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Clinicopathological characteristics and Survival outcomes of Ovarian tumours in Women: A Retrospective study at Federal Medical Centre Abuja, Nigeria

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Abstract

Background: Ovarian tumours encompass a heterogenous group of neoplasms, ranging from benign physiological cysts to malignant pathologies. Ovarian cancer ranks among the leading gynaecological cancer-related deaths worldwide. Understanding the incidence, clinicopathological characteristics and survival rates of ovarian tumours in our facility is crucial for developing effective management strategies and improving patient outcomes.

Aim: This study aimed to determine the incidence, risk factors, clinicopathological characteristics, and survival rates of women with ovarian tumours at Federal Medical Centre Abuja.

Methods: This retrospective cross-sectional study was conducted at Federal Medical Centre Abuja from 31st August 2019 to 30th August 2024. Data were extracted from the gynaecological ward, theatre and histopathology department's records. Data analysis was performed using Epi info™ 7.2.6.0 (2023 version). Survival analysis was done using Kaplan-Meier and Cox multivariate regression.

Results: Out of 9,963 gynaecological cases managed, 165 were ovarian tumours. Among these, 131 (79.4%) had histological diagnoses, comprising 85 (64.9%) benign and 46 (35.1%) malignant tumours. The average incidence rate was 26.2 per year. The mean age was 37.8 ± 13.18 years, with majority (51.4%) aged between 20-39 years and 54.2% were of low parity (0 -1). Majority presented with abdominal pain (85.5%) and abdominal mass or swelling (65.6%). Epithelial type (43.5%) was the most common histologic type and mainly of serous subtype (31.0%). The overall survival rate was 91.6%, with a 100% survival for benign and 76.1% for malignant cases. Cox regression analysis revealed that age, FIGO stage, and surgery outcome were significant predictors of survival, with hazard ratios of 4.21, 9.21 and 7.39 respectively.

Conclusions: Our study revealed a higher prevalence of benign ovarian tumours among women at FMC Abuja, with malignant tumours accounting for significant case fatality. Advanced age (≥60 years), higher FIGO stages (III-IV) and suboptimal surgical outcome were associated with poorer survival outcomes. These findings underscore the importance of early detection and tailored treatment strategies, including comprehensive surgical staging and adjuvant chemotherapy, to improve survival rates among ovarian cancer patients.

Keywords: ovarian tumours; ovarian cancer; clinicopathological characteristics; predictors; survival rates

Introduction

Women may develop ovarian tumours at various points in their lives due to the demands of their reproductive cycle. The ovaries, paired oval-shaped reproductive organs located in the true pelvis, play a crucial role in hormone production necessary for human reproduction [1]. Structurally, they comprise the germinal epithelium, a collagen connective tissue known as the tunica albuginea, the cortex containing ovarian follicles, and the central medulla filled with loose connective tissue and major blood vessels [2]. Tumours can arise from any of these layers and may be classified as benign, borderline, or malignant [3]. Functional cysts represent about 24% of ovarian cysts, benign tumours account for 70%, and malignant tumours for approximately 6% [4]. Benign tumours are more common in younger women, while malignant counterparts are predominant in older women [5]. Benign ovarian tumours are categorized based on cell origin, with epithelial tumours (serous, mucinous, endometroid, clear cell and Brenner tumours) constituting 60-80% of true ovarian neoplasms, germ cell tumours (mature teratomas and dermoid) accounting for 40-50% and sex cord-stromal tumours (thecoma, fibroma and Hilus cell tumour) accounting for 5-10% [6]. Ovarian cancers are responsible for 3-5% of cancers in women, ranking as the sixth most common cancer and the third leading cause of cancer-related death. Epithelial type accounts for 90% of malignant ovarian tumours [8, 9].

The underlying mechanisms often involve incessant ovulation, leading to somatic gene mutations [6]. Risk factors include nulliparity, use of ovulation induction agents, lifestyle factors, genetics, and diet [7]. Clinically, symptoms can be non-specific, including abdominal pain, swelling, and distension, with some patients remaining asymptomatic (23% of cases) (10). Treatment modalities typically involve surgical intervention and chemotherapy, with prognosis improving significantly with early diagnosis [7-10]. Most studies on ovarian tumours have predominantly focused on Caucasian, Indian, and Middle Eastern women, with limited research on African populations [11]. This study aims to determine the prevalence, commonest histological types, risk factors, clinical features, and survival rates of women with ovarian tumours at the Federal Medical Centre, Abuja.

Materials and Methods

Study designs and setting

This was a five-year retrospective cross-sectional study of all the ovarian tumours managed in the Department of Obstetrics and Gynaecology of the Federal Medical Centre Abuja (FMC Abuja) from 31st August 2019 to 30th August 2024. FMC Abuja is one of the main referral tertiary hospitals that employ multidisciplinary committee approach in patient's management in Abuja.

Study Population

The study population consisted of all ovarian tumours managed during the study period with histological diagnosis. Cases with incomplete information, lacking tissue diagnoses and cases managed outside the study period were excluded from the study.

Method of Data Collection/Analysis

Data were extracted from the theatre, gynaecological ward, and histopathology departmental records. The data extracted included: age, marital status, parity, level of education, menopausal status, presenting complaint, diagnosis, type of surgery, histology, treatment received, status of the patient (alive/dead). The data were entered and analyzed using Epi Info™ 7.2.6.0 (2023 version) [12]. The data results were presented as means and standard deviation for continuous variables and frequencies and percentages for categorical variables. Survival analysis was performed using Kaplan-Meier and Cox multivariate regression. The survival outcome was censored at 5 years of follow up.

Ethical Consideration

Ethical approval was obtained from the Federal Medical Centre Abuja Health Research and Ethics Committee.

Results

Out of the 9,963 gynaecological cases managed within the 5-year study period, 165 were ovarian tumours. Among these, 131 (79.4%) had histological diagnoses, comprising 85 (64.9%) benign and 46 (35.1%) malignant tumours. The average incidence rate for ovarian tumours was 26.2 per year. Benign and malignant ovarian tumours have incidences of 17.0 per year and 9.2 per year respectively.

Socio-demographic characteristics

The mean age of the study population was 37.8±13.1836 years, ranging from 11-83 years, with most cases (51.4%) occurring in women aged 20-39. Benign tumour occurred mostly in women aged 20-39 years while their malignant counterpart in age 40-59 years. The majority (54.2%) were of low parity (0-1), with statistical analysis revealing a correlation between low parity and increased risk of ovarian tumours (p=0.001). Most women had tertiary education (72.5%), were married (62.6%), of Igbo ethnicity (35.1%), were self-employed (45.8%), had no family history of cancers (80.9%), were premenopausal (81.7%) and non-smoker. These are presented in Table 1 below:

Table 1: Socio-demographic characteristic of the study population

Variables	Study n=131(%)	Benign n=85(%)	Malignant n=46 (%)	X^2	df	P
Age-group (years)				43.33	3	<0.01
0-19	6 (4.6)	4 (4.7)	2 (4.3)			
20-39	74 (56.5)	65 (76.5)	9 (19.6)			
40-59	40 (30.5)	14 (16.5)	26 (56.5)			
60 and above	11 (8.4)	2 (2.3)	9 (19.6)			
Parity				13.73	2	0.001
0-1	71 (54.2)	48 (56.5)	23 (50.0)			

2-5	53 (40.5)	37 (43.5)	16 (34.8)			
6 -10	7 (5.3)	0.0 (0.0)	7 (5.3)			
Education level				12.42	3	0.006
No formal	6 (4.6)	1 (1.2)	5 (10.9)			
Primary	2 (1.5)	0 (0.0)	2 (4.3)			
Secondary	28 (21.4)	16 (18.8)	12 (26.1)			
Tertiary	95 (72.5)	68 (80.0)	27 (58.7)			
Occupation				11.18	2	0.011
Public servant	55 (42.0)	43(50.6)	12(26.1)			
Student	16 (12.2)	12 (14.1)	4 (8.7)			
Self employed	60 (45.8)	30 (35.3)	30 (65.2)			
Marital status				7.73	2	0.021
Single	40 (30.5)	27 (31.8)	13 (28.3)			
Married	82 (62.6)	56 (65.9)	26 (56.5)			
Was married	9 (6.9)	2 (2.3)	7 (15.2)			
Ethnic group				3.777	3	0.29
Hausa/fulani	24 (18.3)	12 (14.1)	12 (26.1)			
Igbo	46 (35.1)	33 (38.8)	13 (28.3)			
Yoruba	21 (16.0)	15 (17.6)	6 (13.0)			
Others (Efik, Kanuri, Tiv, Edo)	40 (30.5)	25 (29.4)	15 (32.6)			
Family history of cancer				0.011	1	0.92
Yes	25 (19.1)	16 (18.8)	9 (19.6)			
No	106 (80.9)	69 (81.2)	37 (80.4)			
Menopausal state				27.45	1	0.000
Premenopause	107 (81.7)	81 (95.3)	26 (56.5)			
Post menopause	24 (18.3)	4 (4.7)	20 (43.5)			

Median age- 35 years, mean age- 37.8 ± 13.1836, median parity-1, mean partiy-1.8 ± 2.099

Clinicopathological characteristics and treatment modalities of the study

Table 2 shows the clinical assessment, histological findings and treatment modalities of the study population. The most common clinical symptoms were abdominal pain (85.5%) and abdominal mass or swelling (65.6%). Histological analysis revealed that epithelial tumours accounted for 43.5%, with serous cystadenocarcinoma as the most common malignant subtype (15.3%). Majority of the benign tumours were of germ cell origin (41.2%,) with Dermoid cyst (41.2%) as the most common benign subtype. All the cases underwent surgery with cystectomy (58.8%) being the most common procedure for benign tumours. Optimal debulking surgery (47.8%) was performed in majority of cases and followed by suboptimal debulking (32.6%) in those with malignant tumours. The malignant tumours had stage I (15, 32.6%), stage II (8, 17.4%, Stage III (14, 30.4%) and stage IV (9, 19.6%), with cumulative advanced stage disease of 50.0%. Currently, 12 (26.1%) were disease free, 21 (45.6%) undergoing treatment, 2 (4.3%) had recurrent disease on treatment and 11 (23.9%) were deceased. Majority of the death found in this study occurred with advanced stage III-IV disease 10 (90.9%). Adjuvant chemotherapy was administered to 27.6% of women with malignant tumour.

Table 2: Clinicopathological features and treatment modalities of the study population

Characteristics	Study n=131 (%)	Benign n=85 (%)	Malignant n=46 (%)
Clinical Symptoms			
- Abdominal pain	116 (85.5)	74 (87.1)	42 (91.3)
-Abdominal swelling/mass	86 (65.6)	40 (47.1)	46 (100.0)
- bloating	12 (9.2)	2 (2.3)	10 (21.7)
- irregular menstrual cycle	23 (17.6)	20 (23.5)	3 (6.5 ())
- weight loss	20 (15.3)	2 (2.3)	18 (39.1)
- easy satiety	20 (15.3)	2 (2.3)	18 ()39.1
- constipation	19 (14.5)	4 (4.7)	15 (32.6)

Histological type			
Epithelial	57 (43.5)	25 (29.4)	32 (69.6)
Germ cell tumour	48 (36.6)	35 (41.2)	13 (28.3)
Sex cord stromal tumour	2 (1.5)	1 (1.2)	1 (2.2)
Functional cyst	24 (18.3)	24 (28.2)	0 (0.0)
Histological subtypes			
-Serous cystadenocarcinoma	20 (15.3)	-	20 (43.5)
Serous cystadenoma	11 (8.4)	11 (12.9)	-
mucinous carcinoma	6 (4.6)	-	6 (13.0)
Mucinous cystadenoma	3 (2.3)	3 (3.5)	-
Endometroid carcinoma	1 (0.8)	-	1 (2.2)
Endometroid cystadenoma	4 (3.1)	4 (4.7)	-
Endometrioma	7 (5.3)	7 (8.2)	-
Brenner	1 (0.8)	-	1 (2.2)
Adenocarcinoma	4 (3.1)	-	4 (8.7)
Dermoid	35 (26.7)	35 (41.2)	-
Dysgerminoma	5 (3.8)	-	5 (10.9)
Immature teratoma	2 (1.5)	-	2 (4.4)
Mixed (yolk sac/embryonal)	7 (5.3)	-	7 (15.2)
Fibroma	1 (0.8)	1 (1.2)	-
Granulosa cell	1 (0.8)	-	1 (2.2)
Corpus luteum	24 (18.3)	24 (28.2)	-
Treatment modalities Surgery			
-cystectomy	77 (58.8)	73 (85.9)	4 (8.7)
-salpingo-ovariectomy	3 (2.3)	2 (2.3)	1 (2.2)
- ovariectomy	7 (5.3)	6 (7.1)	1 (2.2)
-TAH+ BSO	3 (2.3)	3 (3.5)	-
-complete debulking	4 (3.1)	1 (1.2)	3 (6.5)
-optimal debulking	22 (16.8)	-	22 (47.8)
-suboptimal debulking	15 (11.4)	-	15 (32.6)
Adjuvant chemotherapy	35 (26.7)	-	35 (76.1)

Regression analysis of risk factors in women with ovarian tumours

A binary logistic regression analyses was performed to model the relationship between the predictor variables and the outcome variables (Benign vs malignant ovarian tumours). Age group 60-83 years was significantly associated with an increased risk of malignant tumours (odd ration OR=7.50, p=0.029). Also, postmenopausal status was significantly associated with an increased risk of malignant tumours (OR=4.50, p=0.010), while germ cell tumours had a significantly low risk of being malignant (OR=0.14, p<0.001). High parity has no significant association of being malignant (OR=2.3, p=0.322), as shown in Table 3 below:

Table 3: Regression analysis of the Risk factors (predictor)

Predictor Variables	Odd ratio	95% confidence interval	P
Age-group (ref: 0-19)			
0-39	0.23	0.05-1.13	0.071
40-59	3.13	0.73-13.43	0.124
60-83	7.50	1.23-45.83	0.029
Parity (ref: 0-1)			
2-5	0.73.	0.38-1.40	0.344
6-10	2.33	0.43-12.67	0.322
Menopausal status			
Premenopausal (ref)	1.00		
Postmenopausal	4.50	1.43-14.15	0.010

Histology type			
Epithelial cell (ref)	1.00		
Germ cell	0.14	0.06-0.33	<0.001
Sex cord stromal	0.50	0.05-5.33	0.573
Functional cyst	-	-	-

Clinical Outcome of the study population

The overall survival rate for the study population was 91.6%. This included a 100% survival rate for the 85 patients with benign tumours and a 76.1% survival rate for the 35 patients with malignant tumors. A Kaplan-Meier survival function analysis was conducted to compare the survival rates between the benign and malignant groups. The results are presented in Table 3. For the benign group, there were no reported deaths, resulting in a probability of survival of 1 for all patients. In contrast, the malignant group experienced instances of death, with failure times ranging from 12 to 60 months. The risk of death decreased over time, with only two reported deaths. The survival function for the malignant group indicates the probability of surviving past each time point. As expected, the shortest survival time (12 months) had the highest probability of survival (approximately 96.6%), while the longest survival time (60 months) had a lower probability of survival (approximately 90.1%). These findings are further illustrated in Figure 1, which shows that the probability of survival decreases as the survival time increases.

Table 4: Survival Function

Tumour Type	Time (month)	At Risk	Fail	Net Lost	survivor function	STD. Err	95%CI [Lower]	95%CI [Upper]
Benign	12	72	0	8	1.00000	NA	NA	NA
Benign	24	64	0	15	1.00000	NA	NA	NA
Benign	36	49	0	20	1.00000	NA	NA	NA
Benign	48	29	0	17	1.00000	NA	NA	NA
Benign	60	12	0	12	1.00000	NA	NA	NA
Malignant	12	29	1	13	0.96552	0.03388	0.77947	0.99507
Malignant	24	15	1	7	0.90115	0.06976	0.63941	0.97607
Malignant	36	7	0	6	0.90115	0.06976	0.63941	0.97607
Malignant	60	1	0	1	0.90115	0.06976	0.63941	0.97607

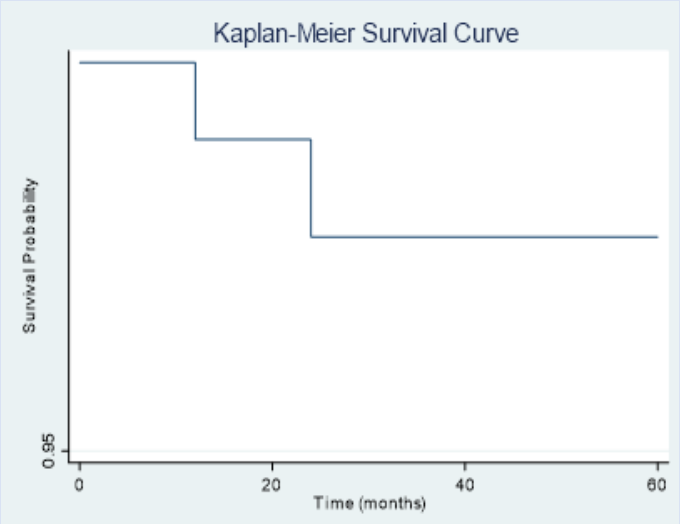

Figure 1: Kaplan-Meier survival curve

The cumulative hazard plot in Figure 2 visually examined the assumptions of a distributional model for reliability data. The graph has a decreasing cumulative hazard which indicates a lessening risk of an event with stability at greater than 3 units of natural log time.

Cumulative Hazard Plot

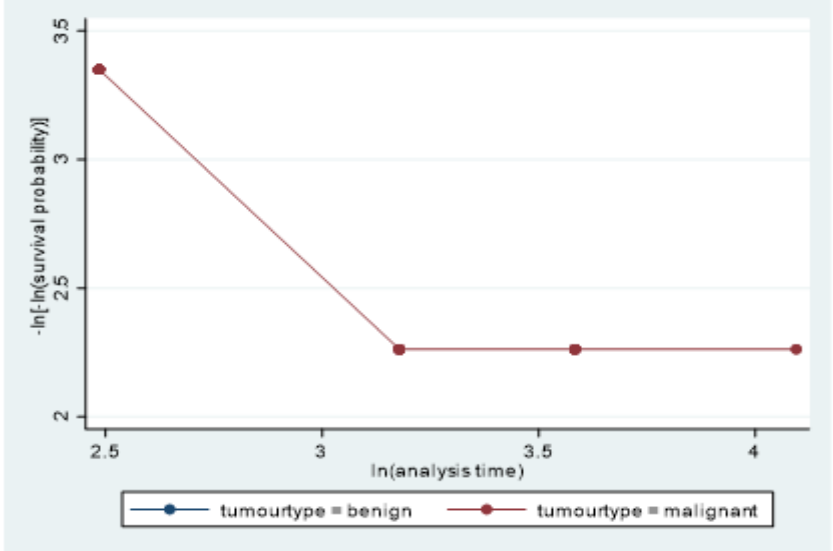

Figure 2: Cumulative Hazard of the study population

Risk factors that predict the outcomes of malignant ovarian tumours

The study examined the risk factors that predict outcomes in women with malignant ovarian tumours. The results are presented in Table 5. The following variables were found to be statistically significant predictors of survival: Age group (p=0.039), with women aged 60-83 years having a higher risk of death compared to those aged 11-19 years; FIGO stage (p=0.003) with stage IV cancer cases having a higher risk of death compared to stage I cancer, and Surgery outcome (p=0.006) with those who underwent suboptimal debulking surgery having a higher risk of death compared to those who underwent complete resection. Conversely, parity (p=0.891), family history (p=0.93), ethnicity (p=0.672), menopausal status (0.923) and histologic type (p=0.103) were not statistically significant predictors of survival in ovarian cancer patients.

Table 5: Predictor variables and outcomes for ovarian malignant tumours

Variable	Alive	Dead	Total	P-value
Age group				0.039
11-19	2	0	2	
20-39	7	2	9	
40-59	19	7	26	
60-83	7	2	9	
Parity group				0.891
0-1	18	5	23	
2-5	12	4	16	
6-10	5	2	7	
FIGO stage				0.003
I	14	1	15	
II	8	0	8	
III	10	4	14	
IV	3	6	9	
Histology				0.103
epithelial	23	9	22	
Germ cell	11	2	13	
Sex cord stromal	1	0	1	
Family history				0.923
yes	8	1	9	
no	27	10	37	
Ethnicity				0.672
Hausa	8	4	12	
Igbo	12	1	13	
Yoruba	4	2	6	

Others	11	4	15	
Menopausal status				0.923
Premenopause	21	5	26	
postmenopause	14	6	20	
Surgery outcome				0.006
Complete resection	8	1	9	
Optimal debulking	20	2	22	
Suboptimal debulking	7	8	15	

FIGO- International Federation of Gynaecology and Obstetrics

Cox multivariate regression Analysis for malignant ovarian tumours

The Cox regression analysis was used to examine the relationship between predictor variables (risk factors) and the hazard risk. The results of the Cox regression analysis were as shown in Table 6 below. Age group was shown to be a significant predictor of survival, with patients aged 60-83 years having a 4.21 times higher hazard rate (p=0.021) compared to those aged 11-19 years. FIGO Stage is also a significant predictor of survival, with patients at stage IV cancer having a 9.21 times higher hazard rate (p-<0.001) compared to those with stage I cancer. Histology showed that those with germ cell tumour had a 0.39 times lower hazard rate (p=0.073) compared to those with epithelial tumour. Surgery outcome is a significant predictor of survival, with patients who had sub-optimal debulking surgery having a 7.39 times higher hazard rate (p<0.001) compared to those with complete resection.

Table 6: Cox Regression Analysis

Variable	HR	95% CI	p-value
Age group (ref 11-19)			
20-39	1.54	(0.43-5.53)	0.512
40-59	2.83	(0.93-8.63)	0.066
60-83	4.21	(123-14.41)	0.021
Parity group (ref 0-1)			
2-5	0.93	(0.36-2.41)	0.876
6-10	1.53	(0.51-4.49)	0.446
FIGO Stage (ref I)			
II	0.00	(0.00-0.00)	0.988
III	3.42	(1.13-10.35)	0.029
IV	9.21	(3.13-27.07)	<0.001
Histology (ref epithelial)			
Germ cell	0.39	(0.14-1.09)	0.073
Sex-cord stromal	-	-	-
Family history (ref No)			
Yes	0.55	(0.18-1.39)	0.294
Ethnicity (ref Hausa)			
Igbo	0.33	(0.08-1.39)	0.128
Yoruba	0.83	(0.23-3.01)	0.783
Others	1.03	(0.38-2.79)	0.951
Menopausal status (ref premenopause)			
Postmenopause	1.71	(0.83-3.53)	0.147
Surgery outcome (ref complete resection)			
Optimal debulking	2.33	(0.73-7.46)	0.156
Suboptimal debulking	7.39	(2.53-21.59)	<0.001

Discussion

Our study aimed to determine the clinicopathological characteristics and survival outcomes of ovarian tumours among Nigerian women at the Federal Medical Centre Abuja over a five-year period. The overall histological findings revealed that benign lesions dominated the ovarian tumours, aligning with studies from other regions, although with varied frequencies. Our study's finding of 64.9% benign tumours is consistent with the 69.2% reported in

Nnewi, South-East Nigeria [13], but lower than the 74.4% reported in Uttarakhand, India, and 84.7% reported in Benin, South-South Nigeria [14, 15]. Conversely, our study found malignant tumors in 36.1% of cases, which is higher than the 22.2%, 22.3%, and 15.0% reported in Nnewi, Uttarakhand, and Benin, respectively [13-15]. These findings emphasize the need for a consistent understanding of ovarian neoplasms across different populations. The demographic profile indicated that women aged 20-39 years represented the majority of cases (56.5%), coinciding with observations from studies conducted in other African countries, including Southern Ethiopia (48.1%) and Afghanistan (58.6%), where similar age distributions were noted [16, 17]. Benign tumours were predominantly found in women within this age group. In contrast, the prevalence of malignant tumours peaked in the 40-49 age group, where 56.5% of cases were identified. This shift towards an older demographic for malignant presentations underscores the impact of age as an essential risk factor in the development of ovarian cancers, corroborating findings from global literature [18, 19].

Low parity (0-1) was predominant in our study population (54.3%), consistent with existing research identifying nulliparity and low parity as significant risk factors for developing ovarian tumours [18, 19]. This aligns with the hypothesis that incessant ovulation, more frequently observed in nulliparous women, may contribute to tumourigenesis [18]. Similarly, we found that most patients (81.7%) were premenopausal, which has been documented as a critical time frame when many women present with complex ovarian masses [20]. Family history of tumours was present in 19.2% of cases, which is significant given the known genetic predisposition linked to certain ovarian tumour types. Genetic factors, such as mutations in BRCA1 and BRCA2, have been associated with increased risks of ovarian and breast cancers, supporting the need for familial screening and counseling in at-risk populations [19]. The most common symptoms were abdominal pain and abdominal swelling/mass, mirroring reports from other studies [13-19]. These non-specific symptoms can lead to delays in diagnosis and management, especially in cases of malignant tumours, highlighting the need for heightened awareness and improvement in screening using pelvic examination and transvaginal ultrasound.

Histologically, our findings revealed that epithelial tumors (43.5%) and germ cell tumors (36.6%) accounted for the majority of cases, while functional cysts (18.3%) were also notable. The predominance of epithelial tumors aligns well with the literature, where they comprise approximately 90% of malignant ovarian tumors, with serous cystadenocarcinoma subtype dominating globally, as reported by many studies [8, 9]. Additionally, germ cell tumors being the second most common histological type is consistent with other studies, with mature cystic teratoma (dermoid cyst) as the most common benign ovarian tumour [21, 22]. However, only 1.5% of tumours were identified as sex cord-stromal tumours, which is lower than that reported in some studies where these tumours often comprise 5-10% [21] of ovarian neoplasms, suggesting unique epidemiological patterns in our population. Surgical intervention was primarily achieved through cystectomy in 58.8% of cases, a common approach for managing benign ovarian masses, supporting findings from both regional and international studies that highlight this surgical option's role in benign and early-stage disease and preservation of ovarian function [23]. For malignant counterparts, optimal debulking surgery was achieved in most cases. However, the outcome data, with a survival rate of 76.1% and a total of 11 deaths among the malignant cases, illustrates the severity and prognostic challenges associated with ovarian cancer.

Our study identified factors affecting survival, with age, cancer stage, and surgery outcome as significant predictors of survival. Consistent with other studies, our findings indicated that advanced age (60-83 years, $p=0.021$) is associated with poorer survival rates in ovarian cancer patients. A study by the American Cancer Society found that women diagnosed with ovarian cancer at age 65 or older had a 5-year survival rate of 33%, compared to 61% in those under age 65 years [24]. Our study also found that the stage of cancer was a significant predictor of survival, with patients diagnosed at stage IV having the poorest survival rates ($p<0.001$). This is consistent with many studies, which found that advanced stage at diagnosis is a major predictor of poor survival in ovarian cancer patients compared with stage I [24, 25]. Furthermore, our study found that surgery outcome was a significant predictor of survival, with patients who underwent suboptimal surgery having poorer survival rates ($p<0.001$). This is consistent with studies, which showed that residual tumour >2cm is an important

predictor of mortality within 1-year compared to complete resection surgery in ovarian cancer patients [26]. In contrast, our study found that parity, family history, ethnicity, menopausal status, and histologic types were not significant predictors of survival. This is consistent with some previous studies, which have found that these factors are not associated with survival in ovarian cancer patients [27]. This study's limitations include its retrospective design, single centre limiting generalization and relatively small sample size. However, the findings of this study contribute to the understanding of the clinicopathological profile and survival outcomes of ovarian tumors among Nigerian women.

Conclusion

In conclusion, our study revealed a higher prevalence of benign ovarian tumours, predominantly epithelial type, among women at FMC Abuja, with malignant tumours (mostly serous cystadenocarcinoma) accounting for significant case fatalities. Advanced age (≥60 years), higher FIGO stages (III-IV) and suboptimal surgical outcome were associated with poorer survival outcomes. These findings underscore the importance of early detection and tailored treatment strategies, including comprehensive surgical staging and adjuvant chemotherapy, to improve survival rates among ovarian cancer patients.

Recommendations

Developing public awareness campaigns to educate the public, particularly women, about recognizing nonspecific symptoms of ovarian cancer and the importance of seeking medical attention early. Encouraging healthcare providers to consider ovarian tumour in differential diagnosis for women presenting with nonspecific symptoms, commence screening and early detection strategies. Standardizing treatment protocols and multidisciplinary care. Investigating the molecular mechanism underlying ovarian cancer development and progression, exploring innovative therapeutic strategies and developing predictive models for ovarian cancer risks and outcomes

Declarations

Conflict of interest

The authors declare that they have no competing interests.

Funding

The authors declare no sources of funding for the research.

Availability of the data

The authors will make the data available if needed.

Authors contribution

JOO wrote the research proposal and was major contributor to the manuscript writing.
NAG retrieved the data and contributed to the manuscript writing
OOM contributed to the manuscript writing
All authors read and approved the manuscript

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