CAREGIVING BURDEN AMONG PRIMARY CAREGIVERS OF POST-BREAST CANCER PATIENTS AFTER SURGERYAT NGHE AN ONCOLOGY HOSPITAL IN 2025

***Hoang Thi Yen Nhi*[1], *Phan Thi An Dung*[1], *Cao Thi Phi Nga*[1], *Hoang Vu Hien*[2]**

ABSTRACT

Objective: *This study aimed to describe the burden of care among primary caregivers of patients after breast cancer surgery.*

Subjects and Methods: *The study was conducted on 95 primary caregivers of postoperative breast cancer patients at the Breast Surgery Department of Nghe An Oncology Hospital in 2025. This was a cross-sectional descriptive study. The study assessed the burden of care using a structured questionnaire (Zarit Burden Interview, ZBI) for primary caregivers of post-breast cancer surgery patients at Nghe An Oncology Hospital in 2025.*

Results: *The study showed that the mean ZBI (Zarit Burden Interview) care burden score among primary caregivers was 32.96 ± 13.15; 13.6% of caregivers experienced a low level of burden; 57.9% had a moderate burden; 27.4% had a high burden; and 1.1% had a very high burden.*

Conclusion: *All primary caregivers experienced some level of care burden, mainly at moderate and high levels. Therefore, reducing the burden on primary caregivers is a critical requirement in nursing care. Achieving this requires healthcare staff, especially nurses, to conduct further research to explore factors associated with caregiver burden.*

---

[1] *Vinh Medical University*

[2] *Military Hospital 175*

Corresponding author: Hoang Thi Yen Nhi, Email: hoangnhi270923@gmail.com

Received: November 01, 2025

Revised: November 30, 2025

Keywords: *Caregiving burden, primary caregiver, breast cancer surgery, Nghe An Oncology Hospital.*

1. INTRODUCTION

Breast cancer is the leading cause of cancer-related death among women worldwide [1]. According to statistics from the Global Cancer Observatory (Globocan) in 2022, there were an estimated 2.3 million new cases of breast cancer globally, accounting for 11.6% of all cancer cases [2]. In Vietnam, each year, there are approximately 15.230 new cases of breast cancer and more than 6.100 deaths due to this disease [1]. Currently, surgery has been the primary treatment method for breast cancer for many decades.

Treatment for breast cancer requires a prolonged period. Patients are exposed to multiple treatment environments, accompanied by physical, psychological, and financial challenges. Furthermore, primary caregivers—those providing the main support to patients—also face significant pressures [3]. Caregiving burden refers to the physical and financial stress experienced by primary caregivers when care demands exceed their capacity. This is particularly notable during the post-surgical phase of breast cancer, when patients require assistance with mobility, personal hygiene, and psychological stabilization [4].

Although there have been numerous research studies on breast cancer treatment or caregiver burden for healthcare staff, in Vietnam, especially in Nghe An province, there have been no studies or published documents addressing the caregiving burden on primary caregivers of patients after breast cancer surgery. Therefore, this study was conducted to describe the caregiving burden experienced by primary caregivers of patients following breast cancer surgery.

2. SUBJECTS AND METHODS

2.1. Study subjects:

Primary caregivers of patients after breast cancer surgery at the Breast Surgery Department, Nghe An Oncology Hospital.

***Inclusion criteria*:**

Primary caregivers who agree to participate in the study, aged 18 or older, cognitively capable of providing information for the study, and able to communicate, listen, speak, read, write, and understand Vietnamese.

Exclusion criteria:

Primary caregivers did not have sufficient physical or mental capacity to complete the interview.

2.2. Study design: Cross-sectional descriptive study.

2.3. Sample size:

The total sample consisted of 95 primary caregivers of patients after breast cancer surgery who were being treated at the Breast Surgery Department, Nghe An Oncology Hospital, and met the inclusion and exclusion criteria. The sampling method was convenience sampling.

2.4. Study time and location:

Time of study: From January 2025 to April 2025.

Study location: Breast Surgery Department, Nghe An Oncology Hospital.

2.5. Study variables:

Variables included general information of study subjects (gender, age, education, marital status, occupation, income, hours of caregiving); general information of patients (gender, age, education, marital status, occupation, health insurance, time of disease detection, number of hospitalizations related to breast cancer, days post-surgery, comorbidities); and caregiving burden variables.

Data collection tools: A pre-designed questionnaire divided into four sections:

Section I: 9 questions on patients' demographic characteristics.

Section II: 9 questions on study subjects' information.

Section III: 9 questions on social support for study subjects, developed based on the Multidimensional Scale of Perceived Social Support by Zimet, as used by Lê Thị Thanh (2022) [5].

Section IV: 22 self-assessment questions on caregiving burden using a Likert scale, with responses ranging from 0 to 4 points: 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Quite Often, 4 = Often.

***Data collection procedure**:

The study was conducted with the approval of the Breast Surgery Department and the assistance of the head nurse. Researchers met subjects directly, explained the purpose and content of the study, and collected data through face-to-face interviews. If subjects had difficulty understanding questions, explanations were provided. After completing the questionnaire, answers were checked to ensure completeness and validity.

2.6. Data analysis:

Data were coded, cleaned, entered into EPIDATA 3.1, and analyzed using SPSS 26. Descriptive statistics were used to calculate frequency distributions and percentages.

2.7. Research ethics:

This study was conducted following the approval of the Ethics Committee (Decision No. 05.2025/HĐĐĐ-YKV, dated January 10, 2025) from Vinh Medical University, with the consent of Nghe An Oncology Hospital, and the cooperation of the department head and staff of the Breast Surgery Department. All participants were fully informed about the study's purpose and voluntarily participated. Additionally, all personal information collected was strictly confidential.

3. STUDY RESULTS

Table 1. Demographic characteristics of patients (n=95)

Characteristic		**Frequency**	**Percentage**
Gender	Male	0	0
	Female	95	100
Age	<40 years	11	11.6
	40-60 years	49	51.6
	>60 years	35	36.8
Education level	Below high school	25	26.3
	High school or above	70	73.7
Marital status	Single/Unmarried	12	12.7
	Married	69	72.6
	Separated/Divorced/ Widowed	14	14.7
Occupation	Retired or not working	13	13.6
	Government employee	13	13.7
	Business	15	15.8
	Farmer	34	35.8
	Freelance	20	21.1
Total		**95**	**100**

Remark: All patients were female (100%). Most patients who underwent breast cancer surgery were aged 40-60 years (51.6%) and over 60 years (36.8%). The majority had an education at high school level or above (73.7%), and most were married (72.6%). Farmers made up the largest occupational group (35.8%).

Table 2. Some characteristics related to the disease of patients (n=95)

Characteristic		Frequency	Percentage
Health insurance	Yes	95	100
	No	0	0
Time of disease detection	< 6 months	12	12.6
	6-12 months	22	23.2
	1-5 years	36	37.9
	>5 years	25	26.3
Number of hospitalizations related to breast cancer	1 time	9	9.4
	2 times	13	13.7
	3 times	22	23.2
	>= 4 times	51	53.7
Comorbid chronic diseases	Yes	7	7.4
	No	88	92.6
Total		**95**	**100**

Remark: All patients (100%) had health insurance. Most were diagnosed more than 6 months ago (87.4%). The majority (53.7%) were hospitalized four times or more, related to breast cancer. Most patients (88%) did not have comorbid chronic diseases; only 7.4% have comorbid chronic diseases, mainly hypertension and diabetes.

Table 3. Demographic characteristics of primary caregivers (n=95)

Characteristic		Frequency (n)	Percentage (%)
Gender	Male	38	40.0
	Female	57	60.0
Age	<40 years	22	23.2
	40-60 years	44	46.3
	>60 years	29	30.5
Mean age (Mean ± SD): 45.53 ± 12.22			

Education level	Below high school	26	27.4
	High school or above	69	72.6
Marital status	Single/Unmarried	8	8.4
	Married	82	86.3
	Separated/Divorced/Widowed	5	5.3
Occupation	Retired or not working	6	6.4
	Government employee	12	12.6
	Business	18	18.9
	Farmer	48	50.5
	Freelance	11	11.6
	Total	**95**	**100**

Remark: Most primary caregivers were female (60%). The largest age group was 40-60 years (46.3%), with a mean age of primary caregivers of 45.53 ± 12.22. Most caregivers had an education at the high school level or above (72.6%), and primary caregivers were married (86.3%). The main occupation among caregivers was farming (accounting for 50.5%).

Table 4. Characteristics related to the caregiving burden of primary caregivers for patients (n=95)

Characteristic		**Frequency (n)**	**Percentage (%)**
Health status	Normal	70	73.7
	Frequently tired	19	20.0
	Currently receiving treatment	6	6.3
Relationship with the patient	Wife (husband)	28	29.5
	Father (mother)	20	21.1
	Children	33	34.7
	Relatives	11	11.6
	Other	3	3.1

Hours of caregiving	<14 hours/day	10	10.5
	≥14 hours/day	85	89.5
Average monthly household income of the primary caregiver's family	Below 5 million VND/ month	5	5.3
	5–10 million VND/month	46	48.4
	10–20 million VND/ month	34	35.8
	Above 20 million VND/ month	10	10.5
Total		**95**	**100**

***Remark*:** 73.7% of primary caregivers reported their health status as normal. The relationship between the primary caregiver and the patient was mainly children (34.7%), while the lowest proportion was "other" (3.1%, including friends or partners). Most primary caregivers cared for breast cancer post-surgery patients for ≥14 hours/day (89.5%). The highest proportion of families had an average monthly income of 5–10 million VND (48.4%).

Table 5. Caregiving burden of primary caregivers

Frequency/Percentage **Caregiving burden**	**Frequency (n)**	**Percentage (%)**
Low burden (0–20 points)	13	13.6
Medium burden (21–40 points)	55	57.9
High burden (41–60 points)	26	27.4
Very high burden (61–88 points)	1	1.1
Total	**95**	**100**
ZBI mean (Mean ±SD): 32.96 ± 13.15, min=14, max=66		

Remark: The average ZBI caregiving burden score of primary caregivers was 32.96 ± 13.15, the lowest score was 14, and the highest score was 66. Most primary caregivers had a caregiving burden at least at the medium level, accounting for 86.4% (with the majority at the medium level, 57.9%, and 27.4% at the high level). Only 1.1% of primary caregivers reported a very high caregiving burden.

4. DISCUSSION

4.1. General characteristics of the study subjects:

- **Gender characteristics:** In this study, 100% of the patients were female. This result aligns with the epidemiological reality that breast cancer (BC) predominantly affects women and is related to estrogen hormones. This finding is consistent with the study by Nguyen Thi Hien, in which all gynecologic cancer patients were female [6].

- **Age characteristics:** Regarding age, most patients were between 40–60 years old (51.6%) and the majority were married (72.6%). This result is similar to the study by Mai Thi Yen (2020) in Nam Dinh, where 76.2% of patients were aged 45 or older [7], as well as the general trend in Vietnam where BC is usually diagnosed between ages 45–55. The likely reason is that the perimenopausal and menopausal stages in women cause hormonal changes, increasing the risk of BC.

- **Education and occupation:** Most patients had an education level of high school or above (73.7%), similar to Nguyen Thi Hien's study, in which 85.7% had completed secondary or high school [6]. Some studies indicate that lower education levels may be associated with late disease detection, leading to more advanced cancer stages. Regarding occupation, more than half of the patients were still working in jobs such as farming, informal labor, or business, while 13.7% were retired or no longer working. This proportion is comparable to Mai Thi Yen's (2020) study in Nam Định, where 61.9% of patients were still employed [7].

- **Duration since disease detection:** The disease was mostly detected within 1–5 years (37.9%), and more than half of the patients had been hospitalized ≥4 times for breast cancer (53.7%). Most patients detected the disease after noticeable symptoms such as breast pain or palpable lumps, often monitoring and treating themselves at home before seeking medical care, resulting in late diagnosis. This highlights the importance of early detection and treatment to reduce costs and improve intervention outcomes. These findings are consistent with the study by Eva Y N Yuen (2021) in Australia, which reported an average time from diagnosis of 2.76 years [8].

- **Age and current health of the primary caregiver:** The average age of primary caregivers was 45.53 ± 12.22 years, similar to previous studies such as Mai Thi Yen (2020) in Nam Dinh (52 ± 12.6 years) [7] and Ahmad in Malaysia (48.78 ± 12.99 years) [9]. Middle-aged individuals tend to take on caregiving roles more often due to having time, fewer responsibilities with young children, and being near retirement. In this study, the 40–60 age group accounted for the highest proportion (46.3%), followed by those over 60 (30.5%). This age group is usually married and responsible for family members, particularly when caring for relatives with chronic diseases such as cancer. This result aligns with Khuc Huyen Trang (2021), in which primary caregivers aged 40–60 accounted for 57.5% [10].

- **Gender of the primary caregiver:** In this study, females were the majority in the primary caregiver role (60%), while males accounted for 40%. This finding aligns with previous studies such as Ahmad in Malaysia (70.3% female) [9], Nguyen Thi Hien in Ho Chi Minh City (58.3% female) [6], and Mai Thi Yen in Nam Dinh (59% female) [7]. This difference is explained by traditional and social factors, where women are often expected to undertake family caregiving duties. International systematic reviews also show that women tend to be more empathetic and are more likely to accept caregiving as a natural responsibility.

- **Education, literacy, and occupation of primary caregivers:** Most primary caregivers had a high school education or higher (72.6%) and mainly worked in agriculture (50.5%). This is similar to Mai Thi Yen (2020) in Nam Dinh, where 59.1% of caregivers had high school education or above and 90.9% were employed [7]. The similarity may be due to comparable geographic and socio-economic conditions between the two provinces. Notably, Nghe An is an agricultural-forestry province currently developing industry with many new factories and enterprises, increasing the proportion of general laborers such as farmers and workers in the community, including primary caregivers in this study.

- **Caregiving duration:** The study found that 89.5% of primary caregivers spent more than 14 hours per day caring for post-surgery breast cancer patients, while only 10.5% spent less than 14 hours/day. This clearly reflects the high commitment and significant time investment of caregivers in supporting daily activities, psychological care, and health recovery of patients. This proportion is higher than Mai Thi Yen (2020) at Nam Dinh General Hospital, where only 19.6% of caregivers spent more than 12 hours/day [7]. The difference can be explained by differences in patient characteristics: post-surgery patients often need more care than those undergoing medical treatment, as well as differences in ward scale and data collection methods between the two studies.

4.2. Caregiving burden for post-surgery breast cancer patients:

In Vietnam, family members play the main role in caring for cancer patients, including basic activities such as eating, personal hygiene, and changing clothes. The study of 95 primary caregivers showed an average caregiving burden score of 32.96 ± 13.15, with 86.4% experiencing a moderate or higher burden. Among them, 27.4% reported a high burden, and 1.1% reported a very high burden. This is alarming and reflects gaps in mental health care in Vietnam. The result is consistent with Ahmad's study in Malaysia, which reported a mean ZBI score of 23.33 ± 13.7; most caregivers had mild to moderate burden (36.1%), with very severe burden at only 1.5% [9]. The possible reasons include: (1) post-surgery breast cancer patients are often in advanced stages (III/IV), elderly, with limited self-care ability, thus partially or fully dependent on caregivers; (2) most caregivers are farmers with low income, facing significant economic and psychological pressures, leading to anxiety and depression, which increases the caregiving burden for relatives with cancer.

5. CONCLUSION

Overall, all caregivers experience a moderate to high level of caregiving burden. Therefore, in addition to enhancing health counseling and education, healthcare professionals need to collaborate to develop specialized support programs, such as psychological counseling, post-surgery care skills training, stress management, and self-care for caregivers. Furthermore, research should be conducted to explore factors related to the caregiving burden of primary caregivers and to alleviate their burden.

REFERENCES

1. Ministry of Health (2021), Decision on the issuance of supplementary materials "Guidelines for preventive activities, early detection screening, and management of breast cancer and cervical cancer in the community under Project 818 until 2030," Decision No. 1639/QD-BYT dated 19th [month/year].

2. Global cancer statistics (2022), GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries, *GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries 2022*.

3. Global cancer statistics (2018), GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries, *GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries 2018*.

4. S. R. Mirsoleymani (2017), Predictors of caregiver burden in Iranian family caregivers of cancer patients, *J Educ Health Promot*, 6(1), pp. 90-91.

5. Le Thi Thanh (2022), The actual situation of caregiver burden among

family members of cancer patients at the Oncology Department, C Hospital, Thai Nguyen, 2022, Special Report, pp. 10.

6. Nguyen Thi Hien (2023), The relationship between quality of life and caregiver burden and related factors of caregivers of cancer patients, *Vietnam Journal of Medicine*, 527(1), pp. 188–191.

7. Mai Thi Yen (2020), The actual situation of caregiver burden of primary caregivers of cancer patients treated at the Oncology Center, Nam Dinh General Hospital, 2020, Doctoral Thesis in Nursing, Nam Dinh University of Nursing, 3(3), pp. 116–124.

8. Eva Y N Yuen (2021), The Relationship between Cancer Caregiver Burden and Psychological Outcomes: The Moderating Role of Social Connectedness, *Current Oncology*, 29(1), pp. 14-26.

9. Zati Sabrina Ahmad Zubaidi (2020), Caregiver burden among informal caregivers in the largest specialized palliative care unit in Malaysia, *BMC Palliat Care 19*, 29(10), pp. 186.

10. Huyen Trang (2021), Assessment of caregiver burden of stroke patients at home by primary caregivers, *Vietnam Journal of Medicine*, 506(1), pp. 23–25.