

Awareness and Knowledge of Ovarian Cancer Symptoms and Risk Factors Among Female Undergraduates in a Nigerian University

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Abstract- *There were over 313,000 new cases of ovarian cancer in the year, making it the eighth most frequent malignancy among women. Ovarian cancer ranks as the fifth most common cause of cancer among women in Africa. It is the second most prevalent cancer among them. Menopause after the age of 55, attaining menarche before the age of 12, a family history of ovarian cancer, not having children, smoking, and hormone therapy are risk factors. Additionally, it has been observed that obesity and height raise the risk of ovarian cancer. Abdominal bloating, abdominal pain, frequent urination, early satiety, feeling full, or any changes in regular bowel habits are the most common symptoms of ovarian cancer. This study's main goal was to ascertain female undergraduates at the University of Ibadan's awareness and understanding of ovarian cancer risk factors and symptoms. Up to 351 female undergraduates at the University of Ibadan were chosen for a cross-sectional survey using the purposive sample technique. Data was gathered using a self-administered questionnaire. SPSS was used to analyze the data, including frequency, percentage, and chi-square test at the 0.05% significance level. Findings depicted that the demographic data showed that about 48% are between the ages 21 – 23 years of age, this means that majority of the respondents are within the age range of an average undergraduate student especially in Nigeria. The study further shows that 92% of female undergraduate students in the University of Ibadan have good awareness of ovarian cancer. This study has revealed that most female undergraduate have a considerable high knowledge about the symptoms and risk factors of ovarian cancer.*

Key words: *Awareness, Knowledge, Ovarian Cancer, Symptoms, Risk Factors*

I. INTRODUCTION

One of the most common malignancies that affect women is ovarian cancer. Generally speaking, it kills more people than any other gynecological cancer, though it makes up only 3% of female cancer cases. Therefore, it needs to be taken into consideration.

Ovarian cancer can strike up to 1 in 76 women (Torre, Trabert, De Santis, Miller, Samimi, Runowicz, Gaudet, Jemal & Siegel, 2018). It ranks as the fifth most common cause of cancer-related deaths in women. The survival rate from ovarian cancer is impacted by the fact that the majority of cases are diagnosed at stages III or V (Freij, Al Quadire, Khadra, Al Bashtawy, Tu quan, Al Faqih et al, 2018).

In 2020, there were approximately 18,094,716 million new cases of cancer diagnosed worldwide (World Health Organization, 2020). It is critical that cancer prevention become a worldwide health priority given the prevalence of cancer in every nation. Approximately 313,000 new instances of ovarian cancer were reported in 2020, making it the eighth most frequent malignancy among women worldwide (World Cancer Research Fund International, 2022). Ovarian cancer ranks as the fifth most common cause of cancer among women in Africa. In Africa, it is the second most prevalent cancer among women. Late menopause (i.e., menopause after the age of 55), early menarche before the age of 12, a family history of ovarian cancer, not having children, smoking, and hormone therapy are risk factors for ovarian cancer. Additionally, obesity and height have been linked to an increased risk of ovarian cancer (World Cancer Research Fund International, 2022). According to Stewart, Ralyea, and Lockwood (2019), most women with ovarian cancer experience abdominal bloating, pain, frequent urination, early satiety or feeling full, or any abnormalities in their regular bowel habits.

The women in Lagos, Nigeria, had very little awareness of ovarian cancer, according to Okunowo & Adaramoye (2018). They proposed that health care practitioners should educate women and girls in order to ensure early identification of ovarian cancer. According to earlier research, women were more

aware of ovarian cancer, but they knew very little about its symptoms or risk factors (Okunowo & Adaramoye, 2018).

Ovarian cancer is the 18th most prevalent cancer overall and the eighth most common disease in women. In 2020, ovarian cancer rates were greatest in Brunei, Samoa, and Latvia. But in 2020, Samoa had the highest death rate from ovarian cancer, followed by Fiji and Trinidad (World Cancer Research Fund International, 2022). One of the most prevalent diseases among women in sub-Saharan Africa (SSA) is ovarian cancer (OC), but there is currently insufficient information on incidence trends to better understand the disease pattern in the area. Over the previous ten years, approximately 5423 cases of cancer were identified (Gizaw, Parkin, Stoter, Korir, Kamate, Liu et al., 2022). Additionally, behind cervical cancer, ovarian cancer is the second most frequent gynecological cancer among Nigerian women (Zayyan Ahmed, Oguntayo, Kolawole & Olasinde, 2018).

According to Akinfolarin (2020), it has been demonstrated that the deadliness of ovarian cancer in both developed and developing nations stems from the fact that it is linked to late presentation due to the lack of particular symptoms or early screening procedures. After uterine and cervix, ovarian cancer is the third most common gynecological cancer worldwide. As of 2012, ovarian cancer was the second most frequent gynecological cancer in Nigeria, accounting for over 1300 deaths (Okunowo & Adaramoye, 2018).

According to the American Cancer Society (ACS), 20,000 women will be newly diagnosed with ovarian cancer in 2022, and 13,000 women will lose their lives to the disease (Cancer of the Ovary-Cancer Stat Facts, n.d.). Ovarian cancer accounts for 7–22% of gynecological cancers in Nigeria, according to earlier research. Additionally, research revealed that Nigeria has the greatest percentage of sex-cord stromal ovarian malignancies and germ cell tumors (George, Omotosho, Pinto, Mustapha, Sanchez & Umar, 2021). Anecdotal evidence and the researcher's own observations indicate that, in contrast to breast cancer, many women are not as familiar with ovarian cancer. Additionally, there haven't been any noteworthy studies on the symptoms and risk factors of ovarian

cancer. Thus, the purpose of this study is to evaluate female undergraduate students' understanding of ovarian cancer risk factors and symptoms.

II. RESEARCH METHODOLOGY

This study employed a cross-sectional survey technique, and conducted among female undergraduate staying in the halls of residence in a Nigerian University. The institution was founded in 1948, 10 halls of residence, out of which three (3) largest halls were selected. In all, there are 1496 in the selected halls (Hall I: 608, Hall II: 386, Hall III: 502). The sample size for this study was determined using the (Yamane, 1967) sample size formula $\{n=N/1+N(e)^2\}$. With the consideration of 10% non-response rate, a total of 351 students were recruited for the study. The participants were purposively selected. The instrument was adapted from the validated cancer awareness measure (CAM) (Stubbings et al., 2019), ovarian cancer awareness measure (ovarian CAM) (Simon et al., 2018) and questionnaire developed by the National Ovarian Cancer Coalition (Lockwood-Rayermann et al., 2009), and used in alignment with the specific objectives. Institutional ethical approval was obtained following a review by the UI/UCH Ethical Review Board. Individual consent was also taken, following the detailed explanation of the study to the participants. All other ethical principles were respected throughout the study. The data collected were sorted, coded, and entered into SPSS version 24 for easy analysis. Descriptive data were summarized and presented in tables and figures while research hypotheses were analyzed inferentially at $p<0.05$, using chi-square test.

III. RESULTS

Socio demographic characteristics

The study revealed that majority of the students that participated in the study are between the ages of 21 to 23 years (48.1%). The faculty with the highest number of respondents is Clinical Sciences (21.6%). The majority of the students are in third year (27.6%). Those in Hall III were the majority (40.7%), as found in Table 1.

Table 1: Sociodemographic characteristics of female undergraduate students (N =351)

Variables	Fr(%)
Age (in years)	
18-20	127(36.2)
21-23	169(48.1)
24 and above	55(15.7)
Faculty	
Agriculture	34(9.6)
Arts	37 (10.5)
Basic Medical Sciences	15 (4.2)
Economics and management science	76 (21.6)
Education	7 (1.9)
Sciences	44 (12.5)
Law	25 (7.1)
Pharmacy	15 (4.2)
Public Health	30 (8.5)
Pure and Applied Science	14 (3.9)
Renewable Natural Resources	1 (0.2)
Social Sciences	19 (5.4)
Technology	10 (2.8)
Veterinary medicine	11 (3.9)
Level of study	
100	70 (19.9)
200	82(23.4)
300	97 (27.6)
400	64 (18.2)
500	36 (10.3)
600	2 (0.6)
Hall of Residence	

Hall I	90 (25.6)
Hall II	118 (33.6)
Hall III	143 (40.7)

Awareness of ovarian cancer

This table below assesses the awareness of ovarian cancer and it shows that 92.9% of the students claimed to have heard about ovarian cancer in the past.

Table 2: Awareness of ovarian cancer (N=351)

Responses	Fr (%)
No	25 (7.1)
Yes	326 (92.9)

Knowledge of ovarian cancer symptoms

The table 3 below assess the knowledge of the respondents about symptoms of ovarian cancer and it shows that most of the respondents have a considerable level of knowledge of ovarian cancer symptoms. The responses revealed that 82.1% of the respondents knew that persistent pain below the navel is a symptom of ovarian cancer, 73.2% of the respondents knew that persistent bloating or abdominal distension is a symptom of ovarian cancer while 72.9% knew that unexplained weight loss is a symptom of ovarian cancer.

Table 3: Knowledge of Ovarian cancer symptoms among female undergraduates (N=351)

	YES		NO	
	Freq.	%	Freq.	%
Persistent pain in the abdomen i.e. around the tummy is a symptom of ovarian cancer	220	62.7	131	37.3
Persistent pain in the pelvis i.e. below the navel is a symptom of ovarian cancer	288	82.1	63	17.9
Increasing abdominal size is not a symptom of ovarian cancer	133	37.9	218	62.1
Persistent bloating or abdominal distension is a symptom of ovarian cancer	257	73.2	94	26.8
Feeling full persistently is a symptom of ovarian cancer	149	42.5	202	57.5
Difficulty eating the usual amount of food is a symptom of ovarian cancer	151	43	200	57
Passing more urine than usual is a symptom of ovarian cancer	194	55.3	157	44.7
Changes in bowel habit e.g. constipation is a symptom of ovarian cancer	169	48.1	182	51.9
Back pain is a symptom of ovarian cancer	189	53.8	162	46.2
Extreme fatigue/tiredness is a symptom of ovarian cancer	247	70.4	104	29.6
Vagina bleeding after menopause is not a symptom of ovarian cancer	152	43.3	199	56.7

Unexplained weight loss is a symptom of ovarian cancer

256 72.9 95 27.1

Knowledge of risk factors for ovarian cancer

The table 4 below assess the knowledge of the respondents about the risk factors of ovarian cancer, the table shows that 57.5.9% of the students believe that having a close relative with ovarian factor is a risk factor for Ovarian cancer. The table further shows that

73.2% of the respondents knew that increasing age above 50 years is a risk factor for Ovarian cancer while only 36.8% knows that not having children is a risk factor for ovarian cancer.

Table 4: Knowledge of risk factors for ovarian cancer among female undergraduates in a Nigerian University

	YES		NO	
	Freq.	%	Freq.	%
Having a close relative with ovarian factor is a risk factor for ovarian cancer	202	57.5	149	42.5
Having personal or family history is a risk factor for ovarian cancer	258	73.5	93	26.5
Increasing age above 50 years is a risk factor for ovarian cancer	257	73.2	94	26.8
Use of oestrogen containing drugs (hormone replacement therapy) is a risk factor for ovarian cancer	280	79.8	71	20.2
Being overweight or obese is a risk factor for ovarian cancer	175	49.9	176	50.1
Having infertility problem is a risk factor for ovarian cancer	216	61.5	135	38.5
Not having children is a risk factor for ovarian cancer	129	36.8	222	63.2
Using fertility drug or IVF is a risk factor for ovarian cancer	198	56.4	153	43.6
Using talcum powder in the genitals is a risk factor for ovarian cancer	215	61.3	136	38.7
Being a smoker is a risk factor for ovarian cancer	231	65.8	120	34.2

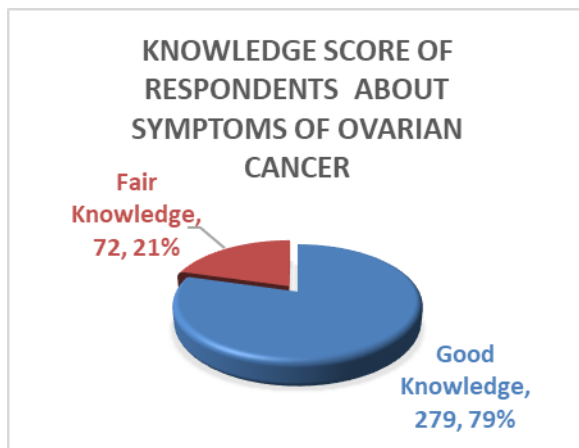


Figure 1: Pie chart showing the knowledge score of the female students about symptoms of ovarian cancer

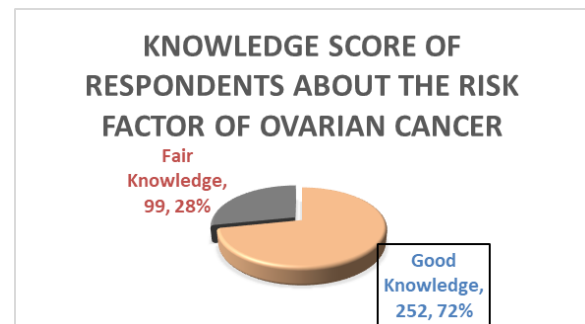


Figure 2: Pie chart showing the knowledge score of the female students about risk factor of ovarian cancer

HYPOTHESIS TESTING

HYPOTHESIS 1

H0: There is no significant relationship between the ages of the female undergraduate students and their awareness of ovarian cancer.

H1: There is no significant relationship between the ages of the female undergraduate students and their awareness of ovarian cancer.

Decision Rule: Accept H1 if P-value is < 0.05, otherwise reject H1.

Conclusion: In view of the above, we accept H0 and conclude that there is no significant relationship between the ages of the female undergraduate students and their awareness of ovarian cancer.

Table 5: Relationship between participants' age and awareness of ovarian cancer

	Awareness of ovarian cancer		Total
	Not aware	Aware	
Age			
18-20	12	115	127
21-23	9	160	169
24 and above	4	51	55
Total	25	326	351

$\chi^2=1.866$, df=2, $\alpha=0.05$, p= 0.393

HYPOTHESIS 2

H0: There is no significant relationship between the hall of residence of the female undergraduate students and their awareness of ovarian cancer.

H1: There is no significant relationship between the hall of residence of the female undergraduate students and their awareness of ovarian cancer.

Decision Rule: Accept H1 if p < 0.05, otherwise reject H1.

Conclusion: Since p=0.010, we reject H0 and conclude that there is a significant relationship between the hall of residence of the female undergraduate students in a Nigerian University and their awareness of ovarian cancer.

Table 6: Association between respondents' hall of residence and level of awareness about ovarian cancer

	Awareness of ovarian cancer		Total
	Not aware	Aware	
Hall I	11	79	90
Hall II	2	116	118

Hall III	12	131	143
Total	25	326	351

$\chi^2=9.141$, df=2, $\alpha=0.05$ P-value= 0.010

IV. DISCUSION OF FINDINGS, RECOMMENDATIONS, SUMMARY AND CONCLUSION

Discussion

According to the demographic data, the majority of respondents are between the ages of 21 and 23, which indicates that they fall within the typical age range of an undergraduate student, particularly in Nigeria. The majority of female students are from the Faculty of Clinical Sciences, according to the survey. The survey also reveals that a large number of responders are students in the 100–300 level.

Awareness of ovarian cancer

Nearly all female undergraduate students at the chosen university are aware of ovarian cancer, according to the report. This outcome was consistent with the research conducted by Okunowo & Adaramoye (2018), which demonstrated that the women had a high degree of awareness of ovarian cancer.

Knowledge of ovarian cancer symptoms

When it comes to the respondents' understanding of ovarian cancer symptoms, over 75% of them are generally well-informed. This is consistent with a prior study conducted by Chauhan et al. (2021), which found that students' understanding of ovarian cancer had grown following the educational training program. According to a prior study conducted in Lagos by Okunowo and Adaramoye (2018), the women showed more awareness of persistent abdominal pain and increasing abdominal size as well as unexplained weight loss as a sign of ovarian cancer.

Knowledge of risk factors for ovarian cancer

According to this study, a large number of them are highly knowledgeable of the risk factors for ovarian cancer. This finding runs counter to a prior study by Stewart et al. (2019), which found that women in the general population were unable to accurately identify ovarian cancer signs and symptoms and even suggested that certain characteristics (such abnormal

pap smear results) were inaccurately connected with the disease.

The findings' implications for nursing practice

The workload of nurses at various cancer centers across the country will be reduced if the aforementioned advice is implemented, which will raise students' awareness of the signs and risk factors of ovarian cancer.

Limitation of the study

This study should have been conducted more broadly, but it was restricted to female students at the University of Ibadan, Nigeria, due to the researcher's limited time and resources.

V. CONCLUSION

This study has revealed just like every other related study that most female undergraduate have a considerable high knowledge about the symptoms and risk factors of ovarian cancer.

Furthermore, this study has shown that socio demographic characteristics such as age may not be responsible for the poor knowledge of the students about ovarian cancer.

Recommendations

Based on the findings of this study, the following recommendation were made:

- The University management use the take advantage of special occasions like world cancer day should do more sensitization on the symptoms and risk factor of ovarian cancer and other type of cancer
- The government should use both the media houses to run jingles and health shows that will educate the populace especially women about ovarian cancer, its symptoms and risk factors.

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