

CAREGIVER BURDEN AMONG PATIENTS WITH GYNAECOLOGICAL CANCER AT A TERTIARY HOSPITAL IN PORT HARCOURT, NIGERIA

ABSTRACT

Background: Caring for patients with gynaecological cancer is often prolonged and can significantly affect the psychological, emotional, functional, and even physical health of caregivers.

Objectives: To evaluate the level of caregiver burden and determine the factors associated with it among primary caregivers of gynaecological cancer patients.

Materials and Methods: This was a prospective cross-sectional study conducted at the gynaecologic oncology unit of the University of Port Harcourt Teaching Hospital between July 1, 2023, and December 31, 2023, on 51 primary caregivers of patients with gynaecological cancers by convenient sampling. A pretest using a semi-structured interview questionnaire, assessing demographic and caregiving factors, was conducted at the Hospital of River State University Teaching Hospital, to ensure its validity and reliability. A score above 20 was considered a high level of burden. Data was analyzed using SPSS 28, and the level of significance was considered at $p \text{ value} \leq 0.05$.

Results: The mean age of caregivers was 40.4 ± 11.6 years. The mean score of the Zarit Burden Interview was 31.75 ± 19.14 . About one-third 17 (33.3%) were frequently stressed between caring for relative and trying to meet other responsibilities, almost half (45.1%) reported that they sometimes do not have as much privacy as needed and 24 (47.1%) were quite frequently doing more for the patient, with 24 (47.1%) of the patients moderately dependent on caregivers. More than half 35 (68.6%) of the caregivers had a high burden of care. Missing job due to caregiving role ($X^2=9.495$, $P=0.002$), the residence of the caregivers

($X^2=7.556$, $P=0.006$) and menopausal status ($x^2=24.238$, $p<0.001$) were significantly associated with the level of burden.

Conclusion: The caregivers of women with cancer carry a heavy load. Hence, they need our support, our time, and our ears to listen, thereby improving the quality of lives of both patients and their caregivers.

Keywords: Gynaecological cancers, Caregiver burden, Zarit Burden Interview, Port Harcourt, Nigeria

1. INTRODUCTION

Gynaecological cancers are among the most common cancers diagnosed in women worldwide [1]. According to the recent global cancer statistics, more than 1.39 million women have been diagnosed with a gynaecological cancer in 2020, while 671,920 women have died from this disease [1]. These statistics suggest that gynaecological cancers are a serious health problem affecting women globally. The five main types of gynaecological cancers are cervical, ovarian, uterine, vulval and vaginal cancer [2]. These cancers originate in the reproductive organs of women [3]. The symptoms experienced before a diagnosis of gynaecological cancer is made depends on the location of the disease. Informal caregivers play an important role in a patient's illness trajectory because they provide the patient with physical, emotional, and financial support [4]. Informal caregivers are defined as individuals who provide patients with uncompensated assistance on a regular basis. These caregivers are often well acquainted with the patient. Thus, informal caregivers are often the parent, spouse, sibling, adult children, and relatives [5]. Research suggests that these caregivers fulfil multiple roles and need to adapt to the needs of the patient [6,7]. Nigeria has limited specialized human resources and facilities for cancer care as patients present in advanced stages of the disease, so the burden of caregiving rests on the family members [8].

The American gerontologist, Zarit first defined the burden of care as “the discomfort experienced by the principal caregiver of a family member, including the caregiver’s health, psychological and emotional well-being, finances, and social life” [9,10]. Caregiver burden is defined as “emotional, social and financial stress on patients” [11] or “multidimensional biopsychosocial reaction due to imbalances demanded by official care sources in caregivers’ individual time, social roles, physical and emotional well-being, economic resources, and many other roles they fulfill [12].” Psychosocial stress emphasized in the definition of caregiver burden shows the possible relationship with the concept of quality of life, which includes both physical and psychosocial components [13]. The studies reported that the quality of life of caregivers was negatively affected during caregiving of cancer patients [14-17].

In the literature, there are studies investigating anxiety, depression, economic distress, care burden, sleep problems, fatigue levels, and impaired quality of life experienced by cancer caregivers but the number of studies conducted with patients with gynaecologic cancer is limited [18-20]. There is a significant reciprocal relationship between the emotional distress of cancer patients and their caregivers [21,22]. Thus, the management of cancer patients would be compromised if the caregivers’ well-being is affected [23]. Despite caregiving has a significant impact on the caregivers’ well-being, the needs of the caregivers are often overlooked or considered secondary to those of the patients by healthcare professionals [24-27]. Caregivers’ burden in this study is assessed using the short form Zarit Standardized Scale [9]. Studies in the developed countries had established that informal caregivers of patients with cancer are vulnerable to all kinds of psychological (e.g., anxiety, stress, depression) and physical (e.g., burn-out, increased mortality, loss of weight, poor immune functioning, and insomnia) burden [16,17]. However, there is little information about challenges facing the informal caregivers of patients with cancer in sub-Saharan region of Africa, Nigeria

inclusive [28]. Hence, the study sought to determine the level of caregiver burden and the factors associated with it among primary caregivers of gynaecological cancer patients.

2. MATERIALS AND METHODS

2.1 Study Site

This study was conducted at the Gynaecology ward, Gynaecological Oncology, and the Clinical Oncology Out-patient clinics of the University of Port Harcourt Teaching Hospital (UPTH), a tertiary hospital with a capacity of 988 beds, located in the Port Harcourt Local Government Area of Rivers State, Nigeria. This facility plays a crucial role as a referral center for various healthcare levels, catering not only to the local population but also to the broader regions of Bori, Ahoada, and beyond. The gynaecological oncology clinic runs every Friday, while the radiation and clinical oncology clinic run every Tuesday, both led by consultants. Patients are evaluated at the clinic before they are admitted into the gynaecological ward for surgery. These surgeries are done by the Gynaecologists alongside the vascular surgeons, especially when extensive pelvic lymph node dissections are anticipated. Following surgery, they are co-managed with the radiation and clinical oncologist for administration of chemotherapy and subsequent follow-up.

2.2 Methods

A descriptive facility-based cross-sectional study of 49 primary caregivers of women with histological diagnosis of gynaecological cancer managed at the University of Port Harcourt Teaching Hospital between July 1, 2023, and December 31, 2023. Participants included primary caregivers of patients who were above 18 years, with exclusion criteria limited to those who refused consent, were under any form of duress to participate, those with comorbidities that involved a heavy burden, which increased their physical vulnerability, and those with communication difficulties. The researchers administered structured interviews

using the validated short form Zarit Burden Interview (ZBI) tool. Each interview lasted approximately 20 minutes.

2.3 Study Instrument

2.3.1 Data Collection Tool

A data collection tool designed for this purpose was used to obtain socio-demographic characteristics of the caregiver by direct interview. The functional status, reproductive, clinical, medical, family, and social characteristics of the patient were also obtained by medical records review and direct interview. A pretest to ascertain the validity and reliability of these predesigned questionnaires was conducted at the River State University Teaching Hospital, which is also a tertiary hospital prior to the commencement of the study.

2.3.2 Zarit Burden Interview (ZBI)

The ZBI is a globally recognized tool utilized by researchers worldwide. It is a 12-item questionnaire that is scored on a 5-point Likert scale. Each question is scored from 0 to 4, where zero = never, one = rarely, two = sometimes, three = quite frequently, and four = nearly always. The total ZBI was obtained by adding all the scores for the 12 questions with a range of 0 to 48, with higher scores suggesting higher burden.⁹ The Cronbach's alpha was 0.99 in this study.

2.4 Statistical Analysis

Each questionnaire retrieved was coded serially and entered into a spreadsheet. The Statistical Package for the Social Sciences (SPSS) version 25 was used for data analysis. The data entered were cleaned and subjected to descriptive (i.e. mean and standard deviation) and inferential (i.e. chi-square) analysis. Statistically significant variables were further subjected to binary logistic regressions in a multivariate regression model to adjust for cofounders and determine possible predictors of the outcome variables. Significant socio-demographic, clinical, and reproductive characteristics of the patients and caregivers and self-efficacy were

the independent variables for analysis. The level of statistical significance was considered at $P < 0.05$.

3. RESULTS

In Table 1, it was observed that most respondents were between the ages of 41 to 50 years, with a high proportion being married (52.9%). Additionally, a significant percentage attained tertiary level of education (51.0%), and a considerable number were retired (58.8%). Of the 51 caregivers, one-third were sisters of the patient (31.4%), majority were missing their jobs because of their caregiving role (92.2%), about half perceived the patients' health as moderate (47.1%) and two-third resided in same house as the patients (64.7%). Many of the respondents cared for the patient daily and continuously (70.6%), and one-third had been caregivers for between 4-6 months (31.4%), and more than half were very willing to care (58.8%). This is shown in Table 2a.

Almost all the caregivers desired to continue with their caregiving role (92.2%), one-third reported that no other person was involved in providing care (37.3%), and many had very good knowledge of the patient's condition (45.1%) as shown in Table 2b. Table 3a showed that about half of the patients required assistance with dressing (49.0%), grooming (52.9%), using the toilet (45.1%), while a high proportion needed help with bed, chair or care (64.7%). Table 3b demonstrates majority of the patients required supervision (72.5%), needed assistance with taking their medication (62.7%), and needed assistance using the phone (60.8%). The result showed that 13.7% of the respondents were highly dependent on caregivers as shown in figure 1.

In Table 4, it was observed that 39.2% of the patients had a parity of one or less, and 42.4% were referred from a tertiary health facility. More than half of the patients had ovarian cancer (60.8%), many had abdominal pain/swelling (68.6%), about half had stage 3 disease (49.0%), and a most were treated with both surgery and chemotherapy (88.2%). This is shown in Table

5. Table 6a showed that about one-third were quite frequently stressed between caring for relative and trying to meet other responsibilities (33.3%), two-third were never angry when they are around the patient (41.2%), and more than half sometimes experience health problems (56.9%).

In Table 6b, majority reported that they sometimes do not have as much privacy as needed (45.1%), many have sometimes lost control of life since caring for the patient (37.3%), and about half were quite frequently doing more for the patient (47.1%). There was a high burden of care among caregivers as displayed in Figure 2.

Table 7 showed no significant relationship between socio-demographic characteristics and caregiver Burden, while table 8 showed that the feeling of missing job due to caregiving role ($X^2=9.495$, $P=0.002$) and the residence of the caregivers ($X^2=7.556$, $P=0.006$) were significantly associated with the level of burden. The result in table 9 and 10 showed no significant relationship between level of burden and the functional status of the patient and obstetric characteristics respectively. There was no significant relationship between level of burden and clinical characteristics as shown in table 11. Table 12 showed that premenopausal women are 59.5 times more likely to exhibit high level of caregiver burden.

Table 1: Socio-demographic Characteristics of Caregivers

| Variable | Frequency | Percent (%) |
|--------------------------|--------------------|-------------|
| Age group (years) | | |
| ≤20 | 1 | 2.0 |
| 21-30 | 9 | 17.6 |
| 31-40 | 15 | 29.4 |
| 41-50 | 16 | 31.4 |
| 51-60 | 8 | 15.7 |
| >60 | 2 | 3.9 |
| <i>Mean ± SD</i> | <i>40.4 ± 11.6</i> | |

Marital Status

| | | |
|-----------|----|------|
| Single | 22 | 43.1 |
| Married | 27 | 53.0 |
| Separated | 2 | 3.9 |

Education

| | | |
|--------------|----|------|
| None | 3 | 5.9 |
| Primary | 3 | 5.9 |
| Secondary | 18 | 35.2 |
| Intermediate | 1 | 2.0 |
| Tertiary | 26 | 51.0 |

Work Status

| | | |
|------------|----|------|
| Employed | 17 | 33.3 |
| Unemployed | 4 | 7.9 |
| Retired | 30 | 58.8 |

Occupation

| | | |
|----------------------|----|------|
| Business | 19 | 37.3 |
| Civil/Public servant | 8 | 15.7 |
| Trader | 6 | 11.8 |
| Farmer | 3 | 5.9 |
| Teacher | 2 | 3.9 |
| Clergy | 1 | 2.0 |
| Fashion Designer | 1 | 2.0 |
| Petrol attendant | 1 | 2.0 |
| POS Agent | 1 | 2.0 |
| Salesgirl | 1 | 2.0 |
| Secretary | 1 | 2.0 |

*POS= point of sale

Table 2a: Caregiver Characteristics

| Variable | Frequency | Percent (%) |
|--------------------------------|-----------|-------------|
| Relationship to Patient | | |
| Sister | 16 | 31.4 |
| Daughter | 13 | 25.5 |
| Cousin | 5 | 10.0 |
| Mother | 5 | 10.0 |
| Aunt | 3 | 5.8 |
| Friend | 2 | 3.9 |

| | | |
|---|----|------|
| Sister-in-law | 2 | 3.9 |
| Husband | 1 | 1.9 |
| Son | 1 | 1.9 |
| Son-in-law | 1 | 1.9 |
| Stepdaughter | 1 | 1.9 |
| Uncle's wife | 1 | 1.9 |
| Missing Job because of Caregiving role | | |
| Yes | 47 | 92.2 |
| No | 4 | 7.8 |
| Perceived Health Status | | |
| Bad | 4 | 7.8 |
| Moderate | 24 | 47.1 |
| Good | 23 | 45.1 |
| Residence Status | | |
| Same house | 33 | 64.7 |
| Neighborhood | 10 | 19.6 |
| Away from patients' home | 8 | 15.7 |
| Frequency of care for patient | | |
| Daily & continuously | 36 | 70.6 |
| Daily but during specific hours | 13 | 25.5 |
| Weekends | 2 | 3.9 |
| Duration of care giving | | |
| < 1 month | 5 | 9.8 |
| 1-3 months | 13 | 25.5 |
| 4-6 months | 16 | 31.4 |
| 6-12 months | 15 | 29.4 |
| > 12 months | 2 | 3.9 |
| Chronic health problems | | |
| Yes | 20 | 39.2 |
| No | 31 | 60.8 |
| Willing to care | | |
| Very willing | 30 | 58.8 |
| Willing to care | 21 | 41.2 |

Table 2b: Caregiver characteristics

| Variable | Frequency | Percent (%) |
|---------------------------------|-----------|-------------|
| Desire to continue care | | |
| Yes | 47 | 92.2 |
| No | 4 | 7.8 |
| Others involvement | | |
| Nobody | 19 | 37.3 |
| Another care giver | 14 | 27.5 |
| Two or more care giver | 18 | 35.2 |
| Previous hospitalization | | |
| 1 | 13 | 25.5 |
| 2 | 17 | 33.3 |
| 3 | 21 | 41.2 |
| Knowledge of condition | | |
| No knowledge | 4 | 7.8 |
| Know a little | 16 | 31.4 |
| Probably know | 8 | 15.7 |
| Know very well | 23 | 45.1 |

Table 3a: Functional Status of the Patient

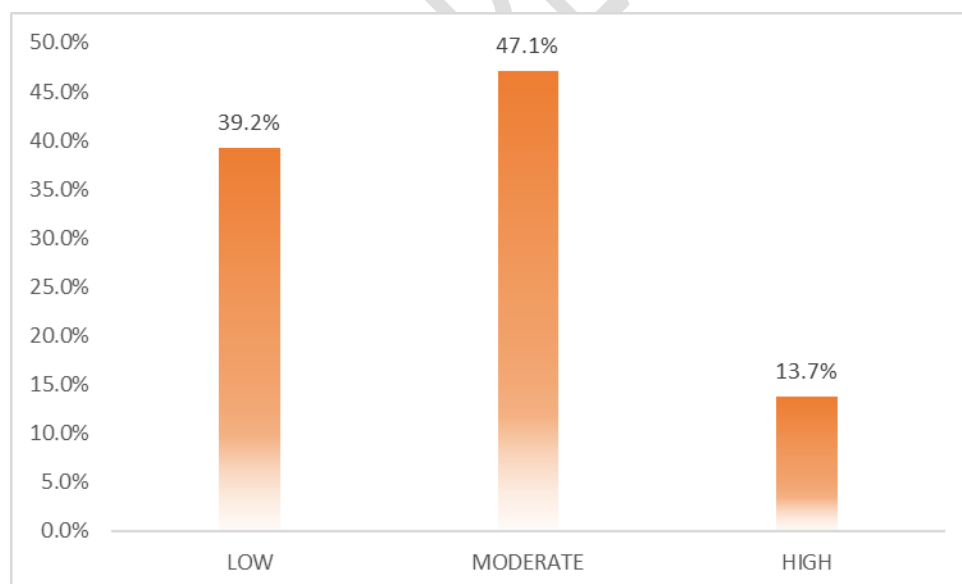
| Variable | Frequency | Percent (%) |
|-----------------------------|-----------|-------------|
| Need someone to feed | | |
| Yes | 14 | 27.5 |
| No | 37 | 72.5 |
| Bathing/showering | | |
| Yes | 21 | 41.2 |
| No | 30 | 58.8 |
| Dressing | | |
| Yes | 25 | 49.0. |
| No | 26 | 51.0 |
| Grooming | | |
| Yes | 27 | 52.9 |
| | 10 | |

| | | |
|--|----|------|
| No | 24 | 47.1 |
| Using toilet | | |
| Yes | 20 | 39.2 |
| No | 31 | 60.8 |
| Incontinence | | |
| Yes | 23 | 45.1 |
| No | 28 | 54.9 |
| Transferring from bed/chair/car | | |
| Yes | 33 | 64.7 |
| No | 18 | 35.3 |
| Preparing meals | | |
| Yes | 16 | 31.4 |
| No | 35 | 68.6 |

Table 3b: Functional Status of the Patient

| Variable | Frequency | Percent (%) |
|---|------------------|--------------------|
| Staying alone must be supervised | | |
| Yes | 37 | 72.5 |
| No | 14 | 27.5 |
| Taking medication | | |
| Yes | 32 | 62.7 |
| No | 19 | 37.3 |
| Managing money or finance | | |
| Yes | 22 | 43.1 |
| No | 29 | 56.9 |
| Performing household chores | | |
| Yes | 13 | 25.5 |

| | | |
|---|----|------|
| No | 38 | 74.5 |
| Using telephone | | |
| Yes | 31 | 60.8 |
| No | 20 | 39.2 |
| Mobility | | |
| Yes | 26 | 51.0 |
| No | 25 | 49.0 |
| Wandering or the potential to wander | | |
| Yes | 8 | 15.7 |
| No | 43 | 84.3 |



Low:0-5, Moderate: 6-10, High:11-15

Figure 1: Level of Dependence

Table 4: Obstetric characteristics of the Patient

| Variable | Frequency | Percent (%) |
|---------------------------------|-----------|-------------|
| Parity | | |
| ≤1 | 20 | 39.2 |
| 2-4 | 19 | 37.3 |
| ≥5 | 12 | 23.5 |
| No of living children | | |
| ≤1 | 22 | 43.1 |
| 2-4 | 16 | 31.4 |
| ≥5 | 13 | 25.5 |
| Referred to the facility | | |
| Yes | 33 | 64.7 |
| No | 18 | 35.3 |
| Place referred from n=33 | | |
| Private clinic/maternity | 13 | 39.4 |
| Primary health centre | 1 | 3.0 |
| Secondary health facility | 4 | 12.2 |
| Tertiary health facility | 14 | 42.4 |
| TBAs | 1 | 3.0 |

Table 5: Clinical Characteristics of the Patients

| Variable | Frequency | Percent (%) |
|------------------------------------|-----------|-------------|
| Type of Cancer | | |
| Cervical | 8 | 15.7 |
| Ovarian | 31 | 60.8 |
| Endometrial | 10 | 19.6 |
| Vulvar | 2 | 3.9 |
| Presenting symptoms* | | |
| Abdominal pain/swelling | 35 | 68.6 |
| Weight loss | 6 | 11.8 |
| Vaginal disease/Bleeding/Discharge | 17 | 33.3 |
| Back pain | 4 | 7.8 |
| Stage of Disease | | |
| Stage 1 | 4 | 7.8 |
| Stage 2 | 6 | 11.8 |
| Stage 3 | 25 | 49.0 |
| Stage 4 | 16 | 31.4 |
| Duration of Diagnosis | | |
| < 1 year | 27 | 52.9 |
| 3-4 years | 18 | 35.3 |
| ≥5 years | 6 | 11.8 |
| Type of treatment | | |
| Chemotherapy | 2 | 3.9 |
| Surgery | 4 | 7.8 |
| Both | 45 | 88.2 |
| Disease re-occurrence | | |
| Yes | 2 | 3.9 |
| No | 49 | 96.1 |

*Multiple responses apply

Table 6a: Caregiver Burden

| Variable | Frequency | Percent (%) |
|---|-----------|-------------|
| Don't have enough time for yourself because of time spent with relative | | |
| Rarely | 12 | 23.5 |
| Sometimes | 11 | 21.5 |
| Quite frequently | 14 | 27.5 |
| Nearly always | 14 | 27.5 |
| Stressed between caring for relative and trying to meet other responsibilities | | |
| Never | 2 | 3.9 |
| Rarely | 6 | 11.8 |
| Sometimes | 16 | 31.4 |
| Quite frequently | 17 | 33.3 |
| Nearly always | 10 | 19.6 |
| Angry when you are around relative | | |
| Never | 21 | 41.2 |
| Rarely | 13 | 25.5 |
| Sometimes | 13 | 25.5 |
| Quite frequently | 4 | 7.8 |
| Relative currently affects relationship with family/friends | | |
| Never | 19 | 37.2 |
| Rarely | 9 | 17.6 |
| Sometimes | 14 | 27.5 |
| Quite frequently | 8 | 15.7 |
| Nearly always | 1 | 2.0 |
| Strained when around relative | | |
| Never | 11 | 21.6 |
| Rarely | 9 | 17.6 |
| Sometimes | 19 | 37.3 |
| Quite frequently | 7 | 13.7 |
| Nearly always | 5 | 9.8 |
| Health suffered because of involvement with relative | | |
| Never | 12 | 23.5 |
| Rarely | 3 | 5.9 |
| Sometimes | 29 | 56.9 |
| Quite frequently | 6 | 11.8 |
| Nearly always | 1 | 2.0 |

Table 6b: Caregiver Burden

| Variable | Frequency | Percent (%) |
|---|-----------|-------------|
| Don't have as much privacy as needed | | |
| Never | 13 | 25.5 |
| Rarely | 3 | 5.9 |
| Sometimes | 23 | 45.1 |
| Quite frequently | 5 | 9.8 |
| Nearly always | 7 | 13.7 |
| Social life has suffered due to caring for relative | | |
| Never | 11 | 21.6 |
| Rarely | 13 | 25.5 |
| Sometimes | 11 | 21.6 |
| Quite frequently | 12 | 23.5 |
| Nearly always | 4 | 7.8 |
| Have lost control of life since you relatives' illness | | |
| Never | 19 | 37.3 |
| Rarely | 11 | 21.6 |
| Sometimes | 19 | 37.3 |
| Nearly always | 2 | 3.9 |
| Uncertain about what to do about relative | | |
| Never | 9 | 17.6 |
| Rarely | 3 | 5.9 |
| Sometimes | 18 | 35.3 |
| Quite frequently | 10 | 19.6 |
| Nearly always | 11 | 21.6 |
| Be doing more for your relative | | |
| Never | 2 | 3.9 |
| Rarely | 1 | 2.0 |
| Sometimes | 14 | 27.5 |
| Quite frequently | 24 | 47.1 |
| Nearly always | 10 | 19.6 |
| You could do a better job caring for relative | | |
| Never | 3 | 5.9 |
| Rarely | 4 | 7.8 |
| Sometimes | 11 | 21.6 |
| Quite frequently | 19 | 37.3 |
| Nearly always | 14 | 27.5 |

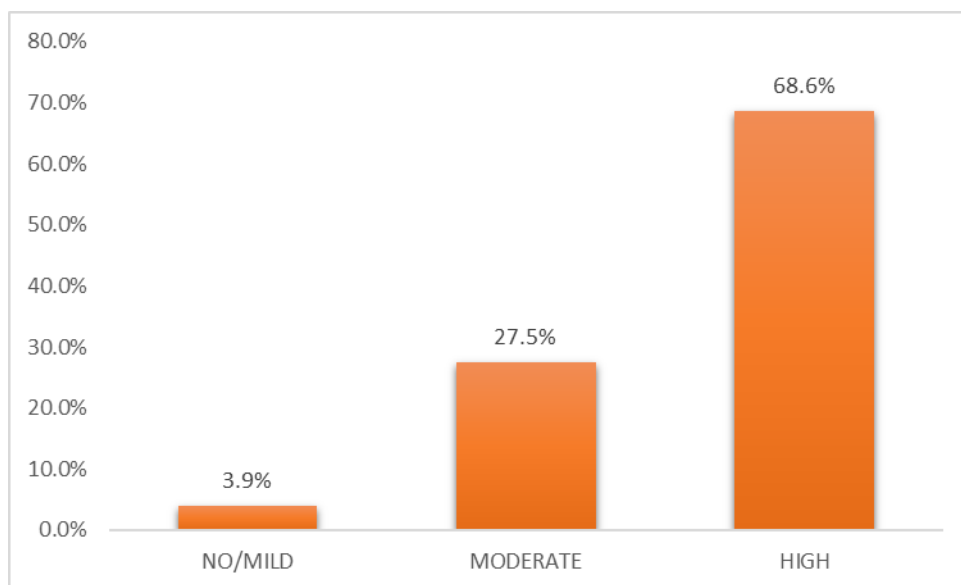


Figure 2: Level of Burden

Table 7: Relationship between socio-demographic characteristics and Caregiver Burden

| Variable | Burden | | X ² (p-value) |
|--------------------------|--------------------|------------|--------------------------|
| | Low/Moderate n (%) | High n (%) | |
| Age group | | | |
| ≤40 years | 6(24.0) | 19(76.0) | 1.238(0.266) |
| >40 years | 10(38.5) | 16(61.5) | |
| Marital Status | | | |
| Married | 9(33.3) | 18(66.7) | 0.102(0.749) |
| Single | 7(29.2) | 17(70.8) | |
| Education | | | |
| <Tertiary | 9(36.0) | 16(64.0) | 0.488(0.485) |
| Tertiary | 7(26.9) | 19(73.1) | |
| Working Status | | | |
| Employed | 6(35.3) | 11(64.7) | 0.182(0.670) |
| Unemployed/Retired | 10(29.4) | 24(70.6) | |
| Religion | | | |
| Christian | 2(4.0) | 48(96.0) | 0.042(0.838) |
| Others | 0(0.0) | 1(100.0) | |
| Husband education | | | |
| <Tertiary | 1(14.3) | 6(85.7) | 1.810(0.179) |
| Tertiary | 0(0.0) | 12(100.0) | |

Table 8: Relationship between caregivers' characteristics and level of burden

| Variable | Burden | | X ² (P-value) |
|---|--------------------|------------|--------------------------|
| | Low/Moderate n (%) | High n (%) | |
| Missing job because of caregiving responsibilities | | | |
| Yes | 12(25.5) | 35(74.5) | 9.495(0.002) * |
| No | 4(100.0) | 0(0.0) | |
| Perceived health status | | | |
| Bad/Moderate | 0(0.0) | 4(100.0) | 1.984(0.159) |
| Good | 16(34.0) | 31(66.0) | |
| Resident | | | |
| Same house | 6(18.2) | 27(81.8) | 7.556(0.006) * |
| Neighborhood/Faraway | 10(55.6) | 8(44.4) | |
| Frequency of providing care | | | |
| Daily | 16(32.7) | 33(67.3) | 0.952(0.329) |
| Weekends | 0(0.0) | 2(100.0) | |
| ≤3 months | 7(38.9) | 11(61.1) | 0.730(0.393) |
| >3 Months | 9(27.3)1 | 24(72.7) | |
| Chronic health condition | | | |
| Yes | 4(20.0) | 16(80.0) | 1.977(0.160) |
| No | 12(38.7) | 19(61.3) | |
| Desire to continue | | | |
| Yes | 14(31.8) | 30(68.2) | 0.288(0.592) |
| No | 1(50.0) | 1(50.0) | |
| Others involvement | | | |
| Nobody | 9(47.4) | 10(52.6) | 3.599(0.058) |
| Others involved | 7(21.9) | 25(78.1) | |
| Previous hospitalization | | | |
| ≤1 | 5(45.5) | 6(54.5) | 1.057(0.304) |
| >1 | 11(28.9) | 27(71.1)1 | |
| Knowledge of condition | | | |
| No knowledge/know little | 8(40.0) | 12(60.0) | 1.138(0.286) |
| Probably know/Know very well | 8(25.8) | 23(74.2) | |

*Statistical Significance

Table 9: Relationship between level of burden and Functional status of the patient

| Variable | Burden | | X ² (p-value) |
|---------------------------|--------------------|------------|--------------------------|
| | Low/Moderate n (%) | High n (%) | |
| Level of dependent | | | |
| Low/Moderate | 15(34.1) | 29(65.9) | 1.100(0.294) |
| High | 1(14.3) | 6(85.7) | |

Table 10: Relationship between level of burden and Obstetric Characteristics

| Variable | Burden | | X ² (P-value) |
|---------------------------------|--------------------|------------|--------------------------|
| | Low/Moderate n (%) | High n (%) | |
| Parity | | | |
| ≤1 | 2(28.6) | 5(71.4) | 0.427(0.514) |
| >1 | 13(41.9) | 18(58.1) | |
| No of living children | | | |
| ≤1 | 3(37.5) | 5(62.5) | 0.039(0.843) |
| >1 | 12(41.4) | 17(58.6) | |
| Referred to the facility | | | |
| Yes | 8(24.2) | 25(75.8) | 2.208(0.137) |
| No | 8(44.4) | 10(55.6) | |

Table 11: Relationship between level of burden and Clinical characteristics of the patient

| Variable | Burden | | X ² (p-value) |
|------------------------------|--------------------|------------|--------------------------|
| | Low/Moderate n (%) | High n (%) | |
| Stage of Disease | | | |
| Stage 1 | 2(50.0) | 2(50.0) | 0.700(0.403) |
| >Stage 1 | 14(29.8) | 33(70.2) | |
| Duration of Diagnosis | | | |
| 1-4 years | 10(37.0) | 17(63.0) | 0.855(0.355) |
| ≥5 years | 6(25.0) | 18(75.0) | |
| Type of treatment | | | |
| Chemotherapy | 1(50.0) | 1(50.0) | 1.096(0.578) |
| Surgery | 2(50.0) | 2(50.0) | |
| Both | 13(28.9) | 32(71.1) | |

Table 12: Predictors of Caregiver Burden

| Variable | AOR (95% C.I.) | p-value |
|-----------------------------------|-----------------|---------|
| Resident | | |
| Same house | 5.5(0.8-34.6) | 0.067 |
| Neighborhood/Faraway ^R | | |
| Menopausal | | |
| No | 59.5(6.0-590.3) | 0.001* |
| Yes ^R | | |

4. DISCUSSION

In the current study, married women between the ages of 40 and 50 made up most caregivers, with around half having postsecondary education. This is consistent with research by Ogunyemi et al [28], Akpan-Idiok and Anarado [29], Boostaneh et al [30], Gabriel et al [31], Jite et al [32], and Sun et al [33], who in their different studies showed that women are primarily responsible for caring for patients with gynaecological cancers. The mean age of the participants in our study was 40.4 years, which was greater than the 35.9 years and 39.71 years reported by Anarado and Boostaneh et al [29] and Akpan-Idiok [30] respectively. This suggests that most people who provide care for cancer patients are in their third or fourth decade of life. In addition, our study confirms the findings of Gabriel et al [31] that most caregivers are between the ages of 41 and 50. Meanwhile, studies by Ogunyemi et al [28] and Jite et al [32] also indicated that this age group is prevalent.

Many of the caregivers were the patients' sisters, who were willing to help and had given frequent care for a period of four to six months. The features of carers for patients with gynaecological cancer have been documented in several research; however, the authors noted that most of these features are poorly defined and varied. Our results were different from those of studies by Ogunyemi et al [28], Yasar and Terzioglu [34], and others that indicated parents and relatives as the primary carers, respectively. While parents and other relatives often serve as primary caregivers, our study contributes new insights by identifying sisters as potential primary caregivers in specific cultural or familial contexts.

Additional similar criteria supported by Ogunyemi et al [28] including staying in the same home, providing care for six months and below, the desire to assist the patient, and not having any underlying chronic medical conditions, were also in agreement with the results of our study and Zou et al [35].

According to our findings, many of the patients showed moderate degree of dependence on their caregivers. This level of dependence may be explained by the clinical characteristics of

the patients, which showed that most of them presented with advanced stage gynaecological cancers, and had undergone surgery, chemotherapy, or both. These therapies may affect the functional state of the patient, in addition to the severity of the disease. Even yet, our results are consistent with those of Zou et al [35] who observed that surgery and radiation were the most prevalent forms of interventions, and ovarian cancer the was the most common gynaecological cancer. As with Rasul and Amen [36], the treatment received were surgery, chemotherapy, and radiation; these findings were also observed in the current study. However, the authors failed to report the patients' dependence on their caregivers.

The caregiver burden in our study revealed that, when it came to time management, the caregivers rarely and almost never had time for themselves. They frequently experienced stress from juggling their other commitments and taking on the role of caregiver. Additionally, a lot of them were never angry about patient relatives but occasionally felt tense around them, which at times compromised their privacy. In terms of living, some said their social life had occasionally suffered, some had never lost control since their relative became ill, and still others said they could frequently provide better care of their relatives.

As a result, our study found that caregiver burden was quite high. Other Studies also reported a high level of burden [28,28,31,37]. Given that many patients in our study struggled with financial difficulties, which frequently had adverse effects on the physical and mental health of the caregivers, thus the high burden of care might be attributed to both time and financial constraints.

Age groups, marital status, education, work status, religion, and spouse's education were observed not to be significantly associated with the level of caregiver burden. This completely agrees with the findings of Sun et al [33], Shim and Ng [39] who reported no significant relationship as well. In contrast, Ogunyemi et al [28] reported that there was an association with age.

In our study, the level of burden was significantly correlated with menopausal status, residence, and missing jobs due to caregiving responsibilities. This implies that the likelihood of the caregiver experiencing a high burden increases with the distance from the patient's home and menopausal status.

5. CONCLUSION

Our findings indicate significant correlations between the caregiver's burden and several key factors: the caregiver's menopausal status, their proximity to the patient, and their employment disruptions due to caregiving responsibilities. These results suggest that both logistical and personal aspects play a critical role in shaping the caregiver's experience.

Consent

Consent was obtained from all participants, who were informed of their right to withdraw from the study at any time.

Ethical Approval

The study received ethical approval from the Ethics and Research Committee of the University of Port Harcourt Teaching Hospital.

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