



(REVIEW ARTICLE)



## Pattern of fibroid presentation and management in ESUT Teaching Hospital, Enugu: A 5-year review

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### Abstract

**Background:** Fibroids are usually under-reported. It is the most common benign pelvic tumors in women. Most women may have uterine fibroids before the age of 45 to 50 years yet, its actual prevalence is unknown. It is much commoner among women of black race and has become a major presenting pathology in many gynaecological clinics.

**Aim:** The aim of this study was to audit the pattern of presentation and the management of uterine fibroids in ESUTH

**Methodology:** This was a 5-year retrospective study conducted in ESUT Teaching Hospital, Enugu. A total of 9,588 folders were retrieved but only 596 had adequate information needed for the study and were used for the study. Data was collected from gynaecology clinics, theatre registers and patient's case notes using a structured proforma. The data was analyzed using Statistical Products and Service Solutions version 25.0

**Results:** At the end of the data collection, 9,588 women were seen at the gynaecology clinic over the 5-year period. Out of these, 596 patients diagnosed with uterine fibroids and whose case files contained the requisite information needed for the study were recruited. From the figures above, the prevalence of uterine fibroid in ESUT Teaching Hospital, Enugu, over the period was 6.2%. According to socio-demographic distribution of the patients; majority of them were aged 31-35 years (37.8%), followed by those 36-40 years (34.2%). Very few of them were aged 25-30 years (9.2%). Most of the population studied were of the Igbo ethnic group (81.7%) and majority of them (81%) were nulliparous. The major presenting symptoms among the studied population were heavy menstrual bleeding, (55.4%), abdominal swelling, (54.5%), inability to conceive, (36.4%), abdominal pain, (18.6%), incidental findings (17.8%), and polyps, (9.4%). However, some had more than one presenting complaints. Regarding treatment options, majority (64.4%) had myomectomy, 27.3% had procoagulants like tranexamic acid, 18.8% had progestogens, 18% had NSAIDs for pain and bleeding, 9.4% had polypectomy, 8.6% had GNRH-analogue, while only 1% had hysterectomy. However, 19% did not receive any treatment, while many receive more than one treatment. There were varying degrees of influence by age and parity on the clinical presentations and treatment options accepted by the patients.

**Conclusion:** The prevalence of uterine fibroid was found to be more among nulliparous women aged 24 to 30 years. A significant number presented with menorrhagia and inability to conceive. Majority of them chose myomectomy as an option of treatment.

**Keywords:** Pattern; Fibroid; Presentation; Management; Enugu

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## 1. Introduction

Uterine fibroids, otherwise known as leiomyomas are the most common gynaecological tumours among women of reproductive age worldwide [1]. They are benign monoclonal tumours of the smooth muscles found in the human uterus [2,3]. The actual prevalence is unknown, and the prevalence of fibroids reported in the literature vary significantly by study design, methods of diagnosis, ethnic composition and age distribution,[4] but available data ranges from 5 to 21% of women of reproductive age worldwide [5-8]. Self-reported prevalence of fibroids in UK was found to be 4.5% to 9.4%, and 9.8% to 17.8% in Italy [9]. In Nigeria the prevalence of uterine fibroid appears to be quite higher than the global values. In a 10-year retrospective Southern Nigerian study carried out by Olotu EJ et al, the incidence of fibroid was 51.9% between the ages of 26-35 years and 44.6% between 36-45 years [10]. A similar study found a prevalence of 33.9% [11], while in northern Nigeria the prevalence was found to be 12.1% [12].

The actual cause or aetiology of fibroids are unknown but some risk factors have been identified. They include: race, age, family history, parity, premenopausal state and diet [1,13]. The decline in the age at menarche has been suggested as one of the reasons for these rises in the prevalence of fibroids [14]. Fibroids are often asymptomatic and are incidental findings at ultrasound or hysterectomies/caesarean sections. However, symptoms occur in 25 to 50% [14-16] of patients who may present with one or more of the following: abdominal swelling, heavy menstrual bleeding, reproductive challenges/subfertility, pain, urinary frequency, constipation and anaemia.

Though not a malignant tumour, fibroids can undergo malignant transformations in less than 1% [17] of the cases but can come with a lot of discomforts requiring treatments. There are various modalities of treatment depending on several factors. The definitive treatment for fibroids is hysterectomy; however, the need to conserve fertility in most cases demands a conservative approach to the problem. Fertility conserving treatment options can either be medical or surgical. Medical treatments are not curative in nature, rather, they are employed to either ameliorate symptoms, reduce tumour size before surgery or both. Examples of medical options include use of haematinics to correct anaemia, hormonal treatment to reduce menstrual flow and build-up haemoglobin levels, or to reduce the tumor size. Many times, some of these medical options are not compatible with current attempt at conception which limits their use.

The surgical options may be laparoscopic or open abdominal surgery. Laparoscopic/minimal access surgical interventions are limited to small sized masses of about 9-10cm but definitely not more than 15cm or three fibroids of 5cm minimum [18] or submucous fibroids but giant uterine fibroids are better removed via open abdominal surgeries. Abdominal myomectomy is the most common type of surgery used to treat fibroids especially in low-resource countries among women with the desire for fertility but this can reoccur in about 15-33% of cases [19]. Magnetic Resonance-guided focused Ultrasound Surgery (MRgFUS) is gaining popularity as an alternative to medical and surgical interventions in the management of fibroids. Currently, our centre is yet to commence laparoscopic myomectomy.

Complications associated with myomectomy and hysterectomy include but not limited to haemorrhage, infections, injuries to the ureters, bladder and the gut.

### *Aims & Objectives*

The aim of this study was to audit the pattern of presentation and the management of uterine fibroids in ESUTH.

The specific objectives were to determine the:

- prevalence
- common presenting symptoms and
- major treatment options received by women who presented at the ESUT Teaching Hospital within a 5-year period.

### **1.1. Study area**

The study was carried out in ESUT Teaching Hospital, a tertiary hospital located in the capital of Enugu State, South-East, Nigeria. The centre offered tertiary healthcare in obstetrics & gynaecology and had remained the major referral centre for surrounding cities and states. It had a total of 16 consultant obstetricians/gynaecologists with their team members who ran gynaecology clinics from Mondays to Fridays every week except on public holidays. It also had a designated theatre for gynaecological procedures that operated every day of the week except weekends and public holidays, and majority of the cases done in the theatre were related to uterine fibroids.

## 2. Material and methods

This was a review of 596 out of 9,588 women that attended the gynaecology clinic over the 5-year period who had uterine fibroid. They received various modalities of treatment between December 31, 2022 and January 1, 2018. Relevant data was retrieved from gynaecology clinic record books, theatre records and patient case notes using a specialized proforma

### 2.1. Eligibility criteria

All patients who were diagnosed with uterine fibroid and were treated within the period under review and whose relevant data could be retrieved from the records were included

### 2.2. Exclusion criteria

Patients whose relevant data could not be retrieved were excluded from the study.

### 2.3. Data analysis

The data analysis was both by descriptive and inferential statistics using Statistical Products and Service Solutions (SPSS) version 25.0 for windows at 95% confidence level. Sociodemographic variables were used to categorize the data and this was subjected to comparative statistical analysis to yield frequencies means and percentages. Test of significance between class differences was by Pearson's Chi-square test for categorical variables and student's T-test for continuous variables where applicable. Odd ratio (OR) at 95% confidence interval (95%CI) was calculated using logistic regression techniques. All  $P < 0.05$  at 1 degree of freedom ( $df=1$ ) was considered statistically significant.

## 3. Results

At the end of the data collection, 9,588 women were seen at the gynaecology clinic over the 5-year period. Out of these, 596 patients that were been diagnosed with uterine fibroids and whose case files contained the requisite information needed for the study were recruited. From the figures above, the prevalence of uterine fibroid in ESUT Teaching Hospital, Enugu, over the period was 6.2%.

**Table 1** Socio-demographics of the patients

Variable	Frequency	Percentage
<b>Age</b>		
25-30 years	55	9.2
31-35 years	225	37.8
36-40 years	204	34.2
≥41 years	112	18.8
<b>Ethnicity</b>		
Igbo	487	81.7
Yoruba	58	9.7
Hausa	51	8.6
<b>Parity</b>		
0	483	81
1	55	9.2
2	58	9.7

Table 1 below showed the socio-demographic distribution of the patients; majority of them were aged 31-35 years (37.8%), followed by those 36-40 years (34.2%). Very few of them were aged 25-30 years (9.2%). Most of the population studied were of the Igbo ethnic group (81.7%) and majority of them (81%) were nulliparous.

Table 2 showed the frequency of the major presenting symptoms among the studied population. While only 17.8% were discovered as incidental findings, 55.4% had heavy menstrual bleeding, 54.5% had abdominal swelling, 36.4% had inability to conceive, 18.6% had abdominal pain 9.4% had polyps.

**Table 2** Frequency of major presenting symptoms

Variable	Frequency	Percentage
<b>Incidental findings</b>		
Yes	106	17.8
No	490	82.2
<b>Inability to conceive</b>		
Yes	217	36.4
No	379	63.6
<b>Abdominal swelling</b>		
Yes	325	54.5
No	271	45.5
<b>Heavy Menstrual loss</b>		
Yes	330	55.4
No	266	44.6
<b>Polyps</b>		
Yes	56	9.4
No	540	90.6
<b>Abdominal pain</b>		
Yes	111	18.6
No	458	81.4

**Table 3** Different treatment options received by the participants

Variable	Frequency	Percentage
<b>Conservative/Conservative</b>		
Yes	113	19
No	483	81
<b>NSAIDS</b>		
Yes	107	18
No	489	82
<b>Pro-coagulants</b>		
Yes	163	27.3
No	433	72.7

<b>Progesterone</b>		
Yes	112	18.8
No	484	81.2
<b>GNRH-Analogues</b>		
Yes	51	8.6
No	545	91.4
<b>Polypectomy</b>		
Yes	56	9.4
No	540	90.6
<b>Myomectomy</b>		
Yes	384	64.4
No	212	35.6
<b>Hysterectomy</b>		
Yes	6	1
No	590	99

Table 3 showed the different treatment options received by the patients. One hundred and thirteen (19%) did not receive any treatment, 18% had NSAIDs for pain and bleeding, 27.3% had procoagulants like tranexamic acid, 18.8% had progestogens and 8.6% had GNRH-analogue. Similarly, 9.4% had polypectomy whereas 64.4% had myomectomy and only 1% had hysterectomy.

Tables 4 to 7 revealed that there were varying degrees of influence by age and parity on the clinical presentations and treatment options accepted by the participants.

**Table 4** Association between age group and Clinical presentations

Variable	25-36 years	≥36 years	Total	X <sup>2</sup> (p value)	Odds
<b>Incidental findings</b>					
Yes	55(19.6)	51(16.1)	106(17.8)	1.01(02.6)	1.27
No	225(80.4)	265(83.9)	490(82.2)		
<b>Inability to conceive</b>					
Yes	166(59.3)	51(16.1)	217(36.4)	117.5(0.001)*	7.56
No	114(40.7)	265(83.9)	379(63.9)		
<b>Abdominal swelling</b>					
Yes	55(19.6)	0(0)	55(9.2)	66.05(0.001)*	2.04
No	225(80.4)	316(100)	541(90.8)		
<b>Heavy Menstrual loss</b>					
Yes	167(59.6)	163(51.6)	330(55.4)	3.58(0.058)	1.38
No	113(40.4)	153(48.4)	266(44.6)		
<b>Polyps</b>					
Yes	56(20)	0(0)	56(9.4)	67.42(0.001)*	2.4

No	224(80)	316(100)	540(90.6)		
<b>Abdominal pain</b>					
Yes	56(20)	55(17.4)	111(18.6)	0.49(0.48)	1.18
No	224(80)	261(82.6)	485(81.4)		

**Table 5** Association between Parity group and Clinical presentations

Variable	0	1-2	Total	X <sup>2</sup> (p value)	Odds
<b>Incidence findings</b>					
Yes	51(10.6)	55(48.7)	106(17.8)	88.38(0.001)*	0.12
No	432(89.4)	58(51.3)	490(82.2)		
<b>Inability to conceive</b>					
Yes	162(33.5)	55(48.7)	217(36.4)	8.42(0.003)*	0.53
No	321(66.5)	58(51.3)	379(63.9)		
<b>Abdominal swelling</b>					
Yes	55(11.4)	0(0)	55(9.2)	12.85(0.001)*	1.26
No	428(88.6)	113(100)	541(90.8)		
<b>Heavy Menstrual loss</b>					
Yes	330(68.3)	0(0)	330(55.4)	170.32(0.001)*	1.74
No	153(31.7)	113(100)	266(44.6)		
<b>Polyps</b>					
Yes	56(11.6)	0(0)	56(9.4)	13.13(0.1)*	1.26
No	427(88.4)	113(100)	540(90.6)		
<b>Abdominal pain</b>					
Yes	111(23)	0(0)	111(18.6)	30.41(0.001)*	1.30
No	372(77)	113(100)	485(81.4)		

**Table 6** Association between age groups and treatment options received

Variable	25-36 years	≥36 years	Total	X <sup>2</sup> (p value)	Odds
<b>Conservative/non intervention</b>					
Yes	113(40.4)	0(0)	113(19)	154.74(0.001)*	2.28
No	167(59.6)	316(100)	483(81)		
<b>NSAIDS</b>					
Yes	56(20)	51(16.1)	107(18)	1.25(0.26)	1.29
No	224(80)	265(83.9)	489(82)		
<b>Pro-coagulants</b>					
Yes	0(0)	163(51.6)	163(27.3)	196.21(0.001)*	2.83

No	280(100)	153(48.4)	433(72.7)		
<b>Progesterone</b>					
Yes	0(0)	112(35.4)	112(18.8)	119(0.001)*	2.37
No	280(100)	204(64.6)	484(81.2)		
<b>GNRH-Analogues</b>					
Yes	0(0)	51(16.1)	51(8.6)	47.38(0.001)*	2.05
No	280(100)	265(83.9)	545(91.4)		
<b>Polypectomy</b>					
Yes	56(20)	0(0)	56(9.4)	67.42(0.001)*	2.41
No	224(80)	316(100)	540(90.6)		
<b>Myomectomy</b>					
Yes	170(60.7)	214(67.7)	384(64.4)	2.88(0.09)	0.73
No	110(39.3)	102(32.3)	212(35.6)		
<b>Hysterectomy</b>					
Yes	1(0.4%)	5(1.6)	6(1.0)	154.07(0.001)*	2.13
No	279(99.6%)	311(98.4)	590(99.0)		

**Table 7** Association between parity and treatment options received

Variable	0	1-2	Total	X <sup>2</sup> (p value)	Odds
<b>Conservative/Conservative</b>					
Yes	0(0)	113(100)	113(19)	589.50(0.001)*	0
No	483(100)	0(0)	483(81)		
<b>NSAIDS</b>					
Yes	107(22.2)	0(0)	107(18)	29.03(0.001)*	1.30
No	376(77.8)	113(100)	489(82)		
<b>Pro-coagulants</b>					
Yes	163(33.7)	0(0)	163(27.3)	50.81(0.001)*	1.27
No	320(66.3)	113(100)	433(72.7)		
<b>Progesterone</b>					
Yes	112(23.2)	0(0)	112(18.8)	30.76(0.001)*	1.30
No	371(76.8)	113(100)	484(81.2)		
<b>GNRH-Analogues</b>					
Yes	51(10.6)	0(0)	51(8.6)	11.73(0.001)*	1.26
No	432(89.4)	113(100)	545(91.4)		
<b>Polypectomy</b>					
Yes	56(11.6)	0(0)	56(9.4)	13.13(0.001)*	1.27
No	427(88.4)	113(100)	540(90.6)		

<b>Myomectomy</b>					
Yes	326(67.5)	58(51.3)	384(64.4)	9.75(0.002)*	1.96
No	157(32.5)	55(48.7)	212(35.6)		
<b>Hysterectomy</b>					
Yes	0(0)	6(5.3)	6(1.0)	14.26(0.001)*	1.46
No	483(100)	107(94.7)	590(99.0)		

#### 4. Discussion

The aim of this study was to audit the pattern of presentation and the management of uterine fibroids in ESUTH. From the study the prevalence of uterine fibroid among women attending antenatal clinic in ESUT during the 5-year period was 6.2%. This is similar to the average prevalence found world wide [5-8] but quite lower than the values from around Nigeria and Africa. Olotu EJ et al [10] in a retrospective study in southern Nigeria got an incidence of 51.9% within the ages of 26-35 and 44.6% within the ages of 36-45. These values were significantly higher than our prevalence of 6.2%. but when compared with our age distributions of the condition they were similar. Both studies were retrospective studies conducted in southern Nigeria but theirs was a 10-year review as against ours of 5 years. In another study in Port Harcourt, Rivers State, Nigeria, a prevalence of 33.9% was found using ultrasound diagnosis [11]. This was way higher than our value of 6.2%. The reasons could be that they used ultrasound findings to make diagnosis while we used clinical presentations. It is a known fact that ultrasound can identify very small uterine fibroid masses that may not have any symptoms. In another study done in Nnewi, South-East, Nigeria, Ezeama CO et al [20], found a prevalence of 10.7% among gynaecological admissions. This prevalence was a little higher than our findings possibly due to the fact that they considered only inpatients in the gynaecological ward despite the fact that both were a 5-year retrospective studies. On the other hand, a study by Lawal et al [12], found a prevalence of 12.1% using ultrasound diagnosis. This, like the earlier quoted study was based on ultrasound diagnosis while our study was a retrospective study and diagnosis was based on both ultrasound (incidental) and clinical presentation. Isah AD, et al in 2013 found that fibroid constituted 6.4% of all gynaecological admissions in University of Abuja Teaching Hospital [20]. This was similar to our finding of 6.2% even though the two studies were done in different geopolitical zones of the same country with different population demographics. In a cross-sectional study in Uganda, the prevalence of uterine fibroid among women attending the gynaecology clinic in a referral hospital was found to be 28.2% [21]. This value was higher than our value of 6.2% and could be due to the differences in the population studied, type of study and the population size employed. They did a cross-sectional study of only 319 women while we did a retrospective study of 9,588 women. In Europe the prevalence was found to be 4.5-9.4% and 9.8-17.8% in UK and Italy respectively [9]. The dissimilarities in these results and ours may be explained on the basis of differences in population studied as uterine fibroids are known to be more prevalent among blacks.

Ezeama CO et al, in Nnewi, found that the commonest mode of presentation was abdominal mass (66.9%) and the least was recurrent abortion (1%) [22]. This was a little different from our own findings where 54.5% presented with abdominal swelling while the majority, 55.5%, had heavy menstrual losses. These minor differences may be due to the different challenges of record keeping in the different hospitals as both studies were retrospective and depended largely on the record-keeping and information management capabilities of the medical records department. Isah et al [20], also found that 38.4% presented with menorrhagia, 35.9% with abdominal mass, 34.3% with infertility and 24.2% with abdominal pain. These symptoms appeared to be similar to the symptoms presented by our patients but with little variations in proportion. However, menorrhagia was the commonest symptom from both studies. Furthermore, Mariam Adawe t al [21], found that the major presenting symptoms were pelvic pain (72.2%), menorrhagia (63.3%), pelvic mass (22.2%) and failure to conceive (10%). These dissimilarities could be due to the differences in the population studied and the sample size used. While our study was conducted among 9,588 women in Nigeria of sub-Saharan Africa, their study was among 319 women from Uganda of East Africa. Theirs was a cross-sectional study whereas our study was a 5-year retrospective study.

Majority (64.4%) of our patients had myomectomy and only 1% had hysterectomy. However, many received some form of medical treatment in addition. This finding differed a little from the findings by Ezeama et al [22] where they found myomectomy uptake of 90.3% and hysterectomy, 7.76%. These minor differences may have arisen as a result of the differences in sample sizes. Our sample size was 596 while theirs was 117. Similarly, Isah et al [20], found that 83.3% had myomectomy, 11.6% had hysterectomy and 6.1% had myomectomy and tuboplasty. This result was similar to our finding in which the majority (64.4%) had myomectomy as treatment whereas only 1% had hysterectomy.



## 5. Conclusion

The prevalence of uterine fibroid was found to be more among nulliparous women aged 24 to 30 years. A significant number presented with menorrhagia and inability to conceive. Majority of them chose myomectomy as an option of treatment

### *Recommendations*

We recommend early marriage and reproduction as older age and lower parity were major factors influencing the prevalence of uterine fibroid.

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## Compliance with ethical standards

### Acknowledgment

We wish to show our gratitude to the staff of the department of Obstetrics and Gynaecology of ESUT Teaching hospital for their cooperation during the process of data collection

### *Disclosure of conflict of interest*

There was no conflict of interest in the course of this work.

### *Statement of informed consent*

There was no need of an informed consent from participants as the work was a retrospective study

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