



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia
***RESILIENCE OF CANCER PATIENTS IN LOW AND MIDDLE INCOME
COUNTRIES: A LITERATURE REVIEW***

¹Mita Febrianti, ²Muhamad Zulfatul Ala, ³Tantut Susanto.

¹Postgraduate Student, Magister of Nursing Study Program, Faculty of Nursing, University of Jember

²Magister of Nursing Study Program, Faculty of Nursing, University of Jember

³Magister of Nursing Study Program, Faculty of Nursing, University of Jember

Corresponding Author; Postgraduate Student, Magister of Nursing Study Program, Faculty of Nursing,
University of Jember, E-mail:mitafebrianti@gmail.com; telephone: 081234760400

ABSTRACT

Background: Cancer is a major health burden in low- and middle-income countries (LMICs), where limited access to healthcare and socioeconomic disparities affect diagnosis, treatment, and outcomes. Resilience, defined as the ability to adapt and recover from adversity, plays a critical role in how cancer patients manage stress and maintain well-being. This study aims to explore resilience among cancer patients in LMICs through a literature review. Methods: A systematic literature review was conducted using PubMed, ScienceDirect, and Google Scholar databases. The search focused on publications from 2020 to 2025 in English and Indonesian. The keywords used included: “Cancer” OR “Tumors” OR “Neoplasm” OR “Malignancy” AND “Stress Immunity” AND “Low Middle Country” OR “Underdeveloped Country” OR “Third World Nation” OR “Less Developed.” An initial screening yielded 23,720 articles. After applying inclusion and exclusion criteria, 10 relevant full-text articles were selected for detailed analysis. Results: Resilience in cancer patients is affected by multiple factors, including income level, education, family support, emotional well-being, and healthcare access. Financial toxicity, social stigma, and loss of income are significant stressors. Conversely, family cohesion, psychological resources, and community support enhance resilience. Studies showed that patients with higher resilience had better quality of life and greater treatment adherence. Conclusions: Resilience among cancer patients in LMICs is influenced by a combination of economic, psychological, and social elements. Efforts to reduce financial burden and improve support systems are essential to promote resilience and improve overall cancer care outcomes.

Keywords: Cancer, Resilience, Low and Middle-Income Countries.



Introduction

Cancer is a disease that is targeted by developing countries, including Indonesia. The high incidence of cancer varies, influenced by several factors, including geographic region, ethnicity, socioeconomic status, and the presence of comorbidities. This disparity may be due to access to treatment, but groups with worse treatment outcomes tend to have cancer that is diagnosed at an advanced stage and is limited by socioeconomic factors, such as family financial conditions or the ability of patients and families to provide maximum treatment (Festerling et al., 2023).

The World Health Organization (WHO) through the International Agency for Research on Cancer (IARC) has released the latest estimated data on the global cancer burden. Data taken from 185 countries shows that ten types of cancer still dominate two-thirds of new cases and are the leading cause of death worldwide. The data states that new cancer cases in the world have reached 20 million cases, with the death toll reaching 9.7 million cases. Of this number, lung cancer has the most cases (12.4%), followed by breast cancer (11.6%), colorectal cancer (9.6%), prostate cancer (7.3%), and gastric cancer (4.9%) (*World Health Organization*, 2024)

The International Agency for Research on Cancer (IARC) estimates that there will be 408,661 new cancer cases in Indonesia with 242,988 deaths in 2022, and this number will continue to

increase if no efforts are made to combat cancer (Kemenkes RI, 2024).

Although receiving a cancer diagnosis and the entire series of therapies that must be undergone by the sufferer is quite difficult, some patients can cope better than others. One factor that plays an important role in the ability to cope with this problem and survive in this condition is the patient's level of resilience. Resilience is defined as an individual's ability to cope with stress and adapt to challenging events, such as a diagnosis of a life-threatening disease (Kemathad & Tatiyaworawattanakul, 2023).

Resilience describes the ability to restore stable mental and physiological conditions during or after stressful events, such as the death of a close relative, job loss, etc. People who have resilience seem to be able to reflect their positive and negative emotions better than patients who lack resilience, which helps restore resources and react more flexibly (Robertus Surjoseto & Devy Sofyanty, 2023). Resilience can be described as a dynamic process and is not an innate trait, but develops throughout life based on experience and learning (Putri, 2022).

Problems that often arise in cancer patients and their families are the direct influence between treatment and the financial condition of the patient and family which will later affect the decision-making process in treatment (Zahid et al., 2021). There are differences in decision-making influenced by financial conditions, families with middle to upper economic



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

status tend to have desires and sacrifice everything without thinking about cost issues, in contrast to families with low socioeconomic status with low family income, of course in the decision-making process and choosing treatment influenced by several things, one of which is the financial condition that is not ready to undergo treatment for family members who suffer from cancer (Roux et al., 2021).

In addition, the financial problems faced by cancer patients are not only limited to medical expenses. Loss of income due to illness or long leave for treatment can cause financial instability for families. This can force patients to choose between optimal treatment or maintaining daily life. In addition, transportation costs to the hospital, living costs around the hospital, and additional care costs such as special nutrition are also quite a burden. This condition can reduce patient motivation to undergo treatment and comply with doctor's recommendations, thus negatively impacting treatment outcomes (Ngcamphalala et al., 2022).

The heavy financial burden of cancer can cause significant psychological stress for patients and their families. Anxiety about the future, guilt about being a burden on the family, and feelings of hopelessness can hinder the healing process. This psychological stress can weaken the immune system, make patients more susceptible to infections, and worsen disease symptoms. In addition, financial hardship can also lead to social isolation, as patients and families may feel

embarrassed or unable to participate in social activities (Sari, 2024).

A study conducted by Festerling et al. (2023) in ten oncology centers in Germany found that there were significant correlations in demographics for resilience and education, income and time since diagnosis. While resilience and self-efficacy correlated at a high level, resilience and sense of coherence, and resilience and general satisfaction with life correlated moderately (Festerling et al., 2023).

Based on the description above and considering the severity of the impact caused by cancer diagnosis and treatment, it is not uncommon for some cancer patients to not return according to the next treatment schedule. This is due to a much worse health condition after the treatment session. Given the importance of cancer patient resilience, a literature review on the resilience of cancer patients with low to middle socioeconomic groups is very important to identify gaps in research and clinical practice. Through this literature review, we can understand more deeply about the unique challenges faced by cancer patients, from access to quality care to long-term financial impacts. The results of this study can be the basis for formulating more inclusive health policies and more effective support programs, so as to improve the quality of life and life expectancy of cancer patients from low to middle socioeconomic groups..

Methods



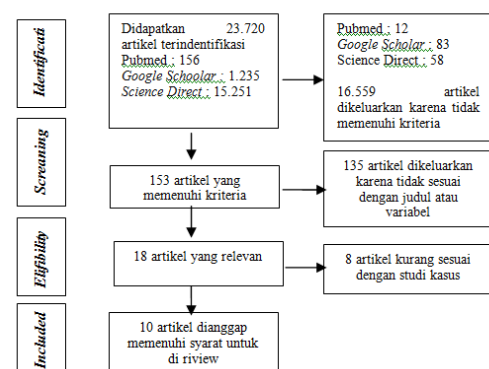
The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

This research is a literature review research, namely searching for scientific articles using data based such as Pubmed, Science Direct and Google Scholar with a range of 2020-2025. The data source in question is a data source that obtains information about the clarity of how we take and process data. The search strategy is to use English and Indonesian with the keywords "Cancer OR Tumors OR Neoplasm OR Maglinancy and stress immunity, AND Low Middle Country OR Under Developed Country OR Third Word Nation OR Less Developed, AND" After initial identification of the title and abstract, 156 PubMed articles were obtained, Science Direct 15,251 and Google Scholar 1,235 articles. From the three data sources, an analysis of the abstract and research objectives was carried out that were in accordance with the case study of this research, so that 153 articles were obtained which would

be re-read according to the criteria based on the title and variables. Then only 18 articles remained which were then evaluated. Then the articles were read in more depth for the contents of the research, namely the abstract, research objectives, results and conclusions so that they were in accordance with the relevant topic, so that 10 relevant articles were selected. Articles were evaluated based on the following inclusion and exclusion criteria:

1. The following inclusive criteria were used in the selection of this literature review:
 - a. Journals from 2020-2025
 - b. Journals that have topics on cancer patient resilience in low socioeconomic areas
 - c. Available in Indonesian/English
 - d. Journals that are accessed in full text.
2. Exclusive criteria were used in the

3. literature review research:
 - a. Non-original publications, editor's letters
 - b. Journals that have different thematic topics
 - c. Journals are not in full text
- Figure 1. Article Search Flowchart



Results

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
1.	<i>Financial Toxicity and Its Associated Factors in Cancer</i>	This study aims to identify factors related to	Quantitative	Cross-sectional study	110 cancer patients undergoing treatment	The questionnaire included sociodemographic data,	The study found that it was identified as being related to financial toxicity among cancer



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
	<i>Patients: A Cross-sectional Study in Indonesia</i> , (Handayani & Afyanti, 2023)	financial toxicity in cancer patient companies in Indonesia.				clinical characteristics, and the Comprehensive Score for Financial Toxicity (COST).	patients because it hampers family income. This affects the process of cancer patient care and the resilience of cancer patients and their families.
2.	<i>Resilience in cancer patients and how it correlates with demographics, psychological factors, and lifestyle</i> , (Festerling et al., 2023)	The aim of this study was to learn more about the relationship between resilience and factors such as demographics and psychological factors.	Qualitative	Cross-sectional study	416 cancer patients undergoing treatment	Questionnaires on demographics, resilience, self-efficacy, general satisfaction with life, and sense of coherence. Lifestyle aspects considered were diet and physical activity.	The results of the study showed that there was a correlation between resilience to education, income, length of time of diagnosis, coherence, and life satisfaction with a moderate correlation. While resilience and self-efficacy have high resilience.
3.	<i>Resilience and its associated factors in head and neck cancer patients in Pakistan: an analytical cross-sectional study</i> , (Zahid et al., 2021)	This study aims to assess resilience and its associated factors in head and neck cancer patients, post-treatment in a low-middle-income country	Quantitative	Cross-sectional study	Head and neck cancer patients, 18 years and above, currently ≥ 4 weeks after starting treatment at AKUH, residing in Pakistan for the past 3 months,	Wagnild and Young's 14-item Resilience Scale (RS-14). In addition, depression and anxiety were also assessed using the Hospital Anxiety and Depression Scale (HADS) and social support was	The results of the study showed that social support from family ties can minimize the occurrence of depression and anxiety in cancer patients, higher resilience also occurs in families with a small number of members because the welfare of cancer patients is prioritized compared to other



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
		(LMIC) like Pakistan.			and without comorbidities	assessed by the Enriched Social Support Instrument (ESSI).	family needs, Formal Education and Role in the household/decision-making power show a protective effect on the mental health of head and neck cancer patients. High resilience scores also occur in non-smokers who use tobacco compared to those who quit after undergoing treatment.
4.	<i>Association Between Household Income and Self-Perceived Health Status and Poor Mental and Physical Health Among Cancer Survivors</i> , (Su et al., 2021)	The aim of this study was to examine factors associated with HRQoL among cancer survivors.	Quantitative	Cross-sectional study	Cancer patients aged over 18 years	Four questions related to HRQoL. Ordinal and dichotomous HRQoL scales [5 (poor) vs. 1–4 (excellent, very good, good, fair)].	Income was consistently and inversely associated with higher odds of reporting worse HRQoL among those with thyroid, colon, lung, cervical, breast, prostate, and ovarian cancers. This study found that income range was associated with HRQoL among cancer survivors.
5.	<i>Patient and Family Financial Burden in Cancer: A Focus on Differences across Four Provinces, and</i>	This study aims to determine differences in patient expenditures for cancer treatment/care, and	Quantitative	Study Cross-sectional	There were 901 cancer patients aged over 18 years.	Questionnaire (P-SAFE) version 7.2.4)	The results of the study found that families with incomes below CAD 50,000/year increased the likelihood of deciding to no longer undergo treatment



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
	<i>Reduced Spending Including Decisions to Forego Care in Canada</i> , (Longo et al., 2024)	reductions in household expenditures including decisions not to undergo treatment/care across Canada.					because of increased financial burdens and also taking time off work in following the treatment schedule of families with cancer. Even deciding to take time off work can worsen the financial burden for families with low incomes.
6.	<i>Resilience in Low- to Middle-Income Families with a Mother Diagnosed with Breast Cancer</i> (Naidoo et al., 2022)	The purpose of this study was to identify the characteristics and factors that help families in adjusting and adapting to the chronic disease of breast cancer in families with low to middle incomes.	Mix Method, namely quantitative and qualitative.	Convergent parallel mixed methods	104 patients	Qualitative data were obtained through structured interviews (DAN=11) while qualitative data were obtained using self-report questionnaire measuring instruments (N=104).	Unable to access results because you have to subscribe but it is still requested to be able to read.
7.	<i>Financial toxicity, family resilience and negative emotions among young and middle-aged breast cancer</i>	The purpose of this study was to determine financial toxicity in young and middle-aged women with	Quantitative	<i>Study Cross-sectional</i>	538 women with breast cancer	There are 77 variables used, 22 of which are related to sociodemographic information, - 11 of which are measured	The results of the study showed that FT was significantly correlated with family resilience and depression ($r = -0.11$, Hierarchical multiple linear regression analysis showed that



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
	<i>patients: A multicentre cross-sectional study</i> (Chen et al., 2024)	breast cancer and examine the relationship between family resilience and negative emotions.				<p>by patient-reported outcome measures (COST-PROM).</p> <p>- 28 in China Family Resilience Assessment in Breast Cancer Patients (FRA-CV)</p> <p>The Patient Health Questionnaire</p> <p>- 9 (PHQ-9) has 9 questions, and</p> <p>- 7 in Generalized Anxiety Disorder-7 (GAD-7)</p>	career status, monthly income, religion, and family resilience were the main factors influencing FT in breast cancer patients).



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
8.	<i>Family resilience of families with parental cancer and minor children: a qualitative analysis</i> (Heuser et al., 2023)	The purpose of this study is to investigate the family resilience processes of affected families. In addition, we explore which combinations of family resilience enhancement processes can be characterized	Mix Methode	Mix Methode Quasy Experimental interventional study	72 families with children with cancer	Documentation was conducted by involving families in the study (T0), after 3 months (T1) and 9 months (T2) regarding the current family situation, daily living arrangements, emotional coping, open communication within the family, and planned tasks.	The results of the study obtained N = 73 families with between one and six children. In 58 (79%) families, the mother had cancer. In the analysis process, a category system emerged with 10 main categories and 36 subcategories. The family resilience process was described at different levels. The combination of categories that supported family resilience was characterized by the use of social resources, flexibility, economic resources, and open communication.
9.	<i>Factors influencing family resilience in adult patients with acute leukemia undergoing chemotherapy: A qualitative study</i> (Sun et al., 2024)	To determine the factors that influence family resilience in adult patients undergoing acute leukemia chemotherapy, with the aim of	Qualitative	<i>Descriptive phenomenological qualitative</i>	11 adult patients undergoing chemotherapy with acute leukemia.	Data collection was conducted through semi-structured interviews. Colaizzi's 7-step analysis and NVivo 12.0 were used to summarize information	The results of the study obtained the main output consisting of two themes and 11 subthemes: protective factors of family resilience (positive traits, cognitive restructuring, positive family beliefs, organizational



The 6th International Agronursing Conference
 INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
 Research, and Practice
 Faculty of Nursing, University of Jember, Indonesia

No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
		providing a theoretical basis for developing strategies to strengthen family resilience.				and refine themes.	flexibility, clear communication, and social support) and risk factors of family resilience (symptom burden, self-concealment, role burden, economic hardship, and social alienation). On the point of economic hardship in this study, the results showed that the high cost of AL treatment is certainly a very large burden for AL sufferers and ordinary families. In particular, young and middle-aged patients cannot continue their work activities due to medical needs and physical conditions. In addition, family members take care of them faced with contradictions and tensions between their personal work and caring for patients. This reduces the total amount of family income and increases the family's financial burden, which will later greatly affect the quality of life.



No.	Title, Author, Year	Research purposes	Method	Design	Sample	Instruments	Results
10.	<i>Distress, Family Resilience, and Quality of Life among Family Caregivers of Cancer Patients Undergoing Chemotherapy : The Moderating Role of Family Resilience</i> (Son-Hee & Hyun, 2022)	This study aimed to evaluate distress, family resilience, and Quality of Life (QoL) among family caregivers of cancer patients undergoing chemotherapy and explore whether family resilience moderates the relationship between distress and QoL.	Quantitative	<i>Cross-sectional</i>	107 patients	Hospital Anxiety and Depression Scale, Family-Cancer Resilience Scale, and Caregiver-Cancer Quality of Life Index. Descriptive statistics, independent t-test, one-way Analysis of Variance (ANOVA), and hierarchical regression analysis were used for statistical analysis.	Family distress and resilience are important factors associated with QoL in caregivers of cancer patients undergoing chemotherapy. These findings suggest that oncology nurses should develop interventions to relieve distress and enhance family resilience to improve QoL of family caregivers. Further research is needed to confirm the moderating role of family resilience.

Discussion

Handayani and Afiyanti's (2023) study on financial toxicity (TF) and related factors in cancer patients in Indonesia provides an important contribution to understanding the economic impact of chronic diseases, especially cancer, in the context of developing countries. To understand the significance of this study, it is important to review the relevant literature on

financial toxicity in global and local contexts (Handayani & Afiyanti, 2023).

Globally, financial toxicity has been identified as a significant side effect of cancer diagnosis and treatment. The literature shows that TF not only impacts the financial condition of patients and families but can also affect treatment compliance, quality of life, and even clinical outcomes (Neal, 2023).

High medical costs, loss of income due to inability to work, and



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

non-medical costs (such as transportation and accommodation) are major contributors to TF (Alzehr et al., 2022). Several studies in developed countries have explored the prevalence of TF, risk factors, and its impact. Factors such as cancer stage, type of treatment, employment status, income level, and availability of health insurance have been consistently associated with higher risk of TF (Haier & Schaefer, 2022).

Although TF is a global problem, its manifestations can differ in countries with different health care systems and socioeconomic conditions. In Indonesia, with the Universal Health Coverage (UHC) system through the Social Security Administering Agency (BPJS) Health, it is assumed that the financial burden of cancer patients can be reduced. However, previous studies have shown that patients and families still face significant financial challenges (Alzehr et al., 2022). This can be due to various factors, including limited coverage of some types of treatment, out-of-pocket costs, and potential loss of income.

Handayani and Afiyanti's (2023) study fills the gap in research by specifically examining financial toxicity in cancer patients in Indonesia using a cross-sectional design. By measuring the prevalence of TF and identifying associated factors, this study provides a deeper understanding of the reality of the economic burden faced by cancer patients in the Indonesian context, despite the UHC system (Handayani & Afiyanti, 2023).

Handayani and Afiyanti's (2023) study is a significant contribution to the understanding of financial toxicity in cancer patients in Indonesia. By confirming the existence and identifying factors associated with TF in the local context, this study highlights the need for further attention to the economic impact of chronic disease and the development of strategies to alleviate the financial burden of patients and families. The findings of this study are expected to inform policy and clinical practice to improve the well-being of cancer patients in Indonesia (Handayani & Afiyanti, 2023).

A study by Festerling et al. (2023) investigating resilience in cancer patients and its correlation with demographics, psychological factors, and lifestyle provides important insights into the adaptive resources that enable individuals to cope with the challenges associated with cancer diagnosis and treatment. To appreciate the contribution of this study, it is important to review the existing literature on the concept of resilience in the context of cancer and the factors that influence it (Festerling et al., 2023).

Resilience, in a psychological context, refers to an individual's ability to bounce back from adversity, adapt to stress, and maintain psychological well-being despite adversity. In the context of cancer, resilience is a particularly relevant concept as patients face significant physical, emotional, social, and financial stressors (Kemathad & Tatiyaworawattanakul, 2023). Previous research has highlighted the



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

importance of resilience as a protective factor against the negative impacts of cancer, including depression, anxiety, fatigue, and decreased quality of life (Malhotra et al., 2020). Patients with higher levels of resilience tend to demonstrate more effective coping skills, have a more positive outlook on life, and are able to maintain better social and occupational functioning (Fearon et al., 2021).

Several factors have been identified in the literature as predictors or correlates of resilience in cancer patients. Festerling et al.'s (2023) study focused on three main domains: demographics, psychological factors, and lifestyle. Festerling et al.'s (2023) study contributes to the existing literature by empirically examining the correlation between resilience in cancer patients and multiple demographic, psychological, and lifestyle factors in a single study (Festerling et al., 2023).

The findings from Festerling et al.'s (2023) study have important implications for the development of interventions aimed at enhancing resilience in cancer patients. If specific psychological and lifestyle factors are shown to be strongly correlated with resilience, interventions focused on increasing optimism, self-efficacy, active coping strategies, physical activity, and social support could be integrated into oncology care (Festerling et al., 2023).

The study by Zahid et al. (2021) examining resilience and associated factors in head and neck cancer (HCC) patients in Pakistan makes an important contribution to understanding

psychological adaptation to a disease that often results in disability and functional impairment. To understand the significance of this study, it is important to review the relevant literature on resilience in the context of HCC cancer globally and consider the uniqueness of the Pakistani context (Zahid et al., 2021).

The study by Zahid et al. (2021) is important because it specifically examines resilience and associated factors in HCC cancer patients in Pakistan. The Pakistani context has unique socio-cultural characteristics and healthcare systems that may influence HCC cancer patients' experiences and resilience resources. Factors such as cultural norms related to illness and disability, availability and access to oncology services and psychological support, and the role of family in patient care may differ from the context of Western countries where most research on resilience in cancer patients has been conducted (Zahid et al., 2021).

The study by Su et al. (2021) investigating the association between household income and self-perceived health status and poor mental and physical health among cancer survivors provides important insights into the socioeconomic impact on the well-being of this vulnerable population. To understand the contribution of this study, it is important to review the existing literature on the role of socioeconomic status (SES), specifically income, on the health of cancer survivors (Su et al., 2021).



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

The findings from Su et al. (2021) have important implications for the care and support of cancer survivors. Given the potentially significant impact of household income on their health, it is important to consider socioeconomic factors in clinical assessment and development of care plans. Interventions that address financial barriers, such as financial assistance, medication assistance programs, and support for returning to work, may be needed to improve health outcomes for low-income survivors (Su et al., 2021).

Longo et al.'s (2024) study examining the financial burden faced by cancer patients and their families in Canada, focusing on differences across four provinces and spending reduction behaviors including decisions to delay or avoid care, makes an important contribution to understanding the economic impact of chronic illness in the context of a universal health care system. To appreciate the significance of this study, it is important to review the relevant literature on the financial burden of cancer in countries with similar systems and highlight the unique aspects of the Canadian context (Longo et al., 2024).

Although countries with universal health care systems such as Canada aim to reduce financial barriers to accessing care, the literature suggests that cancer patients and their families can still face significant financial burdens (Kemathad & Tatiyaworawattanakul, 2023). These burdens can manifest themselves in a variety of ways, including out-of-pocket costs (e.g., certain prescription

medications, dental care, complementary therapies), indirect costs (e.g., transportation, parking, accommodations during out-of-town care), and loss of income due to the patient or family member being unable to work (Chen et al., 2024).

Longo et al.'s (2024) study makes a valuable contribution to understanding the complexity of the financial burden faced by cancer patients and families in Canada, highlighting regional differences and concerning spending reduction behaviors. Findings from this study can inform efforts to reduce the financial impact of cancer and ensure equitable access to high-quality care across Canada (Longo et al., 2024).

The study by Naidoo et al. (2022) examining resilience in low- to middle-income families with mothers diagnosed with breast cancer makes an important contribution to understanding how families facing additional socioeconomic challenges cope with the impact of serious illness. To understand the significance of this study, it is important to review the relevant literature on resilience in the context of families coping with cancer, taking into account the vulnerabilities that families with limited economic resources may face (Naidoo et al., 2022).

Breast cancer is one of the most common cancers in women and can have significant psychological, social, and economic impacts on patients and their families (Kemathad & Tatiyaworawattanakul, 2023). The role of mothers as primary caregivers in many low- to middle-income families



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

can add to the family's vulnerability when the mother is diagnosed with breast cancer. The mother's inability to fulfill her traditional roles can disrupt family routines, place additional burdens on other family members, and create additional stress. The results of Naidoo et al.'s (2022) study may have important implications for psychosocial support and social services for families affected by breast cancer, particularly those with limited economic resources. Identifying prominent resilience factors in this group can help in designing interventions that strengthen these resources and address potential vulnerabilities (Naidoo et al., 2022).

The study by Chen et al. (2024) investigating the relationships between financial toxicity (TF), family resilience (KF), and negative emotions (EN) among young and middle-aged breast cancer patients in a multicenter cross-sectional study makes an important contribution to understanding the complex interactions between economic burden, family resources, and psychological well-being in a group of patients actively engaged in social and economic life. To appreciate the significance of this study, it is important to review the relevant literature on TF, KF, and EN separately and in relation to each other in the context of breast cancer (Chen et al., 2024).

The study by Chen et al. (2024) has the potential to make a significant contribution to the literature by investigating the simultaneous relationships between TF, KF, and EN in a group of young and middle-aged breast

cancer patients. By using a multicenter cross-sectional design, this study may offer stronger and more generalizable insights compared to small-scale or single-center studies (Chen et al., 2024).

The study by Heuser et al. (2023) examining family resilience (FCR) in families with parents diagnosed with cancer and young children makes an important contribution to understanding how family units cope with the dual challenges of serious parental illness and the developmental needs of children. To appreciate the significance of this study, it is important to review the relevant literature on FCR in the context of chronic illness in parents and the impact of cancer on children (Heuser et al., 2023).

A diagnosis of cancer in a parent can have a significant psychological and emotional impact on young children (Qu et al., 2024). Children may experience fear, anxiety, sadness, confusion, and guilt. They may also exhibit behavioral changes, such as withdrawal, aggression, or regression. The ability of families to maintain FCR is critical in mitigating these negative impacts and providing a stable and supportive environment for children (Cui et al., 2023).

The results of the study by Heuser et al. (2023) have important implications for psychosocial support and family services in the context of pediatric and adult oncology. Identifying KF factors that promote positive adaptation in these families may assist health professionals in designing interventions that strengthen family resources and address vulnerabilities (Heuser et al., 2023).



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

A qualitative study by Sun et al. (2024) exploring factors influencing family resilience (FCR) in adult patients with acute leukemia undergoing chemotherapy provides insight into families' experiences of coping with a life-threatening illness and intensive care. To understand the significance of this study, it is important to review the relevant literature on FCR in the context of hematologic cancers and the unique challenges faced by patients with acute leukemia and their families (Sun et al., 2024). Hematologic cancers, such as acute leukemia, are often characterized by a rapid disease course, the need for intensive and potentially toxic treatments (such as chemotherapy), and prolonged hospitalization (Donkor et al., 2022).

The diagnosis and treatment of acute leukemia not only physically impact the patient but also place significant emotional, social, and financial stress on the family (Donkor et al., 2022). Furthermore, the emotional impact of watching a loved one struggle with a life-threatening illness can be extremely burdensome for family members. They may experience anticipatory grief, fear of loss, and caregiver exhaustion. The ability of families to maintain KF in the face of these challenges is critical to the psychological well-being of the patient and the entire family unit (Donkor et al., 2022).

The findings from Sun et al.'s (2024) study have important implications for clinical practice and family support in hematologic oncology. By identifying factors that influence KF,

health care professionals can develop strategies to strengthen family resources and address barriers to resilience. Interventions that focus on family communication, emotional support, stress management, and access to resources may be beneficial for families of acute leukemia patients (Yeom et al., 2022).

The study by Son-Hee & Hyun (2022) investigating the relationships between distress, family resilience (FQ), and quality of life (QoL) among family caregivers of cancer patients undergoing chemotherapy, with a focus on the moderating role of FQ, makes an important contribution to understanding the factors that influence caregiver well-being in the context of intensive cancer care. To understand the significance of this study, it is important to review the relevant literature on distress, FQ, and QoL in caregivers of cancer patients, as well as the concept of moderation in psychosocial research (Son-Hee & Hyun, 2022).

Decreased QoL can affect various aspects of caregivers' lives, including physical health, psychological well-being, social relationships, and ability to enjoy life. Maintaining or improving caregivers' QoL is not only important for their own well-being but can also have a positive impact on the quality of care provided to patients.

The study by Son-Hee & Hyun (2022) focused on the role of FQ as a potential resource that can moderate the negative impact of stress on caregivers' QoL such as support from other family



members and adequate family finances (Son-Hee & Hyun, 2022).

Son-Hee & Hyun's (2022) study has the potential to expand our understanding of factors that influence QoL of family caregivers of cancer patients undergoing chemotherapy, by highlighting the important role of stress and the potential protective role of QoL. The findings of this study can inform the development of more effective interventions to support caregivers in their challenging roles and improve their well-being (Son-Hee & Hyun, 2022).

The series of research articles reviewed highlight the importance of understanding the psychosocial and economic aspects experienced by cancer patients and their families. Overall, the literature suggests that cancer diagnosis and treatment not only impact patients' physical health but also pose significant challenges related to financial, emotional, and family resilience.

Therefore, the reviewers argue that collectively, this research underscores that the cancer experience extends far beyond the medical aspect and is heavily influenced by economic, psychological, and social factors of the family. Understanding these factors and their interactions is critical to providing comprehensive and effective support to cancer patients and their families, taking into account diverse socioeconomic and cultural contexts. Future research should continue to explore the mechanisms underlying these relationships and develop and test interventions aimed at reducing financial burden, increasing resilience, and improving emotional

well-being in cancer patients and families.

Conclusion

Analysis of the research articles that have been analyzed found the complexity of the experiences of cancer patients and their families, which are not only limited to medical aspects but also include significant financial burden (financial toxicity), family adaptive capacity (family resilience), and psychological impacts (negative emotions and perceived health status). Demographic, psychological, lifestyle, socioeconomic status, and cultural context factors have been shown to play important roles in influencing these variables. Overall, the literature emphasizes the need for a holistic approach to cancer care that considers economic, emotional, and social impacts, and the importance of interventions aimed at reducing financial burden, strengthening family resilience, and improving the psychological well-being of patients and their families across contexts and age groups.

References

- Alzehr, A., Hulme, C., Spencer, A., & Morgan-Trimmer, S. (2022). The economic impact of cancer diagnosis to individuals and their families: a systematic review. *Supportive Care in Cancer*, 30(8), 6385–6404.
<https://doi.org/10.1007/s00520-022-06913-x>
- Chen, X., Yan, Q., Tang, Y., Zhu, J., Zhang, W., & Zhang, J. (2024). Financial toxicity, family resilience



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

- and negative emotions among young and middle-aged breast cancer patients: A multicentre cross-sectional study. *Breast*, 75(March), 103735. <https://doi.org/10.1016/j.breast.2024.103735>
- Cui, P., Shi, J., Li, S., Getu, M. A., Wang, R., & Chen, C. (2023). Family resilience and its influencing factors among advanced cancer patients and their family caregivers: a multilevel modeling analysis. *BMC Cancer*, 23(1), 1–13. <https://doi.org/10.1186/s12885-023-11101-z>
- World Health Organization, (2024).
- Donkor, A., Atuwo-Ampoh, V. Della, Yakanu, F., Torgbenu, E., Ameyaw, E. K., Kitson-Mills, D., Vanderpuye, V., Kyei, K. A., Anim-Sampong, S., Khader, O., & Khader, J. (2022). Financial toxicity of cancer care in low- and middle-income countries: a systematic review and meta-analysis. *Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer*, 30(9), 7159–7190. <https://doi.org/10.1007/s00520-022-07044-z>
- Fearon, D., Hughes, S., & Brearley, S. G. (2021). Constructivist Stakian Multicase Study: Methodological Issues Encountered in Cross-Cultural Palliative Care Research. *International Journal of Qualitative Methods*, 20, 1–10. <https://doi.org/10.1177/16094069211015075>
- Festerling, L., Buentzel, J., Fischer von Weikersthal, L., Junghans, C., Zomorodbakhsch, B., Stoll, C., Prott, F. J., Fuxius, S., Mücke, O., Richter, A., Sallmann, D., Huebner, J., & Hoppe, C. (2023). Resilience in cancer patients and how it correlates with demographics, psychological factors, and lifestyle. *Journal of Cancer Research and Clinical Oncology*, 149(8), 5279–5287. <https://doi.org/10.1007/s00432-022-04480-6>
- Haier, J., & Schaefer, J. (2022). Economic Perspective of Cancer Care and Its Consequences for Vulnerable Groups. *Cancers*, 14(13). <https://doi.org/10.3390/cancers14133158>
- Handayani, D., & Afianti, Y. (2023). Financial Toxicity and Its Associated Factors in Cancer Patients: A Cross-sectional Study in Indonesia. *Nurse Media Journal of Nursing*, 13(3), 296–307. <https://doi.org/10.14710/nmjn.v13i3.59504>
- Heuser, C., Schneider, J. N., Heier, L., Ernstmann, N., Nakata, H., Petermann-Meyer, A., Bremen, R., Karger, A., Icks, A., Brümmendorf, T. H., & Geiser, F. (2023). Family resilience of families with parental cancer and minor children: a qualitative analysis. *Frontiers in Psychology*, 14(January). <https://doi.org/10.3389/fpsyg.2023.>



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

- 1251049
- Kemathad, C., & Tatiyaworawattanakul, K. H. (2023). Care Burden of Family Caregivers of Elderly Relatives with Breast Cancer in the Asian Culture: Integrative Review. *Jurnal Keperawatan Indonesia*, 26(1), 1–10. <https://doi.org/10.7454/jki.v26i1.2489>
- Kemenkes RI. (2024). Hari Kanker Sedunia. *Kementerian Kesehatan R.I*, 2019.
- Longo, C. J., Maity, T., Fitch, M. I., & Young, J. T. (2024). Patient and Family Financial Burden in Cancer: A Focus on Differences across Four Provinces, and Reduced Spending Including Decisions to Forego Care in Canada. *Current Oncology*, 31(5), 2713–2726. <https://doi.org/10.3390/curroncol31050206>
- Malhotra, C., Krishnan, A., Yong, J. R., Teo, I., Ozdemir, S., Ning, X. H., Hapuarachchi, T., Palat, G., Bhatnagar, S., Joad, A. K., Tuong, P. N., Ssu, W. M., & Finkelstein, E. (2020). Socio-economic inequalities in suffering at the end of life among advanced cancer patients: results from the APPROACH study in five Asian countries. *International Journal for Equity in Health*, 19(1), 158. <https://doi.org/10.1186/s12939-020-01274-5>
- Neal, O. (2023). *health*. 8(1), 22–25. <https://doi.org/10.1038/s41572-022-00341-1>. Financial
- Ngcamphalala, C., Östensson, E., & Ginindza, T. G. (2022). The economic burden of prostate cancer in Eswatini. *BMC Health Services Research*, 22(1), 483. <https://doi.org/10.1186/s12913-022-07817-6>
- Payudara, P. K., & Sari, M. R. (2024). *Peran Keberfungsian Keluarga dan Efikasi Diri dalam Menjalani Pengobatan terhadap Resiliensi Wanita Penyandang Kanker Payudara Maryati Rizka Sari, Dr. Nida Ul Hasanat, M.Si., Psikolog*. 3(2021), 629–635.
- Putri, Z. M. (2022). *Pengembangan Model Resiliensi Sebagai Upaya Meningkatkan Ketangguhan Perawat di Rumah Sakit Sumatera Barat*. 204.
- Robertus Surjoseto, & Devy Sofyanty. (2023). Pengaruh Penerimaan Diri dan Religiusitas Terhadap Resiliensi Pada Pasien Kanker. *Education : Jurnal Sosial Humaniora Dan Pendidikan*, 3(2), 54–65. <https://doi.org/10.51903/education.v3i2.334>
- Roux, A. N., Kenfack, B., Ndjalla, A., Sormani, J., Wisniak, A., Tatrai, K., Vassilakos, P., Petignat, P., & Schmidt, N. (2021). Barriers to cervical cancer prevention in rural Cameroon: A qualitative study on healthcare providers' perspective. *BMJ Open*, 11(6), 1–8. <https://doi.org/10.1136/bmjopen-2020-043637>
- Son-Hee, A., & Hyun, K. S. (2022). Distress, Family Resilience, and Quality of Life among Family



The 6th International Agronursing Conference
INNOVATING NURSING IN THE DIGITAL AGE: Enhancing Education,
Research, and Practice
Faculty of Nursing, University of Jember, Indonesia

- Caregivers of Cancer Patients Undergoing Chemotherapy: The Moderating Role of Family Resilience. *Korean Journal of Adult Nursing*, 34(2), 225–232. <https://doi.org/10.7475/kjan.2022.34.2.225>
- Su, L. J., O'Connor, S. N., & Chiang, T. C. (2021). Association Between Household Income and Self-Perceived Health Status and Poor Mental and Physical Health Among Cancer Survivors. *Frontiers in Public Health*, 9(December), 1–8. <https://doi.org/10.3389/fpubh.2021.752868>
- Sun, X., Wang, Y., Lu, X., Zhang, S., & Zhang, Y. (2024). Factors influencing family resilience in adult patients with acute leukemia undergoing chemotherapy: A qualitative study. *Asia-Pacific Journal of Oncology Nursing*, 11(4), 100389. <https://doi.org/10.1016/j.apjon.2024.100389>
- Yeom, J. W., Yeom, I. S., Park, H. Y., & Lim, S. H. (2022). Cultural factors affecting the self-care of cancer survivors: An integrative review. *European Journal of Oncology Nursing*, 59(February), 102165. <https://doi.org/10.1016/j.ejon.2022.102165>
- Zahid, N., Zahid, W., Khalid, W., Azam, I., Ikram, M., Hassan, A., Iftikar, H., Bhamani, S. S., Jabbar, A. A., Akhtar, S., Siddiqui, M. I., Awan, M. S., Asad, N., & Ahmad, K. (2021). Resilience and its associated factors in head and neck cancer patients in Pakistan: an analytical cross-sectional study. *BMC Cancer*, 21(1), 1–10. <https://doi.org/10.1186/s12885-021-08624-8>