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The Relationship Between Nurses' Self-Efficacy And The Performance Of Nursing Care For Cancer Patients Undergoing Radiotherapy

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Abstract

Cancer is a major global health issue, remaining a leading cause of high morbidity and mortality rates. Cancer patients often require complex, long-term therapy, one form of which is radiotherapy. Radiotherapy is a cancer treatment modality that utilizes ionizing radiation to destroy cancer cells, inhibit tumor growth, and alleviate clinical symptoms experienced by patients. The performance of nurses in providing nursing care serves as a key indicator for assessing the quality of healthcare services in hospitals. One internal factor that plays a significant role in influencing nurse performance is self-efficacy. This study aims to examine the relationship between nurses' self-efficacy and their performance in providing nursing care to cancer patients undergoing radiotherapy. A descriptive-correlational design with a cross-sectional approach was employed. The study was conducted at the Medan City General Hospital. The population consisted of all 32 nurses working in the radiotherapy unit, selected using a total sampling technique. Primary data were collected via questionnaires and analyzed using univariate and bivariate methods, with the chi-square test applied at a significance level of 0.05. The statistical results yielded a p-value of 0.000 ($p < 0.05$), indicating a significant relationship between nurses' self-efficacy and their performance in providing nursing care to cancer patients undergoing radiotherapy.

Keywords: Self-Efficacy, Performance, Nursing Care for Cancer Patients Undergoing Radiotherapy

INTRODUCTION

Cancer is a major global health issue, remaining a leading cause of high morbidity and mortality rates. The number of cancer cases continues to rise annually, driven by shifts in lifestyle, environmental factors, and increased life expectancy (WHO, 2022). In Indonesia, cancer is a non communicable disease that imposes a significant health burden affecting patients, their families, and the healthcare system alike. Cancer patients often require complex, long-term treatment, one form of which is radiotherapy. Radiotherapy is a cancer treatment modality that utilizes ionizing radiation to destroy cancer cells, inhibit tumor growth, and alleviate clinical symptoms experienced by patients (Tomita, 2024).

In clinical practice, radiotherapy may be administered as a standalone treatment or in combination with other modalities, such as surgery or chemotherapy. The delivery of radiotherapy demands optimal involvement from healthcare professionals, particularly nurses. Nurses play a vital role in providing comprehensive nursing care to cancer patients undergoing radiotherap spanning the preparation phase, the treatment process, and post-treatment follow-up (Djamaludin & Chen, 2021). This nursing care extends beyond addressing the patient's physical needs to encompass psychological, social, and spiritual dimensions. Cancer patients undergoing radiotherapy frequently experience various side effects, including fatigue, skin changes, pain, nutritional disturbances, anxiety, and emotional stress stemming both from the treatment process itself and the uncertainty surrounding their prognosis. Such conditions require nurses to possess professional competence, therapeutic communication skills, and the mental readiness to deliver safe, high-quality care (Langi et al., 2025).

The performance of nurses in providing nursing care is a key indicator for assessing the quality of healthcare services in hospitals. It reflects the extent to which nurses can systematically carry out the nursing process encompassing assessment, nursing diagnosis, planning, implementation, and evaluatio in accordance with professional standards and

nursing ethics. High-quality performance contributes to improved patient safety, greater patient satisfaction, and the increased effectiveness of therapeutic interventions. Conversely, suboptimal nursing performance can compromise the quality of care and potentially lead to patient safety issues, particularly for cancer patients undergoing radiotherapy, who often present with complex clinical conditions (Kim et al., 2022).

One internal factor that plays a significant role in influencing nursing performance is self efficacy. Self efficacy is defined as an individual's belief in their own capacity to organize and execute the actions required to achieve desired outcomes. In the context of nursing, self efficacy relates to a nurse's confidence in their ability to provide nursing care, make clinical decisions, address patient concerns, and navigate high pressure work environments. Nurses with high levels of self-efficacy tend to possess greater work motivation, demonstrate resilience when facing challenges, and exhibit superior performance compared to those with lower self efficacy (Lim et al., 2022).

Various studies indicate that self efficacy has a significant relationship with nursing performance. Nurses with high self efficacy possess greater confidence in performing nursing interventions, are more proactive in resolving clinical problems, and demonstrate greater consistency in adhering to standards of nursing care. Self efficacy also plays a role in enhancing a nurse's ability to adapt to changing patient conditions and job demands, including in the care of patients with chronic illnesses such as cancer. In oncology nursing, self efficacy is a crucial aspect, as nurses frequently encounter patients with fluctuating physical and emotional states, diverse treatment side effects, and an ongoing need for education and psychological support (Dewi et al., 2025).

For cancer patients undergoing radiotherapy, nurses are expected to provide accurate education regarding radiotherapy procedures, the management of side effects and self care practices to be followed at home. Furthermore, nurses play a vital role in offering emotional support to help patients cope with the anxiety, fear, and stress that often arise during the treatment process. These complex role demands require nurses who are not only clinically competent but also possess strong self efficacy, enabling them to perform their duties optimally and consistently (Handiyani et al., 2019).

As a referral hospital providing radiotherapy services, the Medan City General Hospital plays a crucial role in the care of cancer patients. The quality of radiotherapy services is heavily influenced by the performance of nurses in delivering safe, effective, and patient-centered nursing care. In practice, however, radiotherapy nurses face a high workload, emotional strain from caring for cancer patients, and ongoing professional demands. These conditions can affect a nurse's level of self efficacy, which in turn impacts the quality of nursing care provided. While various studies have explored the relationship between self efficacy and nursing performance, most have focused on general clinical settings such as inpatient wards, emergency departments, or intensive care units. Research specifically examining the link between nurse self efficacy and the performance of nursing care for cancer patients undergoing radiotherapy remains limited, particularly in Indonesia. This is significant because the context of radiotherapy services possesses distinct characteristics that require a more specialized nursing approach compared to general nursing care.

Based on this, it can be concluded that nurse self efficacy is a critical factor with the potential to influence the performance of nursing care for cancer patients undergoing radiotherapy. Optimal nursing performance is essential for supporting therapeutic success, improving patients' quality of life, and ensuring patient safety and satisfaction. Therefore, research into the relationship between nurse self efficacy and the performance of nursing care for cancer patients undergoing radiotherapy is highly relevant. The findings of this study are expected to contribute to the scientific development of oncology nursing and serve as a

foundation for designing capacity building programs aimed at strengthening nurse self efficacy, ultimately enhancing the quality of nursing care within the hospital.

RESEARCH METHODS

This study employs a descriptive-correlational design with a cross-sectional approach, aimed at describing the relationship between the independent and dependent variables. The research was conducted at the Medan City General Hospital (RSU Kota Medan). The study population consists of all 32 nurses working in the radiotherapy unit. A total sampling technique a sampling procedure that includes every member of the population was used to select the 32 participants (Notoatmodjo, 2020).

The inclusion criteria for this study are: nurses working in the radiotherapy unit or a cancer patient care unit; possessing at least a diploma degree in nursing; having a tenure of ≥ 6 months in the relevant unit; providing direct nursing care to cancer patients undergoing radiotherapy; and consenting to participate in the study by signing an informed consent form.

The independent variable in this study is the nurses' self efficacy, while the dependent variable is the performance of nursing care for cancer patients undergoing radiotherapy. Primary data were collected directly from the respondents using a structured questionnaire, while secondary data were obtained from the hospital and relevant literature.

The self-efficacy questionnaire is measured using a 4 point Likert scale, with response options ranging from 1 (very unsure") to 4 (very sure). The questionnaire for nursing care performance for cancer patients undergoing radiotherapy is also measured using a 4 point likert scale, with response options ranging from 1 (never) to 4 (always).

Data processing involves editing, coding, data entry, and cleaning. Data analysis was performed using univariate and bivariate methods. Univariate analysis was used to describe the characteristics of the respondents and the distribution of each research variable, expressed in terms of frequencies and percentages. Bivariate analysis was conducted using the chi square test to determine the relationship between nurses' self-efficacy and the performance of nursing care for cancer patients undergoing radiotherapy at the Medan City General Hospital, with a significance level of 0.05.

RESULTS AND DISCUSSION

Characteristics of Respondents

This study involved all 32 nurses working in the radiotherapy unit at the Medan City General Hospital. The characteristics of the respondents include age, gender, and educational level. The distribution of these characteristics is presented in Table 1.

Table 1 Frequency Distribution of Respondent Characteristics

Characteristics	Frequency (n)	Percentage (%)
Age		
20–30 years	19	57.6
31–40 years	12	36.4
41 years and above	2	6.1
Total	33	100
Gender		
Male	28	84.8
Female	5	15.2
Total	33	100
Educational Background		
Diploma in Nursing (D3)	11	33.3
Bachelor's Degree (S1)	20	60.6

Professional Nursing Degree	2	6.1
Total	33	100

Based on Table 1, the distribution of respondent characteristics by age shows that the majority of respondents fall into the 20–30 age group, consisting of 19 respondent (57.9%). The 31–40 age group comprises 12 respondent (36.4%), while the group aged 41 and above is the smallest, with 2 respondent (6.1%). Regarding gender, the study results indicate that the majority of respondents are male, totaling 28 individuals (84.8%), while female respondents account for 5 respondent (15.2%). In terms of the highest level of education attained, the majority of respondents hold a bachelor's degree (S1), totaling 20 respondent (60.6%), whereas those with a professional degree (profesi) represent the smallest group with 2 respondent (6.1%).

Tabel 2 Distribusi Frekuensi dan Persentase Self-Efficacy Perawat di RSU Kota Medan

Variable	Frequency (n)	Percentage (%)
Nurses' Self-Efficacy		
Good	9	27.3
Moderate	18	54.5
Poor	6	18.2
Total	33	100

Based on Table 2, the results regarding the self-efficacy of nurses at the Medan City General Hospital (RSU Kota Medan) show that, out of a total of 33 respondents, the majority 18 nurses (54.5%) possess a "moderate" level of self-efficacy, while a small minority 6 nurses, (18.4%) fall into the "low" self efficacy category.

Table 3 Frequency Distribution and Percentage of Respondents Based on Nursing Care Performance for Cancer Patients Undergoing Radiotherapy

Variable	Frequency (n)	Percentage (%)
Nursing Care Performance		
Good	18	54.5
Fair	14	42.4
Poor	1	3.0
Total	33	100

Based on Table 3, which concerns the performance of nursing care for cancer patients undergoing radiotherapy at the Medan City General Hospital, it was found that the majority of respondents fell into the good category 18 respondent (54.5%), while only a small minority 1 respondent (3%) fell into the poor category for nursing care performance

Table 4 Results of the Chi-Square Test on the Relationship Between Nurses' Self-Efficacy and Nursing Care Performance for Cancer Patients Undergoing Radiotherapy

Nurses' Self-Efficacy	Good Performance (%)	Fair Performance (%)	Poor Performance (%)	Total (%)	P-value
Good	9 (27.3)	0 (0)	0 (0)	9 (27.3)	
Moderate	9 (27.3)	9 (27.3)	0 (0)	18 (54.5)	0.000
Poor	0 (0)	5 (15.1)	1 (3.0)	6 (18.2)	
Total	18 (54.5)	14 (42.4)	1 (3.0)	33 (100)	

Based on Table 4, which presents the cross-tabulation results between nurses' self-efficacy and their performance in providing nursing care to cancer patients undergoing radiotherapy, it was found that all nurses with high self efficacy demonstrated a good level of nursing care performance (n=9; 27.3%). There were no nurses with high self efficacy

whose performance was categorized as fair or poor. This indicates that a high level of self-efficacy correlates with a nurse's ability to provide optimal nursing care.

Self-Efficacy of Nurses at a General Hospital in Medan City

Based on table 2, the study results from 33 respondents at Murni Teguh Memorial Hospital, Medan, indicate that the majority of nurses possess a "moderate" level of self-efficacy, accounting for 18 respondent (54.5%). Furthermore, 9 nurses (27.3%) demonstrate a "good" level of self-efficacy, while a smaller group of 6 nurses (18.2%) fall into the "low" self efficacy category.

These findings suggest that most nurses have a moderate degree of self-belief regarding their capacity to carry out their duties and responsibilities as healthcare professionals. Self-efficacy refers to an individual's belief in their own ability to organize and execute the actions required to achieve specific goals. In the context of nursing, self-efficacy plays a crucial role in bolstering a nurse's confidence when navigating various clinical situations, making decisions, solving problems, and providing nursing care to patients.

In the nursing care of cancer patients undergoing radiotherapy, self efficacy is particularly essential, as nurses encounter patients with complex health conditions that require specialized attention. Nurses must have confidence in their own abilities to conduct assessments, deliver nursing interventions, identify side effects of radiotherapy, provide patient education, and offer psychological support to both patients and their families. A strong sense of self-belief enables nurses to perform their duties with greater confidence, accountability, and professionalism.

The fact that 18 respondents (54.5%) fall into the "moderate" self efficacy category indicates that while most nurses already possess a degree of confidence in their ability to perform nursing tasks, this confidence could be further strengthened to reach the "good" category. Enhancing self efficacy can be achieved through training and competency development, clinical practice experience, support from colleagues and supervisors, and the provision of motivation within the work environment.

Meanwhile, 6 respondents (18.2%) fall into the "low" self efficacy category. This indicates that some nurses still possess relatively low self-confidence regarding their ability to perform nursing tasks. Such a condition may be linked to factors including work experience, level of knowledge, skills, experience in handling clinical cases, and the support provided by the work environment. Therefore, guidance and mentorship are necessary to help nurses become more confident in their own abilities to provide nursing care.

Nursing Care Performance for Cancer Patients Undergoing Radiotherapy

An assessment of nursing care performance for cancer patients undergoing radiotherapy at the Medan City General Hospital revealed that the majority of respondents 18 respondents (54.5%) fell into the "good" category, while only a small minority 1 respondent (3%) fell into the "poor" category. These findings indicate that most nurses are capable of providing high-quality nursing care to cancer patients undergoing radiotherapy. This performance is reflected in the nurses' ability to deliver nursing services, assess patient conditions, establish nursing diagnoses, develop care plans, implement nursing interventions, and evaluate patient progress. For cancer patients undergoing radiotherapy, the role of the nurse is critical, as patients may experience various side effects during treatment such as fatigue, nausea, vomiting, skin issues, pain, and psychological changes. Consequently, nurses are expected to possess the necessary knowledge, skills, attention to detail, and effective communication abilities to provide comprehensive nursing care. Furthermore, nurses must offer emotional support and patient education to help individuals better cope with the treatment process (Febriani, 2021).

The presence of 14 respondents (42.4%) in the "fair" (adequate) performance category suggests that the delivery of nursing care is not yet fully optimal for all patients. This may be influenced by several factors, including workload, work experience, level of knowledge, clinical skills, the availability of facilities, and the work environment. Moreover, the specific demands of caring for cancer patients undergoing radiotherapy require focused attention, necessitating that nurses tailor their nursing interventions to the unique needs of each patient. Meanwhile, there remains one respondent (3.0%) whose performance was categorized as "poor." Although this represents a relatively small number, it warrants attention, as the quality of nursing performance directly impacts the overall standard of care and patient safety. Therefore, efforts to improve performance are necessary through training, supervision, and periodic evaluatio as well as by enhancing the knowledge and skills of nurses in providing nursing care, particularly for cancer patients undergoing radiotherapy.

The Relationship Between Nurses' Self-Efficacy and Nursing Care Performance for Cancer Patients Undergoing Radiotherapy at a General Hospital in Medan City.

The results of this study indicate a significant relationship between nurses' self-efficacy and their performance in providing nursing care to cancer patients undergoing radiotherapy at Murni Teguh Memorial Hospital, Medan, with a p-value of 0.000 ($p < 0.05$). These findings demonstrate that a nurse's level of self-confidence in carrying out professional duties plays a crucial role in determining the quality of nursing care provided to patients. Nurses with high self-efficacy tend to be capable of delivering optimal nursing care, whereas those with low self-efficacy exhibit less-than-optimal performance. This aligns with the self-efficacy theory proposed by Bandura, which posits that an individual's belief in their own capabilities influences their work behavior, persistence, and the quality of their performance in completing professional tasks (Lim et al., 2022).

This study is consistent with research conducted by Andriani and Sari (2021), which identified a significant relationship between self-efficacy and nurse performance in hospital inpatient wards, finding that nurses with high self-efficacy demonstrated better performance than those with low self-efficacy. Similar research by Kim et al (2022) also suggests that self-efficacy has a positive impact on nurses' performance in delivering nursing care, particularly in clinical settings that require precision and complex clinical decision-making.

The study by Langgi et al. (2025) indicates a significant relationship between self-efficacy and the performance of nurses in specialized care units, including those providing care for patients with chronic illnesses. The research explains that nurses with high self-efficacy are more confident in implementing nursing interventions, better equipped to manage work-related stress, and more consistent in documenting nursing care. Furthermore, a study by Tomita et al. (2024) on oncology nurses found that self-efficacy contributes significantly to improving the quality of care and the safety of cancer patients.

Conversely, some studies present findings that diverge from these results. Research by Susanti and Hidayat (2020) suggests no significant relationship between self-efficacy and nurse performance, positing that performance is more heavily influenced by factors such as workload, reward systems, and organizational support. Djamaludin et al. (2021) found that work experience and the leadership of the head nurse have a more dominant influence on nurse performance than self-efficacy. These discrepancies may stem from variations in respondent characteristics, work environments, types of services provided, and the complexity of the patient cases managed. In the present study, nurses caring for cancer patients undergoing radiotherapy are required to possess specialized competencies and a high level of self-confidence; consequently, self-efficacy plays a pivotal role in determining the quality of nursing care. Additionally, differences in measurement instruments and analytical methods may also influence research outcomes. Overall, these findings reinforce the evidence that self-efficacy is a crucial factor affecting nursing care performance,

particularly in the context of caring for cancer patients undergoing radiotherapy. Therefore, hospitals should foster self-efficacy among nurses through continuous training, clinical supervision, mentoring, and managerial support to ensure the ongoing improvement of nursing care quality.

CONCLUSION

The self-efficacy of nurses at the medan city general hospital assessed among 33 respondents revealed that the majority 18 nurses (54.5%) possess a "moderate" level of self-efficacy, while a small minority 6 nurses (18.4%) fall into the "low" self-efficacy category. Regarding the performance of nursing care for cancer patients undergoing radiotherapy at the same hospital, the majority of 18 respondents (54.5%) were rated as having "good" performance, whereas only a small fraction 1 nurse (3%) fell into the "poor" performance category. A cross tabulation of nurses' self-efficacy and their performance in providing nursing care to cancer patients undergoing radiotherapy showed that all nurses with high self-efficacy demonstrated a "good" level of nursing care performance (n=9; 27.3%). No nurses with high self-efficacy were found to have performance categorized as "fair" or "poor." This indicates that a high level of self-efficacy correlates with a nurse's ability to provide optimal nursing care.

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