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Depressive and anxiety symptoms among Nigerian rural women diagnosed with cervical cancer

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Abstract

Among women in Nigeria, cervical cancer has been found to be more prevalent among the rural population. Depression and anxiety are common symptoms among patients during their initial diagnosis and subsequent treatment. The main study objective was to ascertain whether depression or anxiety symptoms are common among patients of cervical cancer in rural communities in Enugu State, Nigeria. The study utilized semi-structured questionnaires in conducting a descriptive study on 148 consenting cervical cancer patients. Graphs, Chi-squares, and percentages were used to represent the data. In total, 148 patients had their data collected by the researcher. This study found that respondents manifested severe depression after their initial cervical cancer screenings. The report shows that 55% of respondents experienced severe depression after being diagnosed with cervical cancer.   Most of them—85 (57%)—were over 35 years of age.   Following a cervical cancer diagnosis, 52% of respondents reported severe anxiety symptoms. It is possible to say that after cervical cancer diagnosis, patients are prone to serious psychological distress. This is closely linked to the dreadful thought processes that herald the initial screening. Social support and counselling are urgently needed before and after cervical cancer screening.

Keywords: Depression, anxiety symptoms, cervical cancer, rural women.

Introduction

Cervical cancer continues to be a significant contributor to cancer-related mortality among women. (Zhang et al., 2020; Arbyn et al., 2020). Detecting cervical cancer at its early stages is rare because it does not cause pain at the onset (Fontham et al., 2020). Many research reports have established that the majority of instances of cervical cancer can be attributed to the presence of the human papilloma virus (HPV). (Khan, 2021). Women are prone to contracting HPV after engaging in unprotected sexual activity with a partner who is infected. HPV is typically transmitted sexually. Additional risk factors for cervical cancer have been identified in the existing body of literature. Low socioeconomic status, smoking, early marriage, multiple sexual partners, and multiple births have been linked with a significantly elevated chance of developing cervical cancer (Kashyap et al., 2019). In most cases, cervical cancer develops after 10 to 20 years of precancerous changes (Perkins, 2023) Squamous cell carcinomas are more common than adenocarcinomas. Surgery, chemotherapy, radiation therapy, and a combination of these therapies are available for cervical cancer treatment. The success of treatment is largely determined by how early the cancer is detected Njuguna et al., 2020; Das et al., 2023).

The global advancements in the prevention and treatment of cervical cancer are noteworthy. In 2020, the World Health Assembly (WHO) commenced the implementation of a comprehensive global strategy for the eradication of cervical cancer (WHO, 2020). To mitigate and manage cervical cancer, it recommended a comprehensive approach. In spite of the global milestones in cervical cancer prevention and treatment, depression and anxiety still pose a burden to patients (Muka, Farahani, & Ioannidis, 2023). Research has identified several factors which increase the potential for anxiety and depressed symptoms in those diagnosed with cervical cancer. (Karawekpanyawong, 2020; Lu et al., 2019). According to Zhao, Zhao & Chen (2020), anxiety and depressive symptoms were found to be prevalent among cervical cancer patients undergoing

surgery. Another study found that depression and anxiety were prevalent in 52.3% and 65.7% of cervical cancer patients respectively (Ali, 2021). There is a lower rate of survival for cervical cancer patients who suffer from anxiety and depressive symptoms (Zhang et al., 2020). Studies have shown that the presence of anxiety and depressed symptoms has been found to exert a detrimental influence on individuals diagnosed with cervical cancer in addition to being a determining factor in their survival rates (Araya et al., 2020; Areklett et al., 2022). Specifically, this study investigates the prevalence of anxiety and depressed symptoms among cervical cancer patients residing in rural Nigeria. The results obtained from the present investigation may also provide a better perspective of the psychological impact of cervical cancer patients. These patients will obviously need serious psychological support in the future.

In Nigeria, the women populace is plagued with cervical cancer, a prominent contributor to mortality rates in rural regions, is a significant public health concern. This is particularly true because of their poor education and sexual awareness. It has been established in the literature that the HPV is the main causal agent in most cervical cancer cases (Khan, 2021). It is also believed that most HPV cases are transmitted sexually. Most women are infected shortly after engaging in unprotected sexual activity with an infected partner. Additionally, low socio-economic status, smoking, early marriage, multiple sexual partners, and numerous childbirths increase cervical cancer risk (Kashyap et al., 2019). Unfortunately, in most rural communities in Nigeria, women are illiterate and lack basic awareness of reproductive health. Due to Nigeria's economic situation, some women have multiple sexual partners who abuse and exploit them. It is worth mentioning that a significant proportion of cervical cancer diagnosis in rural settings occur at an advanced stage. Such a diagnosis may lead to anxiety and depression in patients. Anxiety and depressive symptoms among cervical cancer patients have always been linked to a diminished rate of recovery and a decrease in overall quality of life. The current study is primarily concerned with the level of prevalence of anxiety and depressed symptoms in patients diagnosed with cervical cancer in rural communities in Nigeria.

A number of studies have examined the relationship between cervical cancer and a variety of psychological problems. Patients diagnosed with cervical cancer may experience anxiety and depression. The study conducted by Yang et al. (2022) aimed to examine the potential association between breast cancer and cervical cancer in Taiwanese women and the subsequent risk of developing anxiety and depressive symptoms. A recent study revealed that there is a correlation between the incidence of breast and cervical cancer in women as they experienced elevated levels of anxiety and depressive symptoms. The study conducted by Tosic-Golubovic et al. (2022) in Serbia examined the relationship between anxiety and depression symptoms and the risk factors and predictive values of cervical cancer patients. All 59 participants diagnosed with cervical cancer in the study exhibited elevated levels of despair and anxiety ratings. The study reported that patients diagnosed of cervical cancer were more prone to negative psychological conditions such as anxiety and depressive symptoms which may exacerbate their condition.

The study conducted in Northern Thailand by Karawekpanyawong et al., (2021), shows that individuals who have been diagnosed with cervical cancer exhibit a higher propensity to experience depressive illness. and its associated factors. 200 cervical cancer patients were tested for depression in a cross-sectional study. The study found that 27 cervical cancer patients (13%) had depressive disorders. The results showed that symptoms of depression were highly is correlated with a diminished standard of living for patients. A significantly higher level of depression was observed in cervical cancer patients. In turn, this adversely affected their recovery rate and entire living condition.

In a similar study, Paul, Musa, and Chungu (2016) examined the incidence of depression in individuals diagnosed with cervical cancer in Zambia. Furthermore, the research assessed anxiety and depression risk factors and their impact on patients' living condition. In the study above, a cohort of 102 female individuals who have received a diagnosis of cervical cancer was examined using a descriptive research design. In the study, 80% of the sample reported adverse depressive symptoms, which significantly impacted their quality of life.

In a study conducted by Yang et al. (2014), the focus was on examining the prevalence of depression and anxiety within a population of cervical cancer patients receiving treatment at Liaoning Cancer Hospital in China. The research comprised a cohort of 224 individuals diagnosed with cervical cancer who were enrolled in a cross-sectional study conducted across multiple centres. There was a high prevalence of despair and anxiety among individuals newly diagnosed with cervical cancer, especially those diagnosed within the past 4-6 months. Individuals diagnosed with cervical cancer, especially those who are experiencing depressive symptoms, require prompt intervention and comprehensive psychosocial support. By doing so, they will be able to live a better life.

In a study by Kyei (2017), people in Ghana who received a breast cancer diagnosis had their anxiety and depression symptoms examined. A mixed-methods triangulation approach was used to assess breast cancer patients' responses to anxiety and depression symptoms. Data collection involved interviewing and completing questionnaires on 100 patients in the study. Researchers found that patients with breast cancer undergoing

radiotherapy experienced significant levels of anxiety and depression. There was a negative impact on their well-being and quality of life. Counselling and educational interventions are recommended to cope with malignant health challenges.

Method

Study Design

A descriptive survey design was used in the study, which included 148 patients treated at the Enugu Diagnostic and Oncology Treatment Centre. Descriptive survey designs describe a population, phenomenon, or situation (Siedlecki, 2020). Questionnaires are used to gather information on a variety of topics. This study seeks to evaluate the prevalence of anxiety and depression symptoms among cervical cancer patients in Enugu, a region located in South-East Nigeria.

Ethics statement

The study received permission from the Board for Research Ethics within the Faculty of Education at the University of Nigeria, Nsukka. Prior to their involvement in the study, all individuals provided written consent.

Participants

The target population of the study included all cervical cancer patients in selected communities in Enugu State, south-east Nigeria. The study sample consisted of women (n = 148) undergoing cervical cancer treatment at the Enugu Diagnostic and Oncology Treatment Centre. Using convenience sampling techniques, the researcher selected cervical cancer patients treated at the Enugu Diagnostic and Oncology Treatment Centre. The convenience sampling technique allows the researcher to collect data from participants who are readily available and accessible (Simkus, 2022).

Instrument for data collection

In order to gather data for this study, two instruments were employed, namely the Montgomery and Asberg Depression Rating Scale (Montgomery & Asberg, 1979). The primary objective of utilizing the ten-item diagnostic instrument was to evaluate the presence and severity of depressive symptoms among individuals diagnosed with cervical cancer. The assessment comprises a series of ten questions pertaining to ten symptoms commonly associated with depression such as: I. sorrow. II. individual expressed feelings of melancholy. III. Internal Conflict. IV. Sleep Deprivation V. Loss of Appetite. VI. individual experiences of difficulty in maintaining focus and concentration. VII. Lassitude. VIII. incapacity to experience emotions. IX. negative thinking. X. suicidal ideation. The scoring of individual components on the MADRES scale runs from 0 to 6, while the overall score spans from 0 to 60. A higher score on the assessment is indicative of a greater severity of depression symptoms. The scale is characterized by a standardized index, delineating the following categories: 0–6 corresponds to the absence of depression, 7–19 indicates mild depression, 20–34 signifies moderate depression, and 35–60 represents severe depression. The MADRES intervention was implemented by two proficient clinicians who fulfilled the role of research assistants.

The Zung Self-Rating Anxiety Scale (1971) was also employed in this investigation. The anxiety level of an individual is assessed by the use of the Self-Rating Anxiety Scale (SAS), a 20-item questionnaire that evaluates scores across four distinct domains: autonomic, motor, cognitive, and central nervous system. The Likert scale values assigned to each item are as follows: "A little bit of the time" (1), "Some of the time" (2), "A fair amount of the time" (3), and "Most of the time" (4). The attainable scores range from 20 to 80. Anxiety levels can be classified into four distinct ranges: 20-44, which falls within the normal range; 45-59 and 60-74, both indicating moderate to severe anxiety levels; and 75 and above, which signifies extreme anxiety levels. The SAS was administered by clinical research assistants.

Population and sample

The study encompasses the entire population of cervical cancer patients within the 450 autonomous villages located in Enugu state, Nigeria. All the cervical cancer patients (n=148) receiving treatment at the Enugu Diagnostic and Oncology treatment centre took part in the study. The researcher adopted convenience sampling method which enabled the two experienced clinicians in the treatment centre to administer the instrument to the patients.

Method of data analysis

Data was represented using simple percentages, charts, and Chi-square.

Table 1. Sociodemographic characteristics of the sample population

Age	Frequency	Percentage	Chi-Square	df	Sig.	Decision
18-25	29	19.6%	3.946[a]	3	.269	Not sig.
26-35	34	23.0%				
35-45	40	27.0%				
46 and above	45	30.4%				
Marital Status						
Single	11	7.4%	112.486[a]	3	.000	Sig.
Married	92	62.2%				
Widowed	18	12.2%				
Separated	27	11.5%				
Socio-Economic Status						
Low-Income	52	35.14%	39.176	2	.000	Sig
Middle-Income	79	53.38%				
High Income	17	11.49%				
Educational Qualification						
Primary	46	31.08%	25.676	2	.000	Sig
Secondary	76	51.35%				
Tertiary	26	17.56%				

Table 1 displays the distribution of patients across different age groups. Specifically, 29 patients (19.6%) were within the age range of 18 to 25 years, while 34 patients (23%) were between 26 and 35 years old. Additionally, 40 patients (27%) were aged between 35 and 45 years, and 45 patients (30.4%) were over the age of 46. Based on the results of the Chi-square equality test, there is no statistically significant difference in the prevalence of cervical cancer among women in rural communities in Nigeria based on age ($\chi2$ (3, 148) = 3.946, p = .269, α = .05). There is a lack of substantial link observed between age and the prevalence of cervical cancer in rural regions. Based on the data presented in Table 1, it can be observed that out of the total number of patients, 11 individuals (equivalent to 7.14%) were categorized as single, while 18 patients (12.2%) were identified as widowed. Additionally, 27 patients (11.5%) were recorded as divorced. The marital status of the bulk of the patients, specifically 92 individuals (62.2%), was reported as married. According to the Chi-square test of equality, there exists a statistically significant disparity in the incidence of cervical cancer among rural populations in Nigeria when considering marital status as a factor. Therefore, the marital status of individuals has a crucial role in determining the occurrence of cervical cancer in rural regions.

According to the data shown in Table 1, it can be observed that 52 individuals diagnosed with cervical cancer, accounting for 35.14% of the total sample, belong to low-income families. Additionally, 17 patients (11.49%) are from high-income households, while the majority of cases, including 79 individuals (53.38%), are associated with middle-income households. The results of a Chi-square test indicate a statistically significant disparity in the prevalence of cervical cancer among women residing in rural areas of Nigeria, as determined by their socio-economic position ($\chi2$ (2, 148) = 39.176a, p = .000, α = 0.05). The prevalence of cervical cancer in rural communities is significantly influenced by the socio-economic condition of the patients. Based on the data presented in Table 1, it can be shown that among cervical cancer patients, 46 individuals (31.08%) had completed primary education, 76 individuals (51.35%) had completed secondary school, and 26 individuals (17.56%) had completed higher education. A statistical analysis using the Chi-square test was conducted to examine the equality of cervical cancer prevalence among women residing in rural communities in Nigeria, specifically in relation to their educational level. The results indicated a significant difference, $\chi2$ (2, 148) = 25.676a, p = .000, at a significance level of 0.05. Education qualifications have a notable impact on the occurrence of cervical cancer in rural populations.
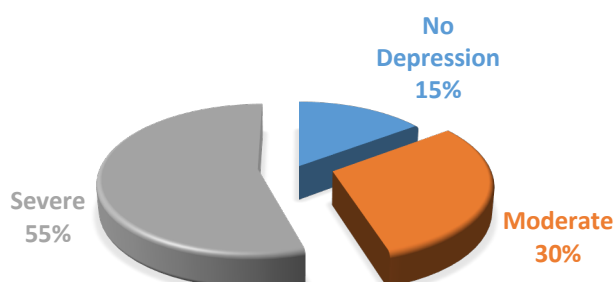
Results and Discussion

Figure 2. Frequency of depression prevalence among cancer patients

The prevalence of depressed symptoms among patients diagnosed with cervical cancer in rural settings is depicted in Figure 2. It shows that 55% of the respondents experienced severe depression after a cervical cancer diagnosis. Among the patients who experienced severe depression, there were extreme manifestations of sadness, tension, reduced sleep, low appetite, difficulty in concentration, lassitude, thoughts of hopelessness and suicidal ideation. Furthermore, data also shows that about 30% of the respondents experienced moderate depression while only 15% had no depression after cervical cancer diagnosis.
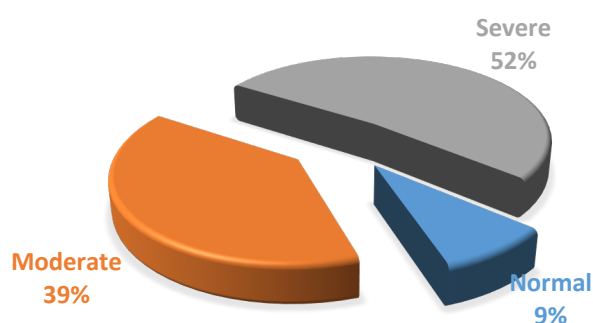

Figure 3. Frequency of anxiety prevalence among cancer patients

Figure 3 depicts the incidence of anxiety symptoms among individuals diagnosed with cervical cancer residing in rural settings. It shows that 52% of respondents experienced severe anxiety symptoms after cervical cancer diagnosis. Specifically, the majority of severe anxiety respondents had both psychological and somatic manifestations of anxiety symptoms. Furthermore, data also shows that about 39% of respondents experienced moderate anxiety levels while only 9% had normal anxiety symptoms after cervical cancer diagnosis.

It has been found that rural communities in Nigeria have a high prevalence of cervical cancer (Oluwole et al, 2013; Rimande-Joel & Ekenedo, 2019; Olubodun, 2019). A number of studies have shown that anxiety and depressive symptoms negatively affect cervical cancer treatment (Yang et al, 2022; Ho et al, 2021). Among patients diagnosed with cervical cancer in Enugu, Nigeria, depression and anxiety symptoms were assessed. Many of the respondents experienced severe depression after being diagnosed with cervical cancer or even for a long time afterwards. After diagnosis, patients who suffered from severe depression reported extreme manifestations of sadness, poor sleep, and low appetite. Additionally, they experienced difficulty in focusing or concentration, hopelessness, and persistent suicide thoughts. It is not unlikely that the high prevalence of depression among respondents is related to the dreadful perception among rural dwellers that cancer-related health issues are terminal and incurable (White et al, 2021; Shaffer et al, 2017). Based on the findings of Shyu et al (2019) and Park et al (2017), it has been established that there exists a distinct correlation between cervical

cancer and future depressive symptoms. Furthermore, certain participants reported feelings of shattered hope, pessimistic ideations, and contemplation of suicide. Similarly, Maree and Holtslander (2021) found that cervical cancer diagnosis was highly associated with a low quality of life that might eventually result in depression. The study found, however, that 15% of respondents exhibited no depression at all, while 30% exhibited a moderate level of depression. After being diagnosed with cervical cancer, not all patients experience severe depressive symptoms. As reported by Hanprasertpong (2017), cervical cancer patients in Thailand have a moderate level of depression.

In this study, 52% of respondents experienced severe anxiety symptoms after cervical cancer diagnosis, while 39% experienced moderate anxiety symptoms. Anxiety levels were normal for only 9% of the participants. As can be seen, most respondents developed anxiety within a few weeks or months of being diagnosed with cervical cancer. The results of Ho et al (2021) confirm that moderate to severe anxiety symptoms were reported immediately after diagnosis. According to Ho et al (2021), these anxiety symptoms could negatively impact the daily lives of cancer patients with ovarian or cervical cancer. It is important to note that there is a subtle connection between anxiety symptoms and cervical cancer diagnosis. McBride et al (2020) report that cervical cancer patients who have received their first screening tend to have elevated anxiety levels after receiving treatment, but they tend to stabilize in time. Additionally, the severity of anxiety symptoms among cervical cancer patients affects their recovery rate and their cognitive performance (Areklett et al.,2022).

There are many strengths to this study, and it fills some gaps in the literature. The researcher is aware of no similar study in South East Nigeria. In addition to establishing a theoretical foundation for subsequent empirical investigations in this domain, the study evaluated the frequency of depression and anxious symptoms among individuals diagnosed with cervical cancer in Enugu, Nigeria. Cervical cancer testing is not extensively conducted in the study area due to the unique demographics present. The identification of the frequency of depression and anxiety among cervical cancer patients in the research region highlights the pressing need for mental health counselling for those who exhibit tendencies towards depressive and anxious symptoms

Conclusion

In summary, it is widely acknowledged that individuals diagnosed with cervical cancer have a significant incidence of depressive and anxious symptoms. Upon diagnosis, the majority of patients experienced severe depression characterized by sadness, inner tension, poor sleep, low appetite, and spontaneous psychosomatic symptoms. As a result of the dreadful thought processes that precede the initial cervical cancer screening, patients are highly susceptible to psychological distress after early diagnosis. Counselling and social support are urgently needed before and after cervical cancer screenings.

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