

## Original Research Article

# Incidence of fibroid and its effects on fertility in Eleme local government area of Rivers State

Barinua K. Gbaranor<sup>1</sup>, Clinton D. Orupabo<sup>2\*</sup>, Nazor P. Barinua Gbaranor<sup>3</sup>, Peace E. Okpara<sup>1</sup>, Progress D. Victor<sup>2</sup>

<sup>1</sup>Department of Human Physiology, <sup>2</sup>Department of Human Anatomy, College of Medical Sciences, Rivers State University, Nkpulu-Oroworukwo, Port Harcourt, Nigeria

<sup>3</sup>Department of Office and Information Management, Faculty of Management Sciences, Rivers State University, Nkpulu-Oroworukwo, Port Harcourt, Nigeria

**Received:** 02 March 2020

**Accepted:** 27 March 2020

### \*Correspondence:

Dr. Clinton D. Orupabo,

E-mail: [clinton.orupabo@ust.edu.ng](mailto:clinton.orupabo@ust.edu.ng)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Fibroid is a gynaecological problem that affects women of reproductive age across the globe especially among the black race. This study was done to evaluate the incidence of fibroid and its effects on fertility in Eleme Local Government Area.

**Methods:** It is a cross-sectional study with 60 participants aged 18-28 years, 29-39 years, 40-49 years, 50-59 years and >60 years.

**Results:** The study revealed that 90% of the respondents have fibroid and 10% do not have fibroid. The effects range from painful menstruation, heavy menses, irregular menstruation and infertility at the values of 63.3%, 48.3%, 51.7% and 86.8% respectively.

**Conclusions:** Though the effects of fibroids are universal, our study population seems to show some effects more common to them.

**Keywords:** Effects, Fibroid, Fertility, Incidence

## INTRODUCTION

Fibroids or leiomyomata are benign tumours of the uterine smooth muscle and may be found at any anatomical location containing smooth muscle cells.<sup>1,2</sup>

Uterine fibroids are common and affect 20-25% of all women aged 30 years and above. However a peak age group for clinically important fibroids is between 30-34 years.<sup>1,3</sup> Buttram 1986 in his research stated that Leiomyomas tend to be multiple and slow growing.<sup>4</sup> The various locations at which fibroids may be found are intramural, subserous, submucous, pedunculated, cervical, intraligamentary and parasitic.<sup>1</sup> Fibroids are surrounded by a pseudocapsule of alveolar tissue and have two large vessels to nourish the tumour.<sup>4</sup>

The risk factors associated with fibroid include high maternal age, race which is 3-5x commoner in blacks, positive family history of fibroid, parity which is commoner in the nulliparous or low parity women, stress, diet, tobacco smoking and caffeine consumption as well as endogenous and exogenous hormonal factors.<sup>5</sup> Park and colleagues, 2008 also reported that estrogens may also stimulate the proliferation of leiomyoma cells by activating ATP sensitive potassium channels.<sup>6</sup>

Though fibroids may not be direct cause of infertility in majority of cases, 2 to 3% of cases of infertility may be attributed to the effects of myomas with the exclusion of all other causes.<sup>7-9</sup> Hence the cause of infertility could be a consequence of the complications of the fibroid or the aftermath effects of surgery due to fibroid. Again

intramural or sub mucous fibroids are bigger in size and could be other risk factors causing the infertility.<sup>7,8</sup>

## METHODS

A cross-sectional study was carried out among women in a community health centre, Eleme and the study lasted for about four weeks within the month of October 2019. 60 women who were within age range of 29-39 years, 40-49 years, and 50-59 years participated in the study. Only women who were within their reproductive period were selected for the study. However most of the participants reached were already 29 years and above. This may have impacted the study negatively though. The questionnaires were well structured and with ease of comprehension for the participants. They were administered to participants by the research assistant after obtaining informed consent.

### Exclusion criteria

- Any woman who was above 60 years and below 18 years was excluded from the study.

### Inclusion criteria

- Any woman within her reproductive period, whether they are premenopausal or postmenopausal. All young women irrespective of their marital status were included in the study.

Statistical analysis was done using Microsoft Excel.

## RESULTS

The age distribution of the participants include 29-39 years, 73.7% (42/57), 40-49 years, 24.6% (14/57) and 50-59 years, 1.8% (1/57) and with a null response of 3 (Table 1).

**Table 1: Age distribution of participants.**

Age range	Frequency	Percentage (%)
29-39	42	70.0
40-49	14	23.3
50-59	1	1.7
Total	57	95

Null response=3 (5%)

Most of the participants were within their reproductive age group, hence the need to consider the effects of fibroid on fertility. A larger proportion of the respondents were within the age group of 29-39 years (73.7%). Previous studies have shown that incidence of fibroid is higher between 30-34 years, hence making this study significant in exploring the effects on fertility. 90% (54/60) of respondents have had a fibroid and 10% (6/60) have not had a fibroid (Table 2). This is high for population under study. Among this group, 18.5% (10/54) had confirmed their diagnosis of having a fibroid through abdominal

ultrasound scan while 81.5% (44/54) had confirmed by the clinical findings of a medical specialist. Difficulty in conception ranked highest (86.8%) as some effects of fibroid among this participants (Table 3). This however is not strange as previous studies documented that fibroid is a major cause of infertility. 63.3% of the participants had dysmenorrhoea as one of the effects of fibroid. Effects like irregular menses and menorrhagia were also significant for this data with 51.7% and 48.3% respectively.

**Table 2: Incidence of fibroid among respondents.**

Response	Frequency	Percentage (%)
Yes	54	90.0
No	6	10.0
Total	60	100.0

**Table 3: Common effects of fibroid among respondents.**

Effects	Frequency			
	Yes (N)	%	No (N)	%
Painful menses	38	63.3	22	36.7
Heavy menstrual flow	29	48.3	31	51.7
Irregular menstrual cycle	31	51.7	29	48.3
Difficulty in conception	46	86.8	7	13.7

N=number of respondents, %=percentage

## DISCUSSION

Fibroid is a medical condition that affects women of reproductive age and may reduce the chances of getting pregnant. This condition affects the psychosocial life of the woman. High maternal age and delayed conception has been implicated as risk factors to developing fibroid as could be inferred from this study. Most of the respondents fall into the age class of 29 to 39 and 40 to 49, which could have explained the reason for having high fibroid incidence in the population under study. As much as 90% of this study population have a positive history of fibroid. This is in consent with studies by Novak and Woodruff, who stated that fibroids are more common among black women and nulliparous women.<sup>9</sup>

Likewise Payson and his associates, reported that fibroid prevalence increases in the late reproductive age group, and that blacks are more commonly affected.<sup>10</sup> In same vein, Marshall et al, 1997 reported in their study for asymptomatic women aged 18-30 years that prevalence was found to be 26% among black women and 7% among white women. This earlier study on determinants of delayed conception provided an elaborate discourse on uterine fibroid and the subject of infertility.<sup>3,11</sup>

Although most of the respondents are married, the study by Payson et al, documented that fibroid incidence was

higher in singles with advanced age.<sup>10</sup> However though this is a popular fact, this study reveals that fibroid incidence was higher irrespective of singlehood or married. Hence advanced maternal age could be the major factor here. This study shows no uniqueness to fibroid occurrence whether in singles or married.

Most of the respondents reported difficulty in conception and dysmenorrhoea as common effects of their uterine fibroid with values of 86.8% and 63.3% respectively. Other effects include irregular menstrual flow and menorrhagia. This is in agreement with the study by Wise et al, who documented heavy menses and infertility as major effects of uterine fibroid.<sup>12</sup> They also reported increased urinary frequency, incontinence, constipation, abdominal bloating and dyspareunia. These effects would however be influenced by the size and location of these fibroids.

## CONCLUSION

Uterine fibroid is a common gynaecologic problem affecting the reproductive life of women. Hence exploring the effects and clinical presentation could aid in early diagnosis and treatment which would further reduce pre- and- post surgical complications.

## ACKNOWLEDGEMENTS

Authors appreciate and thank all colleagues who played active roles in this research.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Ikpeze OC. Fundamentals of Obstetrics and Gynaecology. 1st ed. Onitsha: Africana First Publishers PLC; 2009:177.
2. Marshall FC, Uson AC, Melicow MM. Neoplasms and caruncles of the female urethra. Surg Gynecol Obstet. 1960;110:727-32.
3. Gbaranor BK, Barinua-Gbaranor NP, Orupabo CD, Kalio DG, Okpara PE. Determinants of Delayed Desired Conception among Reproductive Women of Port Harcourt. IOSR-JDMS. 2020;19(3):60-5.
4. Buttram JV. Uterine leiomyomata--aetiology, symptomatology and management. Progr Clin Biol Res. 1986;225:275-96.
5. Pavone D, Clemenza S, Sorbi F, Fambrini M, Petraglia F. Epidemiology and risk factors of uterine fibroids. Best Pract Res Clin Obstet Gynaecol. 2018 Jan 1;46:3-11.
6. Park SH, Ramachandran S, Kwon SH, Cha SD, Seo EW, Bae I, et al. Upregulation of ATP-sensitive potassium channels for estrogen-mediated cell proliferation in human uterine leiomyoma cells. Gynecol Endocrinol. 2008 Jan 1;24(5):250-6.
7. Obesity and reproduction: an educational bulletin. Practice Committee of American Society for Reproductive Medicine. Fertil Steril. 2008 Nov;90(5 Suppl):S21-9.
8. Somigliana E, Vercellini P, Daguati R, Pasin R, De Giorgi O, Crosignani PG. Fibroids and female reproduction: a critical analysis of the evidence. Human Reprod Upd. 2007 Sep 1;13(5):465-76.
9. Novak ER, Woodruff VD. Uterine leiomyomas: In Gynecologic and obstetric pathology, With Clinical and Endocrine Relations. 8<sup>th</sup> ed. Philadelphia: W. B. Saunders; 1979:260-279.
10. Payson M, Leppert P, Segars J. Epidemiology of myomas. Obstetr Gynecol Clin North Am. 2006 Mar;33(1):1.
11. Marshall LM, Spiegelman D, Barbieri RL, Goldman MB, Manson JE, Colditz GA, et al. Variation in the incidence of uterine leiomyoma among premenopausal women by age and race. Obstetr Gynecol. 1997 Dec 1;90(6):967-73.
12. Wise LA, Laughlin-Tommaso SK. Epidemiology of uterine fibroids--from menarche to menopause. Clin Obstetr Gynecol. 2016 Mar;59(1):2.

**Cite this article as:** Gbaranor BK, Orupabo CD, Gbaranor NPB, Okpara PE, Victor PD. Incidence of fibroid and its effects on fertility in Eleme local government area of Rivers State. Int J Res Med Sci 2020;8:1689-91.