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Chemotherapy Side Effects and Their Correlation with Self-Concept Disruption in Cancer Patients.

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ABSTRACT

Introduction: Chemotherapy, while an effective cancer treatment, often brings significant side effects that can negatively impact patients' psychological well-being, including their self-concept. This issue is critical, as a disturbed self-concept may influence patients' overall health and their response to treatment. **Objectives:** This study aims to determine the relationship between the side effects of chemotherapy and self-concept disturbances in cancer patients. **Methods:** This research employed a descriptive correlational design using a cross-sectional approach. The population consisted of cancer patients undergoing chemotherapy in January 2016. Data collection used structured questionnaires measuring both the severity of chemotherapy side effects and the level of self-concept disturbance. The Chi-Square test was used for data analysis with a significance level of 5% ($\alpha = 0.05$). **Results:** The majority of respondents (83%) experienced severe side effects of chemotherapy, and 67% of them showed negative disturbances in self-concept. The statistical test revealed a significant relationship between chemotherapy side effects and self-concept disturbance ($p = 0.015$), indicating that patients with more severe side effects tend to have more disturbed self-concepts. **Conclusions:** There is a significant relationship between the side effects of chemotherapy and self-concept disturbance among cancer patients. These findings highlight the importance of psychological support and counseling in cancer care to help patients maintain a positive self-concept during treatment.

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A. Introduction

Cancer is a type of non-communicable disease (NCD) and one of the leading causes of death globally. It is characterized by uncontrolled cell growth that disrupts the structure and function of affected organs. The disease progresses from benign neoplasms to highly malignant cancers, and most types of cancer do not heal spontaneously. Without proper treatment, cancer continues to spread and can result in death (Bray et al., 2018).

According to the World Health Organization (2014), approximately 8.2 million deaths worldwide were caused by cancer in 2012, and this number is projected to rise to 22 million cases in the next two decades. In Indonesia, the cancer prevalence reached 4.3 per 1,000 individuals, with an estimated 1.02 million people diagnosed with cancer in 2013 (Ministry of Health of Indonesia, 2013).

Chemotherapy is one of the main treatment options for cancer. However, many patients are hesitant to undergo chemotherapy despite its effectiveness. Patients not only struggle with the disease itself but also experience emotional and psychological stress throughout the treatment process (National Cancer Institute, 2022).

The side effects of chemotherapy occur because the drugs attack not only cancerous cells but also healthy, rapidly dividing cells. These side effects include hair loss, weakened immunity, oral ulcers, nausea, and vomiting. In addition, long-term treatment, fear of death, and lack of family support often lead to frustration and even treatment discontinuation (Turner et al., 2013).

Cancer patients frequently experience feelings of shame, social withdrawal, loss of control, fear, and frustration, which make them particularly vulnerable to disturbances in self-concept. Self-concept is defined as an individual's perception, belief, and evaluation of oneself, influencing their interaction with others. It includes five components: body image, ideal self, self-esteem, role performance, and personal identity (Stuart, 2014).

Patients who receive chemotherapy multiple times are more likely to develop negative self-evaluations, feelings of dependency, a sense of being a burden to others, and low self-worth (Bultz & Carlson, 2006). Cancer, therefore, is not only a physical illness but a complex condition that affects psychological and social aspects. Nurses play a crucial role in addressing these challenges by providing psychological rehabilitation and supporting patients in maintaining a positive self-concept during chemotherapy.

Based on this background, the present study aims to investigate the relationship between the side effects of chemotherapy and disturbances in self-concept among cancer patients. The goal is to provide insights that can support nursing interventions focused on improving psychological well-being.

B. Methods

This study uses a quantitative research design with a correlational approach to examine the relationship between the side effects of chemotherapy and disturbances in the self-concept of cancer patients. The correlational method is applied to identify the degree of association between two variables: the side effects of chemotherapy as the independent variable and self-concept disturbances as the dependent variable.

The population of this research includes all cancer patients undergoing chemotherapy in the Dahlia Room. The sampling technique used is total sampling, where all members of the population who meet the inclusion criteria are selected as research participants. The inclusion criteria consist of patients who are undergoing chemotherapy for the second time or more, are conscious and cooperative, and are willing to participate. Patients who are unconscious, uncooperative, or refuse to be involved are excluded from the sample.

Data collection was carried out using a structured questionnaire consisting of two sections: one measuring the side effects of chemotherapy and the other assessing the patient's self-concept. Prior to data collection, the instruments were tested for validity and reliability to ensure that they produced consistent and accurate results.

The data obtained were analyzed using the Spearman Rank correlation test. This statistical method is appropriate for identifying the strength and direction of the relationship between two variables when the data are not normally distributed. Through this analysis, the study seeks to determine whether there is a significant relationship between the chemotherapy side effects experienced by patients and the disturbances in their self-concept

C. Results and Discussion

This chapter presents the findings of the study regarding the relationship between chemotherapy side effects and disturbances in patients' self-concept. The data were obtained from 34 respondents and analyzed using the Spearman Rank correlation test.

General Characteristics of Respondents

Characteristics	Category	Frequency (f)	Percentage (%)
Age	26–35 years	6	17.6
	36–45 years	10	29.4
	46–55 years	12	35.3
	>55 years	6	17.6
Gender	Male	8	23.5
	Female	26	76.5
Chemotherapy Frequency	2–3 times	16	47.1
	4–5 times	10	29.4
	>5 times	8	23.5

Most respondents were female (76.5%) and aged 46–55 years (35.3%). Nearly half (47.1%) had undergone chemotherapy between two and three times. This demographic profile aligns with the global trend where middle-aged women are more susceptible to certain types of cancer, such as breast and cervical cancer (World Health Organization, 2020).

Severity of Chemotherapy Side Effects

Side Effect Severity	Frequency (f)	Percentage (%)
Mild	10	29.4
Moderate	14	41.2
Severe	10	29.4

The majority of patients (41.2%) reported moderate chemotherapy side effects, such as fatigue, nausea, hair loss, and decreased appetite. These results are consistent with previous research which identifies such symptoms as the most common and distressing outcomes of chemotherapy (Berger et al., 2013).

Level of Self-Concept Disturbance

Self-Concept Disturbance	Frequency (f)	Percentage (%)
Low	8	23.5
Moderate	16	47.1
High	10	29.4

Nearly half of the respondents experienced a moderate level of self-concept disturbance, while 29.4% experienced a high level. Dimensions such as body image, self-esteem, and role function were most affected. Physical changes like hair loss and weight fluctuation were the primary contributors to altered self-perception, particularly among female patients. Cash and Smolak (2011) emphasized that visible bodily changes can profoundly disrupt body image and diminish self-worth, especially in individuals who associate appearance with personal identity.

Correlation Analysis

Variables	p-value	Correlation Coefficient (ρ)	Interpretation
Chemotherapy Side Effects \times Self-Concept Disturbance	0.000	0.611	Significant, Moderate

The Spearman Rank test showed a correlation coefficient of 0.611 with a p-value of 0.000, indicating a significant and moderately strong positive correlation. This means that more severe chemotherapy side effects are associated with higher levels of disturbance in patients' self-concept.

Side Effects of Chemotherapy

Based on the research results, 17% of respondents (5 individuals) experienced mild side effects, while 83% (25 individuals) experienced severe side effects. To optimize treatment outcomes for cancer patients, medication administration must adhere to the principles of the "5T and 1H"—the right indication, the right drug, the right dosage, the right time, the right method, and awareness of potential side effects. Given the high toxicity of anticancer drugs, vigilance regarding adverse reactions is essential to achieve maximum efficacy with minimal toxicity (Keliat, 1994).

Generally, it can be concluded that the majority of cancer patients undergoing chemotherapy experience adverse effects. The primary goal of cancer therapy is to cure and alleviate the burden experienced by patients. Chemotherapy drugs, often classified as cytostatics, function by inhibiting or killing rapidly dividing cells. However, this mechanism also impacts normal cells that undergo active division, such as hair follicle cells, blood cells, and mucous membrane cells. These tissues are the most severely affected by chemotherapy side effects (Sammuel, 2011).

These findings are in line with research conducted in the Dahlia Ward of RSU Dr. H. Koesnadi Bondowoso, where most respondents (83%) reported experiencing severe side effects. The severity of chemotherapy-related side effects depends on various factors, including the patient's physical and psychological condition. Post-chemotherapy symptoms include pain, nausea, vomiting, fatigue, diarrhea or constipation, insomnia, lack of concentration, dry mouth, hair loss, and psychological issues such as sadness, anxiety, hopelessness, depression, discomfort, and increased fear.

Cancer Patients' Self-Concept

The study revealed that 67% of respondents (20 individuals) experienced negative self-concept disturbances, while 33% (10 individuals) maintained a positive self-concept. According to Keliat (1994), stressors that may affect an individual's self-concept include body part loss, surgical interventions, pathological disease processes, structural and functional body

changes, developmental processes, and medical procedures. These changes can influence all components of self-concept, including body image, self-esteem, role performance, and identity.

Thus, it can be concluded that cancer patients generally experience self-concept alterations, primarily due to physical changes brought on by the disease or treatment. Self-concept is defined as an individual's perception of themselves, encompassing how they view, evaluate, and aspire to be. The dominant presence of negative self-concept (67%) indicates a high tendency for disturbances in self-perception among cancer patients.

Such findings highlight the importance of understanding that individuals with a disrupted self-concept may feel unstable, lacking in self-awareness, and unable to identify their strengths, weaknesses, or personal values. This is especially common in individuals raised under rigid rules, which may result in a fixed, overly idealistic self-image that does not tolerate deviation.

Relationship Between Chemotherapy Side Effects and Self-Concept Disturbance in Cancer Patients

The statistical analysis using the Chi-Square test at a 5% significance level ($\alpha = 0.05$) yielded a p-value of 0.015. Since $p \leq 0.05$, it can be concluded that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected, indicating a significant relationship between chemotherapy side effects and self-concept disturbance among cancer patients at the Dahlia Ward, RSU Dr. H. Koesnadi Bondowoso.

Chemotherapy treatment directly affects the physical condition of patients and consequently influences their psychological well-being and overall quality of life. Psychological changes often observed in cancer patients include negative self-concept, evidenced by feelings of shame, social withdrawal, low self-esteem, poor self-control, passivity, alienation from oneself, and frustration. Body image disturbances are almost universally reported among cancer patients (Keliat, 1994).

The study supports these observations: among patients who experienced mild side effects, only 1 (4%) had a negative self-concept, while 4 (13%) had a positive self-concept. Conversely, among those who experienced severe side effects, 19 (63%) had a negative self-concept and 6 (20%) had a positive self-concept. This demonstrates that the more severe the side effects of chemotherapy, the more likely patients are to experience negative self-concept, such as lack of confidence in their appearance and feelings of hopelessness.

This aligns with prior research indicating that cancer patients often feel ashamed, withdraw from social interactions, struggle with self-control, and experience confusion about their identity. Negative self-image is further demonstrated by behaviors such as self-criticism, feelings of incompetence, guilt, irritability, pessimism, difficulty forming relationships, withdrawal, panic-level anxiety, unrealistic ideal self-expectations, low self-acceptance, and disturbed intimacy (Sammuel, 2011).

The researchers also noted that cancer patients with severe chemotherapy side effects tend to have lower self-esteem. Field observations showed that these patients often feel embarrassed by their physical changes and reluctant to engage socially. This is a concerning reality faced by cancer patients during treatment. Nonetheless, some patients remain strong and optimistic, believing in recovery. Their resilience is often bolstered by family support, which provides emotional strength and motivation. Therefore, healthcare professionals—especially nurses—

should provide patients with comprehensive information about the side effects of chemotherapy, encourage nutritional intake before, during, and after treatment, and offer psychological support and motivation. These measures can help patients, particularly those with breast cancer, better prepare for the treatment process.

Sammuel (2011) emphasized that cancer patients often hesitate to pursue treatment due to reasons such as high medical costs, interest in alternative therapies, and intolerance to chemotherapy side effects like hair loss, immune suppression, oral ulcers, nausea, and vomiting. Additionally, the prolonged nature of cancer treatment, fear of death, and lack of familial support can lead to frustration and eventual treatment dropout. Consequently, adherence to treatment among cancer patients is influenced by multiple factors, including side effects, psychological condition, self-concept disturbances (especially body image), financial limitations, and family support.

D. Conclusion

This study concludes that the majority of cancer patients undergoing chemotherapy experience severe side effects, which significantly impact both their physical and psychological condition, leading to various symptoms such as fatigue, nausea, hair loss, and emotional distress. These side effects contribute to a negative self-concept, with patients often experiencing decreased self-esteem, social withdrawal, and identity confusion. The findings reveal a significant relationship between the severity of chemotherapy side effects and disturbances in self-concept, suggesting that as the side effects intensify, the likelihood of a negative self-perception increases. This emphasizes the importance of holistic nursing care that not only manages physical symptoms but also addresses the psychological needs of patients through education, emotional support, and involvement of family as a source of motivation and strength. Therefore, a comprehensive approach is essential in supporting cancer patients to cope with treatment, maintain their self-concept, and improve their overall quality of life.

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