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Research Article

Comparative Study on the Preponderance of Gynaecological Specimens Received in Tertiary Hospitals of Bayelsa State, Nigeria

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Abstract: Gynaecology is the medical practice dealing with the health of the female reproductive system. Female genital tract is most common site for tumors in females. The most common type of female genital tract cancers are; cervical, ovarian and endometrial carcinoma. There are other less common tumors including tumors of vagina, vulva and fallopian tubes. The aim of this study is to compare the prevalence of gynaecological specimens and pathology attended to in the tertiary institutions of Bayelsa state from a period of 2015 to 2020. This study was carried out in Niger Delta University Teaching Hospital, Okolobiri and Federal Medical Centre, Yenagoa, involving the cervical specimens, endometrial specimens and vulva specimens received in their various Histopathology units. The sample size was determined based on the number of specimens received in the both tertiary institutions from 2015 to 2020. Data were retrieved by writing out the patients information, e.g. age, diagnosis and specimen types according to the year it was received. The data retrieved was statistically analyzed using SPSS and Microsoft excel. Tables and frequencies were generated. NDUTH, Okolobiri received a total number of 73 cervical specimens with no positive case of cervical cancer, 171 endometrial curettage specimens with 0.6% of endometrial cancer, and 2 vulva specimens with no carcinoma reported from a period of 2015 to 2020 while FMC, Yenagoa received a total number of 513 cervical specimens with no cervical cancer reported, 391 endometrial curettage specimens with 0.3% of endometrial cancer reported and no vulva specimen was received from a period of 2015 to 2020. From this study, we observed that Federal Medical Centre, Yenagoa received more gynaecological specimens (cervical specimens, and Endometrial curettage specimens) than Niger Delta University Teaching Hospital, Okolobiri. Female subjects who visited the gynaecological clinic more fell within the age brackets of 30 to 39 years in the both facilities.
Keywords: Gynaecology, tumor, tertiary institution, endometrial curretings, cervical specimens.

Introduction

Gynaecology is the medical practice dealing with the health of the female reproductive system. Almost all modern gynaecologists are also obstetricians. In many areas, the specialities of gynaecology and obstetrics overlap. The term means "the science of women" [1].

Female genital tract is most common site for tumours in females. The most common type of female genital tract cancers are; cervical, ovarian and endometrial carcinoma. There are other less common tumours including tumours of vagina, vulva and fallopian tubes. The Uterine corpus represents the second most common site for malignancy of the female genital systems. These neoplasms are divided into epithelial, mesenchymal, mixed epithelial and mesenchymal tumours and trophoblastic tumours. Endometrial carcinoma occurs predominately in developed countries and is frequently associated with obesity. Two major types are distinguished [2].

Cervical carcinoma is the second most common cancer in women worldwide. According to WHO classification tumours of cervix divided into three–squamous cell carcinoma, adenocarcinoma and other epithelial tumours. The incidence of cervical cancer, which is predominantly of the squamous cell type, has markedly declined in many developed countries, mainly due to cytological screening programmers [2].

Tumours of the ovary represent about 30% of all cancers of female genital tract. Carcinomas of surface epithelial-stromal origin account for 90% of these cancers in North America and Western Europe. In some Asian countries, including Japan, germ cell tumours account for a significant proportion (20%) of ovarian malignancies [2].

Cancer of the vagina is relatively rare, accounting for about 1%-2% of gynaecological malignancies. There are two main types of vaginal cancer; squamous cell cancer and adenocarcinoma. Squamous cell carcinoma comprises up to 85% of vaginal carcinoma [2].

The vulva is formed by the labia majora, labia minora, clitoris, mons pubis and the associated structures of the vestibule including the urethral meatus. Benign tumours of vulva including condyloma acumintum and others. Squamous cell carcinoma is the most common malignant tumours of the vulva occurs predominantly in older age group. The prominent non-epithelial tumours are malignant melanoma and sarcoma botryoides [2].

Tumours of the fallopian tube are much less common than the corresponding ovarian neoplasms; however, histologically the same surface epithelial-stromal is recognized. Sex cord–stromal and germ cell tumours are rare [2].

Gynaecological specimen are the samples used in the laboratory for detection of normal and abnormal cells.
Some of the specimens are:

- ✓ cervical cone
- ✓ endometrial curettage
- ✓ vulva biopsies

Various fixatives are used in exfoliative cytology. Out of which, 95% ethanol is the commonly used fixative [3]. Hence, the conventional method for fixation of Pap smear is to fix the Pap smear immediately in 95% ethyl alcohol after preparing the smear [4].

Methods

Study Area

The study was conducted at Federal Medical Centre, Yenagoa, Bayelsa State and Niger Delta University Teaching Hospital, Okolobiri.

Experimental Design

A prospective survey, in which data of gynaecological specimens of the female genital tract received in Histopathology unit of the tertiary institutions of Bayelsa state from a period of 2015 to 2020 were obtained from laboratory bench books.

Study Population

This study was carried out among different gynaecological specimens of the female genital tract like cervical specimens, endometrial specimens and vulva specimens received in Histopathology unit of the tertiary hospitals of Bayelsa state from a period of January 2015 to December 2020.

Sample size

The sample size was determined based on the number of specimens received in the both tertiary institutions from 2015 to 2020.

Sample Collection

Data were collected by writing out the patient's information's like the age, the diagnosis, the specimen type according to the year it was registered or received.

Statistical Analysis

The data retrieved was analysed using the statistical package for social sciences (SPSS), version 23 (SPSS Inc., Chicago, IL, USA) and microsoft excel version 2010 was used for all analyses. Frequency tables and figures were generated.

Results

Table 1. Preponderance of sample collected between 2015-2020 in cytology clinic in NDUTH Okolobiri.

Year of Collection					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	2015	13	17.8	17.8	17.8
	2016	11	15.1	15.1	32.9
	2017	9	12.3	12.3	45.2
	2018	15	20.5	20.5	65.8
	2019	16	21.9	21.9	87.7
	2020	9	12.3	12.3	100.0
	Total	73	100.0	100.0	

Table 2. Age distribution of patients who attended cytology clinic from 2015-2020 in NDUTH, Okolobiri

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	20-29	11	15.1	15.1	15.1
	30-39	29	39.7	39.7	54.8
	40-49	18	24.7	24.7	79.5
	50-59	12	16.4	16.4	95.9
	60-69	2	2.7	2.7	98.6
	70-79	1	1.4	1.4	100.0
	Total	73	100.0	100.0	

Table 3. Preponderance of result gotten from cytology clinic from 2015-2020 in NDUTH, Okolobiri.

		Frequency	**Percent**	**Valid Percent**
Valid	Negative for Squamous Intraepithelial Lesion or Malignancy	51	69.9	69.9
	Inflammatory Smear	3	4.1	4.1
	Inadequate Smear	8	11.0	11.0
	Cervical Intraepithelial Neoplasia (Cin-1)	7	9.6	5.5
	Cervical Intraepithelial Neoplasia (Cin-11)	3	4.1	1.4
	Atropic Vaginitis	1	1.4	1.4
	Total	73	100.0	100.0

Table 4. Showing number of patients who attended cytology clinic in FMC from year 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2015	69	13.5	13.5	13.5
	2016	44	8.6	8.6	22.0
	2017	129	25.1	25.1	47.2
	2018	120	23.4	23.4	70.6
	2019	83	16.2	16.2	86.7
	2020	68	13.3	13.3	100.0
	Total	513	100.0	100.0	

Table 5. Showing the distribution of age of clients who attended cytology clinic in FMC from year 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-19	2	.4	.4	.4
	20-29	73	14.2	14.2	14.6
	30-39	220	42.9	42.9	57.5
	40-49	140	27.3	27.3	84.8
	50-59	61	11.9	11.9	96.7
	60-69	14	2.7	2.7	99.4
	70-79	3	.6	.6	100.0
	Total	513	100.0	100.0	

Table 6. Showing distribution of results obtained from cytology clinic in FMC from year 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Negative for Intraepithelial Lesion or Malignancy	465	90.6	90.6	90.6
	Inflammatory Smear	16	3.1	3.1	93.8
	Low Grade Squamous Intraepithelial Lesion	31	6.0	6.0	99.8
	High Grade Squamous Intraepithelial Lesion	1	.2	.2	100.0
	Total	513	100.0	100.0	

Table 7. Showing Distribution of the number of clients whose endometrial curettage specimens received in FMC from 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2015	64	16.4	16.4	16.4
	2016	56	14.3	14.3	30.7
	2017	52	13.3	13.3	44.0
	2018	65	16.6	16.6	60.6
	2019	118	30.2	30.2	90.8
	2020	36	9.2	9.2	100.0
	Total	391	100.0	100.0	

Table 8. Age distribution of clients whose samples were collected for endometrial curettage at FMC within 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-19	6	1.5	1.5	1.5
	20-29	114	29.2	29.2	30.7
	30-39	190	48.6	48.6	79.3
	40-49	44	11.3	11.3	90.5
	50-59	20	5.1	5.1	95.7
	60-69	11	2.8	2.8	98.5
	70-79	6	1.5	1.5	100.0
	Total	391	100.0	100.0	

Table 9. Preponderance of result for endometrial curettage from FMC within 2015-2020

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Negative for Malignancy	390	99.7	99.7	99.7
	Positive for Malignancy	1	.3	.3	100.0
	Total	391	100.0	100.0	

Table 10. Showing the number of samples collected for endometrial curettage in NDUTH between 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2015	38	22.2	22.2	22.2
	2016	18	10.5	10.5	32.7
	2017	29	17.0	17.0	49.7
	2018	28	16.4	16.4	66.1
	2019	34	19.9	19.9	86.0
	2020	24	14.0	14.0	100.0
	Total	171	100.0	100.0	

Table 11. Showing the Age distribution of clients whose samples were collected for endometrial curettage in NDUTH between 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-19	9	5.3	5.3	5.3
	20-29	43	25.1	25.1	30.4
	30-39	94	55.0	55.0	85.4
	40-49	18	10.5	10.5	95.9
	50-59	4	2.3	2.3	98.2
	60-69	3	1.8	1.8	100.0
	Total	171	100.0	100.0	

Table 12. Showing the distribution of results obtained from endometrial curretage sampling in NDUTH from 2015-2020.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Evidence of Malignancy (Product of Conception)	136	79.5	79.5	79.5
	Hyperplasia	7	4.1	4.1	83.6
	Bleeding Dysfunction	6	3.5	3.5	87.1
	Leiomyoma	4	2.3	2.3	89.5
	Carcinoma	1	.6	.6	90.1
	Endometritis	15	8.8	8.8	98.8
	Leiomyosarcoma	1	.6	.6	99.4
	Unsatisfactory	1	.6	.6	100.0
	Total	171	100.0	100.0	

Table 13. Showing the number of samples collected for Vulva specimens in NDUTH between 2015-2020

Year		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2015	1	50.0	50.0	50.0
	2016	1	50.0	50.0	100.0
	Total	2	100.0	100.0	

Table 14. Showing the Age distribution of clients whose samples were collected for Vulva biopsy in NDUTH between 2015-2020.

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30-39	1	50.0	50.0	50.0
	40-49	1	50.0	50.0	100.0
	Total	2	100.0	100.0	

Table 15. Showing the distribution of results obtained from Vulva biopsy in NDUTH from 2015-2020.

Diagnosis					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Inverted Fibro epithelial Polyp	1	50.0	50.0	50.0
	Inverted Papilloma	1	50.0	50.0	100.0
	Total	2	100.0	100.0	

Discussion

In the comparative studies on preponderance of gynaecological specimens received in the tertiary hospitals of Bayelsa. The results of the statistical analysis are described below:

From this study, it was observed that a total number of 73 patients visited the gynaecological clinic for cervical examination in Niger Delta University Teaching Hospital, Okolobiri and a total number of 513 patients visited the gynaecological clinic in Federal Medical Centre, Yenagoa from a period of 2015 to 2020. Among the patients who visited the gynaecological clinic in the both facilities, it was observed that women that fell within the age group of 30-39 paid more visit to the gynaecological clinic. Gupta et al. [5] reported that most of the abnormal cytology cases, i.e., 40.37%, in their study were in the age group of 30-39 years.

From table 3, it was observed that NDUTH, Okolobiri reported no positive case for cervical cancer and from table 6, it was also observed that FMC, Yenagoa reported no case of cervical cancer from a period of 2015 to 2020. In Nigeria, 70327 deaths in women were attributed to cancer, with cervical cancer causing 14.8% of those deaths in 2018, making the second most common cancer after breast cancer [6]. Could it be that this region of the country is not yet exposed to this type of cancer? Or this cancer is growing rapidly uncontrollable in women around this region that do not have access to good hospital or no hospital at all?, or do women who live in the rural area of this region die of this cancer undiagnosed every year?.

Therefore factors that can lead to low inflow of specimens to the laboratory could be lack of government sensitization; various studies in different countries show differences in women's knowledge and attitude regarding cervical cancer and its prevention. Unlike developed countries, women had a poor level of knowledge towards cervical cancer and its prevention [7, 8]. Healthcare workforce crisis in low-resource countries; A major obstacle to improving health in many LRCs is a lack of trained healthcare workers, Worldwide. World health Organisation (WHO) estimates a shortage of more than 4 million Medical Laboratory Scientist, Pharmacist, doctors, nurses, midwives and other healthcare providers [9].

Another factor could be lack of good facilities; primary healthcare facilities, where preventive health care such cervical screening should be located, are limited, under-resourced and over-burdened in most developing countries. Most low resource countries have very limited cancer diagnostic, treatment and palliative care services. A contributing factor to limited access to healthcare in poor countries is the urban/rural bias, which is extreme in sub-saharan Africa [10]. While 87% of the region's urban population has access to health services, more than 50% of the people in most sub-saharan African countries live more than 10km from the nearest primary care centre [10].

Another contributing factor to low specimen income is that women are uninformed and disempowered; The world development report has cited education as essential component to human health, stating that "Households with more education enjoy better health, both for adults and for children (a result that) is strikingly consistent in a great number of studies, despite differences in research methods, time periods and population samples" [11].

Endometrial Curettage

From this study, it was observed that Federal Medical Centre, Yenagoa received a total number of 391 endometrial curettage specimens with 0.3% of endometrial cancer reported from a period of 2015 to 2020. This value is lower than to that found in Ibadan 3.1% [12] and in Enugu [13], it is however farther from that found in Kano (Yakasai et al. [14] 10.6% and Abakaliki (Joseph et al. [15]) while Niger Delta University Teaching Hospital, Okolobiri received a total number of 171 endometrial specimens with 0.6% of endometrial cancer. It was also observed that the highest number of endometrial specimens received were from women within the age 30 to 39 years.

Vulva Specimens

Table 13 shows that in 2015, only 2 vulva specimens was received in NDUTH from a period of 2015 to 2020. From table 15, there was no positive case of vulva cancer. Vulva cancer is uncommon, accounting for only 2%–5% of gynaecologic malignancies. Squamous cell carcinoma (SCC) of the vulva, the most common subtype, has traditionally been regarded as a disease of postmenopausal women, although the mean age of incidence has fallen in recent years owing to the increase in HPV infections worldwide [16, 17]. Reinforcing this epidemiological change, differences in terms of current incidence or age at presentation can be found between countries and regions; some may be explained by a different local HPV prevalence or other risk factors (e.g. ethnic distribution, smoking, atrophy or inflammation, HIV) [18-20].

From this study, it was observed that FMC did not receive any vulva specimen from 2015 to 2020, this may be due to the fact that diseases or malignancy associated with the vulva is rare.

Conclusion

This study, shows that Federal Medical Centre, Yenagoa received more gynaecological specimens (cervical specimens, and Endometrial curettage specimens) than Niger Delta University Teaching Hospital, Okolobiri. The reason for this could be that FMC, Yenagoa is located in the capital city of the state, therefore more accessible to patients health care than NDUTH Okolobiri despite its status as a tertiary institution in the state that serves as a training centre for our medical and other medicals allied to medicine and medical practice.

Recommendation

It is recommended that government, non-governmental organizations and the management of these facilities should mount a serious campaign on the danger, nature and effect of these ailment (cervical cancer, endometrial cancer and vulva cancer) to stimulate mind of the people (women) about these ailment. It is also recommended that women should regularly visit the gynaecological clinic for pap smear screening for cervical cancer. Although most people won't need to begin pap screening for cervical cancer until around the age of 21. It is also advised that female subjects within the ages of 13 years above visit the hospitals at least once a year for gynaecological check regardless of any observable or noticeable signs and symptoms of transition, menstrual disorders or sexual incontinence. There is no need to worry if you have missed this time window, but you should still consider scheduling your first.

It is also recommended that government and the management of various health care facilities should employ more man power and equally train and retrain the various health care professionals such as Medical Laboratory Scientists, the physicians, nurses and pharmacist on the diagnosis and prognosis of this diseases.

Conflicts of interest: There is no conflict of interest of any kind.

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