Original Article

# Outcome of Uterine Leiomyoma in Young Female Population

**Farha Naz Chohan[1], Shaista Memon[2], Geeta Bai[3], Saira Talpur[4], Ghulam Sakina[5], Azra Parveen Rajpar[6]**

[1,3,4,5]Registrar, Civil Hospital, Hyderabad, [2]WMO, Sir CJ Psychiatry Hospital Hyderabad
[6]WMO Sindh govt. Hospital Paretabad

***Correspondence:*** *Dr. Farha Naz Chohan*
*E-mail: farhanaz.chohan@yahoo.com*

## Abstract

Objective: To determine the outcome of uterine leiomyoma among young females at a tertiary care hospital.

Methodology: This descriptive study was conducted at Gynecology unit 3, Liaquat University of Medical and Health Science Hyderabad from June 2016 to September 2016 taking a sample of 70 non-gravida female patients with a diagnosis of uterine leiomyoma. Patients were assessed clinically by history, physical examination, and investigations. All the information was collected via study proforma and data analysis was done by SPSS version 21.

Results: The average age of the women is 30.41± 5.03 years. Regarding the outcome, the infertility was observed in 27.4% of women, preterm delivery in 22.6%, and recurrence miscarriage in 8.1% of women while the rate of menorrhagia was observed in 32.9%, pressure symptoms in 42.9%, and anemia was observed in 27.1% of women. Increasing age associated with preterm deliveries and recurrence miscarriages and infertility.

Conclusion: Heavy menstrual flow, menorrhagia, infertility, pressure symptoms, and anemia were observed to be highly frequent among females with uterine leiomyoma. A policy and strategy should be planned for the screening of high-risk patients. The effective measure should be taken timely that can be led to a good outcome.

Keywords: Infertility, Leiomyoma, Menorrhagia, Uterine fibroids.

Cite this article as: Chohan FN, Memon S, Bai G, Talpur S, Sakina G, Rajpar AP.Outcome of Uterine Leiomyoma in Young Female Population. J Soc Obstet Gynaecol Pak. 2021; 11(2):91-94.

## Introduction

Uterine leiomyomas (UL) commonly known as uterine fibroids are the most common benign smooth muscle neoplasms of the uterus that affect 4.5% to 68.6% of women of reproductive age depending on the study population and diagnostic methodology.[1,2] These abnormal growths are derived through ovarian steroids, and growth factors as it is stipulated that leiomyomas originate from intrinsic abnormalities in myometrium; a congenitally raised range of the sexual steroid, and injury of the endometrium acquired in the course of menstruation though; perfect etiology is still unknown.[3]

These leiomyomas grow at the rate of about 0.5cm/ year in diameter but in some cases, growth of 3cm/ year or greater has been observed.[4] Risk factors include Nulliparity, heredity, obesity, diabetes mellitus, black race, hypertension, and polycystic ovary syndrome.[5]

As per clinical pattern, the uterine leiomyomas varies according to different age groups, depending on characteristics of tumor among individuals and the women affected. The most common symptoms of uterine leiomyoma are abnormal uterine bleeding, especially menorrhagia. Others like the discomfort of pelvis, bladder, and bowel dysfunctions, a sensation of pressure in the lower abdomen, and painful intercourse.[2,6] Leiomyoma has been linked to the adverse outcome of the pregnancy followed by less chance of conceiving, preterm births, spontaneous miscarriage, C-sections, and placental abruption.[7]

Several new therapies show promise, but are still experimental stage.[8] Prevalence of uterine leiomyoma was age dependent at 11% for women 20-39 years old 45.4% for those aged years 40-59years; and 19.5% for

Authorship Contribution: [1]Participated in the acquisition and data analysis, Final approval of the version to be published, [2,4] Collection and interpretation of data, [3,5,6] Active Participation in active methodology,

Funding Source: none
Conflict of Interest: none

Received: Nov 17, 2020
Accepted: May 23, 2021

women 60 years or older.[10] The conclusive rate of symptomatic uterine Leiomyoma in the adolescent population is an uncommon event. Although characterization of such illness in this particular group is not well known, and proper appropriate management is still not defined. Although leiomyoma is very common among women of reproductive age; these are infrequently reported/ diagnosed in young females.[6,9]

There is no local data is available on detection of leiomyoma in our population focusing younger age females. The current study was conducted to highlight this significant area of women's health and to suggest a policy strategy for screening of younger high-risk patients and timely effective treatment which ultimately led to better outcomes.

## Methodology

This descriptive study was conducted at OPD of Gynecology, Liaquat University of Medical and Health Science Hyderabad from June 2016 to December 2016. Females of age 20-39 years and presenting with symptoms of uterine leiomyoma through transvaginal ultrasound showing echogenic uniform area of size measuring 1-10 cm were included. Females having a previous history of hysterectomy/ Myomectomy and co-morbidity like hypertension, IHD, or diabetes and those using steroids, immunosuppression therapy were excluded. Outcomes was assessed in terms of Infertility (failure to conceive for or more year unprotected sexual relationship). Menorrhagia (prolong or excessive uterine bleeding that occurs at regular intervals with blood loss more than 80ml and lasting more than 5 days. Recurrent

Miscarriage three or more consecutive pregnancy losses at less than 24 weeks gestation: Preterm delivery, the delivery before 24 weeks of gestation. Pressure Symptoms: Presence of any one of the following like constipation (Bowel evacuations of less than 3 per week), backache (pain in back with visual analogue scale 3), and anemia was Hb concentration <10.5gm/dl. All the data was collected via study proforma and analysis of the data was done by using SPSS version 20.

## Results

The mean age of women was 30.41±5.03 years. Descriptive statistics of the duration of illness, Hb, size of leiomyoma, and number of miscarriages is also shown in Table I.

Regarding outcomes, the infertility was in 27.4% of females, preterm delivery 22.6%, and recurrence miscarriage 8.1% among 62 married women while menorrhagia was detected in 32.9%, pressure symptoms 42.9%, and anemia was observed in 27.1% of all women. Figure.1

The stratified analysis revealed that rate of recurrence miscarriage and preterm deliveries were statistically

**Table I: Descriptive statistics of characteristics of patients(n=70)**

| Variables | Mean | SD | 95% Confidence Interval for Mean | | Median | Inter quartile Range |
|---|---|---|---|---|---|---|
| | | | Lower Bound | Upper Bound | | |
| Age (Years) | 30.41 | 5.03 | 29.21 | 31.61 | 30 | 9 |
| Duration of illness (months) | 2.57 | 1.91 | 2.11 | 3.03 | 2 | 2 |
| HB (mg/dL) | 11.56 | 1.26 | 11.26 | 11.87 | 11 | 2 |
| Size of Leiomyoma (cm) | 3.83 | 1.65 | 3.44 | 4.22 | 4. | 3 |

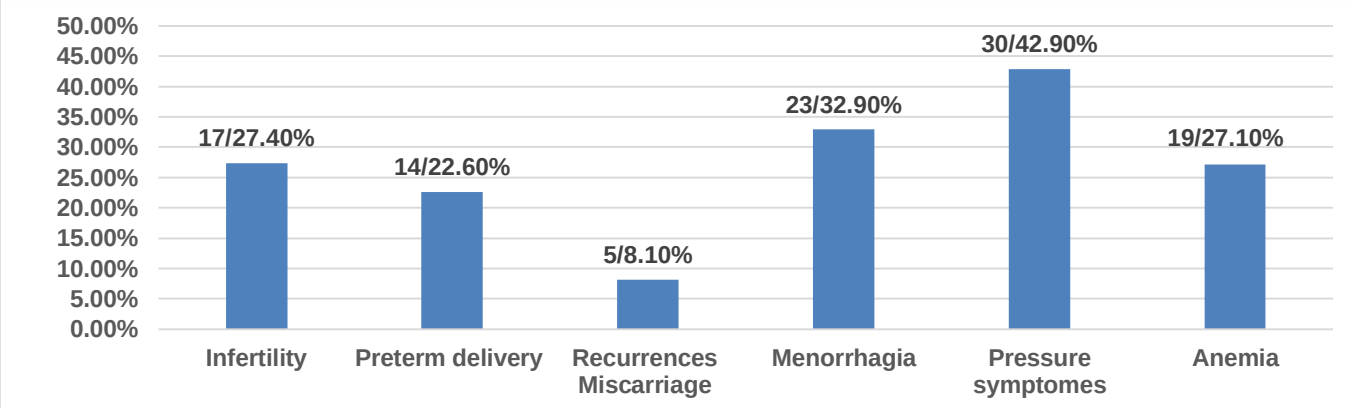


**Figure 1. Outcome of young female population with uterine leiomyoma (n=72)**

**Table II: Outcome of young female population with uterine leiomyoma according to number of parity, duration of disease and size of UL (n=62)**

| Outcome | Parity | | | P-Value |
|---|---|---|---|---|
| | Nulli | Primi | Multi | |
| Infertility† | 15(68.1%) | 1(7.7%) | 1(3.7%) | 0.0005 |
| Preterm delivery† | 0(0%) | 7(53.8%) | 7(25.9%) | 0.001 |
| Recurrence Miscarriage† | 0(0%) | 0(0%) | 5(18.5%) | 0.029 |
| Menorrhagia | 9(40.9%) | 4(30.8%) | 7(25.9%) | 0.532 |
| Pressure Symptoms | 8(36.4%) | 6(46.2%) | 12(44.4%) | 0.800 |
| Anemia | 6(27.3%) | 1(7.7%) | 6(22.2%) | 0.38 |
| **Outcome** | **Duration of Illness** | | | **P-Value** |
| | **≤ 3 Years** | **>3 Years** | | |
| Infertility† | 9(18.8%) | 8(57.1%) | | 0.014 |
| Preterm delivery† | 13(27.1%) | 1(7.1%) | | 0.116 |
| Recurrence Miscarriage† | 3(6.3%) | 2(14.3%) | | 0.331 |
| Menorrhagia | 17(31.5%) | 6(37.5%) | | 0.653 |
| Pressure Symptoms | 24(44.4%) | 8(37.5%) | | 0.622 |
| Anemia | 15(27.8%) | 4(25%) | | 0.826 |
| **Outcome** | **Size of UL** | | | **P-Value** |
| | **≤ 4** | **>4** | | |
| Infertility† | 8(22.9%) | 9(33.3%) | | 0.359 |
| Preterm delivery† | 11(31.4%) | 3(11.1%) | | 0.058 |
| Recurrence Miscarriage† | 4(11.4%) | 1(3.7%) | | 0.268 |
| Menorrhagia | 6(15.8%) | 17(53.1%) | | 0.001 |
| Pressure Symptoms | 17(44.7%) | 13(40.6%) | | 0.729 |
| Anemia | 12(31.6%) | 7(21.9%) | | 0.362 |

significant according to parity and size of UL (p-<0.05), and menorrhagia was significant according to the size of UL (p-0.001), while other outcome findings were statistically insignificant according to parity, duration of illness and size of UL (p->0.05) Table II

†8 females were unmarried so denominator of some factors is 62.

## Discussion

Fibroids are benign smooth muscle neoplasms and common uterine tumors. Mostly these affect females of reproductive age in their 4-5th decade of life. The current study evaluated the age patterns and its correlation with outcomes factors among young females and the average age of women was 30.41±5.03 years. Few studies have noted even younger ages (<15 years) females with UL. [13-15] A review study commented that UL were 11% among 20-39 years old females, 45.4% in years 40-59 years; and 19.5% among 60 years or older women.[11] The rates vary as per the selection age criteria. Moutinho JA et al, the study had found mean age was 39.6 years.[16] In the current study the age ranges were 20-39 years only. Begum S, et al., in a study conducted at Peshawar found that two thirds of all cases of UL were in late reproductive and perimenopausal years (65.7%).[17] It was further noted that higher the age higher was the frequency of complications like preterm delivery and recurrence miscarriage while infertility and pressure symptoms affected 31-35 years' age group.

Females who are not married in our society and cultural setup tend not to disclose or reach to healthcare for their condition quite often. Once symptomatic are then only seek healthcare. The current study noted that 88.57% were married and only 11.43% were unmarried. In Moutinho JA, et al,[16] study, 66.2% of the women were married. In that study, infertility rate was 31% while in the current study, the infertility rate was 27.4% (only married females). Begum S, et al., reported infertility rate of 16% in Peshawar.[17] A meta-analysis conducted by Benecke C, et al, [18] reported that intramural ULs may have a negative impact on fertility. According to a study from Lahore, UL were responsible for one third cases of infertility.[19] Preterm delivery was an outcome in 22.6% while recurrence miscarriages were found in 8.1% of married women. Other studies have documented similar findings, however; those included unmarried women which the current study did not. [20] We also noted that infertility was more associated with UL among urban while preterm delivery was more associated with UL among rural living females (p = 0.046). Pressure symptoms and anemia affected more of the unmarried women (p = 0.004). Among these females with UL; those with a higher number of children and 1-2 miscarriages were associated with higher complications like anemia, preterm delivery, menorrhagia, and pressure symptoms (p = 0.004, 0.213, 0.001 & 0.800 respectively). These

finding may further be evaluated in longitudinal studies with larger sample sizes. It is estimated that about 50% of uterine Leiomyoma are asymptomatic, which is probably an understatement due to the great number of undiagnosed cases.[21] Pressure Symptoms (42.9%), Menorrhagia (32.9%) and anemia (27.1%) were the commonest outcomes of UL when assessed all participant females. These findings are in concordance with contemporary studies. [16,20,22] Some studies also reported that with menorrhagia, metrorrhagia, and pelvic pain were the most frequent presenting symptoms.[22] These symptoms help reach the correct diagnosis very rapidly. The longer duration and larger size of UL was found to be associated with higher rates of complications. UL cases are much underreported followed by the possibility of a significant number of undiagnosed cases or of expectantly managed asymptomatic cases among adolescents. These cases pose a great burden of morbidity and result in many maternal health and fertility related complications in future. Besides; UL put a significant impact on the quality of life of women of reproductive age, therefore; time diagnosis and treatment are vital to the health of women.

## Conclusion

In this study the most common outcomes of uterine leiomyoma are menorrhagia, pressure symptoms, infertility and anemia were observed in women. A policy and strategy should be planned for the screening of high-risk younger age females. The effective measure should be taken timely that can be led to better outcomes.

## References


1. Stewart EA, Cookson CL, Gandolfo RA, Schulze-Rath R. Epidemiology of uterine fibroids: a systematic review. BJOG. 2017 ;124(10):1501-12.
2. Marsh EE, Bulun SE. Steriod hormones and leiomyomas. Obstet Gynecol Clin North Am. 2006;33(1):59-67.
3. McWilliams MM, Chennathukuzhi VM. Recent Advances in Uterine Fibroid Etiology. Semin Reprod Med. 2017 ;35(2):181-9.
4. Van VB. A 41 years old women with menorrhagia anemia and fibroids: review of treatment of uterine fibroids. JAMA. 2009;301-82-93.
5. Okolo S. Incidence, aetiology and epidemiology of uterine fibroids. Best Pract Res Clin Obstet Gynaecol. 2008;22(4):571-88.
6. Ishtiaq S, Gazder DP, Khan N. Presentation and management of multiple uterine fibroids in an adolescent girl. Pak J Med Dent. 2014;3(2):55-8.
7. Shagufta NO, Khalid J. Adenomyosis among sample from hysterectomy due to abnormal uterine bleeding. J Ayub Med Coll Abbottabad. 2013;25(1-2):68-70.
8. Parker W. Etiology, Symptomatology and diagnosis of uterine myomas. Fert Steril. 2007;87:725-36
9. Saima G, Syed M. puberty menorrhagia: causes and management. J Med Sci. 2012:20(1):15-18.
10. Munro MG, Critchley HO, Fraser IS, FIGO Menstrual Disorders Working Group. The FIGO classification of causes of abnormal uterine bleeding in the reproductive years. Fertil Steril. 2011; 95:2204-7.
11. Moroni RM, Vieira CS, Ferriani RA, Reis RM, Nogueira AA, Brito LG. Presentation and treatment of uterine leiomyoma in adolescence: a systematic review. BMC Womens Health. 2015;15:4.
12. Wise LA, Laughlin-Tommaso SK. Epidemiology of uterine fibroids: from menarche to menopause. Clin Obstet Gynecol. 2016;59:2.
13. Wright KN, Laufer MR. Leiomyomas in adolescents. Fertil Steril. 2011;95(7):e2415– 37. 2434
14. Kayadibi Y, Ozmen E, Emir H, Emre S, Dervisoglu S, Adaletli I. Subserosal leiomyoma of uterus mimicking an ovarian tumor in adolescent patient. J Radiol. 2014;32:48–52.
15. Tsili AC, Lentoudi ED, Argyropoulou MI, Dalkalitsis N, Batistatou A, Paraskevaidis E. Fibromatous uterus in a 16-year-old girl: a case report. Case Reports in Med. Vol 2010; Article ID 932762. https://doi.org/10.1155/2010/932762
16. 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. International J Women's Health. 2013;5:689–94.
17. Begum S, Khan S. Audit of leiomyoma uterus at Khyber teaching hospital Peshawar. J Ayub Med Coll Abbottabad. 2004;16(2):46-9. PMID: 15455617.
18. Benecke C, Kruger TF, Siebert TI, Van der Merwe JP, Steyn DW. Effect of fibroids on fertility in patients undergoing assisted reproduction. A structured literature review. GynecolObstet Invest. 2005;59: 225–30.
19. Amjad S, Iqbal H, Bacha R, Gilani SA, Uzair M, Malik SS, Fatima M, Farooq SMY. Sonographic association of uterine firoids with infertility among women of childbearing age. Professional Med J 2020; 27(4):711-716.
20. Munusamy M, Sheelaa W, Lakshmi V. Clinical presentation and prevalence of uterine fibroids: a 3-year study in 3-decade rural South Indian women. Int J Reprod, Contracept, Obs Gynecol. 2017;6(12):5596-5601.
21. Divakar H. Asymptomatic uterine fibroids. Best Pract Res ClinObstetGynaecol. 2008;22(4):643–54
22. Zimmermann A, Bernuit D, Gerlinger C, Schaefers 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.