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Emotional distress and coping responses to chemotherapy side effects in cancer patients: A systematic review

Zainudin*, Haryanto, Suriadi

Institut Teknologi dan Kesehatan Muhammadiyah Kalimantan Barat

Corresponding author: *E-mail: kafeelabidzar2325@gmail.com

Abstract

Background: Chemotherapy is a primary treatment modality for cancer patients; however, it is frequently associated with various side effects that significantly affect patients' physical, psychological, and social well-being. These side effects influence not only treatment outcomes but also patients' lived experiences during therapy. Understanding patients' experiences is essential for improving patient-centred cancer care.

Purpose: To explore cancer patients' experiences related to chemotherapy side effects based on recent scientific evidence.

Method: A systematic literature review was conducted using Google Scholar and PubMed databases. Articles published between 2019 and 2024 that focused on cancer patients' experiences of chemotherapy side effects were selected according to predefined inclusion and exclusion criteria.

Results: Twenty eligible studies were included. The findings revealed that chemotherapy side effects are experienced multidimensionally, including physical symptoms, psychological distress, social limitations, and spiritual coping, which collectively affect patients' quality of life.

Conclusion: Chemotherapy side effects profoundly influence cancer patients' experiences beyond physical symptoms. Holistic and patient-centred care approaches are essential to address these complex needs.

Keywords: Cancer; Chemotherapy; Patient Experience.

INTRODUCTION

Cancer is one of the non-communicable diseases that represents a major cause of morbidity and mortality worldwide. The increasing incidence of cancer each year has made cancer therapy a primary focus in the global health care system (Årving, Høiseth, Hilberg, Trydal, Husa, Djordjevic, & Bogstrand, 2021). Chemotherapy remains the most frequently used treatment modality, both as a primary therapy and as an adjuvant therapy. Although effective in controlling the growth of cancer cells, chemotherapy often causes various unavoidable side effects. These side effects become a major challenge for patients undergoing long-term treatment (Tran, Trinh, Hoang, Nguyen, & Vu, 2019).

Chemotherapy side effects can be acute or chronic and significantly affect patients' physical condition. Symptoms such as nausea, vomiting, fatigue, pain, and appetite disturbances are the most commonly reported complaints among cancer patients (Shim, Lee, Cho, Jung, Kim, Lee, & Kim, 2020). These conditions may reduce patients' ability to perform daily activities and contribute to decreased quality of life (Howell, Li, Sutradhar, Gu, Iqbal, O'Brien, & Barbera, 2020). Research has shown that patients' inability to manage side effects can lead to non-adherence to chemotherapy treatment (Basch, Deal, Kris, Scher, Hudis, Sabbatini, & Schrag, 2016). Therefore,

patients' experiences of chemotherapy side effects are a very important aspect to understand.

In addition to physical impacts, chemotherapy also produces significant psychological effects in cancer patients. A cancer diagnosis and the chemotherapy process are often associated with anxiety, depression, fear of death, and changes in body image (Fabi, Bhargava, Fatigoni, Guglielmo, Horneber, Roila, & ESMO Guidelines Committee, 2020). Previous studies have reported that untreated psychological distress can worsen patients' perceptions of treatment and hinder the healing process (Pitman, Suleman, Hyde, & Hodgkiss, 2018). These psychological experiences are often subjective and vary among patients, thus requiring a more individualized and empathetic approach. Although numerous studies have discussed chemotherapy side effects, research that specifically integrates the experiences of cancer patients remains limited. Findings are often scattered and employ different methodological approaches. Therefore, this systematic literature review was conducted to synthesize the latest scientific evidence regarding cancer patients' experiences of chemotherapy side effects (Lestari, Budiarti, & Ilmi, 2020).

RESEARCH METHOD

Systematic Literature Review (SLR) was conducted by referring to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. This approach was chosen to ensure that the processes of literature searching, selection, and synthesis were carried out systematically, transparently, and reproducibly, thereby providing strong scientific validity to the findings. The literature search was conducted comprehensively through two electronic databases, namely Google Scholar and PubMed. These databases were selected because they offer extensive coverage of scientific publications in the fields of nursing and health and provide primary research articles relevant to the topic of cancer patient experiences. The search strategy employed a combination of keywords in both Indonesian and English, adjusted to the Medical Subject Headings (MeSH), such as cancer, breast cancer, chemotherapy, side effects, and patient experience. The search was limited to articles published between

2019 and 2024 to ensure the novelty and relevance of the research findings.

The retrieved articles were subsequently screened based on predetermined inclusion and exclusion criteria. The inclusion criteria consisted of primary research articles with qualitative, quantitative, or mixed-methods designs that discussed cancer patients' experiences regarding chemotherapy side effects, were available in full-text format, and were written in either Indonesian or English. Meanwhile, the exclusion criteria included review articles, editorials, opinion papers, single case reports, articles that did not focus on patient experiences, and publications outside the specified time frame. The article selection process was conducted through several stages in accordance with the PRISMA guidelines, namely identification, screening, eligibility assessment, and inclusion. During the identification stage, all articles obtained from the databases were collected and duplicates were removed. The screening stage involved reviewing titles and abstracts to assess the relevance of the articles to the research topic. Articles that passed the screening stage were then assessed for eligibility through full-text reading based on the inclusion and exclusion criteria. The entire article selection process was systematically presented in a PRISMA flow diagram/table to illustrate the number of articles at each stage of the search and filtering process.

Data extraction was performed on articles that met the inclusion criteria using a structured data extraction form presented in the table below. The extracted data included the authors' names, year of publication, study title, research design, respondent characteristics, and the main findings related to cancer patients' experiences of chemotherapy side effects. The extracted data were then synthesized narratively and presented in a summary table of the selected articles, which served as the basis for the analysis and discussion of this systematic literature review. The research question in this review was formulated using the PICO (Population, Intervention, Comparison, Outcome) framework to clarify the focus of the study. The Population consisted of cancer patients, the Intervention was chemotherapy, no Comparison was specified, and the Outcome was patients' experiences of chemotherapy side effects. The PICO framework was used as a guideline for the literature search, article selection, and analysis of relevant research findings.

Zainudin*, Haryanto, Suriadi

Institut Teknologi dan Kesehatan Muhammadiyah Kalimantan Barat
Corresponding author: *E-mail: kafeelabidzar2325@gmail.com

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RESEARCH RESULTS

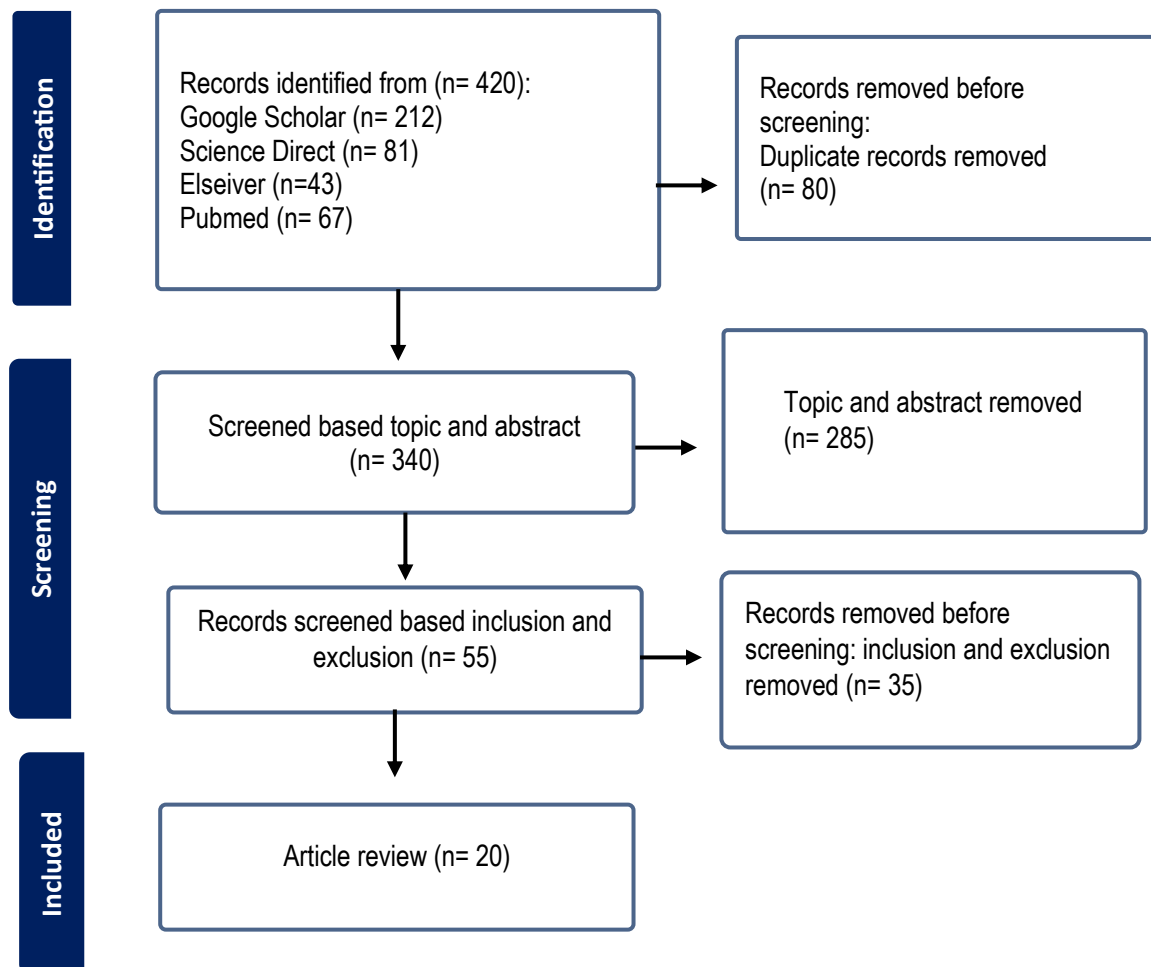


Figure. Diagram Prisma Flow

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Table. Article Review

(Author, Year) (Country)	Purpose	Method	Results
(Basch et al., 2021) (USA)	To evaluate patient-reported outcomes during cancer treatment	Randomized clinical trial	Patient-reported symptom monitoring improved symptom control, quality of life, and survival outcomes.
(Amelia et al., 2020) (Indonesia)	To explore chemotherapy side effects among cancer patients	Quantitative	Chemotherapy caused physical discomfort, fatigue, nausea, and psychological distress affecting daily activities.
(Sitio, 2019) (Indonesia)	To identify experiences of cancer patients undergoing chemotherapy	Qualitative	Patients experienced fatigue, nausea, emotional distress, and coping difficulties during treatment.
(Nolan et al., 2019) (USA)	To assess symptom burden in cancer patients	Observational	Higher symptom burden was associated with poorer quality of life and functional status.
(Lestari et al., 2020) (Indonesia)	To analyze patient responses to chemotherapy side effects	Cross-sectional	Physical symptoms and anxiety were common among cancer patients receiving chemotherapy.

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(Janitra et al., 2021) (Indonesia)	To examine coping strategies in cancer patients	Mixed methods	Social support, family involvement, and spirituality helped patients cope with treatment effects.
(Schmidt et al., 2018) (Germany)	To evaluate symptom management interventions	Experimental	Symptom management interventions improved patient comfort and satisfaction.
(Miaskowski et al., 2020) (USA)	To study symptom clusters in cancer patients	Longitudinal study	Multiple concurrent symptoms significantly impacted functioning and quality of life.
(Fabi et al., 2020) (Italy)	To review chemotherapy-related adverse effects	Clinical review	Early identification and management strategies reduced severity of side effects.
(Tran et al., 2019) (Vietnam)	To explore patient experiences during treatment	Qualitative	Patients reported physical discomfort, emotional challenges, and lifestyle disruption.
(Arving et al., 2021) (Sweden)	To evaluate psychosocial support interventions	Randomized study	Psychosocial interventions improved mental health and coping ability.
(Richardson et al., 2020) (United Kingdom)	To assess symptom self-management	Mixed methods	Education improved patients' ability to manage symptoms independently.
(Shim et al., 2020) (South Korea)	To identify unmet supportive care needs	Cross-sectional	Many patients experienced unmet informational, emotional, and supportive care needs.

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(Costa et al., 2019) (Brazil)	To analyze treatment-related quality of life	Observational	Chemotherapy significantly reduced quality of life across several domains.
(Henson et al., 2020) (United Kingdom)	To evaluate long-term treatment effects	Cohort study	Persistent symptoms affected survivorship and long-term outcomes.
(Fitch, 2021) (Canada)	To examine supportive care needs in cancer	Qualitative	Holistic and patient-centered care approaches were essential for patient well-being.
(Howell et al., 2020) (Canada)	To assess survivorship care experiences	Mixed methods	Cancer survivors required ongoing monitoring and supportive care services.
(Bergkvist & Wengström, 2016) (Sweden)	To explore patient experiences during chemotherapy	Qualitative	Patients experienced uncertainty, fatigue, and disruption of daily life.
(Pitman et al., 2018) (United Kingdom)	To study psychological distress in cancer patients	Systematic review	Depression and anxiety were prevalent during cancer treatment.
(Sung et al., 2021) (South Korea)	To report global cancer statistics	Epidemiological study	Cancer incidence and mortality remain major global health burdens worldwide.

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DISCUSSION

The results of the review indicate that cancer patients' experiences of chemotherapy side effects are multidimensional. Physical side effects are the most dominant complaints and directly affect patients' functional ability (Sung, Hyun, Leach, Yabroff, & Jemal, 2020). Poorly managed physical symptoms can reduce quality of life and increase the risk of treatment discontinuation. Therefore, symptom monitoring based on patient-reported outcomes is very important in clinical practice (Amelia, Andika, & Yulanda, 2020).

From the psychological aspect, cancer patients often experience anxiety, depression, and fear related to the chemotherapy process (Henson, Maddocks, Evans, Davidson, Hicks, & Higginson, 2020). This condition is influenced not only by physical side effects but also by patients' perceptions of the disease and its prognosis. Previous research has shown that psychosocial interventions can help patients develop more adaptive coping mechanisms (Nolan, Ivankova, Carson, Spaulding, Dunovan, Davies, & Meneses, 2022). This highlights the important role of healthcare professionals in providing continuous emotional support (Fitch, Nicoll, Lockwood, Strohschein, & Newton, 2021).

In addition, social and spiritual aspects also influence cancer patients' experiences. Support from family and healthcare providers has been shown to help patients cope with chemotherapy side effects (Bergkvist & Wengström, 2016). On the other hand, spiritual approaches are often used as sources of strength and hope. This finding supports the concept of holistic care, which emphasizes the balance between physical, psychological, social, and spiritual aspects in cancer patient care (Janitra, Setyawati, & Huda, 2021).

The review results also indicate that patients' level of knowledge regarding chemotherapy and its side effects plays an important role in shaping their experiences during treatment. Patients with good understanding tend to be more mentally prepared, able to anticipate bodily changes, and more adherent to the prescribed therapy (Costa, Eleutério, Giraldo, & Gonçalves, 2017). Effective health education from healthcare professionals, particularly nurses, becomes a key factor in improving patients' self-efficacy. This demonstrates that educational

interventions not only impact cognitive aspects but also contribute to emotional stability and patients' adaptive capacity throughout the treatment process (Sitio, 2019).

Beyond individual factors, the healthcare system also influences patients' experiences of chemotherapy side effects. The availability of supportive services, good therapeutic communication, and continuity of care can increase patients' sense of security and trust in the treatment process (Richardson, Mhina, Teal, Cole, Adapa, Bryant, & Wood, 2024). Conversely, limited access to services, short consultation time, and poor coordination among healthcare professionals can worsen patients' perceptions of the treatment they undergo (Miaskowski, Dodd, & Lee, 2024). Therefore, a patient-centered care approach is needed by actively involving patients in decision-making so that the treatment experience becomes more positive and meaningful (Schmidt, Wiskemann, & Steindorf, 2018).

CONCLUSION

Cancer patients' experiences of chemotherapy side effects encompass interconnected physical, psychological, social, and spiritual aspects. Chemotherapy side effects significantly impact patients' quality of life and adherence to therapy. Therefore, a holistic, patient-centred approach to healthcare is essential.

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