

## ORIGINAL PAPER

## Mental Health and Quality of Life Among Patients with Gynaecological Cancers in Lagos, Nigeria

*Azizat Lebimoyo<sup>1</sup>, Bolanle Ola<sup>1</sup>, Abiodun Adewuya<sup>1</sup>,  
Olayinka Atilola<sup>1</sup>, Abiodun Popoola<sup>2</sup>*

<sup>1</sup>Department of Psychiatry, Lagos State University Teaching Hospital, Ikeja, Lagos, Nigeria

<sup>2</sup>Department of Oncology, Lagos State University Teaching Hospital, Ikeja, Lagos, Nigeria

### Abstract

**Background:** Globally, it has been established that gynaecological malignancies are a leading cause of cancer-related morbidity and mortality. The diagnosis and treatment of female genital cancers are associated with marked psychological distress in the form of depression and anxiety. Literature has shown that gynaecological cancers have a significant impact on the mental health and quality of life of affected women, either from the direct effect of the disease itself or from the sequelae of cancer treatment/management. **Objective:** The study aimed to examine the prevalence and correlates of depression and anxiety, and correlates quality of life among gynaecological cancer patients in Lagos, Nigeria. **Method:** Systematic random sampling was used to select 91 gynaecological cancer patients. The study was conducted at a teaching hospital in South-West Nigeria. The General Health Questionnaire, Mini International Neuropsychiatric Interview, Functional Assessment of Cancer Therapy-General, Visual Analogue Scale of Pain, Oslo Social Support Scale and a Socio-demographic Questionnaire were administered. **Results:** Prevalence rates were 25.3% and 8.8% for depression and anxiety respectively. Correlates of depression were, duration of illness, pain, tumor site and social support. Monthly income was the only risk factor for anxiety. Correlates for quality of life include; depression, pain, GHQ scores, monthly income, social support and age. **Conclusion:** The present findings suggest that gynaecological malignancies have a significant negative impact on the mental health and quality of life of affected women. Therefore, it is pertinent to develop strategies to promote mental health and well-being among women living with neoplasia of the reproductive tract.

**Keywords:** Gynaecological Cancer, Depression, Anxiety, Quality of Life

## Introduction

Gynaecological neoplasias are cancers which are specific to women; and may arise from the ovary, endometrium, cervix, vagina or vulva. Global reports suggest that an estimated 1.3 million new gynaecological cancer cases were reported in 2018, with majority found in low and middle-income countries [1]. In Nigeria, prevalence rates for female genital neoplasia are estimated at 10.7% [2] and 8.7% [3] in the northern and southern region of the country respectively, indicating the public health relevance of these cancers in the country. Worldwide, gynaecological cancers are among the leading causes of morbidity and mortality among women, and the commonest cause of cancer-related death in females after breast cancer [4]. A diagnosis of genital neoplasia has a deleterious impact on a woman's life due to fears concerning cancer recurrence, impact on sexuality and death [5]. Gynaecological cancer may be associated with a myriad of complications, such as, pain, infertility, premature menopause and body-image concerns. Consequently, affected women are unable to fulfill previously established life roles.

Mental health problems such as depression and anxiety are common among females with gynaecological cancers, may manifest immediately after cancer diagnosis, and last for years post-treatment [6]. These mental health problems are known to exert a negative effect on functioning, treatment adherence and treatment outcome among cancer patients. Risk factors for depression and anxiety among females with gynaecological cancers include: single marital status, poor social support, severe pain, advanced cancer stage and use of chemotherapy [7, 8]. With the advent of improved medical technology and cancer survivorship, quality of life issues are

increasingly becoming an important topic of discourse among patients with cancers. The management of gynaecological cancer is accompanied with a lot of physical and emotional distress which can potentially impact negatively on quality of life [9]. Correlates of quality of life among cancer patients include; low economic status, depression, anxiety, pain and radiotherapy [9,10]. Due to additional burden brought about by poverty and limited access to oncological services, women with gynaecological cancers in Nigeria have a greater vulnerability to the impact of cancers on mental health and quality of life problems. Therefore, it is pertinent that the mental health significance of gynaecological cancers within this setting is explored. This study is poised to assess the magnitude and correlates of depression and anxiety, and the correlates of quality of life in gynaecological cancer patients in South-West Nigeria.

Very few studies have examined the mental health and quality of life of patients with gynaecological cancers in Nigeria [11, 12]. These studies are limited by focus on a single gynaecological cancer and general psychological distress, rather than an assessment of the global profile of mental health of affected patients. Irrespective of their location, gynaecological cancers represent a spectrum of neoplastic disease of the genital tract which has to be considered together. As such, data on the psychological impact of the whole spectrum of gynaecological cancers on the patient provides data with better utility in gynaecological clinics. Similarly, data on the entire spectrum of possible mental-health impact of gynaecological cancers and the bio-social variables influencing it, is more useful in planning effective and broad-based intervention. Mental-health problems confound the ability to cope with the physical challenges posed by cancers, and

unless they are identified and addressed, they do not just disappear. Identifying the psychological impact of cancers is probably the only way to ensure that such are addressed in busy gynae-oncological clinics in resource constrained settings such as Nigeria. When left unidentified, mental-health impact of cancers negatively affects quality of life, cancer treatment and recovery; and reduces the chance of survival [13]. The present study, therefore, examines the general perception of psychological distress; actual prevalence rates of diagnosable common mental disorders; perception of quality of life; and their socio-demographic and clinical correlates among a cohort of patients with gynaecological cancers in Lagos, Nigeria.

## **Materials and Methods**

### ***Study Design and Sample***

A descriptive cross-sectional study was conducted at the Gynae-Oncology Out-Patient clinics of the Lagos State University Teaching Hospital, Nigeria from January to November, 2018. The sample consisted of 91 women selected using systematic random sampling. The inclusion criteria were English-literate females above the age of 18 years with a histologically confirmed diagnosis of gynaecological cancer. Women who refused to participate, and those who were very ill were excluded from the study. Informed consent forms were signed by the participants. Ethical approval for the study was obtained from the Ethics and Research Committee of the Lagos State University Teaching Hospital.

### ***Study Instruments***

#### ***Socio-Demographic Questionnaire***

A socio-demographic questionnaire was created to collate demographic information such as; age, marital status, employment status, monthly income and level of education. Clinical information obtained include; cancer site and stage, form of cancer treatment received, duration of cancer illness, past history and family history of mental disorder.

#### ***The 12-Item General Health Questionnaire***

The General Health Questionnaire-12 item version (GHQ-12) is used to measure current mental health and is a sensitive measure of perception of psychological distress [14]. It is self-administered and each item is rated on a 4-point scale. In this study, scoring was done using the bimodal method (0-0-1-1). A total score of 3 and above is indicative of psychiatric morbidity. The GHQ-12 has been validated as a good screening tool in clinical settings in Nigeria [15].

#### ***Mini-International Neuropsychiatric Interview***

The Mini International Neuropsychiatric Interview (MINI) is a diagnostic structured clinical interview which enables researchers to make a diagnosis of mental disorders [16]. It has a high validity and can be administered within a short time. The MINI has been used in various studies in Nigeria [17]. For this study the modules on common mental disorders including; Major Depressive Disorder, Generalized Anxiety Disorder, Panic disorder, Social phobia and Agoraphobia were administered. Only those who screened positive with GHQ were further assessed for specific mental disorders.

### *Oslo Social Support Scale*

The Oslo Social Support (OSS) scale is a 3-item scale which assesses perceived level of social support [18]. The total score ranges from 3 to 14, and the scores from each question can be summed up to indicate whether the perceived support is Poor (3-8), Moderate (9-11) or Strong (12-14). This instrument has shown high acceptability with an internal consistency of 0.6 [19] and has been validated for use in Nigeria [20].

### *Functional Assessment of Cancer Therapy General*

The 27-item Functional Assessment of Cancer Therapy-General Version 4 (FACT-G) is a measure used to assess health-related quality of life in patients undergoing cancer therapy [21]. The questions were answered using a 5-point likert scale ranging from 0 (Not at all) to 4 (Very much). Questions measure the respondents' health state over the last 7 days in four subscales: Physical Well-Being, Social Well-Being, Emotional Well-Being and Functional Well-being. Higher scores indicate better health, some items are reverse-scored, and a total score for the FACT-G is obtained by adding each of the subscale scores. The questionnaire has been validated for use in Africa [22] with internal consistency values ranging from 0.80 to 0.90 for all the subscales.

### *Visual Analogue Scale for Pain*

The Visual Analogue scale for Pain (Pain-VAS) is often used in clinical research to measure pain intensity. The Pain VAS is in the form of a straight line of 10cm (100mm), with the ends of this line regarded as extreme limits of pain, from the left (worst) to the right (best) [23]. The respondents are asked to mark the point on the line which represents their current pain intensity and a

high score indicates greater pain. This instrument has a good reliability of 0.97 [24] and has found high acceptability in Nigeria [25].

### ***Statistical Analysis***

Data were analysed using the Statistical Package for the Social Sciences version 21 (SPSS 21). The analyses tested the association of socio-demographic and clinical variables with psychiatric morbidity and quality of life. Descriptive statistics were computed by summarizing the socio-demographic and clinical characteristics of the participants. The respondents were divided into two groups, those with, and those without any of the common mental disorders measured. Chi-square test, Independent samples T-test and Mann-Whitney U tests were used for univariate analysis to determine the significance of study parameters between the two groups of women. The association between socio-demographic variables, clinical variables and Depression/Anxiety were further investigated using Logistic Regression analyses (Backward Stepwise Method). This was done by including all variables from the univariate analysis with P-values less than 0.05. However, variables with P-values less than 0.1 were included, to account for the possible influence of confounders in the univariate analysis

### **Results**

A total of 91 women were approached, and all agreed to participate, giving a response rate of 100%. There were no cases of missing questionnaires or data.

### ***Socio-demographic and Clinical Characteristics***

The mean age of the respondents was

49(±12.5) years, mean age at diagnosis of cancer 48(±12.4) years and mean social support score 12(±1.9). Fifty-four respondents (59.3%) were married and over half of the participants (58.2%) had secondary school as their highest level of education. Fifty (54.9%) were self-employed with most (n=68, 74.7%) earning less than \$125 (50,000 Naira) monthly. Sixty-one (67%) rated their perceived social support as strong, and Fifty-four women (59.3%) rated their accessibility to treatment as ‘not easy’. In terms of clinical characteristics, majority of respondents (n=65; 71.4%) had a high-tract (ovarian and uterine) cancer. The mean duration of cancer illness was 18 (±11.1)

months. More than half of the respondents (n=54, 59.3%) had advanced stage cancer. The mean duration of period that respondents have been receiving cancer treatment was 8.2 (±7.8) months, with close to two-thirds (n=57, 62.6%) of the respondents having received some form of cancer treatment for 6 months or less. About half (n=50; 54.9%) had surgery as their only form of major treatment. The mean score for pain intensity was 32 (±32.7), with most respondents (n=60, 65.9%) describing their experience of pain as mild. Table 1 provides a summary of the socio-demographic and clinical characteristics of the participants.

**Table 1. Socio-demographic and Clinical Characteristics**

VARIABLE	VALUES	VARIABLE	VALUES
<b>Socio-demographic variables</b>			
<b>Highest level of education-n (%)</b>		<b>Age (years)-n (%)</b>	
Secondary	53(58.2)	≤35	10(10.9)
Tertiary	38(41.8)	36-55	39(42.9)
<b>Employment status- n (%)</b>		56-64	35(38.5)
Unemployed	20(22.0)	≥65	7(7.7)
Self-Employed	50(54.9)	Mean (SD) (Range)	49(12.5)(25-69)
Employed	38(41.8)	<b>Age at diagnosis (years) –n (%)</b>	
Religion		≤35	17(18.7)
Islam	14(15.4)	36-55	47(51.6)
Christianity	77(84.6)	56-64	22(24.2)
<b>Marital status- n (%)</b>		≥65	5(5.5)
Married	54(59.3)	Mean (SD)(Range)	48(12.4)(24-69)
Widow	14(15.4)	<b>Clinical variables</b>	
Single	13(14.3)	<b>Duration of illness (months) - n (%)</b>	
Divorced	6(6.6)	≤6	14(15.4)
Separated	4(4.4)	7-24	59(64.8)
<b>Social support –n (%)</b>		>24	18(19.8)
Strong	61(67.0)	Mean(SD)(Range)	18(11.1)(3-48)
Moderate	23(25.3)	<b>Duration of Treatment (months) –n (%)</b>	
Poor	7(7.7)	≤6	57(62.6)
<b>Religiosity – n (%)</b>		7-24	28(30.8)
High	27(29.7)	>24	6(6.6)
Moderate	63(69.2)	Mean (SD)(Range)	8.2(7.8)(1-36)
Low	1(1.1)	<b>Pain Severity –n (%)</b>	
<b>Access to treatment –n (%)</b>		Mild	60(65.9)
Not easy	54(59.3)	Moderate	15(15.4)
Easy	33(36.3)	Severe	17(18.7)
Very easy	4(4.4)	Mean(SD)(Range)	32(32.7)(0-100)
		<b>GHQ Score- n (%)</b>	
		<3	42(46.2)
		≥3	49(53.8)
		Mean(SD)(Range)	4.2(3.9)(0-12)
		<b>Tumor Site –n (%)</b>	

<b>Relationship with doctor –n (%)</b>		Ovary	39(42.9)
Good	76(83.5)	Uterine	26(28.6)
Fair	13(14.3)	Cervix	16(17.6)
Poor	2(2.2)	Vulva	6(6.6)
		Vagina	4(4.4)
<b>Relationship with caregiver –n (%)</b>		<b>Tumor Stage-n (%)</b>	
Good	78(85.7)	Stage 1	8(8.8)
Fair	11(12.1)	Stage 2	29 (31.9)
Poor	2(2.2)	Stage 3	31 (34.1)
		Stage 4	23 (25.2)
<b>Monthly income (Naira) –n (%)</b>		<b>Treatment received-n (%)</b>	
Less than 50,000	68(74.7)	Surgery only	50(54.9)
50,000-225,000	20(22.0)	Surgery and Chemotherapy	31(34.1)
Above 225,000	3(3.3)	Surgery+ Chemotherapy +Radiotherapy	10(11.0)
		<b>Perception about health-n (%)</b>	
		Good	43(47.3)
		Fair	36(39.6)
		Poor	12(13.1)

**Psychological distress, prevalence rate of anxiety and depression, and quality of life profile**

The mean GHQ score was 4.2 (±3.9) with over half (53.8%) of the sample having a score of ≥ 3 which is indicative of the presence of psychological distress. Furthermore, 25.3% and 8.8% of respondents met the diagnostic criteria for

major depression and anxiety disorder respectively. As shown in Table 2, generalized Anxiety Disorder accounted for half of the anxiety disorders. Physical well-being of respondents contributed the highest to quality of life. The mean scores of respondents on the FACT-G total and specific domains of quality of life are as shown in Table 3.

**Table 2. Mental Health Profile of the Sample**

VARIABLE	VALUES
<b>Anxiety –n (%)</b>	<b>8(8.8)</b>
Panic with Agoraphobia	1(1.1)
Panic without Agoraphobia	2(2.2)
Generalised Anxiety Disorder	4(4.4)
Social Phobia	1(1.1)
<b>Depression- n (%)</b>	<b>23(25.3)</b>

**Table 3. Quality of Life Profile of the Sample**

VARIABLE	VALUES
Total Quality of Life Mean (SD)(Range)	62.4(18.3)(24-98)
Physical Well-Being- Mean (SD)(Range)	17.9(7.10)(3-28)
Social Well-Being – Mean (SD)(Range)	16.2(5.4)(2-27)
Emotional Well-Being – Mean (SD)(Range)	16.5(4.8)(4-24)
Functional Well-Being – Mean (SD)(Range)	11.9(8.2)(2-28)

***Correlates of depression and anxiety among patients with gynecological cancers***

After controlling for other potential confounders using regression analysis, the only socio-demographic factors that was independently associated with depression was perceived level of social support, such that the higher the perceived social support score, the lower the odds of being depressed. Among the clinical variables the odds of having depression were almost 5 times higher among those with longer duration of illness and 3 times higher among those with low-tract tumor site (cervix, vagina or

vulva) compared with those with high-tract sites (uterus and adnexae). As shown in Table 4, another clinical variable associated with depression was pain, such that the higher the pain scores, the higher the odds of depression. In terms of quality of life, higher scores of on the quality of life scales and subscales (except social well-being) were independently associated with lower odds of depression. For anxiety disorders, patients with high monthly income were 4.6 times respectively more likely to have anxiety. However, there was no association between anxiety and scores on the quality of life scales, total or subscales.

**Table 4. Socio-demographic and clinical variables independently associated with anxiety and depression**

Variable	B	S.E	Wald	Df	Sig	Exp B	95% confidence interval
<b>DEPRESSION</b>							
Tumor site (lower tract)	1.06	0.54	3.89	1	<b>0.04</b>	2.89	1.16 - 8.32
Level of perceived social support	-1.05	0.49	4.41	1	<b>0.03</b>	0.35	0.13 - 0.93

<b>Pain scores</b>	.068	0.29	5.44	1	<b>0.02</b>	1.97	1.12 - 3.49
<b>Duration of illness(months)</b>	1.55	0.79	3.89	1	<b>0.04</b>	4.72	1.11 - 7.02
<b>Total Quality of Life Score</b>	-2.16	0.65	10.9	1	<b>&lt;0.001</b>	0.12	0.03 - 0.41
Physical Well-Being score	-2.24	0.65	11.9	1	<b>&lt;0.001</b>	0.11	0.03 - 0.38
Emotional Well- Being score	-2.56	0.64	15.9	1	<b>0.00</b>	0.08	0.02 - 0.27
Functional Well-Being score	-1.96	0.64	9.44	1	<b>0.02</b>	0.14	0.04 - 0.49
<b>ANXIETY</b>							
<b>Monthly Income</b>	-1.52	0.63	5.85	1	<b>0.02</b>	4.56	1.33 - 15.59

**\*Variables in equation for Depression:** personal perception of health status, highest level of education, age, duration of illness, tumor site, social support, physical well-being, social well-being score, total quality of life, emotional well-being, functional well-being, pain, GHQ score

**\*Variables in equation for Anxiety:** Monthly Income, duration of illness, GHQ score, social support, pain, total quality of life, emotional well-being, marital status

***Correlates of quality of life***

As shown in Table 5, the socio-demographic and clinical variables independently associated with total quality of life scores were pain, monthly income, social support, age, and GHQ score. For every one-point increase in pain severity, age and GHQ

score, the lower the Total Quality of Life. Conversely, higher monthly income and perceived level of social support had a positive association with the Total Quality of Life. See Table 5 below for a summary of the correlates of Physical, Emotional, Social, and Functional Well-Being domains of quality of life.

**Table 5. Socio-demographic and clinical variables independently associated with quality of life and its subscales**

Variable	B	S.E	Beta	T	Sig	95%C.I for B	
						L.B	U.B
<b>Total QOL</b>							
Pain	-0.158	0.044	-0.284	-3.59	<b>&lt;0.001</b>	-0.245	- 0.070
Monthly Income	3.124	1.249	0.305	2.50	<b>0.01</b>	0.639	- 5.608

Social Support	0.944	0.285	0.342	3.310	<0.001	0.377	-	1.511
Present Age	-0.120	0.061	-0.182	2.327	0.02	0.186	-	2.366
GHQ score	-2.694	0.369	-0.577	-7.296	<0.001	-3.428	-	-1.960
<b>Physical Well Being</b>								
GHQ score	-0.613	0.187	-0.342	-3.29	<0.001	-0.984	-	-0.242
Pain	-0.126	0.018	-0.592	-6.88	<0.001	-0.163	-	-0.090
<b>Emotional Well Being</b>								
GHQ score	-0.583	0.129	-0.478	-4.52	<0.001	-0.839	-	-0.327
Pain	-0.05	0.015	-0.346	-3.45	<0.001	-0.079	-	-0.021
<b>Social Well Being</b>								
Social Support	0.944	0.285	0.342	3.310	<0.001	0.377	-	1.511
GHQ score	-0.388	0.156	-0.282	-2.482	0.02	-0.700	-	-0.077
<b>Functional Well Being</b>								
Present Age	-0.120	0.061	-0.182	-1.966	0.04	-0.241	-	-0.001
Pain	-0.117	0.023	-0.469	-5.112	<0.001	-0.162	-	-0.071
GHQ score	-1.278	0.182	-0.611	-7.031	<0.001	-1.040	-	-0.917

**Variables in equation:** age at diagnosis, social support, pain, GHQ score, income, duration of illness, duration of treatment, age, duration since diagnosis.

## Discussion

This is one of the few studies that examined the mental-health and quality of life among patients with gynaecological cancer in Nigeria and indeed, Africa. We found a prevalence of 34.1% for either of depression or anxiety, with depression constituting 25.3% and anxiety 8.8%. This indicates that about one in every 3 women with gynaecological cancer experiences a form of emotional disorder. The findings of our study is consistent with existing literature

such as that of Cassedy et al [26], Bodurka – Bevers et al [27], and Mendosa et al [28] which found prevalence rates of 20%, 21% and 25.7% for depression in similar urban hospital-based studies. Other studies that have found much higher prevalence rates such as, 53.5% and 80% reported by Zayyan et al [12] and Paul et al [29] respectively, had included mild cases, used non-diagnostic instruments, and assessed only one type of gynecological cancer. Differences in the definitions of depression; cancer types; and other methodological

differences are known to affect the prevalence rate of depression among patients with gynaecological cancers [30]. The prevalence of anxiety disorders as found in the present study was lower than 16.8% [31], 17% [26] and 29% [27] reported in other studies. These disparities may also be attributed to methodological differences in the study instruments as well as socio-demographic and clinical characteristics of the participants.

Despite these differences, our study has proven beyond doubt that, similar to their counterparts in other parts of the world, Nigerian female genital cancer patients are also at risk of depression and anxiety. Presently, there is almost a non-existent exclusive women's mental health service in most health facilities across the country. These findings indicate that the immediate establishment of such centers is a necessity, as this may help address the mental health concerns of women living with gynaecological cancer. Non-Governmental Organisations may collaborate with the Nigerian Government in the provision of support such as, advocacy, counseling services and subsidized cancer-specific treatment for female genital cancer patients. It is believed that such intervention may lessen the prevalence of depression and anxiety among affected women.

Among the socio-demographic variables, poor social support was found to have an independent association with depression. This was expected because; the absence of adequate social support makes life more stressful, thereby increasing the risk of depression among women with gynaecological cancer [32]. Our findings are in tandem with other research that has demonstrated a connection between poor social support and depression among female genital cancer patients [33]. Due to the

detrimental impact of cancer on women's functioning and well-being, it is unsurprising that inadequate support may result in emotional distress. There is need for building support around patients with gynaecological cancers to mitigate emotional impact. In the past, communal living and prominent family support in African settings may have been to the advantage of cancer patients residing in Africa. However, with increasing westernization of African societies, Nigeria inclusive, poor social support is fast becoming a common experience among cancer patients. Therefore, the rejuvenation of the African communal system is highly recommended as this would result in better social support (from family, friends and the society in general) for females receiving treatment for genital cancer. Furthermore, the creation of cancer support centers by the government and private bodies, with a staff strength including psychiatrists, psychologists among others, may be of immense value in the provision of social support for women living with cancer. Participation in cancer support groups where women living with cancer may congregate and share experiences regularly, may help affected women cope better with cancer. These groups may also provide an avenue for gynaecological cancer patients share ideas on how to improve their self-esteem and sex lives, and consequently, reduce the likelihood of depression in them. Unfortunately, such groups are greatly lacking in Nigeria, therefore, the creation of cancer support groups within this environment is paramount.

Monthly income had an inverse relationship with anxiety, this implies that the higher the income, the lesser the risk of anxiety among female genital cancer patients. A high monthly income is equivalent to high socio-economic status; therefore, the study finding

is in keeping with other research which has demonstrated a negative association between socio-economic status and anxiety [34]. This implies that gynaecological cancer patients with low monthly income may require more support and care, this may help reduce their vulnerability to anxiety.

Long duration of cancer illness was significantly associated with depression. This gives further credence to studies which suggest that, the longer the experience of the gynaecological cancer, the greater the psychological impact of the disease [27, 11]. The relationship between long duration of cancer illness and mental health morbidity may be explained by the debilitating impact of cancer on physical, social and occupational functioning over a period of time. With the knowledge that illness duration plays a notable role in the evolution of depression, treatment should be individualized for female genital cancer patients, taking into cognizance the duration of cancer illness. In summary, physicians caring for women who have a long duration of cancer illness should have a high index of suspicion for psychological distress in their patients, and screen for this regularly.

Pain was associated with increased vulnerability to depression among the participants. This is not surprising, as past research has established a link between pain and depression in gynaecological cancer patients [35]. Pain secondary to the effect of cancer itself or cancer treatment, may result in marked physical impairment, and subsequently, depression. It is also pertinent to note that depression may lower pain threshold, and further exaggerate the intensity of pain [36]. Hence, pain management should be one of the treatment goals of oncologists and other physicians charged with the responsibility of caring for women diagnosed with genital cancer. The

utilization of objective measures of pain intensity in the form of questionnaires or scales should be instituted at oncology follow-up clinics. This may help address complaints of pain, and also reduce the propensity for depression among gynaecological cancer patients who are incapacitated by severe pain.

Tumors of the lower tract, that is, cervix, vagina and vulva were associated with a greater susceptibility to depression compared to other gynaecological cancers. This observation was consistent with other research [37, 38]. The link between tumor site (cervix/vagina/vulva) and depression may be due to the visible disturbing symptoms such as abnormal growth inside or around the external genitalia, bleeding per vagina and offensive vaginal discharge (which are common to these cancers), these symptoms may interfere with sexual relations and culminate in loss of sense of femininity, self-esteem and eventually, depression. Enhancement of the consultation-liaison between oncologists, gynaecologists, and psychiatrists may include early referral of women with cancer sites in the cervix, vagina or vulva to the mental health clinic, to ensure the prompt detection and treatment of psychiatric morbidity in affected women.

Of all the subscales of Quality of Life, Physical Well-Being and Functional Well-Being had the highest and lowest mean scores respectively. This finding indicates poor perceived physical health and functioning among female genital cancer patients, which may be due to as treatment- or cancer-related symptoms. Furthermore, the study found a negative association between quality of life and depression; a finding which is in keeping with other studies [38, 39]. The connection between quality of life and depression may be due to

the plethora of physical complications associated with gynaecological cancers, and their treatment. It may also be related to the overlap between symptoms of depression and features of quality of life. In any case, higher GHQ scores, which are reflective of psychological distress, were independently associated with low quality of life among the gynaecological cancer patients. This further confirms the association between poor quality of life and psychological distress [40]. Hence, the adoption of a Quality of Life instrument in the oncology clinics is paramount, as this would enable physicians detect and address the needs and concerns of women with genital cancer.

Concerning the correlates of quality of life, pain was independently associated with low quality of life; this is in keeping with previous works [41]. This may be explained by the limitation of functioning secondary to pain, which may result in impaired sense of well-being and subsequently poor quality of life. Therefore, pain management is relevant in improving the quality of life of female genital cancer patients. Poor social support was a correlate of low quality of life; this has been documented in other research [42]. The absence of a good support system renders a cancer patient susceptible to significant emotional distress, which may hinder functioning and quality of life. Hence, the promotion of social support should be one of the headlines of advocacy campaigns for women living with genital cancer. Furthermore, the government should create more policies and supportive structures which may translate to improved quality of life for female cancer patients in the country. Monthly income had a positive association with quality of life; this has been reported in comparable studies [43]. Considering the expensive nature of cancer treatment, it is understandable that monthly income will determine access to treatment.

With the significant level of poverty in the nation, cancer treatment should be subsidized by the government, as this would ensure that gynaecological cancer patients have access to effective and affordable cancer treatment and better quality of life.

There was an inverse relationship between age and quality of life among the participants; suggesting that older patients may be at a greater risk for lower quality of life. Similar findings have been made in other studies [44]. With increasing age, there is an accompanying reduced functioning of bodily organs, increased susceptibility to musculoskeletal, cardiovascular and endocrine diseases. With the co-morbidity of genital cancer, older women may experience a greater distress due to the multi-systemic effect of these cancers, thereby worsening the impact of pre-existing diseases on the body, and subsequently, quality of life. Therefore, older female genital cancer patients may require more support, and a multidisciplinary approach in their medical care, involving geriatricians, oncologists and psychiatrists. This may help improve treatment outcome and well-being.

The study strengths include the use of a diagnostic tool for depression and anxiety (MINI), compared to other local studies that used majorly screening instruments. Furthermore, this study was limited exclusively to gynaecological cancer, unlike most cancer studies which involved mixed cancer-sites. The key limitations were the absence of a comparison group which would have strengthened the study findings, and the exclusion of non-English speaking participants.

This study has numerous implications for health policies and future research considerations. Our findings may assist policy makers in the creation of policies

concerning the provision of mental health interventions and support for gynaecological cancer patients residing in Sub-Saharan Africa. With respect to future research, the paucity of intervention studies in Sub-Saharan Africa indicates the need for more interventions (psychotherapy and pharmacotherapy), this may help determine their relevance in improving mental health and quality of life of female genital cancer patients in this region. Research to explore other mental health sequelae such as psychosis, suicidality, and substance abuse among women with gynaecological malignancies are also a necessity.

### Conclusion

In conclusion, the present study affirms that depression and anxiety are common among women living with genital cancer. It also found that the risk is higher among those with higher levels of pain, poor social support, long duration of illness, and lower tract tumors. The study emphasizes the need for more consultation-liaison between psychiatrists, oncologists and gynaecologists, as this would improve the mental health of women with genital cancer.

### Declaration

**Ethical approval:** The study approval was obtained from the ethics committee of the Lagos State University Teaching Hospital, Ikeja, Nigeria. (Ethics Approval No: LREC.06/10/891). The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

**Consent to Participate:** Informed consent was obtained from all participants included in the study.

### Acknowledgement

I would like to thank all the women who participated in this study, without them, this study would not have been possible.

### Source of Support/ Funding

Nil

### Conflict of Interest

The authors declare that they have no conflicts of interest

### References

- [1] Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *Ca Cancer J Clin.* 2018; 68(6):394–424.
- [2] Yakassai IA, Ugwa EA, Otubu J. Gynecological malignancies in Aminu Kano Teaching Hospital Kano: a 3 year review. *Niger J Clin Practice.* 2013; 16(1): 63-6.
- [3] Adefuye PO, Adefuye BO, Oluwole AA. Female genital tract cancers in Sagamu, South-West Nigeria. *East Afr Med J.* 2014; 91(11): 398-406.
- [4] Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C. *Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11.* Lyon, France: International Agency for Research on Cancer. 2013.
- [5] Faller H., Braehler E, Harter M, Keller M, Schulz H, Wegscheider

- K, Mehnert, A. Unmet needs for information and psychosocial support in relation to quality of life and emotional distress: A comparison between gynecological and breast cancer patients. *Patient Educ Couns.* 2017; 100, 1934-1942.
- [6] Ilhan TT, Kebapcilar AK, Ilhan TI, Cakir C, Yilmaz SA, Celik C, Bakbak BBB. The effect of gynecologic cancer on patient's depression and anxiety: prospective study. *Gynecol Oncol.* 2015; 137 (1): 194.
- [7] Tee BC, Phang CK, Rasidi A, Hatta S. The prevalence and risk factors of major depressive disorder in gynaecologic cancer patients. *Malay J Med Health Sci.* 2013; 9(2): 53-61.
- [8] Mansori YK, Dolatian M, Shams J, Nasiri M. The relationship between death anxiety and spiritual well-being in patients with gynecologic cancer. *Adv Nurs Midwifery.* 2018; 27(3).
- [9] Yildiz Y, Akyol M, Alacacioglu A, Kucukzeybek Y, Asik N, Taskaynatan H, Varol U, Yildiz I, Oflazoglu U, Salman T, Ozaltas S, Tarhan, MO. Sexual satisfaction, anxiety, depression and quality of life among Turkish gynecological cancer patients. *Ann Oncol.* 2016; 27(6).
- [10] Du Toit G, Kidd M. Prospective quality of life study of South African women undergoing treatment for advanced stage cervical cancer. *Clin Ther.* 2015; 37(10): 2324-31.
- [11] Ojewole FO, Madu AM, Nwozichi CU. Association between psychological distress and unmet information needs among female cancer patients in two selected teaching hospitals in South-West Nigeria. *Chrimed J Health Res.* 2018; 5:11-7.
- [12] Zayyan MS, Akpa M, Dawotola DA., Oguntayo AO, Kolawole AO. (2018). Quality of life in patients with advanced cervical cancer in Nigeria. *Sahel Med J.* 2018; 21:61-9.
- [13] Zhu J, Fang F, Sjölander A, Fall K, Adami HO, Valdimarsdóttir U. First-onset mental disorders after cancer diagnosis and cancer-specific mortality: a nationwide cohort study. *Ann Oncol.* 2017; 28(8):1964-9.
- [14] Goldberg D, Williams P. (1988). *A User's Guide to the General Health Questionnaire.* Windsor: NFER-Nelson ; 1998.
- [15] Gureje O, Obikoya B. The GHQ-12 as a screening tool in a primary care setting. *Soc Psychiatry Psychiatr Epidemiol,* 1990; 25(5):276-80.
- [16] Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E. The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry.* 1998; 59 (20): 22-33; 34-57.
- [17] Adewuya AO, Ola BA, Aloba OO, Mapayi BM, Oginni OO.

- Depression amongst Nigerian university students, prevalence and socio-demographic correlates. *Soc Psychiatry Psychiatr Epidemiol.* 2006; 41(8):674-8.
- [18] Dalgard, OS. Community health profile: A tool for psychiatric prevention, in promotion of mental health. D. R. Trent & C. Reeds, Eds., Vol. 5, Avebury, Aldershot, UK, 1996.
- [19] Meltzer H. Development of a common instrument for mental health. In: Nosikov & Gudex (eds). EUROHIS: Developing Common Instruments for Health Surveys. 2003. Amsterdam: IOS Press.
- [20] Abiola T, Udofia, O, Zakari, M. Psychometric properties of the 3-Item Oslo Social Support Scale among clinical students of Bayero University Kano, Nigeria. *Malays J Psychiatry.* 2013, 22(2):32-41.
- [21] Cella DF, Tulsky DS, Gray G, Sarafian B, Linn E, Bonomi A. The Functional Assessment of Cancer Therapy scale: Development and validation of the general measure. *J Clin Oncol.* 1993; 11(3): 570-9.
- [22] Siegert R, Selman L, Higginson IJ, Powell RA, Namisango E, Mwangi-Powell F, Gwyther L, Gikaara N, Harding R. A psychometric evaluation of the Functional Assessment of Chronic Illness Therapy-Palliative Care (FACIT-Pal) scale with palliative care samples in three African countries. *J Pain Symptom Manage.* 2014; 48(5):983-91.
- [23] Gould D, Kelly D, Goldstone L, Gammon, J. Visual Analogue Scale (VAS). *J Clin Nurs.* 2001; 10(5): 697-706.
- [24] Zaheen IA, Alghadir AH, Anwer S, Iqbal A, Iqbal ZA. Test-retest reliability, validity, and minimum detectable change of visual analog, numerical rating, and verbal rating scales for measurement of osteoarthritic knee pain. *J Pain Res.* 2018; 11: 851-856.
- [25] Soyannwo OA, Amanor-Boadu SD, Sanya AO, Gureje O. Pain assessment in Nigerians--Visual Analogue Scale and Verbal Rating Scale compared. *West Afr J Med.* 2000; 19(4):242-5.
- [26] Cassedy HF, Tucker C, Hynan L, Phillips R, Adams C, Zimmerman MR. Frequency of psychological distress in gynecologic cancer patients seen in a large urban medical center. *Bayl Univ Med Cent.* 2018; 31(2):161-4.
- [27] Bodurka-Bevers D, Basen-Engquist K, Carmack CL, Fitzgerald MA, Wolf, JK, Gershenson, DM. Depression, anxiety, and quality of life in patients with epithelial ovarian cancer. *Gynecol Oncol.* 2000; 78(2): 302-8.
- [28] Mendonsa, RD., & Appaya, P. Psychiatric Morbidity Out-Patient of Gynaecologic Oncology Clinic in a Tertiary Care Hospital. *Indian J Psychiatry.* 2010; 52(4):327-32.
- [29] Paul R, Musa G, Chungu H. Prevalence of depression among cervical cancer patients seeking

treatment at the cancer diseases hospital. *J Dent Med Sci.* 2016, 15(6):57-62.

- [30] Niedzwiedz CL, Knifton L, Robb KA, Katikireddi SV, Smith DJ. Depression and anxiety among people living with and beyond cancer: a growing clinical and research priority. *BMC Cancer.* 2019; 19:943.
- [31] Matsushita, T, Murata H, Matsushima E. Emotional State and Coping Style among Gynaecological Patients Undergoing Surgery. *Psychiatry Clin Neurosci.* 2007; 61:84-93.
- [32] Ohaeri JU, Campbell OB, Ilesanmi AO, Ohaeri BM. Psychosocial concerns of Nigerian women with breast and cervical cancer. *Psycho-Oncol.* 1998; 7:494–501.
- [33] Yaman S, Ayaz S. Psychological problems experienced by women with gynecological cancer and how they cope with it: A phenomenological study in Turkey. *Health Soc Work.* 2016, 41(3): 173–81.
- [34] Yoo SH, Yun YH, Park S, Park SY, Kim AY, Duk BS, Nam HJ. (2013). The correlates of unemployment and its association with quality of life in cervical cancer survivors. *J Gynecol Oncol.* 2013; 24(4):367-75.
- [35] Alemayehu M, Deyessa N, Medihin G, Fekadu A. A descriptive analysis of depression and pain complaints among patients with cancer in a low- income country. *PLoS ONE.* 2018; 13(3): e0193713.
- [36] Spiegel D, Bloom JR. Pain in metastatic breast cancer. *Cancer.* 1983; 52(2).
- [37] Bradley S, Rose S, Lutgendorf S, Costanzo E, Anderson B. Quality of life and mental health in cervical and endometrial cancer survivors. *Gynecol Oncol.* 2006; 100(3):479-86.
- [38] Ogoncho IM, Omuga BO, Wakasiaka S, Muiva M. (2015). Determinants of quality of life among gynecological cancer patients on follow up at a referral Hospital in Kenya. *American J Nurs Sci.* 2015; 4(3): 127-30.
- [39] Putri RH, Afyanti Y, Ungsianik T, Milanti A. Supportive care needs and quality of life of patients with gynecological cancer undergoing therapy, *Enferm Clin.* 2018; 28(1):222-6.
- [40] Osann K, Hsieh S, Nelson EL, Monk BJ, Chase D, Cella D. Factors associated with poor quality of life among cervical cancer survivors: Implications for clinical care and clinical trials. *Gynecol Oncol,* 2014; 135(2): 266–272.
- [41] Nuhu FT, Odejide OA, Adebayo KO, Yusuf AJ. Psychological and physical effects of pain on cancer patients in Ibadan, Nigeria. *Afr J Psychiatry.* 2009; 12(1): 64-70.
- [42] Katumba J, Obore S, Kaye DK. Health-related quality of life among patients with ovarian cancer at Mulago Hospital, Uganda. *Int J Gynaecol Obstet.* 2013; 122(2):115-7.

[43]Telepak LC, Jensen SE, Dodd SM, Morgan LS, Pereira DB. Psychosocial factors and mortality in women with early stage endometrial cancer. Br J Health Psychol. 2014; 19(4):737–750.

[44]Goker A, Guvenal T, Yanikkerem E. Quality of life in women with gynaecological cancer in Turkey. Asian Pac J Cancer Prev. 2011; 12: 3121-8.

**Corresponding Author**

Azizat Lebimoyo  
Department of Psychiatry,  
Lagos State University Teaching Hospital,  
Ikeja, Lagos, Nigeria  
**Tel:** +2348034514895 / +2348121641897

**Email:** azunite@yahoo.co.uk