

UTERINE LEIOMYOMA: CLINICAL MANIFESTATIONS AND PERCEIVED IMPACT ON WOMEN'S HEALTH LIFE

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ABSTRACT

Objectives: Uterine leiomyoma/uterine fibroid is the benign tumor of the smooth muscle of the uterus. This study was conducted to identify the clinical features and the effects on their quality of life factors with the occurrence of uterine fibroids.

Methods: A cross-sectional study research design was used. The sample constituted 370 patients diagnosed with uterine fibroids, starting from November 2021 to May 2022.

Results: Heavy menstrual bleeding was found to be the most common clinical manifestation seen in women with uterine leiomyoma. Hypothyroidism was seen to be associated with uterine leiomyoma. Generalized fatigue was the main issue faced by many along with difficulty to do daily chores. All these issues caused mental stress in women to a large extent.

Conclusion: The associated factors, clinical manifestations, and perceived impact on women's health life of uterine leiomyoma were studied. Age (41–60), overweight, and family history were the associated factors of uterine leiomyoma. Uterine fibroids negatively impacted the quality of life in women.

Keywords: UL, Fibroids, Quality of life, Clinical manifestations, Perceived impact, Stress.

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INTRODUCTION

Uterine leiomyoma otherwise known as uterine fibroid is the abnormal benign tumor of the smooth muscle of uterus. Fibroids when left untreated are associated with complications such as acute or chronic pelvic pain, anemia, degeneration, hydronephrosis and premature delivery, and also fetal growth restriction. Uterine fibroid deeply affects a women's quality of life in a community that lack sufficient access to medical care. [1]. Fibroids are considered as one of the leading causes of hospitalization for gynecological disorders. High estrogen production is the leading cause of uterine fibroid. Women with increased estrogen production and overweight are more prone to uterine fibroids. Several risk factors have also been associated – biological, demographic, reproductive, and lifestyle factors such as age, obesity, overweight, caffeine consumption, early age at menarche, PCOD, family history, Vitamin D deficiency, red meat consumption, hypertension, and diabetes. Based on the symptoms, location and size of fibroid, management of uterine fibroid may vary. It is one of the most frequent reasons for hysterectomy [2] (Figure 1). Transvaginal ultrasonography is the most widespread method of evaluating UL with an accuracy of around 87–92% [3]. Investigation of women presenting with menorrhagia has shown the presence of fibroids in 10% of those with moderately heavy menstrual loss when compared with 40% of those with excess loss of blood. Zimmermann A concluded that uterine fibroid is a common concern in women at fertile age causing HMB and dysmenorrhea which can have a negative impact on different aspects in women's life [4]. Surgical treatment includes myomectomy or hysterectomy. Hysterectomy is the only option offering total cure [5].

- This study was conducted to have a look into the presentation, size, type, associations, and its impact on quality of life in uterine leiomyomas
- To determine the associated factors of uterine leiomyoma
- To analyze the clinical manifestations of uterine leiomyoma

- To recognize the impact of uterine leiomyoma on women's health life
- To investigate the prescribing patterns and treatment of uterine leiomyoma.

METHODS

Study design

A cross-sectional study was conducted. The study was conducted in the gynecology department of a 700 bedded tertiary care teaching hospital.

Study duration

Total duration of study was 6 months.

Study population

A total of patients visited the gynecology department during the study period. It was calculated by the statistical equation,

$$n = Z^2(1-\alpha/2) p (1-p)/E^2$$

n – Required sample size p – The estimated prevalence of an indicator

α – Level of significance

Z – The Z score corresponding to the degree of confidence

E – Desired precision $n = (1.96)^2 \times 60.1 \times (39.9) / 25 = 368.48 \approx 369$

Plan of work

Patients were selected based on the following inclusion and exclusion criteria.

Inclusion criteria

The following criteria were included in the study:

- Women above 15 years of age
- Women diagnosed with uterine leiomyoma based on USG and MRI report
- Women who are willing to participate in the study.

Exclusion criteria

The following criteria were excluded from the study:

- Pregnant women
- Women with psychiatric illness.

Subject selection

- Patient interview
- Patients case records which contained patient's demographics, history, laboratory investigation reports, and prescribed drugs.

Study materials

Informed Consent Form and Patient Information Sheet.

To enroll patients into the study, informed consent and patient information sheet in local language (Malayalam) were prepared.

Patient data entry form

For collecting the necessary data obtained from the sources, separate data entry form was designed by including demography of patients, comorbidity, clinical symptoms, obstetric details, USG details, previous treatment, Hb count, difficulties faced, and treatment given.

Study procedure

A cross-sectional study entitled, "Uterine Leiomyoma: Associated factors, Clinical manifestations, and Perceived impact on Women's Health Life" was conducted in patients with a clinical diagnosis of Uterine Leiomyoma. An interview based on data entry form was conducted. From the observations recorded, associated factors, clinical manifestations, and perceived impact on women's health life were noted.

Statistics

The data entry and statistical analysis were done using software SPSS version 25. The decision on significance was made by the value of "p", $p < 0.05$ was considered to be statistically significant

RESULTS

Age group between 41 and 60. 263 subjects (71.1%) belonged to age group 41-60 and 107 subjects (28.9%) belonged to age group 21-40. 237 subjects (64.1%) were overweight and 35.99% were subjects with normal weight. This gives an inference that overweight was more commonly associated with uterine leiomyoma. Family history was relevant as with occurrence of uterine leiomyoma as 165 subjects (44.59%) had positive family history. About 7.3% were nullipara. Twenty-eight subjects had single child. One hundred and fifty-eight (42.7%) were Para 2, 30.8% had parity 3, 35 (9.5%) had parity (Tables 1-3).

DISCUSSION

This study was done to assess the associated factors, clinical manifestations, and perceived impact of uterine leiomyoma. Out of 370 subjects studied, uterine fibroid was commonly seen in age group between 41 and 60. 263 subjects (71.1%) belonged to age group 41-60 and 107 subjects (28.9%) belonged to age group 21-40. 237 subjects (64.1%) were overweight and 35.99% were subjects with normal weight. This gives an inference that overweight was more commonly associated with uterine leiomyoma. Family history was relevant as with occurrence of uterine leiomyoma as 165 subjects (44.59%) had positive family history. About 7.3% were nullipara. Twenty-eight subjects had single child. One hundred and fifty-eight (42.7%) were Para 2, 30.8% had parity 3, 35 (9.5%) had parity. About 86.2% had caffeine on a daily basis (Figure 2). Most of them relied on tea, some drank coffee, and a few of them consumed soft drinks. Heavy menstrual bleeding was the most commonly observed clinical manifestation (74.6%) followed by abdominal pain (44.9%). Other manifestations observed were dysmenorrhea (37.8%), mass abdomen (35.7%), irregular menstruation (25.7%), and urinary retention (21.9%) (Figures 3-5). Intramural fibroid was the most common type of fibroid (31.6%). Most of them had a combination of intramural and

Table 1: Distribution of age

Age group	n=370	Percent
21-40	107	28.9
41-60	263	71.1
Total	370	100.0

Table 2: Distribution of BMI

BMI group	n=370	Percent
Normal	133	35.9
Overweight	237	64.1
Total	370	100.0

Table 3: Distribution of family history

Family history	n=370	Percent
No	205	55.4
Yes	165	44.6
Total	370	100.0

Table 4: Distribution of current treatment

Treatment	n=370	Percent
Myomectomy	58	15.67568
TAH/BSO	274	74.05405
Others	38	10.27027

Table 5: Distribution of range indicating how uterine fibroids affect the subject's daily life

Range indicating how UL affect the subjects daily life	n=370	Percent
Mild	104	28.1
Moderate	102	27.6
Severe	164	44.3
Total	370	100.0

Table 6: Distribution of mental stress

Mental stress	Frequency	Percent
No	139	37.6
Yes	231	62.4
Total	370	100.0

Table 7: Distribution of difficulties faced by the study subjects

Difficulties faced	n=370	Percent
Generalized fatigue	282	76.21622
Difficulty doing daily chores	215	58.10811
Can't stand for a long time	103	27.83784
Can't do work that requires bending	129	34.86486

sub-serosal type fibroid. Single fibroid was noted in 28.92%, 16.22% had two fibroids, 10.54% had three fibroids and 40.27% had multiple fibroids. Hypothyroidism was the most common medical history seen in women with uterine fibroids. Most subjects (40%) had mass abdomen of size 16 weeks and above (Table 4). Hysterectomy was the

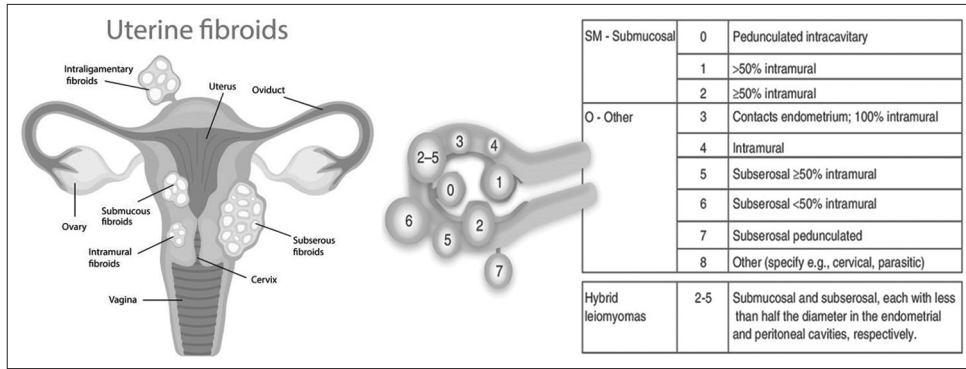


Fig. 1: The fibroid classification

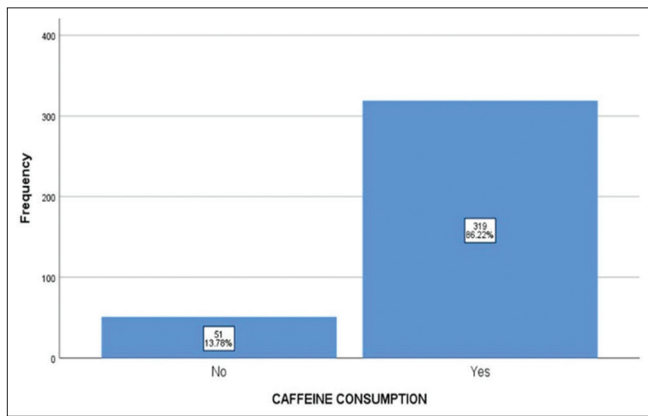


Fig. 2: Caffeine consumption and fibroids

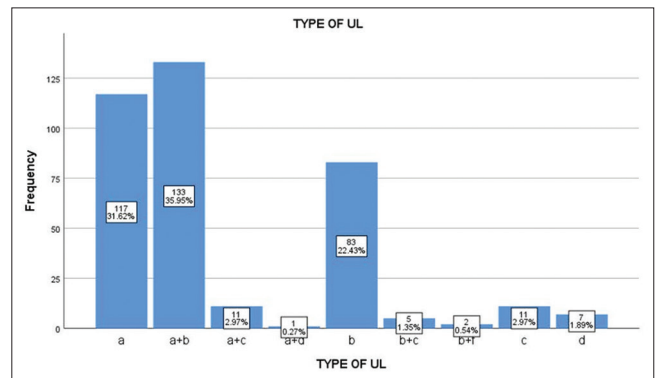


Fig. 4: Distribution of fibroid types. (a) Intramural fibroid, (b) Subserosal fibroid, (c) Submucosal fibroid, (d) Cervical fibroid. Intramural type fibroid (31.6%) is the most common type of fibroid seen in women

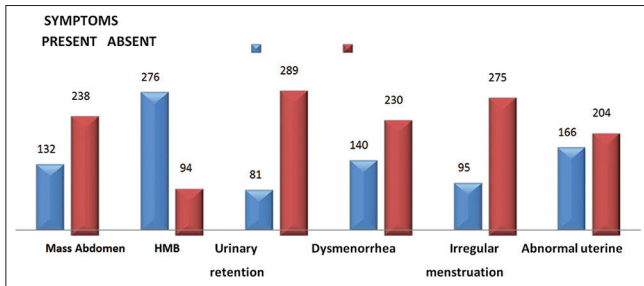


Fig. 3: Symptomatology of uterine fibroid

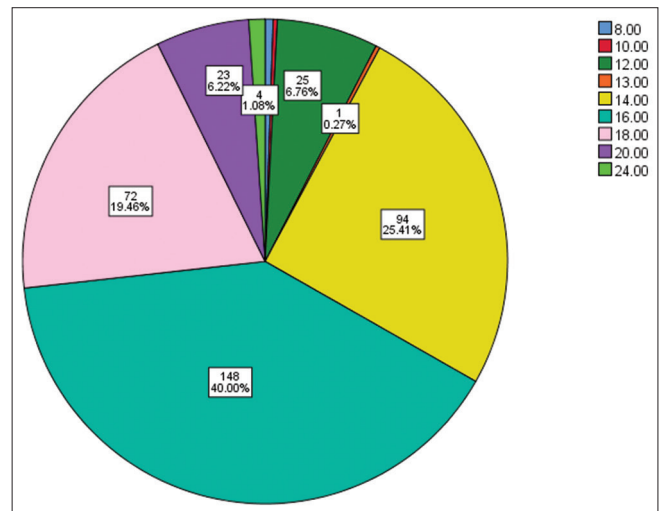


Fig. 5: Size of mass abdomen

preferred choice of treatment for such subjects. Oral contraceptives were taken by subjects as few as 7 (1.9%) out of all subjects studied. TAH/BSO was the most preferred choice of treatment (74.05%) of uterine leiomyoma in women. Myomectomy was preferred for women in the perimenopausal age who wished to retain their fertility. Most of the women were severely affected due to the complications of uterine fibroids. About 28.1% were affected mildly, 27.6% moderately, and 27.6% are affected severely (Tables 5 and 6). Common difficulties faced were generalized fatigue and difficulty doing daily chores (Table 7). Most women experienced mental stress (62.4%) due to these complications. A cross-sectional study with a sample size of 5.9441 for a duration of 2 months conducted to estimate the prevalence of women diagnosed with uterine fibroids and the associated symptom burden in the USA concluded that uterine fibroids imposed a heavy burden on women aged 18–54 years in the USA [6]. A cross-sectional study at Haiti with a sample size of 215 for a duration of 1 year concluded that there was a high prevalence of uterine fibroids in study population [7]. Family history, anemia (HMB), and stress were found to be the risk factor and clinical manifestations, respectively. Uterine fibroid deeply affects a women’s quality of life. A cross-sectional study

of 137 subjects for a duration of 7 months with uterine fibroids caused HMB and discomfort which may harm women’s life, influencing their sexual, social, and work life also prevalence of risk factors for uterine fibroids were found to be associated with higher BMI an age between 35 and 50 years. An observational study with a sample size of 556 for the duration of 3 years was conducted to determine the association between major life events (MLE) stress and fibroids [8]. Examining the number and stress intensity of MLE enriched the understanding of this stressor and fibroids. A questionnaire based study with a sample size of 50 women was conducted to find awareness among general

population which demonstrated that 74.25% of women were aware about uterine fibroid [9]. A retrospective study on 117 women for duration of 4 years and 11 months at NAU Teaching hospital, Nnewi, Africa to review the clinical presentation and management measures for uterine leiomyoma revealed that dysmenorrhea, irregular vaginal bleeding, urinary symptoms, and recurrent abortion were rare modes of presentation [10]. It was observed that lower abdominal mass was the most common symptom at presentation [11]. Anemia due to blood loss found to be more frequent [12]. Infertility as a presenting symptom in married women was noted. Fibroids are generally associated with an increased risk of heavy or prolonged menstrual flow [13]. Menorrhagia and infertility were seen in patients with lower abdominal pain [14,15].

CONCLUSION

In the present study, uterine leiomyoma was most commonly seen in women of age group 41–60. Heavy menstrual bleeding was the most common clinical manifestation. Other symptoms included abdominal pain, dysmenorrhea, mass abdomen, irregular menstruation, and urinary retention. Hypothyroidism was the most common medical history. Intramural type of fibroid was the most common fibroid. Most women with uterine leiomyoma had a combination of intramural and sub-serosal type of fibroid. The size of mass abdomen of most women with uterine leiomyoma was 16 weeks and above. Hysterectomy was the preferred choice of treatment for such subjects. Myomectomy was preferred in patients of perimenopausal age who wished to retain their fertility. Generalized fatigue and difficulty doing daily house chores were found to be the most common difficulties faced by these women. A large number of women experienced mental stress due to the difficulties caused. Uterine fibroids negatively impacted the quality of life in women in the present study.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee and Institutional Research Committee of National College of Pharmacy, Kozhikode.

AUTHOR' CONTRIBUTION

Aiswarya Thampi, Amritha Lakshman, Sheba Mary Cheriyan, Shibila Sharaf have prepared the conceptual framework, designed the draft, data collection and data analysis. Heera Shenoy and Rajeev P Thomas have done the manuscript writing and final editing.

CONFLICTS OF INTEREST

None declared.

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None.

REFERENCES

1. Millien C, Manzi A, Katz AM, Gilbert H, Fawzi MC, Farmer PE, *et al.* Assessing burden, risk factors, and perceived impact of uterine fibroids on women's lives in rural Haiti: Implications for advancing a health equity agenda, a mixed methods study. *Int J Equity Health* 2021;20:1-7.
2. Subramaniyam NK, Kandluri V, Chadeve A, Modapu D, Dumpala AJ, Gudise BR, *et al.* Prevalence of risk factors for uterine fibroids at tertiary care teaching hospital: A cross-sectional study. *J Young Pharm* 2020;12:86-94.
3. Fonseca-Moutinho JA, Barbosa LS, Torres DG, Nunes SM. Abnormal uterine bleeding as a presenting symptom is related to multiple uterine leiomyoma: An ultrasound-based study. *Int J Womens Health* 2013;5:689-94.
4. Zimmermann A, Bernuit D, Gerlinger C, Schaefer M, Geppert K. Prevalence, symptoms and management of uterine fibroids: An international internet-based survey of 21,746 women. *BMC Womens Health* 2012;12:6.
5. Fuldeore MJ, Soliman AM. Patient-reported prevalence and symptomatic burden of uterine fibroids among women in the United States: Findings from a cross-sectional survey analysis. *Int J Womens Health* 2017;9:403-11.
6. Stewart EA, Nicholson WK, Bradley L, Borah BJ. The burden of uterine fibroids for African-American women: Results of a national survey. *J Womens Health (Larchmt)* 2013;22:807-16.
7. Yao X, Stewart EA, Laughlin-Tommaso SK, Heien HC, Borah BJ. Medical therapies for heavy menstrual bleeding in women with uterine fibroids: A retrospective analysis of a large commercially insured population in the USA. *BJOG* 2017;124:322-30.
8. Vines AI, Ta M, Esserman DA. The association between self-reported major life events and the presence of uterine fibroids. *Womens Health Issues* 2010;20:294-8.
9. Krishnan P, Ganapathy D, Marimuthu BP. Awareness about fibroid among Indian women. *Drug Invent Today* 2020;13:113-8.
10. Pavone D, Clemenza S, Sorbi F, Fambrini M, Petraglia F. Epidemiology and risk factors of uterine fibroids. *Best Pract Res Clin Obstet Gynaecol* 2018;46:3-11.
11. Laughlin SK, Baird DD, Savitz DA, Herring AH, Hartmann KE. Prevalence of uterine leiomyomas in the first trimester of pregnancy: An ultrasound-screening study. *Obstet Gynecol* 2009;113:630-5.
12. Khan AT, Shehmar M, Gupta JK. Uterine fibroids: Current perspectives. *Int J Womens Health* 2014;6:95-114.
13. Bachmann GA, Bahouth LA, Amalraj P, Mhamunkar V, Hoes K, Ananth CV. Uterine fibroids: Correlations of anemia and pain to fibroid location and uterine weight. *J Reprod Med* 2011;56:463-6.
14. Donnez J, Dolmans MM. Uterine fibroid management: From the present to the future. *Hum Reprod Update* 2016;22:665-86.
15. Downes E, Sikirica V, Gilbert-Estelles J, Bolge SC, Dodd SL, Maroulis C, *et al.* The burden of uterine fibroids in five European countries. *Eur J Obstet Gynecol Reprod Biol* 2010;152:96-102.