

Awareness and knowledge of uterine fibroid among women in Kerala, India

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ABSTRACT

Uterine fibroid is a common pelvic tumor seen in women of reproductive age causing complications and affecting the quality of life of women. Despite the fact that fibroids are ubiquitous and have a major impact, public awareness of uterine fibroids is exceedingly low. Hence, the study aims to determine the amount of awareness present about uterine fibroid among women in Kerala. In order to assess the knowledge, an online based survey was carried out among women (n=417) for a period of six months. For that we had prepared a questionnaire which was divided into 2 parts, part 1 contains sociodemographic details of the participants, while the next part consisted of 21 questions which evaluates the knowledge of women towards uterine fibroid. The contact numbers or mail ID of women of different age groups were collected from certain women's social groups and the prepared questionnaire has been sent to women through social medias such as WhatsApp, Facebook, Gmail and the responses were collected. This study concluded that, approximately 66.4% of women are aware of uterine fibroid, while the rest have various misconceptions, and thus awareness must be spread about it. Various measures such as educational programs and camps must be conducted in rural areas to improve the awareness of uterine fibroid among women which help in early management and thereby preventing the complications of the disease.

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1. INTRODUCTION

Uterine leiomyoma or uterine fibroid is a common pelvic tumor seen in 20-40% of women of reproductive age [1], [2]. In most of the cases, it is asymptomatic, while in some cases, it exhibits certain symptoms such as heavy bleeding, passing blood clots, bloating, increased urinary frequency, abdominal pain or pressure, recurrent miscarriage or infertility [3]–[5]. Uterine fibroids affect women's standard of living and productivity [6]. Myomas respond to estrogen and progesterone gonadal steroids, and their epidemiology parallels improvements in reproductive hormones over the ontogeny and life cycle.

Although they were rarely identified in adolescents, when the myomas are symptomatic most women are in their 30s or 40s [7]. Reproductive factors affect the likelihood of myomas such as being parous reduces the chance of developing myoma [8], [9]. Though clinical teaching has been that oral contraceptives have been contraindicated for women with myomas for many years, these drugs actually protect against clinically apparent fibroids [8], [10], [11]. One theory suggests that myoma is developed during menstruation as a response to injury, potentially resulting from hypoxia in myometrial cells [12]. The threats of fibroid formation are also affected by environmental factors. Red meat consumption increases the risk and green

vegetables consumption reduced the risk [8], [13]. Quality of life is an important factor as it impacts clinical management and is an endpoint for long-term follow-up. Medical therapy as well as forms of surgical treatment such as hysterectomy, embolization of the uterine artery (UAE) and magnetic resonance (MR) imaging-guided ultrasound and abdominal myomectomy can be viewed as treatment options. In many countries including the US and France, uterine fibroids are a major cause of hysterectomy [14]–[17]. Fibroid treatment is usually necessary for women who have symptoms and those who are unable to become pregnant due to large uterine fibroids or fibroids that deform the uterine cavity [18]. The effect uterine fibroid has on women's quality of life is very high [19].

2. RESEARCH METHOD

A cross-sectional survey was carried out from May 15 to October 15, 2020 among women in Kerala, India. Due to the country's lockdown during data collection, a Google form was generated, and participants were asked to complete and submit it. The minimum sample size was 383 and it was calculated using Rao Soft sample size calculator with population size 90,000 approximately, margin of error 5% and confidence level 95%. This online based study assessed the awareness of uterine fibroid among women of reproductive age in Kerala. For that we developed a standard questionnaire based on various literatures [20], [21]. We collected the contact numbers or mail ID of women of different age groups from certain women's social groups. The prepared questionnaire has been sent to a finite populace of women through social medias such as WhatsApp, Facebook, Gmail and based on the feedback received, we made necessary changes in the questionnaire. The questionnaire consisted of two sections; first section was to know about the respondent's socio-demographic factors like name, age, educational status, marital status and number of children. The second section consisted of 21 questions regarding the awareness of uterine fibroid. Each question was answered by yes, no or don't know. The medical terms were translated to Malayalam. The Institutional Ethical Committee approved the study protocol (Ethical clearance certificate reference no. JKKNCP/ETHICS_PRACTICE/020PDS04). The study's primary objective was described to them, and their agreement was requested. The subjects of the study were interviewed using a structured questionnaire. They were given information on the study, its goals, and confidentiality assurances, and those who satisfied the inclusion criteria were asked to participate. Those who decided to participate voluntarily signed an informed consent form and were interviewed.

3. RESULTS AND DISCUSSION

Uterine fibroid is a common benign tumor of women's uterus. Even though researchers suggest a variety of reasons for the occurrence of uterine fibroid, the exact etiology is still unknown [6]. A proper treatment for this disease is a bit challenging and a complete cure is not attained only through medications. However, symptomatic therapy is done based on each individual. The current treatment options are limited to reducing the severity of symptoms and shrinking the tumor rather than eradicating it completely [7]. Other treatment methods include surgeries to completely remove the tumor or the uterus itself, but these procedures can result in bleeding, infections, functional limitations and infertility thereby affecting patient's quality of life [22]. One important factor to consider in uterine fibroids is the various symptoms experienced by the patients, however, due to lack of patient's knowledge makes it difficult to identify and assess the condition appropriately. Thus, the study brings forth to assess the knowledge of patients. The given Table 1 describes respondent's sociodemographic characteristics and Table 2 illustrates various questions asked to the participants and the proportion of responses given by them regarding the awareness of uterine fibroid.

In our study population, majority of the participants have good knowledge on uterine fibroid that when they were asked about what is uterine fibroid approximately 277 participants (66.4%) were answered correctly and about 71 participants (17%) believes that it is a fluid buildup while 26 participants (6.2%) believes that it is an embryo and rest 43 participants (10.3%) think that it is a blood clot as shown Table 2. The study conducted by Sarojini *et al.* [23] on awareness of uterine fibroid among menopausal women, also reported that 60% of their study population have proper knowledge on uterine fibroid.

In this study, the major risk factors analyzed were obese women, women above 30 years, and family history of fibroid. Out of 417 participants, 43.6% were aware about the risk factors of uterine fibroid. 87(20.9%) participants responded that women above 30 years are at high risk of uterine fibroid. 80 participants responded that women having a family history of fibroid were at high risk of developing fibroid contributing to 19.2% of the total participants. While 68 (16.3%) participants have the opinion that obese women are at high risk to develop uterine fibroid as shown in Table 2. A study conducted by Preethi *et al.* [24] states that 42% out of total population in their study answered that family history is the common cause of uterine fibroid. A total of 180 participants (43.2%) responded that heavy bleeding, frequent urination and enlarged abdomen are the symptoms of uterine fibroid as shown in Table 2. The 158 participants (37.9%)

responded that heavy bleeding is the only symptom of uterine fibroid. Even though 11.5% picked out enlarged abdomen, 7.4% answered frequent urination as the symptoms of uterine fibroid. This finding was similar to the verdict obtained by Preethi *et al.* [24] in their study that around 57% of the respondents answered that heavy bleeding is the symptom of fibroid, whereas in our study only 41.5% answered that heavy bleeding is the only symptom of uterine fibroid and 43.1% answered it accurately.

About 246 participants (69%) were aware about uterine fibroid that it doesn't have any association with marital status of the women and 88 participants (21.1%) don't know about this. Only 83 participants (19.9%) responded that uterine fibroid affects only married women. In our study about 183 participants (43.9%) responded that uterine fibroid affects the sexual life of women, 121 of them (29%) responded that uterine fibroid doesn't affect the sexual life of the patients and 113 of them (27.1%) doesn't know whether uterine fibroid affects the sexual life of women as shown in Table 2. A study conducted by Khan *et al.* [25] and Ertunc *et al.* [26] on uterine fibroid states that women with fibroids have more chances of having dyspareunia than those without fibroids thus negatively affecting their sexual life.

In our study about 209 participants (50.1%) responded that uterine fibroid doesn't resolve with self-treatment and about 113 of them (27.1%) doesn't know whether uterine fibroid resolves with self-treatment or they should follow medical treatment and the remaining 95 participants (22.8%) believes that uterine fibroid resolves with self-treatment as shown in Table 2. Treatment is needed for patients showing uterine fibroid symptoms. There are different treatment options available for uterine fibroid and the treatment method must be selected according to the condition of the uterine fibroid and the symptoms shown by the patient [27]. Medical treatments such as oral contraceptives, painkillers and iron supplements are given for uterine fibroids [28]. However, a previous study which was conducted among Indian population by Subramaniyam *et al.* [29] has reported that almost one third of the participants managed their fibroid with local herbs.

The results obtained from our study revealed that about 33.8% (n=141) of them believed that uterine fibroid affects pregnancy and around 31.9% (n=133) of them doesn't know whether uterine fibroid affects pregnancy or not and 34.3% (n=143) of them responded that uterine fibroid doesn't affect pregnancy as shown in Table 2. Similarly, the study conducted by Subramaniyam *et al.* [29] concluded that about 52.7% of the participants believed that uterine fibroid affects child bearing. According to the studies conducted by Rita *et al.* [30] and Atombosoba *et al.* [31] uterine fibroids produce adverse impact on pregnancy. It may cause sub-fertility or unexplained fertility and can be removed through myomectomy. Even though, pregnancy is possible with uterine fibroid, about 10 to 30% of women may develop complications [32]. Also, the rate of miscarriage is high in women with uterine fibroid [33]. High uterine irritability and contractility, decreased blood supply to fetus and placenta and the compressive effect of fibroids may be the reasons for spontaneous abortion in pregnant women having fibroids [34]. About 29.7% of the participants (n=124) believed that fibroids grow during pregnancy, 34.1% of them (n=142) responded that fibroids don't grow during pregnancy and 36.2% of the participants (n=151) are not aware about the fact that uterine fibroid grows during pregnancy as shown in Table 2.

In our study population, about 146 (35%) participants doesn't believe that surgery is the only remedy for uterine fibroid but the other 166 respondents (39.8%) believes that surgery is the only remedy for uterine fibroid and the rest 105 participants (25.2%) doesn't have any idea about it, this may hinder them from going for treatment due to the fear of surgery as shown in Table 2. A previous study conducted by Subramaniyam *et al.* [29] found out that 83% of the women feared of surgical complications and this hinder them from going for treatment. Women should have awareness about available treatment options like medical, radiological and surgical and why they may or may not be appropriate. Some women need individualized treatment, such as women who are close to menopause or who are trying to conceive. Banu *et al.* [35] suggested that different treatment options such as medication, surgery, myolysis and uterine artery embolization are there for uterine fibroids. Emuveyan *et al.* [36] have stated that hysterectomy or myomectomy can be performed to remove the fibroid depending on the age of the women. Endoscopic surgery, a minimally invasive surgery is also available in developed countries.

In this study, more than half of the participants 65% (n=271) answered that uterine fibroid affects the quality of life of the women. While 20.1% (n=84) of the participants do not have any clue that whether uterine fibroid affects quality of life of the patient or not. A study conducted by Smailova *et al.* [37] found that uterine fibroid decreases the quality of life of patients due to its symptoms and it affects their physical activity and psychological health. Munusamy *et al.* [38] in their study have said that women with uterine fibroid need to visit the hospital frequently due to symptoms like heavy bleeding thus affecting their life emotionally. Uterine fibroids can also cause morbidity in about 40% of women. The result obtained from the survey is depicted in the pie chart as shown in Figure 1.

Table 1. Demographic characteristics of the respondents (n=400)

Characteristics	n (%)
Age	
16-25 years	309 (72%)
26-35 years	59 (13%)
36-50 years	38 (0.08%)
Above 50 years	11 (0.05%)
Marital status	
Single	286 (68.6%)
Married	122 (29.3%)
Divorced	6 (1.4%)
Widowed	3 (0.7%)
Educational status	
Primary	4 (1%)
Secondary	29 (7%)
Higher secondary	99 (23.7%)
Graduate	285 (68.3%)

Table 2. Awareness about uterine fibroid

Questions	n (%)
Does the risk of developing fibroid decreases with menopause?	Yes 171 (41%) No 129 (30.9%) Don't know 117 (28.1%)
Having fibroid increases the risk of uterine cancer	Yes 251 (60.2%) No 78 (18.7%) Don't know 88 (21.1%)
Is treatment necessary for uterine fibroid?	Yes 322 (77.2%) No 26 (6.2%) Don't know 69 (16.5%)
Whether uterine fibroid resolves with self-treatment?	Yes 95 (22.8%) No 209 (50.1%) Don't know 113 (27.1%)
Does uterine fibroid affect only married women?	Yes 88 (21.1%) No 246 (59%) Don't know 83 (19.9%)
Is pregnancy possible with uterine fibroid?	Yes 141 (33.8%) No 143 (34.3%) Don't know 133 (31.9%)
Does fibroid grow during pregnancy?	Yes 124 (29.7%) No 142 (34.1%) Don't know 151 (36.2%)
Is surgery the only remedy for uterine fibroid?	Yes 166 (39.8%) No 146 (35%) Don't know 105 (25.2%)
Does uterine fibroid affect menstruation?	Yes 302 (72.4%) No 33 (7.9%) Don't know 82 (19.7%)
Is there any association between lifestyle factors and uterine fibroid?	Yes 275 (65.9%) No 55 (13.2%) Don't know 87 (20.9%)
Does uterine fibroid affect sexual life?	Yes 183 (43.9%) No 121 (29%) Don't know 113 (27.1%)
Does uterine fibroid affect your quality of life?	Yes 271 (65%) No 62 (14.9%) Don't know 84 (20.1%)
Being nulliparous or less parity increases the chance of uterine fibroid?	Yes 109 (26.1%) No 160 (38.4%) Don't know 148 (35.5%)
Is uterine fibroid a common disease among women?	Yes 230 (63.5%) No 72 (19.9%) Don't know 60 (16.6%)
Is uterine fibroid a serious disease?	Yes 199 (55%) No 109 (30.1%) Don't know 54 (14.9%)
Is uterine fibroid hereditary?	Yes 142 (34.1%) No 166 (39.8%) Don't know 109 (26.1%)
Does diseases like hypertension and diabetes increases the chance of uterine fibroid?	Yes 108 (25.9%) No 193 (46.3%) Don't know 116 (27.8%)

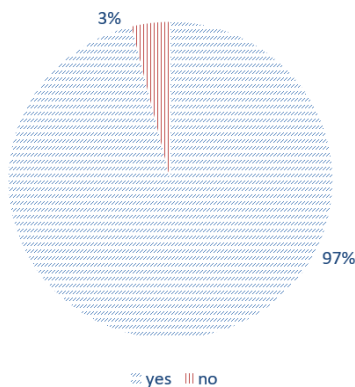


Figure 1. Do you think education about uterine fibroid is necessary?

The result shows the necessity of education of uterine fibroid among women. Majority of participants (96.6%) responded that education about uterine fibroid is necessary and minority of participants (3.4%) responded that educational programs are not necessary. This reflects that there are people who are still reluctant to openly discuss about this issue. Thus, from the study it is clear that educational programs must be conducted to increase the awareness of uterine fibroid among women.

4. CONCLUSION

This study concluded that even though women have some sort of awareness about uterine fibroid, there are many misconceptions regarding uterine fibroid among women and therefore awareness must be spread regarding that. This might be the reflection of numerous advertisements and publicity generated from media and also from certain traditional illiterate people. Various measures need to be taken to rise the knowledge of the women about uterine fibroid. Educational programmes can be conducted to increase their awareness of uterine fibroid. Camps can be conducted in rural areas regarding uterine fibroid to improve the awareness of women which help in early management and thereby preventing the complications of the disease. Awareness of uterine fibroid among women can also be enhanced through distribution of printed publications like pamphlets and leaflets containing important information about uterine fibroid in their local language. After the submission of response to the questions, a brief information about uterine fibroid has been provided. This will give an insight to the disease. If more awareness is generated to the women, fibroids can be detected early thus reducing the morbidity and thereby improving the quality of health.

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