Research Article

A Comparative Study of Nurses' and Patients' Perceptions of Caring Behaviors in Oncology Departments

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Abstract

Background: Patients undergoing chemotherapy experience a wide range of physical and psychological symptoms due to the treatment they receive. The quality of care for these patients is primarily influenced by the caring behaviors of nurses.

Objectives: Given that differences in the perception of caring behaviors between patients undergoing chemotherapy and nurses may leave patients' needs unmet, this study was conducted to compare the perceptions of oncology nurses and patients undergoing chemotherapy regarding nurses' caring behaviors.

Methods: In this descriptive-comparative study, 97 patients undergoing chemotherapy in the Oncology Departments of Imam Hossein (AS) and Taleghani Hospitals in Tehran were selected through convenience sampling. Sampling was conducted daily from 8 a.m. to 6 p.m. until the required sample size was achieved. A census was performed on 39 nurses working in these hospitals. Data were collected using a demographic information form and the Caring Behavior Inventory. The collected data were analyzed using SPSS 24 and statistical tests, including *t*-tests, one-way ANOVA, and Spearman's correlation coefficient.

Results: Nurses had significantly higher perceptions of the assurance of human presence, respectful deference to others, and positive connectedness subscales than patients (P = 0.007). However, there was no significant difference in the perception level for the knowledge and skill subscale between nurses and patients (P = 0.72). Overall, nurses assigned higher scores to caring behaviors than patients (P = 0.011). The experience of previous hospitalization among patients was significantly associated with their perception of overall caring behaviors (P < 0.001) and all subscales. Among nurses, gender had a positive correlation with their perception of assurance of human presence (P = 0.02) and overall caring behaviors (P = 0.04).

Conclusions: Given the differences in how oncology nurses and patients undergoing chemotherapy perceive caring behaviors, it is essential for oncology nurses to incorporate patients' perceptions when prioritizing their caring behaviors and to strive to provide patient-centered care at all times.

Keywords: Perception, Caring Behaviors, Nurses, Patients, Chemotherapy

1. Background

Cancer is currently one of the most significant health challenges. A cancer diagnosis is an extremely distressing and unbelievable experience for anyone (1). According to estimates from GLOBOCAN in 2020, there were 19.3 million new cases of cancer and 10 million cancer-related deaths, making cancer one of the primary contributors to global mortality (2). Chemotherapy is the most common treatment for various types of cancer (3). It has significantly improved the survival rate of cancer patients and the prognosis of the disease (4). However, cancer treatment affects patients' lives physically, psychologically, and socially, often manifesting as post-traumatic stress, depression, or anxiety (5). The side effects resulting from chemotherapy can significantly diminish patients' quality of life; thus, it is crucial to provide high-quality care for these patients (6).

As cancer cases continue to rise, the demand for specialized and trained oncology nurses is growing (5). Among the healthcare team, oncology nurses constitute the largest professional group, dedicating a significant amount of time to the care of cancer patients at all stages of the disease (7). Working collaboratively with other members of the treatment team, oncology nurses

expedite the delivery of healthcare, mitigate treatment-related symptoms and side effects, enhance patients' capacity to confront fear, and promote their adaptation to treatment (8). Oncology nurses fulfill various roles, including symptom management, information provision, health education, and fostering a sense of confidence, encouragement, and solidarity with the patient. In the field of oncology nursing, the most essential care behaviors are regarded as love, presence, respect, kindness, and the preservation of human dignity (9).

According to Teng et al., caring behaviors encompass the interventions and actions undertaken by nurses to address the physical, emotional, spiritual, and social needs of patients. These behaviors aim to enhance patients' sense of security and expedite their recovery process (10). Caring behaviors can be categorized into two groups: Instrumental behaviors, which include technical and physical skills, and psychological and emotional behaviors, which are expressed through displays of loyalty, hope, trust, and affection (11, 12). The caring behaviors of oncology nurses enhance patient satisfaction and contribute to their recovery and overall well-being (13). Therefore, it is necessary to provide high-quality caring behaviors to maintain patient satisfaction (14).

According to studies, the way nurses perceive care behaviors is a key factor in determining the quality of nursing care (15). Conversely, patients' perceptions are a crucial indicator of the quality of nursing services and provide feedback for assessing and evaluating the quality of nursing care (16). Hence, examining the alignment between nurses' and patients' perceptions of care behaviors can lead to enhancements in healthcare facilities and services (17). Research studies aimed at comparing nurses' and patients' perceptions of caring behaviors have revealed disparities in their prioritization of these behaviors (18). Based on these studies, patients attributed higher importance to technical behaviors, reflecting nurses' knowledge and skills, whereas nurses placed greater emphasis on emotional and psychological behaviors (13, 19).

Discrepancies in how nurses and patients perceive care behaviors can result in patient dissatisfaction with nursing services (20). Therefore, assessing and comparing the perceptions of care behaviors from the viewpoints of nurses and patients undergoing chemotherapy can enhance nurses' awareness in providing holistic care and improve the satisfaction and quality of life of these patients.

2. Objectives

So far, no study has been conducted in Iran aimed at investigating and comparing the perceptions of patients undergoing chemotherapy and nurses regarding care behaviors, and studies outside Iran are also limited. Therefore, the present study was conducted to investigate and compare the perceptions of nurses and patients undergoing chemotherapy regarding the most important caring behaviors exhibited by nurses.

3. Methods

This descriptive-comparative study began in October 2019 and was completed in December 2019. The statistical population of the study consisted of nurses working in the Oncology Departments of Imam Hossein (AS) and Taleghani Hospitals, affiliated with Shahid Beheshti University of Medical Sciences in Tehran, and hospitalized cancer patients undergoing chemotherapy in these two hospitals.

According to a study conducted by Hajinezhad et al. in 2013 (21), the sample size was determined to be 97 patients using the following formula. Patients were selected through convenience sampling, and a census was performed on nurses working in the oncology departments of the selected hospitals (n = 39).

$$n = \frac{z_{\frac{\alpha}{2}}^2 \times \sigma^2}{d^2}$$

In this equation, α = 0.05, z = 1.96, σ = 1, and d = 0.2.

For the nurses, the inclusion criteria included a bachelor's degree or higher in nursing and at least six months of clinical work experience in oncology departments. For the patients, the inclusion criteria were being over 18 years old, the ability to read and write, no recorded or diagnosed psychological disorders in the patient's medical file, the ability to communicate, a cancer diagnosis confirmed by the attending physician, and having undergone at least one chemotherapy session.

After obtaining approval from the authorities of the medical centers, the researcher attended the oncology departments, introduced herself, explained the purpose of the study, and identified eligible nurses and patients from two shifts (morning and evening).

The data collection tool consisted of two parts. The first part examined demographic and clinical characteristics. The patients' demographic information included age, gender, marital status, economic status,

education level, employment status, medical diagnosis, history of hospital admission, experience of previous hospitalization, and care-receiving shift. The demographic questionnaire for the nurses assessed work shift, employment status, interest in the profession, work experience, work experience in the oncology department, and care-delivery shift, in addition to the basic demographic information. The second part was a standard scale called the Caring Behaviors Inventory (CBI). The latest version of this instrument, revised in 2006 by Wu et al., consists of 24 items and four subscales: Assurance of the human presence, knowledge and skill, respectful deference to others, and positive connectedness. Each item is scored on a 6-point Likert Scale from 1 (never) to 6 (always). The scores for caring behaviors in the assurance of the human presence subscale range from 8 to 48, the knowledge and skill subscale ranges from 5 to 30, the respectful deference to others subscale ranges from 6 to 36, and positive connectedness varies between 5 and 30. The minimum and maximum attainable scores on the total CBI are 24 and 144, respectively (22).

To investigate the content and face validity of the CBI, the scale was distributed to ten faculty members in the Faculty of Nursing and Midwifery at Shahid Beheshti University of Medical Sciences. Necessary corrections were made based on their comments. The reliability of the CBI was assessed by separately calculating the Cronbach's alpha coefficient for both nurses and patients. The Cronbach's alpha coefficients for all the subscales were higher than 0.7 for both groups, indicating acceptable reliability. The overall alpha coefficient for caring behaviors was calculated as 0.91 for nurses and 0.96 for patients, both of which are excellent.

Data analysis was performed using SPSS version 24. Quantitative data were described as mean (± standard deviation), while qualitative data were presented as frequency and percentage. The inferential statistics used included the independent *t*-test, one-way ANOVA, and Spearman's correlation coefficient.

4. Results

The mean age of the nurses was 33.82 ± 7.8 years; most of them were female (87.18%) and married (66.67%). Approximately 46.15% of the nurses had a poor economic status, while 15.38% had a good economic status. Most (87.18%) nurses held a bachelor's degree. Their mean work experience was 10.18 ± 7.57 years, with an average of 6.84 ± 6.66 years of experience in the

oncology department. Most (51.28%) of the nurses had permanent employment contracts. The majority (82.05%) worked rotating shifts, and their level of interest in the profession was rated as high by 38.46%, moderate by 38.46%, very high by 17.95%, and low by 5.13%. Most (66.67%) of the nurses were surveyed during the evening shift (Table 1).

Table 1. Nurses' Demographic and Clinical Characteristics [a]

Variables	Values
Age	33.82 ± 7.8
Work experience	10.18 ± 7.57
Work experience in the oncology department	6.84 ± 6.66
Gender	
Female	34 (87.18)
Male	5 (12.82)
Marital status	
Single	13 (33.33)
Married	26 (66.67)
Economic status	
Income less than expenses	18 (46.15)
Equal income and expenses	15 (38.46)
Income higher than expenses	6 (15.38)
Education level	
Bachelor's degree	34 (87.18)
Master's degree	5 (12.82)
Employment status	
Permanent	20 (51.28)
Contractual	2 (5.13)
Temporary	7 (17.95)
Compulsory medical service program	10 (25.64)
Work shift	
Fixed	7 (17.95)
Rotational	32 (82.05)
Interest in the profession	
Low	2 (5.13)
Moderate	15 (38.46)
High	15 (38.46)
Very high	7 (17.95)
Care delivering shift	
Morning	13 (33.33)
Evening	26 (66.67)

[a] Values are expressed as mean ± SD or No. (%).

As shown in Table 2, the mean age of the participating patients was 51.28 ± 14.36 years; most were male (52.58%) and married (82.47%). Most patients had a poor economic status (68.42%) and had an education level lower than a high school diploma (50.56%). The most common employment status among patients

(37.89%) was as housewives; 92.78% of patients had a history of hospital admission. Previous hospitalization experiences were reported as good by 61.8% of the patients, not so good by 17.98%, very good by 11.24%, bad by 5.62%, and extremely bad by 3.37%. The majority of the patients had gastrointestinal cancer (67.01%) and were examined during the morning shift (74.23%).

Table 2. Patients' Demographic and Clinical Characteristics [a]

Variables	Value
Age, y	51.28 ± 14.36
Gender	
Female	46 (47.42)
Male	51 (52.58)
Marital status	
Single	13 (13.4)
Married	80 (82.47)
Widowed	4 (4.12)
Economic status	
Income less than expenses	65 (68.42)
Equal income and expenses	23 (24.21)
Income higher than expenses	7 (7.37)
Education	
Lower than high school diploma	45 (50.56)
High school diploma	25 (28.09)
Bachelor's degree	16 (17.98)
Master's degree	3 (3.37)
Employment status	
Employed	15 (15.79)
Unemployed	25 (26.32)
Housewife	36 (37.89)
Retired	19 (20)
History of hospitalization	
Yes	90 (92.78)
No	7 (7.22)
Experience of previous hospitalization	
Very bad	3 (3.37)
Bad	5 (5.62)
Not so good	16 (17.98)
Good	55 (61.8)
Very good	10 (11.24)
Medical diagnosis	
Gastrointestinal tract	65 (67.01)
Bone marrow	7 (7.22)
Lymphoma	10 (10.31)
Respiratory tract	5 (5.15)
Breast	4 (4.12)
Sarcoma	3 (3.09)
Reproductive system	3 (3.09)
Care receiving shift	
Morning	72 (74.23)
Evening	25 (25.77)

[a] Values are expressed as mean ± SD or No. (%).

4.1. Comparison of Nurses' and Patients' Perceptions of Nurses' Caring Behaviors During Chemotherapy

According to the *t*-test results, the mean scores of the nurses' perceptions of caring behaviors for the assurance of human presence (P = 0.007), respectful deference to others (P = 0.007), and positive connectedness (P = 0.007) subscales, as well as the overall perception score (P = 0.011), were significantly higher than the mean scores of the patients' perceptions. There was no significant difference in the perception level for the knowledge and skill subscale between the nurses and patients (P = 0.72) (Table 3). The nurses perceived assurance of human presence (5.18 ± 0.55) as the most important caring behavior, followed by respectful deference to others (5.07 ± 0.49), while the patients perceived knowledge and skill (4.91 ± 0.89) as the most important, followed by assurance of human presence (4.73 ± 0.96). Both nurses and patients gave the lowest score to the positive connectedness subscale.

4.2. Background Variables Related to Nurses' and Patients' Perceptions of Nurses' Caring Behaviors

For the nurses, gender was the only variable associated with the perception of overall caring behaviors (P = 0.04) and the assurance of human presence subscale (P = 0.02). The *t*-test results show that the perception of overall caring behaviors and assurance of human presence was higher in female nurses than in male nurses. Female nurses assigned the highest score to assurance of human presence (5.25 ± 0.49), followed by overall caring behaviors (5.08 ± 0.44) (Table 4).

Regarding the background variables for the patients, previous hospitalization experience had a significant positive Spearman correlation with their perceptions of overall caring behaviors (P < 0.001, r_{sp} = 0.415), as well as with the assurance of human presence (P < 0.001, r_{sp} = 0.373), knowledge and skill (P < 0.001, r_{sp} = 0.336), respectful deference to others (P < 0.001, r_{sp}=0.407), and positive connectedness (P < 0.001, r_{sp} = 0.404) subscales. Consequently, patients with a more positive experience of previous hospitalization gave higher scores to overall caring behaviors and all subscales.

Patients' medical diagnoses were also associated with their perception of the knowledge and skill subscale (P = 0.018, F = 2.71). The ANOVA test results show that patients with respiratory tract cancers assigned the highest score to this particular subscale (5.32 ± 0.91). The results for

Table 3. Comparison of Nurses' and Patients' Perceptions of Nurses' Caring Behaviors During Chemotherapy

CBI Subscales	Mean ± SD	t	P-Value [a, b]
Assurance of the human presence			0.007
Nurses	5.18 ± 0.55	2.737	
Patients	4.73 ± 0.96		
Knowledge and skill			0.72
Nurses	4.96 ± 0.53	0.359	
Patients	4.91 ± 0.89		
Respectful deference of others			0.007
Nurses	5.07 ± 0.49	2.761	
Patients	4.6 ± 1.02		
Positive connectedness			0.007
Nurses	4.78 ± 0.58	2.729	
Patients	4.3 ± 1.04		
Overall perception score			0.011
Nurses	5.02 ± 0.47	2.579	
Patients	4.64 ± 0.87		

Abbreviation: CBI, Caring Behaviors Inventory.

[a] Independent *t*-test.

[b] P < 0.05 is significant.

Table 4. Comparison of Female and Male Nurses' Perceptions of Nurses' Caring Behaviors

CBI subscales	Mean ± SD	t	P-Value [a, b]
Assurance of the human presence		2.326	0.02
Female	5.25 ± 0.49		
Male	4.65 ± 0.69		
Overall perception score		2.051	0.04
Female	5.08 ± 0.44		
Male	4.63 ± 0.50		

Abbreviation: CBI, Caring Behaviors Inventory.

[a] Independent *t*-test.

[b] P < 0.05 is significant.

the other groups are as follows: Gastrointestinal system cancers (5.06 ± 0.83), bone marrow cancers (4.14 ± 1.08), lymphoma (4.64 ± 0.88), breast cancer (3.90 ± 0.20), sarcoma (5.13 ± 0.61), and female reproductive system cancers (4.67 ± 1.21).

5. Discussion

The results of the present study indicate that oncology nurses and patients undergoing chemotherapy prioritize caring behaviors differently. Nurses assigned the highest score to the assurance of human presence subscale. The caring behaviors associated with this subscale are related to patients' safety concerns (19). The safe environment created by nurses for patients diminishes their feelings of fear, anxiety, and concern regarding their conditions. This, in turn, enhances patients' sense of security and can lead to a positive shift in their mindset (23). This finding demonstrates that patient safety and the human aspects of care are very important for oncology nurses (19). In the studies by Ahmed et al. and Shen et al., nurses identified the assurance of human presence subscale as the most crucial aspect of caring behavior (11, 13). This finding is not consistent with the results reported by Daulay and Sitanggang, Mert Boga et al., and Sarafis et al. (9, 24-26). This inconsistency could be due to the significant sense of insecurity, anxiety, and pain experienced by patients undergoing chemotherapy,

which leads to the perception that oncology nurses exhibit more caring behaviors on this subscale compared to nurses in surgical and other departments.

The respectful deference to others and knowledge and skill subscales received the second and third highest scores from the nurses. These findings show that the participating nurses placed great emphasis on the emotional aspects of care. Patients undergoing chemotherapy, due to their illness and the side effects of the treatment, often have greater emotional and psychological needs compared to other patients. Nurses can foster a sense of peace and hope in these patients through behaviors such as showing respect, actively listening, empathizing, and being kind and compassionate toward them. In the study by Karlou et al., nurses reported that being alongside their patients and offering empathy during the most vulnerable phase of their lives was the main element of care (9). These findings align with the research conducted by Ahmed et al. (11).

The nurses participating in the present study assigned the lowest score to the positive connectedness subscale. This finding is consistent with the results of various studies (9, 11, 13, 24, 26, 27). The patients also assigned the lowest score to the positive connectedness subscale, which aligns with the studies by Jiang et al., Ferede et al., and Dursun Ergezen et al. (18, 27, 28). One of the most important caring behaviors in this subscale is patient education. Educating patients undergoing chemotherapy is particularly important because the side effects of chemotherapy significantly contribute to treatment discontinuation, and providing information can decrease the level of anxiety and pessimism these patients have toward treatment (29, 30). Therefore, it is necessary to implement measures to improve nurses' perceptions of patient education.

In this study, patients undergoing chemotherapy perceived the knowledge and skill subscale as the most important caring behavior, which is consistent with various studies, including those by Jiang et al., Dursun Ergezen et al., and Aupia et al. (27, 28, 31). This finding indicates that the professional knowledge and technical skills of nurses are very important for patients undergoing chemotherapy. On the other hand, the care behaviors in this subscale are more objective than those in other subscales, leading to enhanced perception and easier evaluation by patients (32).

The patients participating in this study ranked the assurance of human presence subscale as their second priority. Similarly, in the study by Jiang et al. and that by

Karlou et al., assurance of human presence was ranked second by patients with COVID-19 and cancer patients, respectively (27, 33). Due to the nature of the disease and its treatment, patients undergoing chemotherapy develop a higher perception of caring behaviors related to this subscale. These behaviors include symptom relief, pain management, and prompt delivery of medications and healthcare services; consequently, nurses perform these caring behaviors effectively.

The respectful deference of others subscale was ranked third by the patients, which aligns with the studies by Jiang et al., Aupia et al., and Karlou et al. (27, 31, 33). It seems that the cultural and religious atmosphere in Iran has hindered the establishment of a close relationship between nurses and patients, resulting in this subscale being undervalued.

The comparison of oncology nurses' and chemotherapy patients' perceptions of caring behaviors shows that nurses had higher perceptions than patients regarding the assurance of human presence, respectful deference of others, and positive connectedness subscales, as well as overall caring behaviors. This observation indicates the critical importance of emotional and psychological behaviors from the perspective of nurses. This comparison also reveals that nurses and patients share similar perceptions regarding the knowledge and skill subscale; however, patients prioritize the knowledge and skill subscale more than nurses do. The results of this comparison indicate that nurses and patients undergoing chemotherapy have different preferences in terms of care behaviors, which is consistent with findings from several studies (19, 27). Differences in the prioritization of care behaviors can lead to unfulfilled patient needs and subsequent dissatisfaction with nursing care.

Based on our results, female nurses had a higher perception of overall caring behaviors and the assurance of human presence subscale than male nurses. It should be noted that, due to the small number of male nurses compared to female nurses, this finding may not be reliable. To explain this finding, it can be argued that women are generally more emotional and sensitive than men. Hence, female nurses tend to exhibit higher levels of empathy and compassion towards cancer patients, which, in turn, fosters greater patient confidence and assurance. In the studies by Jiang et al. (2023) and Ahmed et al. (2022), female nurses exhibited higher perceptions of assurance of human presence than male nurses, confirming the present findings (11, 27). Nevertheless, this finding is inconsistent with the

results reported by Shen et al. and Karlou et al. (13, 33). The gender imbalance among nurses and cultural differences could indeed contribute to the inconsistencies observed in the present study.

Among the participating patients, those who had a better previous hospitalization experience tended to give higher scores to all subscales and overall caring behaviors. As expected, patients with a more positive experience during their previous hospital stays showed more favorable attitudes toward nurses' caring behaviors and subsequently had a higher perception of these behaviors. Furthermore, the patients' medical diagnosis was found to correlate with their perception of the knowledge and skill subscale. Notably, patients with respiratory cancers (laryngeal and lung) exhibited the highest perception of this subscale. Respiratory cancers, especially lung cancer, have the highest mortality rates among malignant tumors. Additionally, patients with lung cancer experience more symptoms than those with other cancers (34). Therefore, the nature of their disease necessitates more effective care, leading to a higher perception of the knowledge and skills of nurses.

This study was conducted in hospitals affiliated with Shahid Beheshti University of Medical Sciences in Tehran. The findings of this study cannot be generalized to other hospitals in Tehran or other cities in Iran. Moreover, patients with better economic status tend to seek treatment at private centers for chemotherapy, where the quality of services is usually high; thus, the results of this study cannot be generalized to patients who attend private centers. Most of the nurses were unwilling to cooperate with the researcher due to their busy work schedules; this was partially addressed through arrangements with the department manager. The results of this study may serve as a foundation for future research, such as qualitative studies comparing nurses' and patients' perceptions of caring behaviors. Additionally, this study enhances oncology nurses' awareness of how patients undergoing chemotherapy perceive care behaviors and assists them in providing care that aligns with patient expectations.

5.1. Conclusions

Although the professional responsibility of nurses is primarily to provide patient-centered care that aligns with the priorities, preferences, and expectations of patients, the findings indicate that nurses may not accurately assess patients' perceptions of various aspects of care. Consequently, they may plan and deliver

nursing care based on their own assumptions. Therefore, it is crucial for oncology nurses to consider the viewpoints of patients undergoing chemotherapy when determining the priorities of their caring behaviors and to focus on enhancing their technical skills. Furthermore, programs aimed at fostering mutual communication and understanding between nurses and patients should be designed and implemented in hospital settings.

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