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CLINICAL PROFILE AND SURGICAL MANAGEMENT OF UTERINE FIBROIDS IN A TERTIARY HEALTH INSTITUTION IN SOUTHERN NIGERIA.

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ABSTRACT

Background: Uterine leiomyoma is the most prevalent benign tumour of the female reproductive tract and a major contributor to gynaecological morbidity, with potential adverse effects on fertility. Although many women remain asymptomatic and are diagnosed incidentally during clinical examination or ultrasonography, a significant proportion develop symptoms that necessitate intervention. Management options may be medical or surgical and are influenced by factors such as age, parity, reproductive intentions, fibroid characteristics, and the impact of symptoms on quality of life. **Objective:** To determine the prevalence, sociodemographic characteristics, clinical presentation, and surgical outcomes of women managed surgically for uterine leiomyoma. **Methods:** This was a retrospective descriptive study of women who underwent surgical management for uterine leiomyoma at the Federal Medical Centre, Yenagoa, Bayelsa State, between 1 January 2018 and 31 December 2020. Relevant data were extracted from hospital records and analyzed using descriptive statistics.

Results: Out of 1,373 gynaecological admissions during the study period, 160 cases were due to uterine leiomyoma, yielding a prevalence of 11.7%. A total of 380 gynaecological surgeries were performed, of which 98 (25.8%) were for uterine leiomyoma. The condition was most frequently observed among women aged 30–39 years (46.9%) and nulliparous women (37.7%). The mean age of the patients was 38 years, with a mean parity of 1. Heavy menstrual bleeding (40.1%) and abdominal swelling (35.2%) were the predominant

presenting symptoms. Abdominal myomectomy was the most commonly performed procedure (74.5%), including 5.5% repeat myomectomies, followed by total abdominal hysterectomy (20.4%). Postoperative wound complications occurred in 5.1% of patients, and no mortality was recorded. **Conclusion:** Uterine leiomyoma occurs mainly among women in their third decade of life and those with low parity. Menorrhagia and abdominal swelling are the most common presenting symptoms, with abdominal myomectomy being the predominant surgical treatment. Overall surgical outcomes are favourable, with no recorded mortality.

KEYWORDS: Uterine fibroids; Surgical management; Myomectomy; Gynaecological morbidity.

INTRODUCTION

Uterine fibroids, also known as uterine leiomyomas or myomas, are benign neoplasms arising from the smooth muscle cells of the uterus, interspersed with varying proportions of connective tissue.[1,2] They represent the most frequently encountered tumours of the female genital tract.[1–3] The condition predominantly affects women of reproductive age, occurring most commonly between 20 and 50 years, with the highest incidence reported in the early to mid-thirties.[1–3]

The exact aetiology of uterine leiomyomas remains uncertain. However, several mechanisms have been proposed to explain their development, including inherent abnormalities of the myometrium, genetically acquired mutations, heightened sensitivity of uterine tissue to oestrogen due to increased receptor expression, hormonal influences, and possible responses to repeated ischemic injury during menstruation. [1–3]

Epidemiological studies have consistently shown a higher prevalence of uterine fibroids among women of African descent compared with Caucasian women, with black women often presenting at a younger age. [1,4–6] Additional risk factors associated with leiomyoma development include increasing age, positive family history, obesity, use of oral contraceptives, hormone replacement therapy in post-menopausal women, early onset of menarche, and high dietary intake of red meat. In contrast, lifestyle factors such as cigarette smoking and increased consumption of vegetables have been reported to confer a protective effect. [1,2,4]

Clinical manifestations of uterine fibroids vary widely. While many affected women remain asymptomatic particularly when the fibroids are small—others experience symptoms that

significantly impact quality of life. [7,8] These may include pelvic pressure, pelvic pain, urinary frequency, dyspareunia, recurrent pregnancy loss, preterm labour, and infertility. [1,2]

Diagnosis is often suggested by clinical examination and confirmed using pelvic ultrasonography. Additional imaging modalities such as intravenous urography may demonstrate ureteric displacement or compression, while magnetic resonance imaging (MRI) provides detailed anatomical assessment where available. Endoscopic procedures, including hysteroscopy and laparoscopy, serve both diagnostic and therapeutic roles but are limited in many low-resource settings due to cost and availability. Differential diagnoses include ovarian neoplasms, intrauterine pregnancy, and adenomyosis. [1–3]

Management strategies for uterine fibroids encompass expectant, medical, surgical, and radiological approaches. Treatment decisions are guided by the patient's age, parity, reproductive intentions, overall health status, symptom severity, and the size and location of the fibroids. [1,2,9] Asymptomatic cases are typically managed conservatively, whereas surgery remains the cornerstone of treatment for symptomatic leiomyomas. [1–3,9] Surgical options include abdominal or vaginal myomectomy, total abdominal hysterectomy, and polypectomy.

Myomectomy is associated with potential complications such as haemorrhage, postoperative infection, and adhesion formation, although pregnancy outcomes following the procedure vary, with conception rates of up to 73% reported within the first postoperative year. [1,9] For women who have completed their family, hysterectomy remains the only definitive curative treatment.[1,2]

Minimally invasive alternatives include uterine artery embolization or ligation, hysteroscopic myoma resection, myolysis, cryomyolysis, laparoscopic bipolar coagulation, and laparoscopic interstitial laser photocoagulation. Radiological interventions such as magnetic resonance-guided focused ultrasound surgery and high-intensity focused ultrasound have also emerged as treatment options. [1,2,9] Medical therapies, including danazol, antiprogestins, and gonadotropin-releasing hormone (GnRH) agonists and antagonists are commonly employed as preoperative adjuncts. These agents have been shown to reduce fibroid size, alleviate symptoms, and improve preoperative haematological status. [1,2]

OBJECTIVES:

1. To evaluate the prevalence of uterine leiomyoma.
2. To evaluate the sociodemographic status of surgically managed patients with uterine leiomyoma

3. To determine the clinical presentation of surgically managed patients with uterine leiomyoma
4. To determine the types of surgery and surgical outcome of patients with uterine leiomyoma

MATERIAL AND METHODS:

This study employed a retrospective descriptive design and reviewed cases of uterine leiomyoma managed at the Federal Medical Centre, Yenagoa (FMCY), Bayelsa State, over a three-year period from 1 January 2018 to 31 December 2020. Prior to data collection, ethical approval was obtained from the Health Research Ethics Committee of the institution.

Information on eligible patients was obtained from multiple hospital data sources, including the gynaecological ward admission and discharge registers as well as the theatre operation records. Patients' case files were subsequently retrieved from the Medical Records Department. Only records that were complete and accessible were included in the analysis, while cases with missing or irretrievable folders were excluded from the study.

Relevant clinical and demographic variables were systematically extracted using a structured data collection proforma. These variables included age, parity, presenting symptoms, type of surgical intervention performed, postoperative complications, and duration of hospital admission. The collected data were coded, entered into a spreadsheet, and analyzed using the Statistical Package for Social Sciences (SPSS) software for Windows, version 25.0. Descriptive statistical methods were applied to summarize the findings.

RESULTS

Over the study period, uterine leiomyoma constituted 160 of the 1,373 gynaecological admissions, resulting in a prevalence of 11.7%. A total of 380 gynaecological surgical procedures were carried out during the same period, of which 98 were performed for uterine fibroids, representing 25.8% of all gynaecological surgeries.

Table 1: shows Yearly distribution of cases.

Year	No of Cases	% n= 98
2017	26	26.5
2018	35	35.7
2019	37	37.8

Table 2: shows Demographic characteristics

The age of the patients ranged from 20 to 59 years with a mean of 38 years (SD= 8.2years). Age 30–39years had the highest number of cases and accounted for 46.9% (46) of cases seen during the study period.

The parity of the women ranged from 0 to 5. The Median parity was 1(0-5). Majority (37.7%) of the women were nulliparous. The prevalence of uterine fibroid among the women decreased from 37.7% in nulliparous to 5.1% in women of Para 5 and more.

Table 2: AGE DISTRIBUTION.

AGE RANGE (YEARS)	NUMBER OF PATIENTS	PERCENTAGE
20 – 29	12	12.3%
30 – 39	46	46.9%
40 – 49	31	31.6%
50 – 59	9	9.2%

Mean Age - 38 Years (SD= 8.2years)

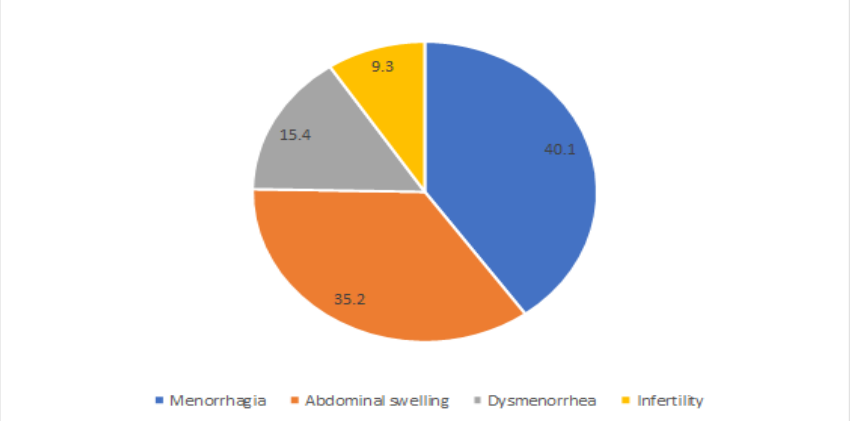
TABLE 3: PARITY DISTRIBUTION.

PARITY	NUMBER OF PATIENTS	PERCENTAGE
NULLIPARA	**37**	**37.7%**
PARA 1	**22**	**22.5%**
PARA 2	**17**	**17.4%**
PARA 3	**11**	**11.2%**
PARA 4	**6**	**6.1%**
PARA 5 OR MORE	**5**	**5.1%**

Median parity = 1(0-5)

Clinical presentation:

Menorrhagia (40.1%) was the most common symptom followed by abdominal swelling (35.2%), dysmenorrhoea (15.4%), and infertility (9.3%).



Type of surgeries:

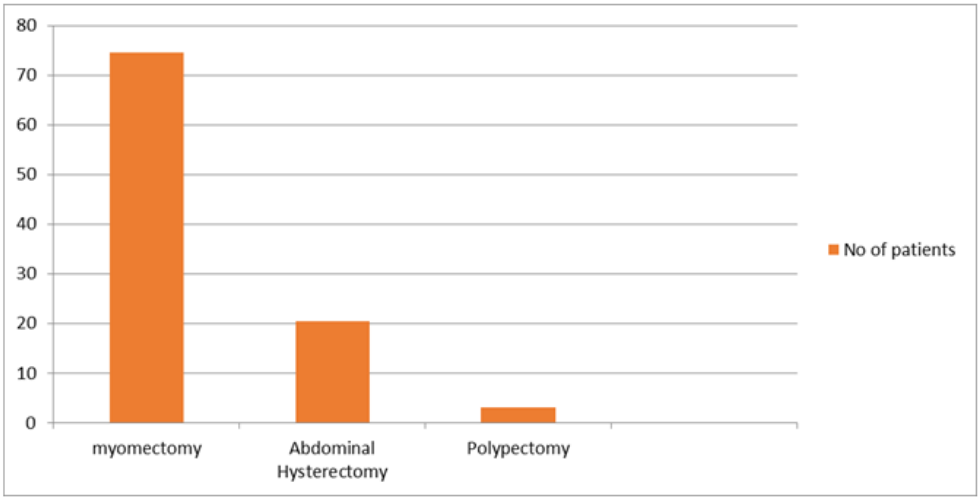


Table 4A: Analysis of cases with abdominal myomectomy.

Type	Number of cases	% n=73
Primary myomectomy	69	94.5
Repeat myomectomy	4	5.5

Table 4B: Analysis of cases with abdominal hysterectomy.

Type	Number of cases	% n=20
TAH Alone	7	35
TAH and BSO	13	65

TAH= Total abdominal hysterectomy, BSO= Bilateral salpingoophorectomy

Morbidities and Mortalities.

5.1% of the patients operated developed wound infection which necessitated prolong hospital stay and 21.4% had postoperative blood transfusions. No mortality was recorded during the study period.

DISCUSSION

Uterine fibroids, also referred to as uterine leiomyomas or myomas, are benign neoplasms originating from the smooth muscle cells of the uterus and containing variable proportions of connective tissue. [1,2] They constitute the most frequently diagnosed tumours of the female reproductive tract.[1–3] The condition predominantly affects women of reproductive age, occurring commonly between 20 and 50 years, with peak incidence reported between 31 and 35 years.[5–8]

Most cases of uterine fibroids are clinically silent, and reported incidence and prevalence vary widely depending on the population studied and the diagnostic methods employed. Higher rates have consistently been observed among black women and women of African descent. [1,7,8]

In the present study, uterine fibroids accounted for 11.7% of all gynaecological admissions. This finding is comparable to the 12.2% prevalence reported in Port Harcourt, Nigeria,[5] higher than the 6.83% reported in Akure,[10] but lower than the 18.5% reported in a population-based study among black women in the United States[4] and the 31% prevalence reported in Lagos.[11] The relatively lower prevalence observed in this and similar Nigerian studies may be attributed to the inclusion of only symptomatic women, whereas many fibroids remain asymptomatic. Among Caucasian populations, uterine fibroids are commonly diagnosed around the age of 30 years, with prevalence estimates ranging from 4.5% to 68.6%. [5]

This study demonstrated that the highest proportion of uterine fibroids (46.9%) occurred among women in their third decade of life, which is consistent with findings from other studies. [5–8,12] Although the precise explanation for this age distribution remains unclear, hormonal influences, particularly prolonged oestrogen stimulation unopposed by progesterone due to persistent anovulation have been implicated. [1,4,9,15]

Nulliparous and primiparous women constituted 60.2% of the study population, supporting previous observations that uterine fibroids are more prevalent among women with low parity and those experiencing infertility.[5,6,9,14,15] Women with at least two full-term pregnancies have been shown to have approximately half the risk of developing fibroids compared with women who have never carried a pregnancy to term.[1] Uterine fibroids occur two to three times more frequently among black women compared with White, Hispanic, and Asian populations.[1] Interestingly, women of African descent living outside the African continent appear to have a lower incidence than those residing in Africa, suggesting a possible influence of dietary and environmental factors.[1,2,4]

Clinical manifestations of uterine fibroids are diverse. In this study, menorrhagia was the most common presenting complaint, reported by 40.1% of patients. This proportion is lower than the 53.7% reported in Kano[6] and 58.8% reported in India,[13] but higher than the 31.3% reported in Port Harcourt.[5] The mechanisms underlying excessive menstrual bleeding in fibroid patients are multifactorial and may include enlargement of the uterine cavity surface area, endometrial hyperplasia, venous congestion due to obstruction of myometrial veins leading to venous ectasia, altered uterine prostaglandin balance, impaired myometrial contractility, and increased rates of anovulatory cycles.[1,2]

Abdominal swelling was observed in 35.2% of patients in this study, a figure markedly lower than the 51.2%, [5] 58.7%, [16] and 67.7% reported in Port Harcourt, Lagos, and Anambra, respectively. [17] This discrepancy may reflect earlier presentation or differences in health-seeking behaviour among the study populations.

Infertility was reported as a presenting symptom by 9.3% of the women, which is substantially lower than the 41.7% and 41.9% reported in Anambra[17] and Port Harcourt, [9] respectively. Although the association between uterine fibroids and infertility is well recognized, the extent to which fibroids directly impair fertility remains controversial. [1,5,9,18] Evidence suggests that submucosal fibroids that distort the uterine cavity may adversely affect implantation and reduce the success rates of in vitro fertilization. [1,2,4]

During the study period, surgeries performed for uterine fibroids accounted for 25.8% of major gynaecological operations, a finding comparable to the 24.7% reported in Kano. [18] Myomectomy was the most frequently performed procedure (74.5%), followed by abdominal hysterectomy (20.4%) and polypectomy (5.1%). This pattern aligns with reports from Kano[6] but differs from findings in Port Harcourt[5] and Anambra, [17] where hysterectomy was more common. The predominance of myomectomy in this study may be explained by the relatively low parity of the patients and their desire for fertility preservation.

Abdominal hysterectomy was performed in 20.2% of patients, which is similar to the 24.4% reported in Kano[18] but higher than the 2.1% reported in NDUTH by Ekine et al[9] and the 8.7% reported in Anambra. [17] Of the hysterectomies performed, 35% were total abdominal hysterectomy alone, while 65% included bilateral salpingo-oophorectomy. The decision to conserve or remove the ovaries was influenced largely by the patient's age and proximity to menopause. [1, 2]

Postoperative blood transfusion was required in 21.2% of patients, while 5.1% developed wound infection, a rate comparable to the 4.8% reported by Ibrahim et al.[6] These complications resulted in prolonged hospitalization. No deaths were recorded during the study period.

CONCLUSION:

The prevalence of uterine fibroids in this setting was 11.7%, with a surgical prevalence of 25.8%. The condition predominantly affected women in their third decade of life and those with low parity. Menorrhagia and abdominal swelling were the most frequent clinical presentations. Abdominal myomectomy was the most commonly performed surgical procedure, and surgical outcomes were favourable with no recorded mortality.

RECOMMENDATIONS

Early detection of uterine fibroids should be promoted through community education and improved access to affordable diagnostic tools such as pelvic ultrasonography. Management should be individualized, with fertility-preserving procedures like myomectomy prioritized for women desiring future pregnancies. Strengthening surgical capacity, perioperative care, and blood transfusion services can reduce complications and improve outcomes. Further multicentre studies are warranted to determine the true prevalence, risk factors, and long-term reproductive impact of fibroids in Nigerian women. Policymakers should integrate fibroid care into reproductive health programs and provide financial support to enhance access to treatment.

AUTHOR CONTRIBUTIONS

Idea/Concept: Atemie Gordon, Porbeni-Fumudoh B. Offiong, Amadi-Oyioma M Chigesilem, Awotundun B. Olusegun; Design: Gordon, Porbeni-Fumudoh B. Offiong, Amadi-Oyioma M Chigesilem, Awotundun B. Olusegun, Obodo U. Daniel; Control/Supervision: Amadi-Oyioma M Chigesilem, Awotundun B. Olusegun, Obodo U. Daniel, Clifford A Timiebi; Data Collection and/or Processing: Clifford A Timiebi, Joshua k. Stephen, Bennibor J. Onisoubuana, Warisuo S. Ariwelo.; Analysis and/or Interpretation: Awotundun B. Olusegun, Obodo U. Daniel, Clifford A Timiebi, Joshua k. Stephen; Literature Review: Clifford A Timiebi, Joshua k. Stephen, Bennibor J. Onisoubuana, Warisuo S. Ariwelo; Writing the Article: Atemie Gordon, Porbeni-Fumudoh B. Offiong, Amadi-Oyioma M Chigesilem; Critical Review: Atemie Gordon, Porbeni-Fumudoh B. Offiong, Amadi-Oyioma M Chigesilem, Awotundun B. Olusegun, Obodo U. Daniel, Clifford A Timiebi, Joshua k. Stephen, Bennibor J. Onisoubuana, Warisuo S. Ariwelo

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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ETHICAL APPROVAL

Ethical approval was obtained from the ethical committee of the Federal Medical Centre, Yenagoa, Bayelsa State.

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