaire: "How frequently do you apply the attitudes and behaviors described in each of the following statements?" The self-rating scale used a five-point Likert scoring system. Each item was scored from 1 to 5 points (almost never = 1, sometimes = 2, often = 3, very often = 4, almost always = 5).

Data were collected for four months at clinics/departments from the aforementioned institution. The researchers distributed a questionnaire in the clinical departments to all nurses. Nurses were invited to participate voluntarily in this study by completing and returning the questionnaire in sealed envelopes. Respondents completed the questionnaires using the pencil paper method. The time for completing the questionnaire was not limited; it lasted on average 20 min. The respondents voluntarily and willingly engaged in the research. Before each data collection, the researcher thoroughly explained the research's purpose, the ethical issues, and the questionnaire's details to the respondents. The respondents had the right to withdraw before and during the questionnaire completion. The anonymity of the participants was guaranteed, and there was no possibility to determine their identity from the responses. Only researchers had access to research data.

Statistical analysis was conducted using SPSS Statistics for Windows, (Version 28.0). $P < 0.05$ was considered statistically significant. Descriptive statistics for nominal variables were expressed as proportions and percentages. The normality of the distribution of numerical variables was tested by the Shapiro–Wilk test. Numerical variables (age, work of experience, self-assessments of respondents) are not following a normal distribution and are represented by the median (Me) and interquartile ranges (IQR). Therefore, the non-parametric Kruskal–Wallis test was used to compare the median differences among several groups, while the Mann–Whitney U test was used to compare the median differences between the two groups. The statistical analysis of the reliability of each scale/subscale and the overall CNPI-70 questionnaire

was conducted using Cronbach’s alpha coefficient.

Results

Of the 700 distributed questionnaires, 697 (99.6%) were valid, thus satisfying the calculated minimal number of respondents. Thus, the study included 697 respondents, of whom 642 (92.1%) were female and 55 (7.9%) were male. The age of the respondents ranged from 19 to 65, with a median (Me) of 37 years (IQR 30–48). Regarding education level, 533 (76.5%) respondents completed high school education and 164 (23.5%) completed their bachelor’s degree. Years of service in nursing ranged from 1 to 44, with a median (Me) of 17 years (IQR 9–27).

Of the 10 questionnaire subscales, the highest median score was 4.7 (IQR 4.4–4.9) and this was achieved for the subscale “needs”, while the “sensitivity” subscale received the lowest median score (3.8) (IQR 3.2–4.3) (Figure 1 and Table 1).

Table (1) shows that respondents with up to 15 years of work experience (n = 307) estimated that they apply significantly less the caring behaviors from the following subscales: “humanism” (p < 0.001), “sensitivity” (p = 0.009), “expression of emotions” (p = 0.001), “problem-solving” (p = 0.008), and “spirituality” (p < 0.001) compared to respondents with more than 30 years of work experience.

Table (2) shows the high school education nurses reported applying caring behaviors related to the subscales “hope” (p < 0.001), “problem-solving” (p = 0.003), and “environment” (p = 0.021) more frequently than BSc nurses did.

Carative factor	Needs								4.7
	Environment								4.6
	Hope							4.4	
	Spirituality							4.3	
	Helping relationship							4.3	
	Humanism							4.3	
	Teaching							4.2	
	Expression of Emotions							4.2	
	Problem-solving							4.0	
	Sensitivity							3.8	
		3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9

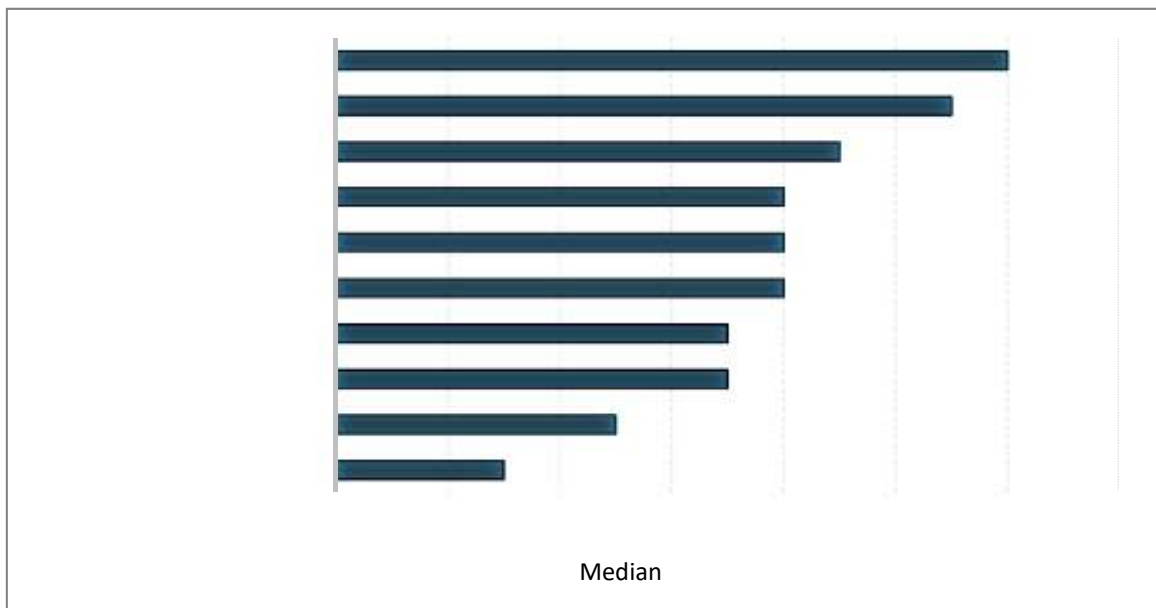


Figure (1) Nurses' self-assessment of the frequency of application of caring behaviors

Table (1) Scope of carative factors in relation to the respondent's years of experience

Carative Factors (F1–F10)	Years of Experience Median (Interquartile Range)						Total	p *
	≤15 years		16–30 years		>30 years			
	n = 307		n = 287		n = 103			
F1—Humanism	4.2 (3.5–4.7)	4.3 (3.8–4.7)	4.3 (4.0–4.8)	4.3 (3.7–4.7)	4.3 (3.7–4.7)	<0.001		
F2—Hope	4.4 (3.9–4.9)	4.4 (4.1–4.9)	4.6 (4.0–4.9)	4.4 (4.0–4.9)	4.4 (4.0–4.9)	0.072		
F3—Sensitivity	3.7 (3.2–4.3)	3.8 (3.3–4.3)	4.2 (3.5–4.3)	3.8 (3.2–4.3)	3.8 (3.2–4.3)	0.009		
F4—Helping relationship	4.3 (3.6–4.7)	4.4 (3.8–4.7)	4.4 (3.9–4.7)	4.3 (3.7–4.7)	4.3 (3.7–4.7)	0.128		
F5—Expression of emotions	4.0 (3.5–4.7)	4.3 (3.7–4.7)	4.3 (4.0–4.8)	4.2 (3.7–4.7)	4.2 (3.7–4.7)	0.001		
F6—Problem solving	3.8 (3.3–4.5)	4.0 (3.5–4.7)	4.2 (3.7–4.7)	4.0 (3.5–4.7)	4.0 (3.5–4.7)	0.008		
F7—Teaching	4.2 (3.6–4.7)	4.3 (3.8–4.7)	4.4 (4.0–4.7)	4.2 (3.7–4.7)	4.2 (3.7–4.7)	0.055		
F8—Environment	4.6 (4.1–5.0)	4.6 (4.0–4.9)	4.7 (4.3–5.0)	4.6 (4.1–4.9)	4.6 (4.1–4.9)	0.491		
F9—Needs	4.7 (4.3–4.9)	4.7 (4.4–4.9)	4.7 (4.5–4.9)	4.7 (4.4–4.9)	4.7 (4.4–4.9)	0.311		
F10—Spirituality	4.2 (3.5–4.7)	4.5 (3.8–4.8)	4.4 (4.0–4.8)	4.3 (3.8–4.8)	4.3 (3.8–4.8)	<0.001		

* Kruskal–Wallis test

Table (2): Scope of carative factors in relation to the education level

Carative Factors (F1–F10)	Education Level Median (Interquartile Range)		Total	p *
	high school education	Bachelor's degree		
	n = 533	n = 164		
F1—Humanism	4.3 (3.7–4.7)	4.3 (3.7–4.9)	4.3 (3.7–4.7)	0.664
F2—Hope	4.5 (4.0–4.9)	4.4 (3.9–4.8)	4.4 (4.0–4.9)	<0.001
F3—Sensitivity	3.9 (3.3–4.4)	3.8 (3.0–4.3)	3.8 (3.2–4.3)	0.343
F4—Helping relationship	4.4 (3.7–4.7)	4.3 (3.6–4.7)	4.3 (3.7–4.7)	0.061
F5—Expression of emotions	4.2 (3.6–4.7)	4.2 (3.7–4.7)	4.2 (3.7–4.7)	0.080
F6—Problem solving	4.0 (3.7–4.7)	3.9 (3.3–4.6)	4.0 (3.5–4.7)	0.003
F7—Teaching	4.2 (3.7–4.8)	4.2 (3.8–4.9)	4.2 (3.7–4.7)	0.256
F8—Environment	4.6 (4.2–4.9)	4.5 (4.1–4.9)	4.6 (4.1–4.9)	0.021
F9—Needs	4.7 (4.5–4.9)	4.6 (4.2–4.9)	4.7 (4.4–4.9)	0.161
F10—Spirituality	4.3 (3.8–4.9)	4.3 (3.7–4.8)	4.3 (3.8–4.8)	0.114

* Mann-Whitney test.

Discussion

The aim of this study was to examine how nurses self-assess the frequency of application of caring behaviors in nurse–patient interactions, especially considering education level and work experience. The results showed that respondents self-assessed certain subscales in a range from 3.8 to 4.7. Considering the range and score interpretation on the Likert’s scale (from 1 to 5) of the CNPI-70 instrument, respondents self-assessed the application of certain caring behaviors as very often or almost always. High subscale scores were described in the study by Delmas et al., (2019) ⁽⁴³⁾ despite their scores for certain subscales

being significantly lower (2.88 to 4.31). Other studies describe completely opposite results with very low scores of caring behaviors indicating dehumanization of care ⁽⁴⁵⁻⁴⁷⁾.

Despite the high self-assessment score in this study, data analysis showed a significant difference in the frequency of application in certain caring behaviors. Therefore, respondents gave the highest self-ratings for the subscales "needs" (4.7) and "environment" (4.6), which was only partially supported by the results of other relevant studies ^(12, 42, 43) [12,42,43]. A study conducted by Delmas et al., (2016) ⁽⁴²⁾ showed that nurses gave the highest score on the "environment" subscale (4.4), while patients gave the highest score on the "needs" subscale (4.3) ⁽⁴²⁾. Both subscales were scored relatively highly by nurses (4.09–4.11) in a later study, although the subscale "humanism" (4.31) received the highest score ⁽⁴³⁾. Moreover, the "environment" subscale was scored high (4.47) by nurses in the Philippine study, while the "humanism" subscale (4.56) scored the highest ⁽¹²⁾.

As a result of this study respondents defined their patient interaction mostly on providing healthcare to satisfy human needs ⁽²⁵⁾. Henderson and Watson believe that nursing should take a holistic approach, stating that nursing is not only supposed to fulfill a patient's physical needs but also satisfy a patient's psychosocial, social, and spiritual needs ⁽²⁵⁾. Furthermore, a high score for the "environment" subscale indicated that respondents attached importance to internal and external environmental factors that affect health and consequently the disease of an individual. The concepts relevant to an internal environment include mental and spiritual wellbeing, as well as social and cultural beliefs. Aside from epidemiological variables, other external factors include comfort, privacy, safety, and a clean/aesthetic environment ⁽²⁵⁾. It is evident that respondents respect the concept of basic human needs. However, the highly assessed subscales ("needs" and "environment") belong to the clinical aspects of care ⁽⁴⁰⁾.

By contrast, subscales "hope", "humanism", "helping relationship", "spirituality", and "expression of emotions" scored the lowest (4.2 to 4.3), which is supported by the results of a study in which nurses rated the environment subscale before humanism ⁽⁴³⁾. However, the results of this study differ from the aforementioned relevant studies in which nurses, using the CNPI-70 scale, ranked the "humanism" subscale the highest ^(12, 42, 43, 48). This subscale favors the humanistic–altruistic system of values, wherein one experiences satisfaction and fulfills personality by giving themselves to others ⁽³⁴⁾. Although the aforementioned values are acquired at an early age, they are significantly shaped later under the influence of various formal and informal factors (e.g., influence of a mentor, educator, etc.)

According to Fortuno et al., (2017) ⁽¹²⁾, key factors that negatively affect the acquisition and application of caring behavior include the fast pace in hospitals, nursing services aimed at goals and tasks, and working overtime. Aggravating circumstances, such as the obligation to document all procedures to prevent possible lawsuits, and extensive laboratory examination and treatments, shorten communication time with patients and the provision of necessary healthcare. In this study, the "problem-solving" and "sensitivity" subscales were rated lowest, which is in full accordance with the results of other studies ^(12, 42, 43). For example, Delmas et al., (2019) ⁽⁴³⁾ found that nurses rated extremely low two subscales: "problem-solving" (2.66) and "sensitivity" (2.33).

In this study, the respondents with up to 15 years of work experience rated procedures related to "humanism", "sensitivity", "expression of emotions", and "problem-solving" significantly lower compared to the respondents with over 30 years of work experience. These findings are supported by the results of other studies ^(25, 49). Vandenhouten et al., (2012) ⁽⁵⁰⁾ analyzed caring behaviors according to age, gender, and years of practice, and the results showed a significant difference between the perception of caring in older female nurses (age 50 and older) and in nurses with 20 or more years of work experience, who had higher caring scores ⁽⁵¹⁾. The researchers explained that age, work seniority, and promotion to teacher or head nurse positions implied a rich life experience, accumulation of work experience, and improvements in various abilities. These conclusions are in accordance with Watson's theory, which states that caring ability is related to values, professional knowledge structure, and work experience of nurses ⁽²⁶⁾.

In addition, the results of the recent study by Lechleitner, (2019) ⁽³³⁾ indicate that

as age and experience increased, so did the total caring score. The researchers explained the results with the fact that people can become more considerate towards others as they grow older or gain new experiences. Their increased care could also indicate their need for high-quality care as they grow older⁽³³⁾. The results of our study show that respondents with more years of work experience valued spirituality more highly than the respondents with fewer years of work experience. According to research by Murray and Dunn, (2017)⁽⁵²⁾, most nurses stated that their education and training had not prepared them to provide adequate spiritual care for their patients. There was a statistically significant increase in knowledge, self-confidence, and competence in nurses who had attended a workshop on spiritual care⁽⁵²⁾. Other authors imply that there is insufficient knowledge and training regarding nurses' perceptions and nursing practice related to spiritual care, which results in general confusion^(53, 54).

With regard to education, BSc nurses in this study assessed the "hope", "problem-solving", and "environment" subscales lower than nurses with basic training. These results can be explained using specific organizational models in clinical practice in which BSc nurses are oriented toward organizational work, management, administrative work, and communication with other healthcare professionals. Thus, these nurses have less time for direct interaction with their patients. There are no significant differences regarding education in relation to other carative factors. Some studies point out the positive correlation between education level and caring attitudes and behaviors⁽³⁶⁾, while other studies do not describe any clear correlation between carative factors and a nurse's education level⁽¹⁴⁾. However, some authors state that there is a tendency to reduce caring behavior without any connection to nurses' education level^(55, 56).

The situation in which levels of caring behavior are inversely proportional to the years of working experience is a phenomenon that can be the consequence of many negative factors in everyday clinical practice (e.g., experience damaged relationships, negative supervisory relations, poor cooperation and deficient communication among team members)⁽³⁷⁾. According to Watson⁽¹⁾, the problem-solving factor is related to the systematic use of scientific methods of creative problem-solving as the basis for decision-making or the application of healthcare processes and the scientific approach to problem-solving. There are no differences in relation to the education or teaching carative factors, or in relation to the promotion of mutual teaching and learning. This is an essential factor in nursing because it constitutes a difference between nursing care and medical treatment⁽⁷⁾.

This study contributes to the dissemination of knowledge related to caring behavior and a better understanding of nurse-patient interactions on a global level. The results showed that caring behaviors are vital segments in nurse-patient interactions, and their quality needs to be assessed and self-assessed. The CNPI-70 scale can be of immense help to nurses in clinical practice to identify the areas of strength and weakness in nurse-patient interactions, which will lead to self-correction and improve the relationship with patients. Furthermore, a better quality of nurse-patient relationship can improve working conditions, improve patient safety, and ensure a higher level of satisfaction for both nurses and patients, thus providing significantly better healthcare. Moreover, the results of this study can be used to analyze and review the existing nursing curricula and to design curricula that will include the content of caring behaviors so that nursing students will learn their importance through efficient methods.

Conclusions

Based on the study results, respondents most frequently apply caring behaviors related to assistance with gratification of human needs ("needs"), whereas cultivation of sensitivity to one's self and others ("sensitivity") is the most rarely applied. Moreover, there are differences in the application of attitudes and caring behaviors in clinical practice according to years of experience and education level. BSc nurses in this study assessed the subscales "hope", "problem-solving", and "environment" lower than nurses with basic training. Respondents with up to 15 years of work experience assessed factors related to

“humanism”, “sensitivity”, “expression of emotions”, and “problem-solving” significantly lower than those with more than 30 years of work experience. The results indicate that respondents are more focused on applying skills or carrying out a task than on caring, which is about demonstrating compassion and loving kindness in their professional relationships.

References

- 1) Watson, J. *Human Caring Science: A Theory of Nursing*, 2nd ed.; Jones and Bartlett Learning LLC.: Sudbury, MA, USA, 2012; pp. 17–30.
- 2) Feo, R.; Conroy, T.; Wiechula, R.; Rasmussen, P.; Kitson, A. Instruments measuring behavioral aspects of the nurse–patient relationship: A scoping review. *J. Clin. Nurs.* **2019**, *29*, 1808–1821.
- 3) Haryani, A. Predictors of Nurse's Caring Behavior towards Patients with Critical Illness. *Kne Life Sci.* **2019**, 12–22.
- 4) Dyess, S.M.; Boykin, A.; Bulfin, M.J. Hearing the Voice of Nurses in Caring Theory-Based Practice. *Nurs. Sci. Q.* **2013**, *26*, 167–173.
- 5) McFarland, M.M.; Wehbe-Alamah, H.B. The Theory of cultural care diversity and universality. In *Culture Care Diversity and Universality: A Worldwide Theory of Nursing*, 3rd ed.; McFarland, M.M., Wehbe-Alamah, H.B., Eds.; Jones & Bartlett Learning: Burlington, MA, USA, 2015; pp. 1–31.
- 6) Blasdell, N.D. The Meaning of Caring In Nursing Practice. *Int. J. Nurs. Clin. Pract.* **2017**, *4*.
- 7) Jesse, D.E.; Alligod, M.R. Watson's philosophy and theory of transpersonal caring. In *Nursing Theorists and Their Work*, 8th ed.; Alligood, M.R., Ed.; Mosby Elsevier: Maryland Heights, MO, USA, 2014; pp. 79–97.
- 8) Létourneau, D.; Cara, C.; Goudreau, J. Humanizing Nursing Care: An Analysis of Caring Theories Through the Lens of Humanism. *Int. J. Hum. Caring* **2017**, *21*, 32–40.
- 9) Pilkington, F.B. Envisioning Nursing in 2050 Through the Eyes of Nurse Theorists: Leininger and Watson. *Nurs. Sci. Q.* **2007**, *20*, 8.
- 10) Nelson, J.; Watson, J. *Measuring Caring: International Research on Caritas as Healing*, 1st ed.; Springer Publishing Company: New York, NY, USA, 2012; pp. 3–23.
- 11) Papastavrou, E.; Efstathiou, G.; Tsangari, H.; Suhonen, R.; Leino-Kilpi, H.; Patiraki, E.; Karlou, C.; Balogh, Z.; Palese, A.; Tomietto, M.; et al. A cross-cultural study of the concept of caring through behaviours: Patients' and nurses' perspectives in six different EU countries. *J. Adv. Nurs.* **2011**, *68*, 1026–1037.
- 12) Fortuno, A.F.; Oco, D.B.; Clores, M.A. Influential Components of Caring Nurse-Patient Interaction (CNPI) in a Tertiary Hospital in the Philippines: Towards Improving Health Outcomes of Patients. *Int. J. Nurs. Sci.* **2017**, *7*, 84–90.
- 13) Soriano, G.P. Psychometric Evaluation of the Filipino Version of Caring Nurse-Patient Interaction Scale-Patient. *Int. J. Hum. Caring* **2019**, *23*, 329–333.
- 14) Pajnkihar, M.; McKenna, H.P.; Štiglic, G.; Vrbnjak, D. Fit for Practice: Analysis and Evaluation of Watson's Theory of Human Caring. *Nurs. Sci. Q.* **2017**, *30*, 243–252.
- 15) Roulin, M.-J.; Jonniaux, S.; Guisado, H.; Séchaud, L. Perceptions of inpatients and nurses towards the importance of nurses' caring behaviours in rehabilitation: A comparative study. *Int. J. Nurs. Pract.* **2020**, e12835.
- 16) Feo, R.; Donnelly, F.; Athlin, Å.M.; Jangland, E. Providing high-quality fundamental care for patients with acute abdominal pain. *J. Health Organ. Manag.* **2018**, *33*, 110–123.
- 17) Tiara, T.; Lestari, A. Perilaku Caring Perawat Dalam Meningkatkan Kepuasan Pasien rawat Inap. *J. Keperawatan* **2013**, *4*, 43–55.
- 18) Rumagit, T.; Mulyadi, N.; Malara, R.T. Hubungan Motivasi Kerja Dengan Perilaku Caring Intensive Care Unit Di Rsu Pancaran Kasih Gmim Manado. *J. Keperawatan* **2017**, *5*, 1–7.
- 19) Johnson, M.; Cowin, L.S.; Wilson, I.; Young, H. Professional identity and nursing: Contemporary theoretical developments and future research challenges. *Int. Nurs. Rev.* **2012**, *59*, 562–569.
- 20) Bailey, J.E. Does Health Information Technology Dehumanize Health Care? *AMA J. Ethic* **2011**, *13*, 181–185.

- 21) Agrawal, A. Medication errors: Prevention using information technology systems. *Br. J. Clin. Pharmacol.* **2009**, 67, 681–686.
- 22) Locsin, R.C. The Co-Existence of Technology and Caring in the Theory of Technological Competency as Caring in Nursing. *J. Med. Investig.* **2017**, 64, 160–164.
- 23) Coatsworth-Puspoky, R.; Forchuk, C.; Ward-Griffin, C. Nurse-client processes in mental health: Recipients' perspectives. *J. Psychiatr. Ment. Health Nurs.* **2006**, 13, 347–355.
- 24) Morrison, K.B.; Korol, S. Nurses' perceived and actual caregiving roles: Identifying factors that can contribute to job satisfaction. *J. Clin. Nurs.* **2014**, 23, 3468–3477.
- 25) Brewer, B.B.; Larson, P.; Wolf, Z.R.; Cronin, S.N.; Lee, B.H.; Hinds, P.; Horner, S.D.; Nyberg, J.; Nkongho, N.O.; McDaniel, A.M.; et al. *Assessing and Measuring Caring in Nursing and Health Sciences*; Springer: Berlin/Heidelberg, Germany, 2019; pp. 251–270.
- 26) Jiang, L.L.; Ruan, H.; Xiang, X.J.; Jia, Q. Investigation and analysis of the caring attitude and behaviour of nurses in Shanghai, China. *Int. J. Nurs. Pract.* **2014**, 21, 426–432.
- 27) Persky, G.J.; Nelson, J.W.; Watson, J.; Bent, K. Creating a Profile of a Nurse Effective in Caring. *Nurs. Adm. Q.* **2008**, 32, 15–20.
- 28) Lovrić, R.; Prlić, N.; Zec, D.; Pušeljić, S.; Žvanut, B. Students' Assessment and Self-assessment of Nursing Clinical Faculty Competencies. *Nurse Educ.* **2015**, 40, E1–E5.
- 29) Lovrić, R.; Prlić, N.; Milutinović, D.; Marjanac, I.; Žvanut, B. Changes in nursing students' expectations of nursing clinical faculties' competences: A longitudinal, mixed methods study. *Nurse Educ. Today* **2017**, 59, 38–44.
- 30) Felgen, J.A. Caring Core value, currency, and commodity is it time to get tough about "soft"? *Nurs. Admin. Q.* **2003**, 27, 208–214.
- 31) Sunardi, A. Caring Behavior Analysis of Associate Nurses. *J. Keperawatan* **2014**, 5, 69–78.
- 32) Kumanjas, F.W.; Herman, W.; Jeavery, B. Hubungan karakteristik individu dengan kinerja perawat di ruang rawat inap penyakit dalam RSUD Datoe Binangkang Kabupaten Bolaang Mongondow. *J. Keperawatan* **2014**, 2, 1–8.
- 33) Lechleitner, R. A Study to Assess Home Health Nurses from a Carative Perspective. *Hosp. Top.* **2019**, 1–4.
- 34) Labrague, L.J.; Papatthanasiou, I.V.; Edet, O.B.; Arulappan, J.; McEnroe-Petitte, D.M. Impact of Instructors' Caring on Students' Perceptions of Their Own Caring Behaviors. *J. Nurs. Sch.* **2015**, 47, 338–346.
- 35) Nursalam, N.; Wijaya, A.; Bakar, A.; Efendi, F. Indonesian Nursing Students in Caring Behavior. *Gstf J. Nurs. Health Care* **2015**, 2.
- 36) Compton, E.K.; Gildemeyer, K.; Reich, R.R.; Mason, T.M. Perceptions of caring behaviours: A comparison of surgical oncology nurses and patients. *J. Clin. Nurs.* **2019**, 28, 1680–1684.
- 37) Adams, L.Y.; Maykut, C.A. Bullying: The antithesis of caring, acknowledging the dark side of the nursing profession. *Int. J. Caring Sci.* **2015**, 8, 765–773.
- 38) Watson, J.; Foster, R. The Attending Nurse Caring Model: Integrating theory, evidence and advanced caring-healing therapeutics for transforming professional practice. *J. Clin. Nurs.* **2003**, 12, 360–365.
- 39) Wei, H.; Fazzone, P.A.; Sitzman, K.; Hardin, S.R. The Current Intervention Studies Based on Watson's Theory of Human Caring: A Systematic Review. *Int. J. Hum. Caring* **2019**, 23, 4–22.
- 40) Rodrigues, M.G.D.R.; Séchaud, L. Caring Models in Geriatric Rehabilitation. *Holist. Nurs. Pract.* **2019**, 33, 237–253.
- 41) Cossette, S.; Cara, C.; Ricard, N.; Pepin, J. Assessing nurse-patient interactions from a caring perspective: Report of the development and preliminary psychometric testing of the Caring Nurse-Patient Interactions Scale. *Int. J. Nurs. Stud.* **2005**, 42, 673–686.
- 42) Delmas, P.; O'Reilly, L.; Iglesias, K.; Cara, C.; Burnier, M. Feasibility, Acceptability, and Preliminary Effects of Educational Intervention to Strengthen Humanistic Practice Among Hemodialysis Nurses in the Canton of Vaud, Switzerland: A Pilot Study. *Int. J. Hum. Caring* **2016**, 20, 31–43.

- 43) Delmas, P.; Antonini, M.; Berthoud, L.; O'Reilly, L.; Cara, C.; Brousseau, S.; Bellier-Teichmann, T.; Weidmann, J.; Roulet-Schwab, D.; LeDoux, I.; et al. A comparative descriptive analysis of perceived quality of caring attitudes and behaviours between haemodialysis patients and their nurses. *Nurs. Open* **2019**, *7*, 563–570.
- 44) Creative Research Systems. Sample Size Calculator. Available online: www.surveysystem.com
- 45) Haslam, N.; Stratemeyer, M. Recent research on dehumanization. *Curr. Opin. Psychol.* **2016**, *11*, 25–29.
- 46) Brousseau, S.; Cara, C.; Blais, R. Factors that influence the quality of worklife of first-line nurse managers in a French Canadian Healthcare system. *J. Hosp. Adm.* **2019**, *8*, 1–9.
- 47) Alligood, M.R. *Nursing Theorists and Their Work*, 9th ed.; Mosby Elsevier: Maryland Heights, MO, USA, 2017.
- 48) Yilmaz, D.; Çinar, H.G. Examination of attitudes of nursing department senior students towards caring nurse-patient interaction Hemşirelik bölümü son sınıf öğrencilerinin bakım odaklı hemşire-hasta etkileşimine yönelik tutumlarının incelenmesi. *J. Hum. Sci.* **2017**, *14*, 3300–3309.
- 49) Dharmanegara, I.B.A.; Pradesa, H.A. The Influence of Self-Efficacy and Emotional Intelligence toward Caring Behavior among Nurses in Public Hospital Denpasar Bali. *IOSR-JNHS* **2015**, *4*, 9–15.
- 50) Vandenhouten, C.; Kubsch, S.; Peterson, M.; Murdock, J.; Lehrer, L. Watson's Theory of Transpersonal Caring. *Holist. Nurs. Pract.* **2012**, *26*, 326–334.
- 51) Patiraki, E.; Karlou, C.; Efstathiou, G.; Tsangari, H.; Merkouris, A.; Jarošová, D.; Leino-Kilpi, H.; Suhonen, R.; Balogh, Z.; Palese, A.; et al. The Relationship Between Surgical Patients and Nurses Characteristics with Their Perceptions of Caring Behaviors. *Clin. Nurs. Res.* **2012**, *23*, 132–152.
- 52) Murray, R.P.; Dunn, K.S. Assessing Nurses' Knowledge of Spiritual Care Practices Before and After an Educational Workshop. *J. Contin. Educ. Nurs.* **2017**, *48*, 115–122.
- 53) Kiaei, M.Z.; Salehi, A.; Nasrabadi, A.M.; Whitehead, D.; Azmal, M.; Kalhor, R.; Bahrami, E.S. Spirituality and spiritual care in Iran: Nurses' perceptions and barriers. *Int. Nurs. Rev.* **2015**, *62*, 584–592.
- 54) Şahin, Z.A.; Özdemir, F.K. Spirituality and spiritual care: A descriptive survey of nursing practices in Turkey. *Contemp. Nurse* **2016**, *52*, 454–461.
- 55) Bennett, P.N. Technological Intimacy in Haemodialysis Nursing. *Nurs. Inq.* **2011**, *18*, 247–252.
- 56) Martin, A.; Davidson, C.L.; Panik, A.; Buckenmyer, C.; Delpais, P.; Ortiz, M. An Examination of ESI Triage Scoring Accuracy in Relationship to ED Nursing Attitudes and Experience. *J. Emerg. Nurs.* **2014**, *40*, 461–468.