Determinants of Uterine Fibroids Among Married Women Attending Public Hospitals in Lahore, Pakistan

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Abstract:

Uterine fibroids (leiomyomas) are the most common tumors of female reproductive tract; these are the benign tumors of smooth muscle. Fibroids have been reported to occur in up to 70% of women by the age of 50 years.

Objectives:

To find out the determinants of uterine fibroids among married women attending Public Hospitals in Lahore, Pakistan.

Methods:

100 females with uterine fibroids aged 20-65 years were selected through Non- Probability convenient sampling technique from February to May 2018. Through pre-tested questionnaire data were collected and SPSS version 21.0 was used for data analysis.

Results:

The occurrence of fibroids was high among women age between 40-49 years about 46 %. 53% were from rural areas, 89 % of women family income was below 20,000. 25% of women had the family history of uterine fibroids.

Conclusions:

According to the current study obesity, early age at menarche, hormonal problem and young age at conception, and infertility were important risk factors to develop fibroids.

Key words:

Menorrhagia, Dysmenorrhea, Infertility, Miscarriages, Leiomyoma.

Introduction:

Uterine fibroids (leiomyomas) are the benign tumors of smooth muscle. These fibroids can cause pelvic pressure, pain, anemia due to heavy bleeding, infertility dysmenorrhea, and reduce the quality of life.[1] Fibroids have been reported to occur among the women by the age of 50 years up to 70 % of women.[2] uterine fibroids are the major problem for women throughout centuries. Their symptoms are related to the size, abnormal uterine bleeding and infertility. Uterine fibroids are classified intro four different categories depending on their growing location around uterus.[3] Risk factors of uterine fibroids are obesity, never have been married, young age at first child birth, history of infertility, and alcohol consumption.[4] This disease affects quality of life of many with these tumors, and represents large economic burden for health care system[5]. The risk of uterine tumors increased about 21 % with the increase of 10 kg body weight and BMI above 30. [6]

Hormones such as Estrogen and progesterone promote the development of uterine fibroids. These are rarely observed before puberty and become more prevalent during reproductive years and regress after menopause. Life time exposure to estrogen such as obesity and early menarche increase the incidence of fibroids. And protective factors are less exposure to estrogen by increasing exercise and parity [7]. Uterine fibroids are associated with the infertility and recurrent mischarges[8]. The estimated rate of infertility in women with uterine fibroids is about 5-10%[9]. Recent studies showed increased rate of miscarriages among pregnant women with fibroids. Multiple fibroids increase the rate of miscarriages as compare to the single fibroid (23.6% vs. 8.5%) respectively. And the location of fibroid is also very important[10]. Studies reported that chances of fibroids are increased with early age of menarche. Early age of menarche can cause other conditions such as endometrial and breast cancer. Recent studies showed the strong relationship between caffeine intake and alcohol consumption with the risk of developing

fibroids. Drinkers had high risk to develop uterine fibroids than the women who never consume alcohol and it depend upon the duration and dose. Among women age above 35 years, intake of caffeinated coffee (≥3 cups/daily) and caffeine intake (≥500mg/day) are both associate to increase the risk of fibroids [11]. Risks of developing fibroids are higher among women, who had the family history of fibroids and more likely to be diagnosed during their forties. Increased number of pregnancies decreases the number and incidence of myomas. Childbearing age 25-29 years provides greater protection to develop fibroids[12].

In this study the researchers tried to find out determinants of uterine fibroids among married women, in order to prevent the risk of uterine fibroids after knowing the responsible factors, so that burden of diseases in society may be reduced.

Methods:

A cross sectional study was conducted at Sir Ganga Ram Hospital Lahore, Pakistan.100 married women aged between 20 to 65 years with uterine fibroids were selected through non-probability convenient sampling technique from February to May 2018. Non-cooperative women were excluded. Data were collected through pretested questionnaire. Informed consent was taken from the subjects. SPSS version 21.0 were used for data analysis

Results:

The occurrence of fibroids was high among women age between 40-49 years about 46 %. 53% were from rural areas, 89 % of women family income was below 20,000. 25% of women had the family history of uterine fibroids. Young age at conception was the risk factor to develop uterine fibroids 73% females' age at conception were between 21-30 years. 81% were diagnosed with uterine fibroids after pregnancy, 55% had hormonal problem, 47% women used hormonal medicines and 38 % used oral contraceptives (Table 1).

Determinants	Frequency	Percentage %
Diagnosed after pregnancy	81	81
Hormonal problem	55	55
Use of hormonal medicines	47	47
Use of oral contraceptives	38	38

Table 1: Determinants of uterine fibroids

61% women's age at menarche was below 12 years and 39 % woman's age was above 12 years. According to results 18% women's length of menstrual cycle was 29-40 days, 32 % had less than 15 days and 50 % had 15-28 days. Menstruation duration of 17% women was less than 3 days, 23% had more than 6 days and 60 % woman's menstruation duration was 4-6 days.(Figure 1)

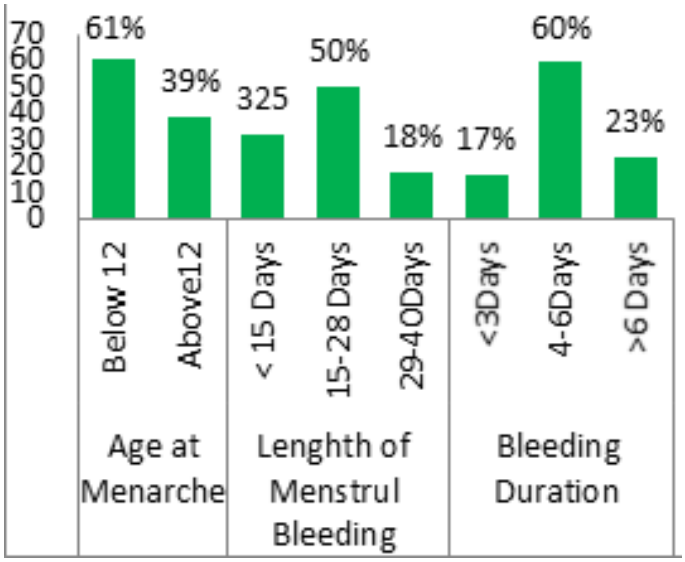

Figure 2: Determinants of uterine fibroids

According to results 89 % women felt abdominal pain during menstrual period, 91 % had heavy bleeding 88 % had irregular menstrual cycle and 59 % women had constipation.(Figure 2)

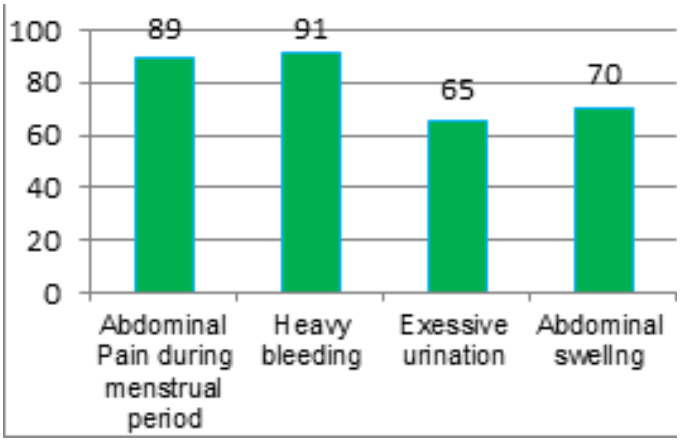

Figure: 2 Symptoms of uterine fibroids

According to Figure 4, 51% women were exposed to passive smoking, 55 % were physically inactive 86% perform physical activity less than 30 minutes and 14% more than 30 minutes. 25% women had gynecological infections. 30 % women were diagnosed with sexual transmitted diseases, 6 % had hepatitis, 3% genital herpes, and 21 % had gonorrhea. (Figure 3)

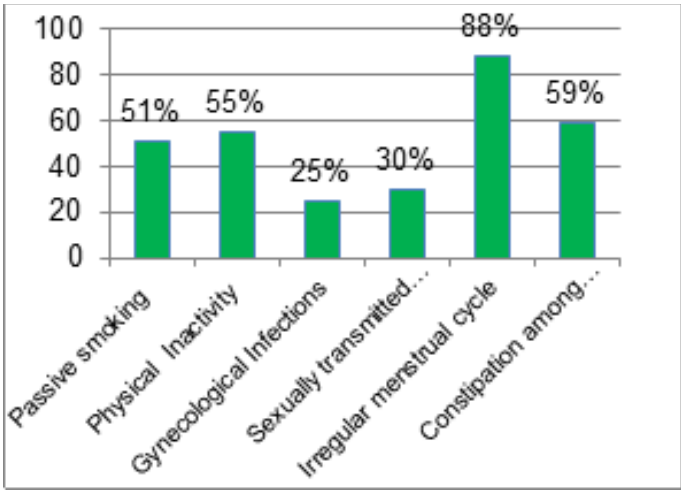

Figure 3: Risk factors of uterine fibroids

Discussion:

According to the results of the current study occurrence of fibroids was high in women age between 40-49 years i.e. about 46%. Similar results were found by Zimmermann A *et al.,* in 2007, that occurrence was highest in age group of 40-49 years.[13] According to current findings the occurrence of uterine fibroids was more common among women with high BMI, as 44% of women with uterine fibroids were overweight and 35 % were obese. Similar results were found by Dandolu V *et al.,* in Philadelphia in 2010 that there was positive correlation between high BMI and uterine weight[14]. Results of the current study did not find an association of family history with occurrence of uterine fibroids as only 25% of women had the family history of uterine fibroids. While contradictory results have been found by Parker WH, who noticed 2.5 times increased risk of developing fibroids in women who had the family history and first degree relatives with uterine myomas.[15] Similar findings were observed by Khalil M *et al.,* in 2011, that family history was most common risk factor leading to fibroids found in 58.8% Pakistani women.[16] Young age at the time of conception was found a risk of developing fibroids. Results of current study showed that 73% of woman's age at the time of conception was between 21-30 years. Similar findings were seen in the study conducted by Chen CR *et al.,* in 2001, in which young age at first child birth was found to increase the risk of uterine fibroids.[17] Hormonal imbalance in women can also be a risk factor in developing fibroid. According to results of current study, 55 % of the women had hormonal problem .Similar results were observed by Ekine AA *et al.,* in 2015 in which higher level of hormones such as estrogen and progesterone were found to promote the development of uterine myomas.[7] Age at menarche was also studied among women with fibroids. According to current study results showed that 61% women's age at menarche was below 12 years and 39 % woman's age was above 12 years. Similar findings were shown from a Study conducted by Khan AT *et al.,* in 2014 in which the risk of fibroids increased with early age of menarche.[18] Current Results of the study showed that 6% of women had three or more miscarriages, 13% had two, 30% had one and 51 % never had any miscarriages .These findings were found to be contradictory to study conducted by Lee HJ *et al.,* in 2010 in which a high rate of miscarriages was found among women with fibroids[19]. Results of the current study

showed that 91% women were having heavy bleeding during menstrual period while 9% but were not having heavy bleeding during their menstrual period. Similar results were observed by previous study conducted by Khalil M *et al.,* at Karachi civil hospital in 2011 in which frequency of menorrhagia in women with fibroids was 56.2% [20]. According to current results of study 51 % women were exposed to passive smoking and 49 % were not. Similar findings were observed in a prospective cohort study conducted in USA by Wong JY *et al.,* that the risk of uterine fibroids in women exposed to the environmental tobacco smoking is 1.28 times greater than former smokers [21].

Conclusions:

According to the current study women's age between 40-49 years, obesity, early age at menarche, hormonal problem and young age at conception were the risk factors of uterine fibroids. Exposure to passive smoking, and infertility were also found to be the important risk factors to develop fibroids.

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