Open Access   **Research Article**

Prevalence, Knowledge and Factors Associated with Uterine Fibroids Among Women Attending Abia State University Teaching Hospital, Nigeria

Emmanuel M. Akwuruoha [1]*, Chisara C. Umezurike [2]

[1]Department of Obstetrics and Gynaecology, Abia State University Teaching Hospital, Aba, Nigeria

[2]Department of Obstetrics and Gynaecology, Rhema University Teaching Hospital, Aba, Nigeria.

*Corresponding Author: Emmanuel M. Akwuruoha, Department of Obstetrics and Gynaecology, Abia State University Teaching Hospital, Aba, Nigeria.

Abstract

Background: Uterine fibroids are common benign tumors of the female reproductive tract that contribute significantly to gynecological morbidity worldwide. Despite their high prevalence, gaps persist in awareness and understanding of risk factors among women in developing countries, including Nigeria. This study assessed the prevalence, knowledge, and associated factors with uterine fibroids among women attending the Abia State University Teaching Hospital (ABSUTH), Aba.

Methods: A descriptive cross-sectional study was conducted among 340 women aged 15–49 years at the gynecology and radiology units of ABSUTH between February and May 2025. Participants were selected using systematic random sampling. Data collection involved a pretested interviewer-administered questionnaire and pelvic ultrasonography. Descriptive statistics were computed, while chi-square tests and logistic regression were used to identify factors associated with fibroid occurrence. Significance was set at $p < 0.05$.

Results: The prevalence of uterine fibroids was 26.92%. Most respondents had good (43.12%) or fair (34.56%) knowledge of fibroids. Significant associations were found between fibroid presence and age group ($p = 0.005$), parity ($p = 0.027$), BMI ($p = 0.002$), contraceptive use ($p = 0.020$), family history of fibroids ($p < 0.001$), and knowledge level ($p = 0.035$). Pearson correlation revealed weak but significant relationships between knowledge score and variables such as age ($r = -0.162$, $p = 0.003$) and BMI ($r = 0.124$, $p = 0.022$).

Conclusion: Uterine fibroids are prevalent among women at ABSUTH, with many demonstrating suboptimal knowledge. Key determinants include age, parity, BMI, contraceptive use, family history, and level of knowledge. Targeted health education and early screening are essential to improve awareness and reduce fibroid-related complications.

Keywords: uterine fibroids; prevalence; risk factors; women's health; ultrasonography

Introduction

Uterine fibroids (also known as leiomyomas) are benign smooth-muscle tumours arising within the uterus. Globally, they affect approximately 20% to 80% of women by the age of fifty, with estimates around 171 million women impacted as of 2013 [1]. In women of African descent, including Nigerians, both prevalence and symptom severity are disproportionately higher, making them a major public health concern [1].

Among Nigerian women in particular, facility-based studies have documented consistently high prevalence rates. A comprehensive transvaginal ultrasound population-based study reported a fibroid prevalence of 45% in a cohort of Nigerian women [2]. These findings

align with other Nigerian tertiary centre reviews. Research from Ebonyi and Nnewi revealed that fibroids constituted 13.6% of gynecological admissions, with common presentations including infertility, abdominal mass, menstrual abnormalities, pain, and anaemia leading most often to surgical interventions such as myomectomy [3]. Nationally, studies suggest even higher rates: symptomatic fibroids account for a large proportion of gynecological admissions and surgical interventions, with hospital-based prevalence ranging from 20% to nearly 30% in tertiary institutions [4]. Such high rates may reflect both the true burden and the tendency for late presentations when complications are more severe.

Clinically significant fibroids present with a spectrum of symptoms including menorrhagia, pelvic pain or pressure, abdominal mass, urinary frequency, constipation, and reproductive issues such as subfertility and miscarriage [5]. Nigerian women typically present late, often with large tumors, increasing their risk of surgical complications and leading to more invasive interventions such as abdominal myomectomy or hysterectomy [6]. Beyond prevalence and clinical presentation, several socio-demographic and reproductive factors have been implicated. Nulliparity, obesity, positive family history, late menarche, early menarche, and high parity show significant associations with increased fibroid risk [5]. Studies in Uganda, for example, reported increased risk in women aged 31–50 years, those overweight or obese and with marital separation, while delayed menarche had a protective effect [7].

Understanding and awareness of fibroids are uneven. In Lagos, almost all women diagnosed with fibroids had heard of the condition, but misconceptions were common: many believed fibroids were spiritual in origin, hereditary, or linked to being nulliparous, with a substantial number delaying hospital consultation due to fear of surgery or preference for spiritual healing [5]. This aligns with broader reports in Nigeria citing low disease knowledge, cultural stigmas, misinformation, and low health literacy as barriers to early diagnosis and management [8,9]. Risk factors identified among Nigerian women include age over 30, nulliparity, obesity, hypertension, family history, diets high in red meat and low in fruits and vegetables, vitamin D deficiency, and hormonal imbalances [10]. While surgical management remains the principal treatment modality due to limited access to less invasive options such as uterine artery embolization or hormonal therapies, growing evidence highlights the substantial negative impact fibroids have on women's health-related quality of life. Up to 70% of treated women report major improvements in symptoms and well-being following myomectomy [11].

In addition to biological risk factors, knowledge and perception of fibroids influence health-seeking behaviour in Nigeria. A Lagos study found that although most women had heard of fibroids and understood some risk factors like obesity, two-thirds believed fibroids to have spiritual causes. This belief led to spiritual help-seeking behaviors before consulting healthcare providers [5]. Furthermore, limited health literacy, cultural stigma surrounding gynecological diseases, and poor healthcare access reinforce late presentation, which often necessitates surgical management [12,13]. Despite the burden, research on awareness or knowledge among patients remains comparatively sparse in Abia State. Most existing studies focus on prevalence and clinical patterns, leaving a gap in understanding women's knowledge, perceptions, and associated factors in ABSUTH. Such insights are crucial, as they directly affect timing of presentation, treatment choices, and outcomes. This study aims to fill critical knowledge gaps by assessing prevalence, awareness, and associated factors of uterine fibroids among women in Abia State.

Materials And Methods

Study Design

This study adopted a descriptive cross-sectional design aimed at determining the prevalence, knowledge, and associated factors of uterine fibroids among women attending Abia State University Teaching Hospital (ABSUTH), Aba, Nigeria. The design was appropriate for capturing data from a defined population at a specific point in time, enabling the assessment of both disease occurrence and associated risk factors simultaneously.

Study Area

The study was conducted at the Gynecology Clinic and Radiology Department of Abia State University Teaching Hospital (ABSUTH), located in Aba, Abia State, Nigeria. ABSUTH is a tertiary healthcare facility that serves a wide catchment area including both urban and rural communities across South-east Nigeria. The hospital has well-established

departments for obstetrics and gynecology, diagnostic imaging, and laboratory services, making it an ideal setting for this research.

Study Population

The study population comprised women aged 15 to 49 years who attended the Gynecology Clinic and Radiology Department of ABSUTH for gynecological evaluation, antenatal care, or diagnostic imaging during the study period.

Inclusion Criteria

- Women aged between 18 and 49 years.

- Women who gave informed consent to participate.

- Women attending ABSUTH for gynecologic-related issues or general reproductive health checks.

- Women diagnosed with or without uterine fibroids by pelvic ultrasonography.

Exclusion Criteria

- Women with a previous hysterectomy.

- Women with a known diagnosis of other gynecologic tumors or malignancies.

- Women unwilling to participate or who declined consent.

- Pregnant women with advanced gestational age where ultrasonographic visualization of fibroids was difficult.

Sample Size Determination

The sample size was calculated based on Cochran's formula for population proportion estimation, following the methodology described by Ezebuiro et al. [14]:

$$n = \frac{Z^2(Pq)}{e^2}$$

The formula components are defined as follows:

- *n* represents the minimum required sample size.

- *Z* is set at 1.96, corresponding to a 95% confidence level.

- *P* denotes the established prevalence of uterine fibroids in Nigeria.

- *e* signifies the allowable margin of error, fixed at 5% (0.05).

- q = 1 - p

A recent study conducted by Nonye-Enyidah et al. [4] reports the prevalence of uterine fibroids in southern Nigeria is 27.8%

P = 27.8% = 0.278

q = 1 − 0.278

= 0.722

$$n = \frac{(1.96)^2(0.278 \text{ x } 0.722)}{(0.05)^2}$$

$$n = \frac{3.8416 \text{ x } (0.2007)}{0.0025}$$

$$n = \frac{0.771}{0.0025} = 308.43$$

Although the initially calculated minimum sample size was 308, it was increased to 340 to accommodate an anticipated 10% rate of non-response.

Sampling Technique

A systematic random sampling technique was employed. Based on the clinic's average weekly attendance of approximately 100 women and the data collection period of 12 weeks, the sampling interval was determined as:

$$k = \frac{\text{Total Population}}{\text{Sample Size}} = \frac{1200}{340} = 3.53 \sim 4$$

Every fourth eligible woman was selected after the first respondent was chosen randomly on each clinic day.

Data Collection Instruments

A pretested, semi-structured interviewer-administered questionnaire was used for data collection. The questionnaire was developed based on extensive literature review and had four major sections: Socio-demographic characteristics, Reproductive and medical history, Knowledge of uterine fibroids as well as Risk factors and lifestyle attributes. The questionnaire was pretested on 20 women attending another nearby facility to assess clarity, reliability, and internal consistency. Necessary adjustments were made based on pretest results.

Clinical and Ultrasonographic Assessment

All respondents underwent pelvic ultrasonography (transabdominal or transvaginal, depending on indication and consent) to determine the presence of uterine fibroids. Sonographic diagnosis of fibroids was based on standard criteria including the presence of well-defined, hypoechoic, heterogeneous masses within the uterine wall. The size, number, and location of fibroids were recorded for each confirmed case.

Ultrasound examinations were conducted by trained radiologists and gynecologists using standardized machines (GE Voluson P8) under consistent scanning protocols.

Variables Measured

- **Dependent Variable**: Presence of uterine fibroids (Yes/No)

- **Independent Variables**: Age, marital status, parity, age at menarche, BMI, contraceptive use, family history of fibroids, educational level, smoking and alcohol use, knowledge score.

The knowledge score was computed from responses to 10 questions regarding symptoms, risk factors, and complications of uterine fibroids. Each correct response earned 1 point, for a maximum of 10 points. Scores ≥7 were categorized as "good knowledge", 4–6 as "fair knowledge", and <4 as "poor knowledge".

Ethical Considerations

Informed written consent was obtained from all participants after detailed explanation of the study's purpose, procedures, risks, and benefits. Confidentiality was maintained by de-identifying data and restricting access to only the research team.

Data Management and Statistical Analysis

Collected data were coded and entered into IBM SPSS Statistics version 26 for analysis. Descriptive statistics (frequencies, means, standard deviations) were used to summarize categorical and continuous variables. The prevalence of uterine fibroids was calculated as the proportion of women diagnosed via ultrasound.

Bivariate analysis using Chi-square and t-tests was conducted to identify associations between independent variables and the presence of uterine fibroids. Variables with $p < 0.05$ in bivariate analysis were entered into a multivariate logistic regression model to identify independent predictors of uterine fibroids. Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) were reported.

Study Duration

The study was conducted over a 12-week period, from February to May 2025, including preparation, data collection, and preliminary analysis phases.

Results

Out of 340 administered questionnaires, 327 were valid for analysis, yielding a 96.18% valid response rate. The majority of respondents were aged 35–44 years (37.61%), followed by those aged 25–34 years (29.66%) (Table 1). Most were married (66.67%), and a significant proportion had tertiary education (45.56%). Regarding parity, 34.26% had 3–4 children, while 21.41% had five or more. Age at menarche was most commonly between 14–15 years (38.84%) (Table 2). BMI assessment showed 39.45% of respondents had normal weight, 33.03% were overweight, and 23.85% were obese.

Most respondents (91.13%) had heard of fibroids, though only 66.97% knew symptoms, 59.94% knew risk factors, and 53.21% were aware of complications (Table 3). Knowledge scores revealed that 43.12% had good knowledge, 34.56% fair, and 22.32% poor. Hormonal contraceptive use was reported by 41.89%, and 34.86% had a family history of fibroids. Alcohol use was noted in 31.19%, while 6.42% reported smoking (Table 4).

Ultrasound results revealed a fibroid prevalence rate of 26.92% among participants (Figure 1). Among those diagnosed, 58.24% had a single fibroid while 41.76% had multiple. The most common location was intramural (42.86%), followed by subserosal (32.96%) and submucosal (24.18%). The average fibroid size was 4.3 ± 1.9 cm (Table 5).

Chi-square analysis (Table 6) showed significant associations between uterine fibroids and age group ($p = 0.005$), parity ($p = 0.027$), BMI ($p = 0.002$), contraceptive use ($p = 0.020$), family history ($p < 0.001$), and knowledge level ($p = 0.035$). However, marital status and age at menarche were not significantly associated. Pearson's correlation (Table 7) indicated a weak negative correlation between knowledge score and age ($r = -0.162$, $p = 0.003$), and parity ($r = -0.109$, $p = 0.041$), while BMI had a weak positive correlation ($r = 0.124$, $p = 0.022$). Knowledge score did not significantly correlate with fibroid size ($p = 0.073$).

Variable	Frequency (n = 327)	Percentage (%)
Age Group (years)		
15–24	42	12.84
25–34	97	29.66
35–44	123	37.61
45–49	65	19.88
Marital Status		
Single	66	20.18
Married	218	66.67
Divorced/Separated	29	8.87
Widowed	14	4.28
Educational Level		
No formal education	17	5.20
Primary	48	14.68

Secondary	113	34.56
Tertiary	149	45.56

**Table 1:** Socio-demographic Characteristics of Respondents

Variable	Frequency (n = 327)	Percentage (%)
Parity		
0	49	14.98
1–2	96	29.36
3–4	112	34.26
≥5	70	21.41
Age at Menarche (years)		
<12	28	8.56
12–13	113	34.56
14–15	127	38.84
>15	59	18.04
BMI Category		
Underweight (<18.5)	12	3.67
Normal (18.5–24.9)	129	39.45
Overweight (25–29.9)	108	33.03
Obese (≥30)	78	23.85

Table 2: Reproductive and Medical History

Variable	Frequency (n)	Percentage (%)
Heard of Fibroids	298	91.13
Knows Symptoms	219	66.97
Knows Risk Factors	196	59.94
Knows Complications	174	53.21
Overall Knowledge Score		
Good (7–10)	141	43.12
Fair (4–6)	113	34.56
Poor (<4)	73	22.32

Table 3: Knowledge about Uterine Fibroids (n = 327)

Variable	Frequency (n)	Percentage (%)
Smoker	21	6.42
Alcohol Use	102	31.19
Hormonal Contraceptive Use	137	41.89
Family History of Fibroids	114	34.86

Table 4: Lifestyle and Family History (n = 327)
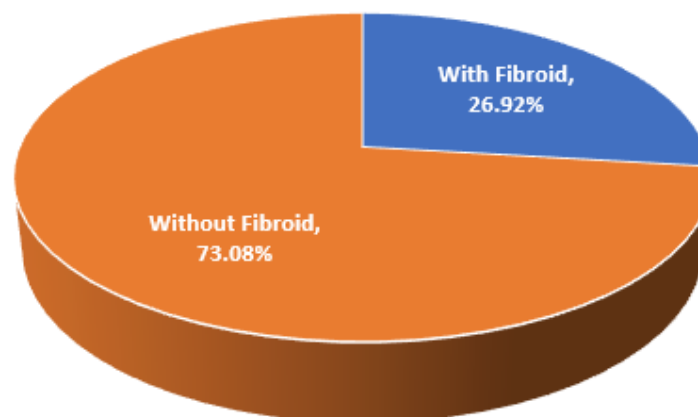
Figure 1: Prevalence of Uterine Fibroid

Variable	Frequency (n)	Percentage (%)
Number of Fibroids		
Single	53	58.24
Multiple	38	41.76
Location of Fibroid		

Intramural	39	42.86
Submucosal	22	24.18
Subserosal	30	32.96
Average Size (cm)	Mean ± SD	4.3 ± 1.9

Table 5: Clinical and Ultrasonographic Findings (n = 327)

Variable	χ^2 Value	df	p-value	Significant?
Age Group	12.73	3	0.005	Yes
Marital Status	4.92	3	0.177	No
Parity	9.14	3	0.027	Yes
Age at Menarche	7.65	3	0.054	No
BMI	14.81	3	0.002	Yes
Contraceptive Use	5.42	1	0.020	Yes
Family History	20.89	1	<0.001	Yes
Knowledge Category	6.71	2	0.035	Yes

Table 6: Chi-square Test of Association Between Uterine Fibroids and Independent Variables

Variable	r-value	p-value	Interpretation
Age	-0.162	0.003	Weak negative correlation
BMI	0.124	0.022	Weak positive correlation
Parity	-0.109	0.041	Weak negative correlation
Knowledge Score vs Size	-0.094	0.073	Not significant

Table 7: Pearson's Correlation Between Knowledge Score and Continuous Variables

Discussion

Uterine fibroids are among the most common benign tumors in women of reproductive age. Understanding their prevalence, associated risk factors, and level of awareness is crucial for improved reproductive health interventions in Nigeria. This present study screened 327 valid questionnaires and revealed a uterine fibroid prevalence of 26.92%. This figure aligns with the 20–40% prevalence reported in clinical and imaging studies in Nigeria and other countries of the world [4,7,15,16]. However, a 2023 population-based study across central Nigeria found a higher (45.1%) prevalence via transvaginal ultrasound [2]. The discrepancy may stem from methodological differences. This study utilized self-report questionnaires supplemented by clinical evaluation, whereas the ACCME study directly used ultrasound, which typically uncovers more asymptomatic cases.

Regarding socio-demographic factors, age and parity were significantly associated with fibroid presence. Women aged 35–44 comprised the largest age group (37.6%), and age showed a positive, though nonlinear, association with fibroids in chi-square (p=0.005) and a weak negative correlation with knowledge (r = –0.162, p=0.003). These findings mirror global and local literature, which consistently report that fibroid risk increases with age until menopause [2]. Parity was also significantly related to fibroid prevalence in this study (χ^2 = 9.14, p = 0.027), and a weak inverse correlation (r = –0.109, p = 0.041) between parity and knowledge scores was also observed. These observations align with findings from the ACCME cohort, which showed each additional childbirth reduced fibroid risk by about 17% (OR = 0.83, p = 0.002) [2]. Similarly, studies in coastal Karnataka reported an inverse relationship between parity and fibroids [17].

Body mass index (BMI) in our respondents revealed 56.88% were overweight or obese, with BMI significantly associated with fibroids (χ^2 = 14.81, p = 0.002) and a weak positive correlation (r = 0.124, p = 0.022) between BMI and knowledge. This is consistent with global studies indicating obesity as a strong risk factor; for example, fibroids have been shown to be 2–3 times more prevalent in women with high BMI [17]. Hormonal contraceptive use, reported by 41.9% of participants, was significantly associated with fibroids in this study (χ^2 = 5.42, p = 0.020). The literature remains mixed about this relationship. While ACCME found no significant link with oral contraceptives [5], some studies differentiate between contraceptive types [4,7,15].

A family history of fibroids emerged as the strongest predictor in this present study (χ^2 = 20.89, p < 0.001), a finding that echoes robust genetic predisposition evidence. Family history was cited as a significant risk factor in other Nigerian studies, with around one-third of participants reporting this history [2]. Knowledge assessment showed 91.1% of respondents had heard about fibroids, 67.0% could identify symptoms, but only 43.1% had a good knowledge score overall. The finding that women with "good" knowledge were more likely to have fibroids (χ^2 = 6.71, p = 0.035) might suggest that awareness increases once the condition is personally experienced. A similar perception study from India indicated roughly two-thirds of women demonstrated average knowledge, with poor awareness linked to late presentation [17]. A Lagos-based study also reported limited symptom awareness despite high levels of nominal fibroid knowledge [5].

Clinical and ultrasonography data from this study showed a predominance of single fibroids (58.2%), primarily intramural in location (42.9%), with a mean size of 4.3 cm (±1.9 cm). This is consistent with findings in other African cohorts. For example, multiple fibroids were observed in 41.8% of cases in Akure, while intramural types accounted for over 60% of cases on imaging assessments [18]. In this study, the age at menarche (<12, 12–13, 14–15, >15) showed no significant association with fibroids in your study (p = 0.054), consistent with the ACCME study and other global literature that reports mixed or null associations between early menarche and fibroid risk [2].

Conclusion

This study's prevalence estimate of 26.9% is within the expected range for Nigerian clinical settings yet lower than ultrasound-based studies that often capture asymptomatic cases. The significant associations with age, parity, BMI, contraceptive usage, family history, and knowledge categories are consistent with international and Nigerian data, strengthening the understanding of fibroid risk factors in Nigerian women. The lack of association with early menarche similarly mirrors current literature trends. Although awareness is relatively high, significant knowledge gaps remain. Educational and preventive strategies targeting identified risk groups are recommended.

References

1. Sefah, N., Ndebele, S., Prince, L., Korasare, E., Agbleke, M., et al., (2023). Uterine fibroids - Causes, impact, treatment, and lens to the African perspective. Frontiers in pharmacology, 13, 1045783.
2. Adebamowo, C. A., Adebamowo, S. N., & ACCME Research Group as part of the H3Africa Consortium (2023). Population-based study of the reproductive risk factors for Transvaginal Ultrasound diagnosed Uterine Fibroids in Nigerian women. Research square, rs.3.rs-2917100.
3. Obuna, J. A., Umeora, O. U., Ejikeme, B. N., & Egwuatu, V. E. (2008). Uterine fibroids in a tertiary health centre South East Nigeria. Nigerian journal of medicine: journal of the National Association of Resident Doctors of Nigeria, 17(4), 447–451.
4. Nonye-Enyidah, E. I., Esiogu, L. F., Esiogu, B. C., Amadi, S. C., & Gogo, M. A. (2025). Prevalence, Clinical Presentation and Management Options of Uterine Fibroids in a Nigerian Tertiary Institution. International Journal of Research and Reports in Gynaecology, 8(1), 18–26.
5. Adegbesan-Omilabu, M. A., Okunade, K. S., & Gbadegesin, A. (2013). Knowledge of, Perception of, and Attitude towards Uterine Fibroids among Women with Fibroids in Lagos, Nigeria. Scientifica, 2014(1), 809536.
6. Akinola, L. A., Okohue, J., Ikechebelu, J., Alabi, C. O., & Olumodeji, A. M. (2022). Approach to adhesion prevention following hysteroscopic myomectomy by endoscopic gynaecologist in Nigeria. African Journal of Reproduction and Gynaecological Endoscopy, 7(1), 51–55.
7. Adawe, M., Sezalio, M., Kanyesigye, H., Kajabwangu, R., Okello, S., et al., (2022). 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, 4(1).
8. Ezebuiro, E. I., Adesina, O. O., Alumona, F. C., Abali, I. O., Ezirim, E. O., et al., (2024). Awareness and acceptance of obstetric epidural analgesia among expectant mothers in Southeast Nigeria. International Journal of Reproductive Research, 3(2).
9. Onyemereze, C. O., Ezirim, E. O., Akwuruoha, E. M., Adesina, O. O., Alumona, F. C., et al., (2024). Knowledge and attitude towards obstetric epidural analgesia among pregnant women in Southeast Nigeria. EC Gynaecology, 13(11), 1–12.
10. Ogunjumelo, B. (2025). Uterine fibroids in Nigeria: Prevalence, challenges and management. FAWCO.
11. Micić, J., Macura, M., Andjić, M., Ivanović, K., Dotlić, J., et al., (2024). Currently Available Treatment Modalities for Uterine Fibroids. Medicina, 60(6), 868.
12. Onyemereze, C. O., Akwuruoha, E. M., Ezirim, E. O., Adesina, O. O., Ikegwuonu, S. N., et al., (2024). Knowledge, attitude, and practice (KAP) toward cervical cancer screening among women in Southeast Nigeria. International Journal of Clinical and Molecular Oncology, 3(2), 1–11.
13. Ikegwuonu, S. N., Ewenyi, E. O., Onuah, I. A., Alumona, F. C., Abali, I. O., et al., (2024). Awareness and prevalence of cervical cancer among women of reproductive age in Southeast Nigeria. Journal of Cancer Management and Research, 2(2), 1–12.
14. Ezebuiro, E. I., Abali, I. O., Akenroye, S.G., Onyemereze, C. O., & Airaodion, A. I. (2025). The Role of Male Involvement in Family Planning and Contraceptive Use in Nigeria. Journal of Counselling and Family Therapy, 7(1), 30–37.
15. Olotu, J. E., & Okon, M. (2021). Anatomical location of uterine fibroids among women attending a tertiary health facility in a southern Nigerian population. GSC Biological and Pharmaceutical Sciences, 14(2), 7–15.
16. Alex, G. S., Olotu, E. J., Edet, I. E., Nwizia, B. P., & Ernest, D. E. (2024). Prevalence of uterine fibroids among women resident in Ogoni, Rivers State, Nigeria. International Journal of Life Science Research Archive, 6(2), 27–31.
17. Amruta, C., Shetty, A., Pawaskar, N., & Desai, S. (2020). Association between uterine leiomyoma with body mass index and parity in the women of coastal Karnataka, India. International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 9(2), 7784.
18. Ukwenya, O. V., Maduemezia, N., Afolayan, O., Alese, O., & Thomas, W. (2015). Prevalence of uterine fibroid in a South-Western Nigerian population: A sonographic study. Journal of Experimental and Clinical Anatomy, 14(1), 24–29.

Ready to submit your research? Choose Auctores and benefit from:

> ➢ fast, convenient online submission
> ➢ rigorous peer review by experienced research in your field
> ➢ rapid publication on acceptance
> ➢ authors retain copyrights
> ➢ unique DOI for all articles
> ➢ immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more   https://www.auctoresonline.org/journals/journal-of-clinical-research-and-reports