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Prevalence of uterine fibroids among women resident in Ogoni, Rivers State, Nigeria.

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Abstract

Background: Uterine fibroids are benign tumor cells of the uterus composed of smooth muscle cells and fibroblasts rich in extracellular matrix. Due to the increased likelihood of women developing leiomyomas within their lifetime, there is a noticeable impact on quality and other aspects of life, such as financial burden and medical expenses

Objective: To determine the Prevalence, age distribution, most occurring types and clinical characteristics of patients with uterine fibroid.

Methods: This study is a six-year retrospective analysis on the Prevalence and age distributions of uterine fibroid among women resident in Ogoni, Rivers State, Nigeria, from January 2017 to December 2022. Medical records from Hospitals in the area were used for this study.

Results: result revealed that 821 out of 5800 case files were positive for uterine fibroid giving a prevalence of 14.2. The year 2022 recorded the highest incidence of uterine fibroid (22.6), followed by the year 2021 (14.9.), 2019 (13.9), 2018 (11.9), 2020 (9.6), and 2017(8.3) respectively. Women within 26 – 35 years were significantly affected in all the years under review, with a prevalence rate of 62.6%, while older women (>35) and those younger (<26), presented an incident rate of 29.4% and 7.9% respectively.

Conclusion: The study revealed that the most prevalent type of uterine fibroid in Ogoni is intramural while the least prevalent is submucosal. It also showed that women of age 26-35 years had the highest prevalence of uterine fibroid while those of age 16- 25 years had least prevalence.

Keywords: Uterine Fibroids; Leiomyoma; Prevalence; Age Distribution; Most occurring types

1. Introduction

Uterine leiomyomas or commonly called fibroids are benign tumors of uterine myometrium composing of smooth muscle with variable amount of connective tissue¹. There are limited data across all populations of women of color; however, some studies have found that black women are twice as likely to develop fibroids as Hispanic women and up to four times more likely as white women². Although the precise cause of leiomyoma is unknown, advances have been made in the understanding of the hormonal factors, genetic factors, growth factors, and molecular biology of these benign tumours³. It is possible that dysregulation of committed cells that acquire stem-like features could be responsible for this benign condition⁴. Abnormal epitranscriptomic alteration, e.g. the METTL3-m⁶A-YTHDC1/YTHDF2 signaling

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axis could be involved not only in the pathogenesis of Uterine fibroid (UF), but also contributing to increased UF prevalence among black women⁵. Prevalence of uterine fibroids among the blacks represents a genetic difference, as there is often a family history of fibroids or is perhaps associated with a higher cellular injury or inflammation resulting from an environmental agent, an infection, or hypoxia commoner in the Negroid race which has been proposed as mechanisms for initiation of leiomyoma formation⁶. Uterine leiomyomas are also commoner in nulliparous and relatively infertile women⁷.

The presence of leiomyoma is almost never associated with death; leiomyoma may cause morbidity and affect quality of life⁸. The most common symptom related to leiomyomas is abnormal heavy uterine bleeding, which frequently leads to surgical intervention. Other symptoms include dyspareunia, dysmenorrhea, pelvic pain and infertility⁹.

Ultrasonography using the transabdominal and transvaginal routes has been employed most frequently in its diagnosis, due to its accessibility and relatively low cost¹⁰. MRI is accurate in diagnosing leiomyoma with a sensitivity of 88%–93% and a specificity of 66%–91%, and in differentiating leiomyoma from focal adenomyosis¹¹.

The majority of fibroids therapies are contraindicated for patients who are trying to conceive since they prevent conception¹². Hysteroscopy, laparotomy, laparoscopy, and robot-assisted laparoscopy and uterine artery embolization are among the clinical procedures used to treat uterine fibroids¹².

2. Materials and Methods

A retrospective study of case records of women managed for uterine fibroids over a period of 6-year (January 1, 2017, to December 31, 2022) was carried out among women resident in Ogoni, Rivers State, Nigeria. The data obtained were analyzed and presented in tables as appropriate.

2.1 Inclusion criteria

- The study involves females within the age of 16-45 that were diagnosed and presented with symptoms of uterine fibroid.
- Females who underwent myomectomy and other surgical procedure in uterine fibroid.

2.2 Exclusion criteria

- Females below 16 and above 45
- Female who are not diagnosed or presented symptoms of uterine fibroid.

3. Results

Table 1 Pevalence of Uterine Fibroids among women residence in Ogoni

Year	2017	2018	2019	2020	2021	2022	Total
Files Reviewed	925	1049	1063	433	1263	1067	5800
UF positive	77	125	148	42	188	241	821
% distribution (yearly increase)	8.3%	11.9%	13.9%	9.6%	14.9%	22.6%	14.2%

Table 1 shows result of prevalence of uterine fibroid and percentage distribution.

A total of 5800 medical records were examined between 2017-2022. In the year 2017, 925 medical files were reviewed, 77 were positive of uterine fibroid, in 2018, 1049 were reviewed, 125 were noted to be presented with uterine fibroid, in 2019, 1063 files were reviewed and 148 presented cases of uterine fibroid, in 2020, 433 case file were examined. 42 showed incidence of uterine fibroid, in 2021, 1263 files were reviewed, 188 were noted to be present with uterine fibroid, in 2022, 1067 case file were examined and 241 showed positive for uterine fibroid. The least percentage (8.3%) was noted in 2017, while the highest occurrence was observed in 2022 with 22.6%.

Table 2 Age Distribution

Age	2017	2018	2019	2020	2021	2022	Total
16-25	4	7	10	6	17	21	65
26-35	60	47	73	57	132	145	514
36-45	9	15	38	31	68	81	242
Total	73	69	121	94	217	247	821

Table 2 shows that subjects between 16- 25 years had least prevalence (65) of uterine fibroid while subjects between the 26-35 years had the highest prevalence (514) of uterine fibroid

Table 3 The most occurring type of uterine fibroid

Types	Numbers
Submucosal	208
Intramural	361
Subserosal	252

Table 3 shows that the most prevalent type of uterine fibroid is intramural (361) while the least prevalent is submucosal (208).

Table 4 Baseline Characteristics and clinical presentation of patients with uterine fibroid

Parameters	Frequency (n=825)	Percentage
Left Pelvic Mass	275	33%
Pelvic Pain	205	24.8%
Menorrhagia	210	25.5%
Failure to conceive	32	3.0%
Recurrent Miscarriage	46	5.6%
Abnormal Vagina Discharge	53	6.4%

Table 4 shows that 33% of patients visited the hospital to complain of a mass located on the left side of the pelvis. This represents the highest clinical presentation while 3.0% complained of failure to conceive; which represent the least clinical presentation.

4. Discussion

The present study presents the prevalence of uterine fibroids among women in Ogoni. It also examines the age distribution, most occurring types and clinical characteristics of women with uterine fibroid in the area. Analyzing and comparing results across all studies that estimate the prevalence of uterine fibroid seems difficult due to differences in the populations, study sample size, and methodology.

The prevalence of uterine fibroids in our research population is 14.2%; This prevalence is lower than that reported in Edo State, Nigeria (19.75%)¹³, Eastern Siberia (26.41%)¹⁴ and in Uganda (28.2%)¹⁵. However, the prevalence of uterine fibroids in our research population was higher than that in Saudi Arabia (9.9%)¹⁶, Sudan (10%)¹⁷ and in Northern Nigeria (12%)¹⁸.

The Study found that the most common type of fibroids was intramural Fibroid with subserosal and submucosal showing least occurrence. This is similar to study done in South Africa where subserosa fibroid were presented with the highest incidence using data gotten from ultrasound¹⁹.

Based on the study findings, most patients had uterine fibroids that were symptomatic when presented. The commonest clinical presenting symptoms included, pelvic pain 24.8% and menorrhagia 25.5%. Other clinical features included pelvic mass 33%, failure to conceive 3.0%, recurrent miscarriage 5.6% and abdominal vaginal discharge 6.4%. These findings is in contrast with study done in Uganda with (74.4%) symptomatic with pelvic pain (72.2%), menorrhagia (63.3%), pelvic mass (22.2%) and failure to conceive (10%)²⁰.

According to the study women in the age group of 26-35 years (62.6%) were more likely to have uterine fibroids compared to other age groups, younger or older in contrast with 24.08% recorded in India²¹. It was noted in the study that cases of Uterine fibroids have been observed among women between 15-25 years with a Prevalence of 7.9%. The high occurrence of uterine fibroid among women within the 15-25 age range might be related to the high exposure to other risk factors such as reproductive tract infections and abortion considering their involvement in risky social behaviors. This is in agreement with a retrospective study done in South-South Nigeria where young women were presented with Uterine Fibroid²². It is worthy to note that there was a lower prevalence rate in 2020 (9.6%), the Covid-19 pandemic is known to contribute to this, a large proportion of uterine fibroids cases were not diagnosed and managed in the hospital. The lockdown period was associated with large decrease in clinical service utilization, especially for non-emergency patient

5. Conclusion

This study shows the rising health issues among women of reproductive age in Ogoni. The study revealed that the most prevalent type of uterine fibroid in Ogoni is intramural while the least prevalent is submucosal. It also showed that women of age 26-35 years had the highest prevalence of uterine fibroid while those of age 16- 25 years had least prevalence.

Compliance with ethical standards

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Declaration of conflicts of interest

All authors declare that they have no conflict of interest

Statement of ethical approval

Ethical approval to carry out this research was obtained from the Research and Ethics Committee, Department of Anatomy, University of Port Harcourt. Approval to access medical records was signed by Medical Directors of the respective Hospitals. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki declaration of 1975, as revised in 2000.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Isah AD, Adewole N, Agida ET, Omonua KI. A five-year survey of uterine fibroids at a Nigerian Tertiary Hospital. *Open Journal of Obstetrics and Gynecology*. 2018 May 10;8(05):468.
- [2] Aninye IO, Laitner MH, Society for Women's Health Research Uterine Fibroids Working Group. Uterine fibroids: assessing unmet needs from bench to bedside. *Journal of Women's Health*. 2021 Aug 1;30(8):1060-7.
- [3] Parker WH. Uterine myomas: management. *Fertility and sterility*. 2007 Aug 1;88(2):255-71.
- [4] Machado-Lopez A, Simón C, Mas A. Molecular and cellular insights into the development of uterine fibroids. *International Journal of Molecular Sciences*. 2021 Aug 6;22(16):8483.

- [5] Yang Q, Ali M, He S, Bariani MV, Boyer T, Al-Hendy A. N6-Methyladenosine Regulators in Prevalence and Burden of Black Women in Uterine Fibroids. *Fertility and Sterility*. 2020 Sep 1;114(3): e234.
- [6] Ogunniyi SO, Fasubaa OB. Uterine fibromyoma in Ilesha, Nigeria. *Nigerian Medical Practitioner*. 1990;19(6):93-5.
- [7] Anate M. Uterine fibroids in Federal medical Centre, Lokoja: a five year review 2002-2006. *The Nigerian Clinical Review Journal*. 2007; 1:5-12.
- [8] Baird DD, Dunson DB, Hill MC, Cousins D, Schectman JM. High cumulative incidence of uterine leiomyoma in black and white women: ultrasound evidence. *American journal of obstetrics and gynecology*. 2003 Jan 1;188(1):100-7.
- [9] Singh S, Kumar P, Rathore SS, Singh Y, Garg N. Contemporary approaches in the management of uterine leiomyomas. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2023 Jun 26.
- [10] Levens ED, Wesley R, Premkumar A, Blocker W, Nieman LK. Magnetic resonance imaging and transvaginal ultrasound for determining fibroid burden: implications for research and clinical care. *American journal of obstetrics and gynecology*. 2009 May 1;200(5):537-e1.
- [11] Khan AT, Shehmar M, Gupta JK. Uterine fibroids: current perspectives. *International journal of women's health*. 2014 Jan 29:95-114.
- [12] Datir SG, Bhake A, Datir II SG. Management of uterine fibroids and its complications during pregnancy: a review of literature. *Cureus*. 2022 Nov 4;14(11).
- [13] Elugwaraonu O, Okojie AI, Okhia O, Oyadoghan GP. The incidence of uterine fibroid among reproductive age women: A five year review of cases at isth, irrua, edo, Nigeria. *International Journal of Basic, Applied and Innovative Research*. 2013;2(3):55-60.
- [14] Atalyan AV, Suturina LV, Nadeliaeva IG, Lazareva LM, Sharifulin EM, Danusevich IN. Prevalence of uterine fibroids in women in eastern siberia: A cross-sectional study. *Menopause*. 2021; 2375:14.
- [15] Adawe M, Sezalio M, Kanyesigye H, Kajabwangu R, Okello S, Bajunirwe F, Ngonzi J. Prevalence, clinical presentation and factors associated with Uterine fibroids among women attending the Gynecology Outpatient Department at a large Referral Hospital in Southwestern Uganda. *East Africa Science*. 2022 Mar 31;4(1):48-53.
- [16] Alhashim ZM, Ibrahim YA. Awareness of uterine fibroid with prevalence and symptomatic burden among women in Saudi Arabia-A cross-sectional survey. *Medical Science*. 2020;24(105):3805-14.
- [17] Mahmoud MZ, Omer A, Adam M, Musa M, Babikir E, Sulieman A. P 30.02: Study of uterine fibroids incidence in Sudan. *Ultrasound in Obstetrics & Gynecology*. 2014 Sep;44(S1):358-.
- [18] Lawal Y, Yaro IB, Rabiou A, Emmanuel R. Prevalence and sonographic patterns of uterine fibroids in Northern Nigeria. *New Nigerian Journal of Clinical Research*. 2019 Jan 1;8(13):24.
- [19] He M, Jacobson H, Zhang C, Setzen R, Zhang L. A retrospective study of ultrasound-guided high intensity focussed ultrasound ablation for multiple uterine fibroids in South Africa. *International Journal of Hyperthermia*. 2018 Nov 17;34(8):1304-10.
- [20] Adawe M, Sezalio M, Kanyesigye H, Kajabwangu R, Okello S, Bajunirwe F, Ngonzi J. Prevalence, clinical presentation and factors associated with Uterine fibroids among women attending the Gynecology Outpatient Department at a large Referral Hospital in Southwestern Uganda. *East Africa Science*. 2022 Mar 31;4(1):48-53.
- [21] Subramaniyam NK, Kandluri V, Chadeve A, Modapu D, jyothei Dumpala A, Gudise BR, Palei NN, Kumar BJ, Pradeep B. Prevalence of Risk Factors for Uterine Fibroids at Tertiary Care Teaching Hospital: A Cross-sectional Study. *Journal of Young Pharmacists*. 2020;12(1):86.
- [22] Olotu, E J, Osunwoke EA, Ugboma HA, Odu, K N. Age prevalence of uterine fibroids in south-southern Nigeria: A retrospective study. *Scientific Research and Essays*. 2008 Sep 30;3(9):457-9.