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Original Research Article

Epidemiological study of uterine fibroids: our experience from urban Maharashtra

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ABSTRACT

Background: Uterine fibroids or myomas or leiomyoma of uterus are the most common type of benign tumour of uterus and also most common pelvic tumour in women. Exact etiology is not known but the cause estimated to be is oestrogen and progesterone which proliferate tumour growth as fibroid rarely occur before menarche and reduces after menopause. Risk factors for developing fibroids are age, early age at menarche, reduced fertility, frequent alcohol and caffeine consumption, obesity, hypertension, diabetes mellitus, and previous pelvic inflammatory disease. Objective of the research was to study the epidemiological factors associated with uterine fibroids.
Methods: This present cross sectional descriptive observational study carried at Vilasrao Deshmukh Government Medical College (VDGMC), Latur from October 2019 to October 2021 among all cases of fibroid admitted at our tertiary care hospital. Data was analysed by using statistical package for the social sciences (SPSS) 24.0 version IBM United States of America (USA) and results are mentioned in percentages.
Results: Out of 166 women, majority were from 31-40 years age group i.e. 58 (34.9%). Majority of the women were from urban area i.e. 57.2%. 13.2% were nullipara and 14.5% were multipara and grand multipara. 19.3% women were not practicing any contraceptive method. Abdominal lump complained by 41%, abnormal uterine bleeding 24.1%, metrorrhagia in 21.7%. Ultrasonography (USG) findings of the study population revealed submucosal fibroids in 64(38.6%), and intramural fibroids in 32 (19.3%).
Conclusions: Incidence of fibroids is most common in 31-40 years of age i.e. 34.9%. Commonly observed symptom was abdominal lump (41%) and abnormal uterine bleeding (24.1%). Prevalence of submucosal fibroids was 38.6%, intramural fibroids 19.3%, submucosal polyp 14.5%, seedling fibroid 13.9% and subserosal fibroid 10.2%.

Keywords: Uterine fibroids, Maharashtra, Epidemiology

INTRODUCTION

Uterine fibroids or myomas or leiomyoma of uterus are the most common type of benign tumour of uterus and also most common pelvic tumour in women.[1] In women by the age of 35 incidence of fibroids is 60% and over 80% by the age of 50.[2] They originate from myometrial smooth muscle cells.[3,4] Exact etiology is not known but the cause estimated to be is oestrogen and progesterone which proliferate tumour growth as fibroid rarely occur before menarche and reduces after menopause.[5,6]

Risk factors for developing fibroids are age, early age at menarche, reduced fertility, frequent alcohol and caffeine consumption, obesity, hypertension, diabetes mellitus, previous pelvic inflammatory disease.[7] While decreased exposure to oestrogen found with smoking, exercise and increased parity is protective.[8]

The uterine fibroids are classified into three categories according to their anatomical location: submucous fibroids- located in the muscle below the endometrium; interstitial/intramural fibroids are most common and located within the uterine wall; and subserous fibroids- located just below the serosal surface of the uterus.

Fibroids may be single or multiple and mostly start in as intramural location and with further growth some lesions may develop towards outside of the uterus or towards the internal cavity. Most fibroids are usually asymptomatic and have slow growth. The chief presenting symptoms with fibroid are menstrual irregularity (menorrhagia followed by metrorrhagia or polymenorrhagia), abdominal mass, abdominal pain, urinary frequency, and urgency, infertility. Symptoms depend on number, size and location of fibroids.[9]

Fibroids significantly affect quality of life.[10] They assume importance in our country as they are an important cause for anaemia.

A significant percent of cases in our institute 's gynaecology outpatient department (OPD) come with fibroid for treatment, of these about 20% of patients need admission. According to data of our institute, fibroids constitute about 8% gynaecology admission, who need different surgical management. Of all hysterectomies done, 50% are done for fibroids. Hence, it becomes important to study in detail regarding fibroids so this study is being conducted.

Objectives

Objective of the research was to study the epidemiological factors associated with uterine fibroids.

METHODS

This present cross sectional descriptive observational study was conducted after institutional ethical committee clearance at our tertiary care centre from October 2019 to October 2021 among all cases of fibroid admitted at Vilasrao Deshmukh Government Medical College (VDGMC), Latur, Maharashtra.

Inclusion criteria

All women diagnosed with fibroid (non-pregnant cases) admitted for treatment of fibroid at our tertiary care centre; and those willing to participate in the study after due written consent were included.

Exclusion criteria

Indoor patients who had not given consent to be excluded from study and pregnant women.

After applying inclusion and exclusion criteria and after taking written valid informed consent, participants were included in the study. On admission a detailed history, clinical examination and investigations were made, age and socioeconomic status of patient. Socioeconomic status is calculated by modified Kuppuswamy classification. Chief complaints of patient in details like menstrual complaints (menorrhagia, polymenorrhagia, dysmenorrhea, and metrorrhagia) duration of flow, moderate or severe, associated with pain, no. of pads socked daily. Bladder and bowel complaints- frequency, retention, dysuria, dyspareunia, mass per abdomen-duration, association with pain, rate of growth.

Statistical analysis and methods

Data was collected by using a structure proforma. Data thus was entered in Microsoft excel sheet and analysed by using statistical package for the social sciences (SPSS) 24.0 version IBM USA. Qualitative data was expressed in terms of percentages and proportions. Quantitative data was expressed in terms of mean and standard deviation. Association between two qualitative variables was seen by using Chi square/Fischer's exact test. Descriptive statistics of each variable was presented in terms of mean, standard deviation, and standard error of mean. A p value of <0.05 was considered as statistically significant whereas a p value <0.001 was considered as highly significant.

RESULTS

We included total 166 women with the confirmed diagnosis of uterine fibroid in our study. Out of 166 women, majority were from 31-40 years age group i.e. 58 (34.9%) followed by 56 (33.7%) from 41-50 years, 46 (27.7%) from above 50 years and 6 (3.6%) from 21-30 years age group (Table 1).

Table 1: Distribution according to age group.

Age group in years	Frequency	Percent
<20	0	0.0
21-30	6	3.6
31-40	58	34.9
41-50	56	33.7
>50	46	27.7
Total	166	100.0

Majority of the women were from urban area i.e. 57.2% and remaining 42.8% were from rural area (Figure 1). 13.2% were nullipara women in our study. 14.5% were multipara and grand multipara (Figure 2).

History of contraceptive practices revealed that 19.3% women were not practicing any contraceptive method. Majority of the women i.e. 36 (21.7%) had underwent tubectomy. 31 (18.7%) women used intrauterine contraceptive device (IUCD), 29 (17.5%) were practicing barrier methods, 20 (12%) oral contraceptive (OC) pills, 12 (7.2%) using natural methods and 6 (3.6%) practiced injectables (Table 2).

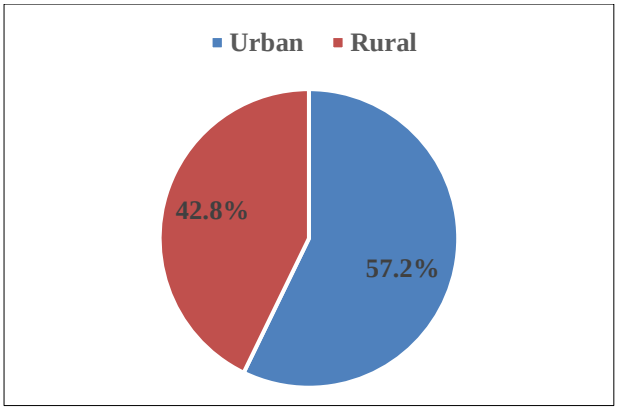

Figure 1: Distribution according to place of residence.

Table 2: Distribution according to contraception history.

Contraception history	Frequency	Percent
No contraception	32	19.3
Natural methods	12	7.2
Barrier methods	29	17.5
Oral pills	20	12.0
IUCD	31	18.7
Injectables	6	3.6
Tubectomy	36	21.7
Total	166	100.0

Complaints of the patients revealed abdominal lump in 41%, abnormal uterine bleeding in 24.1%, metrorrhagia in 21.7%, weakness in 20.5%, infertility in 19.9%, menorrhagia in 15.7%, pelvic pain in 15.7%, dysmenorrhea in 9.6%, urine retention in 8.4%, constipation in 7.2% and giddiness in 3% (Table 3).

Table 3: Distribution according to complaints/symptoms.

Complaints	Frequency	Percent
Abnormal uterine bleeding	40	24.1
Menorrhagia	26	15.7
Metrorrhagia	36	21.7
Dysmenorrhoea	16	9.6
Abdominal lump	68	41.0
Pelvic pain	26	15.7
Urine retention	14	8.4
Constipation	12	7.2
Weakness	34	20.5
Giddiness	5	3.0
Infertility	33	19.9

Ultrasonography (USG) findings of the study population revealed submucosal fibroids in 64 (38.6%), intramural fibroids in 32 (19.3%), submucosal polyp in 24 (14.5%), seedling fibroid in 23 (13.9%) and subserosal fibroid in 17 (10.2%) (Table 4).

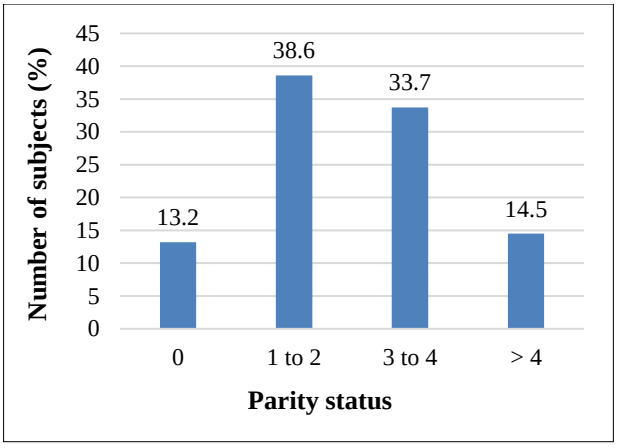

Figure 2: Distribution according to parity status.

Table 4: Distribution according to type of fibroid on USG findings.

Type of fibroid	Frequency	Percent
Intramural	32	19.3
Submucosal	64	38.6
Submucosal polyp	24	14.5
Subserosal fibroid	17	10.2
Seedling fibroid	23	13.9

Location of fibroid on USG was anterior in 58.5% cases and posterior in 29.5% cases. Size of the uterus on USG showed less than 12 weeks in 33.7%, 12 to 16 weeks in 34.9%, 16 to 20 weeks in 15.7%, 20 to 24 weeks in 9%, 24 to 28 weeks in 4.2% and more than 28 weeks in 2.4% (Table 5).

Table 5: Distribution according to location of fibroid on USG findings.

Location of fibroids	Frequency	Percent
Anterior	97	58.5
Posterior	49	29.5
Fundal	20	12.0

Most commonly observed symptoms in intramural fibroid were menorrhagia in 73% and dysmenorrhea in 50.5%. Most commonly observed symptoms in submucosal fibroid were menorrhagia in 83.1% and metrorrhagia in 66.3%. Most commonly observed symptoms in submucosal polyp were menorrhagia in 77.4% and abdominal mass in 38.2%.

Most commonly observed symptoms in subserosal fibroid were menorrhagia in 40% and abdominal mass in 41%. Most commonly observed symptoms in seedling fibroid were dysmenorrhea in 57% (Figure 3).

Prevalence of single fibroids was 60.8% and multiple fibroids was 39.2% (Figure 4).

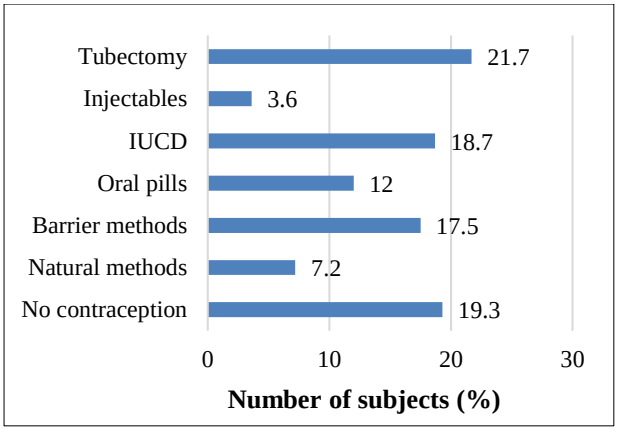

Figure 3: Distribution according to contraception history.

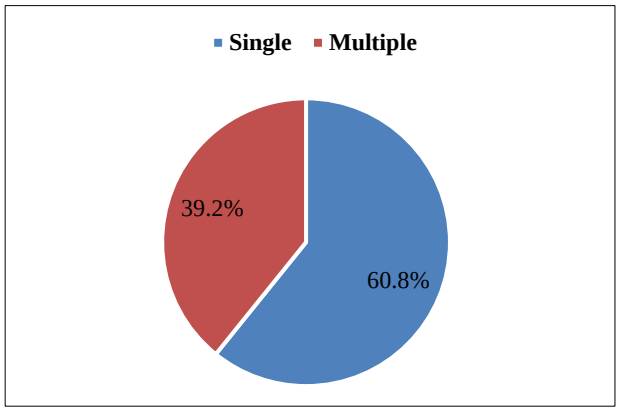

Figure 4: Distribution according to number of fibroids on USG findings.

DISCUSSION

According to this study incidence of fibroids is most common in 31- 40 years of age i.e. 34.9% (Table 1).

Our findings are consistent with the findings of Gavli et al who reported it as 32.72%.[6] Rest of the authors mentioned in Table 6 have higher incidence of fibroids in this age group. Shankar et reported 43.2%, Jalandhara et al reported 52%, Maitri et al reported 55%, Akhter et al reported 52% and Senthilkumar et al reported 76% in the age group of 31-40 years.[1-5] All these studies suggest that fibroids are more common in 30- 50 years age group & rarely seen in prepubertal and postmenopausal age that is after 50 years age group. This is because main cause of fibroid growth is oestrogen, which in dominant in 30- 50 years age group.

In our study, 13.2% were nullipara women in our study. 14.5% were multipara and grand multipara (Figure 2). Yamuna et al reported maximum patients with para 3-4 (73%).[7] Akhter et al reported maximum patients with para >4 (42%).[4] Maitri et al reported maximum patients with para 3-4 (50%).[3] Nisar et al reported maximum patients with para 3-4 (50%).[8]

USG findings of the study population revealed submucosal fibroids in 64 (38.6%), intramural fibroids in 32 (19.3%), submucosal polyp in 24 (14.5%), seedling fibroid in 23 (13.9%) and subserosal fibroid in 17 (10.2%). Prevalence of intramural fibroid was less in our study as compared to all the above-mentioned studies. Prevalence of submucosal polyp was almost comparable with all the above-mentioned studies.

Table 6: Type of fibroids.

Type of fibroids	Our findings (%)	Shankar et al[1] (%)	Jalandhara et al[2] (%)	Maitri et al[3] (%)	Yamuna et[7] (%)	Gavli et al[6] (%)
Intramural	19.3	73.09	60	60.6	47	36.36
Submucosal	38.6	12.16	4	9.1	4	56.36
Submucosal polyp	14.5	14.75	20	5.1	8	7.57
Subserosal fibroid	10.2			15.1		
Seedling fibroid	13.9					

Complaints of the patients revealed abdominal lump in 41%, abnormal uterine bleeding in 24.1%, metrorrhagia in 21.7%, weakness in 20.5%, infertility in 19.9%, menorrhagia in 15.7%, pelvic pain in 15.7%, dysmenorrhea in 9.6%, urine retention in 8.4%, constipation in 7.2% and giddiness in 3% (Table 3).

Frequency of asymptomatic fibroids done by Mohanambal et al was 36%.[11] AUB was seen in 30.5% of patients in the study reported by Nisar et al.[7] Similarly, AUB was seen in 78.8% of patients in study done by Mohanambal et al.[11]

In study done by Rajeshwari et al in Mumbai has reported incidence of menorrhagia and metrorrhagia in 78% and 10% of patients respectively.[12] Similarly, study done by Shagufta et al in Pakistani women from Peshawar, incidence of menorrhagia was 78.99% and 75% of them presented with both anemia and menorrhagia.[13]

In our study, most commonly observed symptoms in intramural fibroid were menorrhagia in 73% and dysmenorrhea in 50.5%. Most commonly observed symptoms in submucosal fibroid were menorrhagia in 83.1% and metrorrhagia in 66.3%. Most commonly observed symptoms in submucosal polyp were menorrhagia in 77.4% and abdominal mass in 38.2%. Most commonly observed symptoms in subserosal fibroid were menorrhagia in 40% and abdominal mass in 41%.

Most commonly observed symptoms in seedling fibroid were dysmenorrhea in 57% (Table 3).

In various studies conducted by Buttran et al and Okolo et al showed that vast majority of leiomyomas are asymptomatic. and most common symptom of uterine leiomyoma is abnormal uterine bleeding.[14-16]

Lumsden et al in their study clinical presentation of uterine fibroids on myomectomy found that 30% of women suffered from menorrhagia.[16]

Gavli et al reported that majority of patient had lower abdominal pain (44.11%), 17.64% had menorrhagia and 13.23% suffered from dysmenorrhea.[6]

CONCLUSION

Incidence of fibroids is most common in 31- 40 years of age i.e. 34.9%. Commonly observed symptom was abdominal lump (41%) and abnormal uterine bleeding (24.1%). Prevalence of submucosal fibroids was 38.6%, intramural fibroids 19.3%, submucosal polyp 14.5%, seedling fibroid 13.9% and subserosal fibroid 10.2%. Prevalence of single fibroids was 60.8% and multiple fibroids was 39.2%.

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

REFERENCES

1. Ramalingam GS, Kulandaivel AL, Krishnaswamy B, Viswanathan P. Uterine leiomyomas: a demographical and clinicopathological exploration in a rustic setup of Tamil Nadu: a comprehensive study. Trop J Pathol Microbiol. 2019;5(8s):38.
2. Jalandhara J, Mehta K, Desai R, Parakh P, Choudhary G. Clinicopathological study of uterine leiomyomas: A multicentric study in rural population. Int J Med Health Res. 2018;4(6):16-8.
3. Maitri KM. A clinicopathological study of fibroid uterus in cheluvamba. 2011;40.
4. Akhter M, Salam A, Anwar K, Alam M. Clinical profile and management option of fibroid uterus patient. Chattagram Maa-o- Shishu Hospital Med Coll J. 2015;14(2):1-5.
5. Senthilkumar S, Sai Girisha K. A prospective study on knowledge, attitude and perception towards uterine fibroids. Res J Pharm Technol. 2017;10(11):1-8.
6. Gavli M, Patel HR, Anand N. A retrospective study on sociodemographic and clinical profile of patients underwent for myomectomy. Int J Health Sci Res. 2015;5(2):106-10.
7. Yamuna M, Devi DH. Clinical, Sonographical, Surgical, Histopathological study of fibroid. Int Arch Integ Med. 2020;7(2):6-12.
8. Munusamy MM, Sheelaa WG, Lakshmi VP. clinical presentation of uterine fibroids: a 3-year study in a 3-decade rural south Indian women. Int J Reprod Contracept Obstet Gynaecol. 2017;6(12):5596-601.
9. Khyade RL. A study of menstrual disturbance in cases of fibroid uterus. Int J Reprod Contracept Obstet Gynaecol. 2017;6(6):2494-7.
10. Shaheen S, Naheed T, Sadaf F, Rahim R. Menorrhagia due to fibroids and it's management. JSOGP. 2013;3(4):231-5.
11. Nisar S, Bashir SS. Study of Prevalence and Clinical Profile of Uterine Fibroids in Patients Attending Gynea OPD in Skims: A Hospital Based Study. JMSCR. 2020;8(7):1-9.
12. Devi AB, Jeejabeegam S. Epidemiological Risk factors for fibroid uterus- A Case control study from kerala. J Med Sci Clin Res. 2017;5(3):1-7.
13. Okolo SO, Gentry CC, Perrett CW, Maclean AB. Familial prevalence of uterine fibroids is associated with distinct clinical and molecular features. Human Reprod. 2005;20(8):2321-4.
14. Buttran VCJR, Reiter RC. Uterine fibromyomata-etiology, symptomatology and management. Fertil Steril. 1981;4:36-41.
15. Okolo S. Incidence, aetiology and epidemiology of uterinefibroids. Best Pract Res Clin Obstet Gynaecol. 2008;22:571-88.
16. Lumsden MA, Wallace EM. Clinical presentation of uterine fibroids. Baillieres Clin Obstet Gynaecol. 1998;12:177-95.

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