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Caregiving Burden and Its Impact on the Physical and Mental Health of Family Caregivers of Ovarian Cancer Patients

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ABSTRACT

Family caregivers of ovarian cancer patients play a crucial role in providing continuous care, yet the physical and emotional demands of caregiving often lead to burdens that may affect their physical and mental health. This study aimed to determine the relationship between caregiving burden and the physical and mental health of family caregivers of ovarian cancer patients. A quantitative approach with a cross-sectional design was employed. The study population consisted of 171 caregivers, and a total of 63 respondents were selected using purposive sampling. The instruments used were the Zarit Burden Scale to assess caregiving burden and the General Health Questionnaire (GHQ-12) to assess caregivers' physical and mental health. The findings showed that most caregivers experienced mild to moderate caregiving burden, had moderate levels of physical health (63.5%), and exhibited moderate psychological distress (93.7%). Statistical analysis revealed no significant relationship between caregiving burden and physical health (p = 0.986) or mental health (p = 0.889). In conclusion, caregiving burden did not directly affect the physical and mental health of caregivers. It is recommended that healthcare services develop psychosocial support programs and stress management interventions to maintain caregiver well-being and enhance their adaptive coping strategies.

Keywords:
Caregiving burden, caregiver, physical health, mental health, ovarian cancer

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Introduction

Cancer remains one of the major health problems worldwide and is a significant cause of mortality globally. The World Health Organization (WHO) reported that cancer accounted for approximately 9.6 million deaths in 2018, and the global cancer burden continues to rise with the increasing number of new cases each year (WHO, 2021; WHO, 2024). Data from the Global Cancer Observatory also predict that cancer incidence and mortality will continue to increase until 2050, particularly in countries with developing health systems (International Agency for Research on Cancer, 2025). This condition indicates that cancer is not only a medical issue but also a complex social and public health challenge.

The impact of cancer is not limited to patients but also extends to their families, particularly family members who serve as caregivers. The chronic and progressive nature of the disease, along with long-term treatment, requires families to be intensively involved in the patient's daily care. Family caregivers play a crucial role in supporting treatment, assisting with daily activities, managing care schedules, monitoring the patient's physical condition, and providing emotional and social support. However, this role is generally undertaken without formal training and is often carried out alongside work responsibilities and other domestic roles, making caregiving a complex and demanding task (La et al., 2021).

One type of cancer that has received particular attention is ovarian cancer. Ovarian cancer is recognized as the gynecological cancer with the highest mortality rate, primarily because it is often diagnosed at an advanced stage due to nonspecific early symptoms. The World Ovarian Cancer Coalition (2024) refers to ovarian cancer as “the most lethal of female cancers,” with relatively low survival rates. Data from Globacan (2020) dan WHO indicate that the incidence and mortality of ovarian cancer continue to rise globally, including in Indonesia (Bray et al., 2021). The treatment process for ovarian cancer, which involves surgery and intensive chemotherapy, requires continuous care and substantial support from families, particularly caregivers (Greenwood et al., 2019).

In the context of ovarian cancer care, family caregivers face exceptionally heavy demands. They are not only responsible for assisting with the physical care of patients experiencing pain, fatigue, ascites, and the side effects of chemotherapy, but also must cope with the emotional strain arising from the uncertainty of prognosis and the possibility of disease recurrence. Furthermore, the impact of ovarian cancer on reproductive function, body image, and women's roles within the family often generates additional psychological pressures that are also felt by caregivers. These circumstances make caregiving for ovarian cancer patients relatively unique compared to caregiving in other types of cancer (Webb et al., 2024).

Caregiving burden is a multidimensional condition that encompasses physical, psychological, social, and economic demands resulting from long-term caregiving responsibilities. Physical burden may manifest as chronic fatigue, sleep disturbances, and a decline in overall health. Psychological burden arises in the form of stress, anxiety, depression, feelings of helplessness, and fear of patient death or disease recurrence. In addition, caregivers often experience social and economic burdens, such as reduced opportunities for social interaction, role conflicts within the family, and financial strain due to treatment costs and decreased work productivity (Safitri & Suwarno, 2023; Moghaddam et al., 2023).

Various studies have shown that a high caregiving burden has direct implications for the physical and mental health of caregivers. Cancer caregivers are at risk of experiencing chronic fatigue, musculoskeletal pain, sleep disturbances, and a decline in immune function. From a psychological perspective, caregivers are vulnerable to prolonged stress, anxiety, depression, burnout, and a reduced quality of life (Pinquart & Sorensen 2014., Zhang et al., 2023; Gwnderson et al., 2024). This condition not only affects the well-being of caregivers but also has the potential to reduce the quality of care provided to patients, including support for treatment adherence and the fulfillment of patients' emotional needs.

Although the importance of caregivers is increasingly recognized, research on cancer caregivers in Indonesia remains relatively limited. Most studies focus on general quality of life or combine various types of cancer without examining the specific characteristics of particular diseases. Research that specifically investigates the relationship between caregiving burden and the physical and mental health of family caregivers of ovarian cancer patients is still very scarce. In the context of Indonesia's healthcare system, families play a central role in the care of patients with chronic illnesses, while formal support and intervention programs for caregivers remain limited.

Based on these conditions, research on the relationship between caregiving burden and the physical and mental health of family caregivers of ovarian cancer patients is critically important, particularly within the Indonesian context. Such research is expected to fill the knowledge gap regarding the characteristics and impacts of caregiving burden, and to serve as a foundation for the development of nursing interventions, caregiver education programs, and health policies that are more responsive to the needs of family caregivers of ovarian cancer patients.

Methods

a. Research design

This study employed a **quantitative cross-sectional design** as it aligns with the objective of describing the relationship between caregiving burden and the physical and mental health of family caregivers of ovarian cancer patients at a single point in time. This design is efficient and capable of providing a simultaneous overview of the population's condition. However, its limitation is that it cannot establish causal relationships; therefore, the findings only indicate associations rather than causality.

b. Setting and samples

The study was conducted in June 2025 at Dr. Achmad Mochtar General Hospital Bukittinggi, specifically in the service unit that manages ovarian cancer patients. The location was chosen because the hospital serves as a major referral center in the Bukittinggi region, equipped with oncology facilities and directly involving family caregivers in the patient care process.

c. Population and Sample

The population in this study consisted of all family caregivers of ovarian cancer patients at Dr. Achmad Mochtar General Hospital Bukittinggi, totaling **171 individuals**. From this population, **63 samples** were obtained using the Slovin formula with a 10% margin of error. The inclusion criteria were primary caregivers of ovarian cancer patients, aged 18 years or older, in good physical and psychological health, and willing to participate as respondents. The exclusion criteria were caregivers who did not meet these requirements or had conditions that could interfere with their participation in the study.

d. Sampling Technique

Purposive sampling was employed because this study specifically targeted the primary caregivers of ovarian cancer patients, ensuring that the selected respondents were directly aligned with the research objectives. This method enabled the researcher to obtain data from a group relevant to the inclusion criteria. However, purposive sampling has limitations, including the potential for selection bias, as the sample was chosen based on the researcher's judgment, and generalization bias, since the findings may not represent all caregivers beyond the study setting.

e. Instruments

The research instruments used were the Zarit Burden Interview (ZBI) and the General Health Questionnaire-12 (GHQ-12). The ZBI consists of 22 items measured on a 5-point Likert scale (0–4), with a total score ranging from 0 to 88. It has demonstrated strong reliability with a Cronbach's alpha >0.80 and has been validated in the Indonesian language. The GHQ-12 comprises 12 items with a total score ranging from 0 to 12, where a cut-off point of ≥3 indicates the presence of mental health problems. The GHQ-12 has shown acceptable reliability with a Cronbach's alpha **between 0.70-0.80** and has also been adapted into Indonesian.

f. Data Collection Procedures

Data collection was carried out by distributing questionnaires to family caregivers of ovarian cancer patients. The questionnaires were completed directly by the caregivers according to the instructions provided. The data collection process was conducted by the researcher with the assistance of trained enumerators who had been given detailed explanations of the research procedures to ensure consistency in implementation. Each respondent required approximately **50 minutes** to complete the questionnaire, allowing sufficient time to understand and answer the questions thoroughly.

g. Data Analysis

Data were analyzed using SPSS software. The analysis was conducted with the Chi-Square test to examine the relationship between caregiving burden and the physical and mental health of family caregivers of ovarian cancer patients. In addition, descriptive statistics were used to describe the characteristics of the respondents. The level of statistical significance was set at $p < 0.05$, and results were considered significant when the *p*-value was below this threshold.

h. Ethical Considerations

The study obtained **ethical clearance from Universitas Perintis Indonesia** prior to implementation, as a form of compliance with ethical research principles. All respondents were provided with **informed consent** and were clearly informed about the objectives and procedures of the study before participation. Participation was entirely **voluntary**, with respondents retaining the full right to refuse or withdraw at any time without consequences. The researcher guaranteed the **confidentiality and privacy** of respondents by not disclosing personal identities and ensuring that data were used solely for research purposes. The principles of **anonymity and confidentiality** were strictly applied so that respondent information could not be accessed by unauthorized parties. Furthermore, the researcher ensured **fair treatment** throughout the study process, including respecting respondents' time and terminating activities according to prior agreements. Respondents were also protected from any form of **discomfort or risk, both physical and psychological.**

Results

a. Respondent Characteristics

Table 1. Characteristics of Family Caregivers of Ovarian Cancer Patients

Gender	**Frequency**	**Percentage %**
Male	20	31,7%
Female	43	68,3%
Total	63	100%
Relationship to Patient	**Frequency**	**Percentage (%)**
Husband	12	19,0%
Mother	12	19,0%
Child	39	61,9%
Total	63	100%
Marital Status	**Frequency**	**Percentage (%)**
Married	45	71,4%
Unmarried	14	22,2%
Divorced	4	6,3%
Total	63	100%

The results show that in terms of gender, caregivers were predominantly female, accounting for 68.3%, which illustrates that caregiving for ovarian cancer patients is primarily undertaken by women. Regarding the relationship to the patient, the largest group of caregivers were the patients' children, comprising 61.9%, indicating that caregiving responsibilities are mainly borne by the younger generation within the family. Meanwhile, in terms of marital status, the majority of caregivers were married (71.4%), suggesting that most caregivers carry dual roles within the family while simultaneously providing care for sick family members.

b. Caregiving Burden

Table 2. Frequency Distribution of Caregiving Burden among Family Caregivers of Ovarian Cancer Patients

Caregiving Burden	**Frequency**	**rcentage (%)**
No Burden	3	4,8%
Mild	32	50,8%
Moderate	24	38,1%
Severe	4	6,3%
Total	63	100%

The results indicate that the majority of caregivers were categorized as experiencing mild (50.8%) and moderate (38.1%) levels of burden, while only a small proportion reported no burden (4.8%) or severe burden (6.3%).

c. Physical Health of Family Caregivers

Tabel 3. Frequency Distribution of Physical Health among Family Caregivers of Ovarian Cancer Patients

Physical Health	**Frequency**	**rcentage (%)**
Good	3	4,8%
Fair	40	63,5%
Poor	19	30,2%
Very Poor	1	1,6%
Total	**63**	**100%**

The results show that the majority of family caregivers of ovarian cancer patients had physical health categorized as fair (63.5%), followed by poor (30.2%), while only a small proportion were in the good (4.8%) and very poor (1.6%) categories.

d. Mental Health of Family Caregivers

Tabel 4. Frequency Distribution of Mental Health among Family Caregivers of Ovarian Cancer Patients

Mental Health	**Frequency**	**rcentage (%)**
Mild Distress	4	6,3%
Moderate Distress	59	93,7%
Total	**63**	**100%**

The results show that the majority of family caregivers of ovarian cancer patients experienced moderate distress (93.7%), while only a small proportion reported mild distress (6.3%).

e. Relationship between Caregiving Burden and Physical Health of Family Caregivers

Table 5. Relationship between Caregiving Burden and Physical Health among Family Caregivers of Ovarian Cancer Patients

Caregiving Burden	**Physical Health**								**Total**		**p-values**
	Good		**Fair**		**Poor**		**Very Poor**				
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	
No Burden	0	0%	2	3,2%	1	1,6%	0	0%	3	100	
Mild	2	3,2	2	31,7	1	15,9	0	0%	3	100	0,986
Moderate	1	1,6	1	23,8	7	11,1	1	1,6%	2	100	
Severe	0	0%	3	4,8%	1	1,6%	0	0%	4	100	
Total	**3**	**4,8**	**4**	**63,5**	**1**	**30,2**	**1**	**1,6%**	**6**	**100**	

The study results showed a p-value of 0.986, indicating that there was no significant relationship between the level of caregiving burden and the physical health of caregivers. The majority of respondents were categorized as having fair physical health, despite variations in caregiving burden ranging from mild to severe.

f. Relationship between Caregiving Burden and Mental Health of Family Caregivers

Table 6. Relationship between Caregiving Burden and the Mental Health of Family Caregivers of Ovarian Cancer Patients

Caregiving Burden	Mental Health						
	Mild Distress		Moderate Distress		Total		p-vlues
	f	%	f	%	f	%	
No Burden	0	0%	3	4,8%	3	100%	0,889
Mild	2	3,2%	30	47,6%	32	100%	
Moderate	2	3,2%	22	34,9%	24	100%	
Severe	0	0%	4	6,3%	4	100%	
Total	**4**	**6,3%**	**59**	**93,7%**	**63**	**100%**	

The study results showed that there was no significant relationship between caregiving burden and the mental health of caregivers, with a p-value of 0.889.

Discussion

Respondent Characteristics

This study shows that caregivers of ovarian cancer patients are predominantly women, immediate family members, and individuals who are married. These findings strengthen the evidence that the caregiving role in the context of cancer is still heavily influenced by social and cultural norms, in which women and immediate family members more often take on the primary responsibility for patient care (Ng et al., 2023; Alghamdi et al., 2025). Close family ties especially those involving spouses and children intensify caregivers' emotional engagement. While this can enhance the support provided to patients, it simultaneously elevates the risk of psychological distress (Webb et al., 2024; RM et al., 2022)

Marital status was identified as a significant characteristic in this study. Caregivers who are married often face role conflicts arising from the simultaneous demands of being a spouse, a parent, and a caregiver. These overlapping responsibilities may intensify emotional stress and diminish overall quality of life (Meecharoen et al., 2013; Stragapede et al., 2023). Accordingly, the demographic characteristics of caregivers in this study serve not only as background information but also as a central context for interpreting the caregiving experience and the potential burdens it entails.

Caregiver Barden

The findings reveal that the majority of caregivers report caregiving burdens ranging from mild to moderate, with only a minority experiencing severe burdens. This suggests that, despite the challenges inherent in caregiving, many caregivers are able to adapt to care demands likely facilitated by family support, acceptance of the patient's condition, and well-developed coping strategies (Akter et al., 2023). Nonetheless, even mild to moderate caregiving burdens require careful consideration, since chronic pressures can accumulate and negatively impact caregivers' well-being. This aligns with prior research indicating that caregivers of ovarian and gynecological cancer patients commonly face moderate levels of burden, especially as patient care demands intensify (Hartnett et al., 2016; Zuo et al., 2020). Furthermore, female caregivers and those from immediate family members appear more susceptible to caregiving burdens, largely as a result of heightened emotional involvement and the challenges of fulfilling multiple roles (Ng et al., 2020; Webb et al., 2024)

Mental Health of Family Caregivers

The findings of this study show that the majority of family caregivers of ovarian cancer patients experienced **moderate distress (93.7%)**, while only a small proportion reported **mild distress** This condition underscores that caregiving for ovarian cancer patients imposes a considerable psychological impact on caregivers. Research by (Haun & Friederich, 2015) found that more than 50% of cancer caregivers had unmet psychological needs, making them vulnerable to moderate to severe distress, Supporting this, et al., (2012) emphasized that cancer caregivers face a high emotional burden, with depression prevalence reaching 40%. More recent studies further highlight that digital mental health interventions can help caregivers reduce anxiety and depression, thereby improving psychological well-being (Zhang et al., 2025).

Physical and Mental Health of Caregivers

This study found that most caregivers were in the category of fair physical health, while nearly all caregivers experienced psychological distress at a moderate level. These findings indicate that the impact of caregiving is more pronounced in psychological aspects than in physical ones. This condition is consistent with previous studies reporting that cancer caregivers often experience emotional exhaustion, anxiety, and sleep disturbances, even though declines in physical health are not always directly observable (Geng et al., 2018; Northouse et al., 2012).

The high proportion of caregivers experiencing moderate distress also indicates unmet psychological needs. Haun and Friederich (2015) reported that more than half of cancer caregivers have unaddressed psychological needs, thereby increasing the risk of distress. More recent studies further suggest that digital-based psychosocial and mental health interventions can help reduce anxiety and depression among cancer caregivers (Zhang et al., 2025).

Relationship between Caregiving Burden and Physical Health of Family Caregivers

The study found no significant association between caregiving burden and caregivers' physical or mental health. This result aligns with prior research suggesting that caregiving burden does not necessarily lead to health deterioration, especially when caregivers employ effective coping strategies and benefit from sufficient social support (Lund et al., 2014; Rezaei et al., 2024).

From a theoretical perspective, these findings may be understood through adaptation mechanisms, whereby caregivers engaged in long-term care gradually adjust to their roles and develop more effective stress management. Moreover, subjective perceptions of burden appear to exert a stronger impact on caregivers' well-being than objective measures of physical health (Siminoff et al., 2024). Moreover, contextual influences—particularly cultural norms that underscore family responsibility may function as protective factors, buffering caregivers against the adverse effects of caregiving burden (Halim et al., 2020).

However, these findings contrast with a number of studies indicating that high caregiving burden is linked to physical exhaustion, sleep disruption, and reduced energy levels (Yaşar & Terzioglu, 2022; Omoikhefe & Emeka, 2024). These differences suggest that the association between caregiving burden and caregiver health is multifaceted, shaped by sample characteristics, the availability of social support, and cultural context (Barnard, 2025).

Implication and limitations

This study has several limitations that warrant consideration. Its cross-sectional design constrains the capacity to evaluate changes in caregiver burden and health across time. Moreover, reliance on self-report instruments may have introduced perceptual bias. Finally, the sample dominated by female caregivers and immediate family members restricts the generalizability of the findings to more diverse caregiver populations.

Despite these limitations, this study provides a valuable contribution by showing that, within the context of ovarian cancer, caregiving burden does not necessarily correlate directly with caregivers' physical and mental health. The findings highlight the importance of nursing and psychosocial interventions that extend beyond burden reduction to include the reinforcement of coping strategies, the strengthening of social support, and culturally sensitive approaches that acknowledge family roles

Conclusion

The study demonstrated that the majority of family caregivers of ovarian cancer patients reported mild to moderate caregiving burdens, fair physical health, and moderate levels of psychological distress. Statistical analyses indicated no significant association between caregiving burden and caregivers' physical or mental health. These findings suggest that caregiving burden may not directly impact caregivers' health, but rather that outcomes are shaped by coping capacity, social support, and adaptation to caregiving roles. Nonetheless, the considerable prevalence of psychological distress and the decline in physical health among certain caregivers highlight the need for targeted attention within healthcare services

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Author contribution

The authors contributed to this manuscript as follows: Marta was responsible for conceptualizing the study design and drafting the initial manuscript. Maidaliza conducted data collection and statistical analysis, as well as the literature review and interpretation of findings. All authors reviewed, revised, and approved the final version of the manuscript.

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