

A Study on Awareness about Fibroadenoma

Ginjinder Kaur, Manroop Kaur and Manpreet Kaur

Department of Human Genetics, Punjabi University, Patiala-147002 (India)

Abstract

Fibroadenoma of the breast is the most common non-cancerous breast lump in young female population. Fibroadenomas are the most common breast diseases in adolescents. The overall incidence of fibroadenoma is 2.2% in the total population and it is more common in urban females as compared to rural females. For the present study, data was collected from 300 women (100 unmarried pre-menopausal, 100 married pre-menopausal and 100 married postmenopausal) of Anandpur Sahib, Rupnagar, Punjab, in order to evaluate the general awareness regarding fibroadenoma among them. There were statistically significant differences among three groups of females with respect to awareness about fibroadenoma, awareness about the effect of menopause, awareness of fibroadenoma during pregnancy and awareness about higher vulnerability of fibroadenoma during pregnancy. Majority of the population was unaware about the risk factors associated with fibroadenoma. The present study illustrated lack of knowledge among the studied population. The studied subjects were unaware about the various risk factors of fibroadenoma such as effect of body fat, effect of pregnancy and use of oral contraceptives. The study concluded that there is a need to aware the population about the various risk factors and symptoms of fibroadenoma.

Fibroadenoma of the breast is the most common non-cancerous breast lump in young female population. It is generally observed in women under the age of 30 years⁹. Fibroadenomas are the most common breast diseases in adolescents³. It is a benign breast tumour with epithelial and stromal components. It is also known as breast mice or breast mouse due to its high mobility. It originates from a breast lobule and can be situated anywhere in the breast. It is usually painless in nature and its size varies between one to three centimetres¹⁴.

They account for 68% of all breast masses and 44-94% of all biopsied breast lesions. More than 70% of fibroadenomas are present as a single mass whereas 10%-25% of fibroadenomas are present as multiple masses¹⁵. The overall incidence of fibroadenoma is 2.2% in the total population^{21,10}. Findings suggest that fibroadenoma is more common in urban females as compared to rural females²⁰. In India, more than 1 million cases are diagnosed per year, out of which most of the cases of fibroadenoma are common among teenagers (14-18 years)

and adults (19-32 years) but Paepke *et al.*¹⁸ reported that it is rarely found in elderly adults (41-60 years). In Punjab, fibroadenoma is one of the most common benign breast tumour which is reported in 50% of the patients followed by 12% breast abscess seen as a lump filled with pus that occurs under the skin of breast. It is most common in females who are breast feeding². A study by Krhvosky *et al.*¹² concluded that fibroadenomas are hormone-dependent tumours, which can grow rapidly during pregnancy and lactation. Age should be considered as an important factor in the incidence of fibroadenoma. Another significant factor is family history. Female patients who have first-degree relatives with breast cancer should be monitored and observed carefully as compared to the patients without family history¹.

In fibroadenoma, the lumps are generally solid in nature. They are round with distinct borders. Usually, the lumps are movable in nature. The size of lump varies from small to giant depending on the type of fibroadenoma. Fibroadenoma is mainly categorised into five types: simple fibroadenoma, complex fibroadenoma, juvenile fibroadenoma, giant fibroadenoma and phyllodes fibroadenoma.

The main cause of fibroadenoma in females is not yet discovered but there are certain reasons which are related with occurrence of fibroadenoma. The major causes of fibroadenoma are hormonal imbalance and intake of oral contraceptives. The fibroadenoma is also formed during pregnancy due to an increase or decrease in the level of hormones in females⁴. Studies suggest that genetics plays an important role in causing fibroadenoma¹⁶ and

a mutation in MED 12 gene is observed in patients with fibroadenoma¹⁷.

There are many techniques used for detection of fibroadenoma such as Breast Self-Examination (BSE), clinical examination, mammography, and biopsy. During BSE method, a female can herself easily detect any kind of lump or swelling in the breast¹³. The most significant and most effective method for screening or diagnosing any abnormality in breast is Mammography as it provides a mammogram which gives a safe and low dose X-ray picture of the breast⁷. Another well-known method is Breast biopsy, which is an invasive method of examining the fluid from the breast under the microscope to check the presence of any breast complications. Unlike biopsy, Ultrasonography is a non-invasive and safe method for the detection of any lump in the breast. High frequency sound waves are used to produce the visible images on computer from the pattern of echos made by the different tissues of breast. In Fine Needle Aspiration and Cytology or FNAC method, defective tissue or lump is extracted from the breast for microscopic analysis.

There are many methods which are used for the treatment of fibroadenoma such as surgery, cryoblation, High Intensity Focused Ultrasound (recent technique for treatment of malignant and benign tumour of breast) and the use of alternate medication such as Ayurvedic and Homeopathic medications which help in improving the symptoms of fibroadenoma, side effects of conventional treatment and also the quality of life of women.

Fibroadenoma is a type of benign tumor that occurs in young women below the

age of 35 years. The rate of occurrence of fibroadenoma in women has been reported in literature to range from 7 percent to 13 percent. The number of cases of fibroadenoma cases is increasing at an alarming rate but there is lack of awareness among the population of Punjab and there is paucity of literature related to fibroadenoma. So, the present study was designed to assess the awareness level about fibroadenoma among young females and the risk factors associated with it.

The present study was carried out on 300 women (100 unmarried pre-menopausal, 100 married pre-menopausal and 100 married postmenopausal) of Anandpur Sahib, Rupnagar, Punjab from January to April 2019. Demographic variables like age, menopausal status, marital status, education, place of residence, income, previous history of cancer in self or family and general information related to fibroadenoma were collected. Detailed information regarding their awareness about fibroadenoma has been assessed through questionnaire.

Statistical method :

Collected data was compiled, tabulated in the form of excel sheets using MS excel and then it was compiled by calculating the frequency of each parameter. The results were further interpreted in the form of percentage. Inter group differences were compared by using chi-square test.

Out of the studied population, majority of the subjects (98% unmarried, 95% married pre-menopausal and 84% married post-menopausal) had no family history of cancer and had never performed BSE (100%, 89%, 92% among unmarried, married pre-menopausal, married post-menopausal respectively). A total of 95% of the total subjects never got regular mammography done. Out of the studied subjects, 7% (unmarried), 21% (married pre-menopausal) and 18% (post-menopausal) females were aware about the role of injury in the formation of fibroadenoma (Table 1). Majority of the

Table-1. Awareness about fibroadenoma among different groups of females regarding family history and personal evaluation.

Groups (Women)	Unmarried (18-27 years)		Married pre-menopausal (22-42 years)		Married post-menopausal (45-71 years)		Chi-square value (p-value)
Variables	Aware (%)	Not aware (%)	Aware (%)	Not aware (%)	Aware (%)	Not aware (%)	
Family history of cancer	2	98	5	95	16	84	15.350*** (0.00046)
Subjects performing BSE	2	98	11	89	8	92	6.451* (0.03972)
Regular mammography of subjects	1	99	10	90	5	95	8.054* (0.01782)
Role of injury in formation of fibroadenoma	7	93	21	79	18	82	8.703* (0.01521)

*Statistically significant= $p < 0.05$, ***Statistically significant= $p < 0.001$

Table-2. Awareness about fibroadenoma among different groups of females
with respect to various variables

Groups (Women)	Unmarried (18-27 years)		Married pre-menopausal (22-42 years)		Married post-menopausal (45-71 years)		Chi-square value (p-value)
Variables	Aware (%)	Not aware (%)	Aware (%)	Not aware (%)	Aware (%)	Not aware (%)	
Awareness about fibroadenoma in the population	10	90	46	54	43	57	36.092*** (<0.00001)
Awareness about the effect of menopause	4	96	10	90	15	85	6.947* (0.03100)
Awareness about the effect of menarche	3	97	9	91	8	92	3.321 (0.19000)
Awareness of fibroadenoma during pregnancy	5	95	39	61	33	67	34.523*** (<0.00001)
Awareness about the risk of fibroadenoma in child birth	7	93	14	86	13	87	2.852 (0.24018)
Awareness about the effect of oral contraceptive	4	96	8	92	5	95	1.621 (0.44457)
Awareness about symptoms of fibroadenoma	3	97	12	88	10	90	5.847 (0.05373)
Awareness about the effect of body fat	3	97	2	98	2	98	0.292 (0.86392)
Awareness about hormonal therapy	3	97	5	95	2	98	1.448 (0.48474)
Awareness about higher vulnerability of fibroadenoma during pregnancy	5	95	39	61	33	67	34.523*** (0.00001)

*Statistically significant= $p < 0.05$, ***Statistically significant= $p < 0.001$

studied population were significantly unaware about the disease and the awareness levels showed statistically significant differences for all the studied parameters.

Out of the total population, majority of the subjects were unaware about fibroadenoma whereas only 10% unmarried, 46% married pre-menopausal, 43% married post-menopausal women were aware about fibroadenoma. More than 80% of the studied individuals were unaware about the effects of menopause and menarche. The study concluded that 95% unmarried, 61% pre-menopausal married and 67% post-menopausal married females were unaware about the role of pregnancy in the formation of fibroadenoma. A large percentage of the subjects (93% unmarried, 86% pre-menopausal married and 87% post-menopausal married) had no knowledge about the risk of fibroadenoma during child birth. An average of 91% subjects were unaware about the symptoms of fibroadenoma and an average of 98% subjects were unaware about the effect of body fat on fibroadenoma. Out of the total sample, 97% unmarried, 95% pre-menopausal married and 98% post-menopausal married females were not aware about the fact that usage of hormonal therapy could lead to fibroadenoma. There were statistically significant differences among the three groups of females with respect to awareness about fibroadenoma in general, effect of menopause, fibroadenoma during pregnancy and higher vulnerability of fibroadenoma during pregnancy (Table-2).

Koksal *et al.*¹¹ analysed adolescents and children with complaints related to breast and observed that 17.8% subjects with family history of breast cancer were aware that

cancer history in the family was a risk factor for fibroadenoma. Whereas, in the present study, only 7.66% subjects had family history of cancer and there was lack of awareness regarding risk factors of fibroadenoma. The present study reported that 93.7% women never performed BSE which was in agreement with the results of earlier studies by Gupta *et al.*⁸ and Rahman *et al.*¹⁹ in Indian and UAE populations respectively. A study conducted by Tazhibi *et al.*²⁴ showed that the level of awareness about breast diseases was very low among the studied population. In the present study, only 8.33% subjects were aware about the symptoms of fibroadenoma. Thus, the present study showed similar results with the ones reported by Tazhibi *et al.*,²¹.

Solikhah *et al.*,²³ conducted a study among Indonesian women regarding awareness level about breast cancer risk factors and concluded that urban women had lesser knowledge of breast cancer risk factors as compared to women living in the rural areas. The present study concluded that only 33% of the studied subjects were aware about fibroadenoma and majority of the population had poor knowledge about the disease, which was in agreement to the earlier investigations.

A study conducted by Gadducci *et al.*⁶ reported that most of the studied subjects were unaware of the fact that long-term hormonal replacement therapy (HRT) could lead to an increased incidence of benign breast disease among women. The present study reported that majority of the population were unaware about the high risk potential of HRT to cause fibroadenoma. According to a study reported by Vessey and Yates²⁵, low-dose combined oral

contraceptives reduced the risk of fibroadenoma in females. In comparison in the present study, there was lack of awareness among people about the effects of oral contraceptives in causing fibroadenoma. A study conducted by Shu *et al.*²² in Shanghai population reported that there was a strong association between body weight and benign breast diseases whereas in the present study only 1.33% subjects agreed with these results. Hence, it can be concluded that the present study showed lack of awareness about the effects of body fat in fibroadenoma.

Ezeonu *et al.*,⁵ reported that prevalence of fibroadenoma is high during pregnancy due to the increasing levels of female hormones and growth factors while the present study observed that only 25.66% females agreed to be aware that pregnancy could lead to fibroadenoma.

The present study illustrated lack of knowledge among the studied population. Majority of the population had never performed BSE and there was lack of awareness regarding the symptoms of fibroadenoma. The study also concluded that majority of the population was unaware about the long-term implications of hormonal replacement therapy (HRT) which could lead to increased incidence of benign breast disease in women. The studied subjects were unaware about the various risk factors of fibroadenoma such as effect of body fat, pregnancy and use of oral contraceptives. It can be concluded that there is a need to create awareness through lectures and workshops among the population about the various risk factors and symptoms of fibroadenoma and there should be complete participation of parents, teachers and NGOs in it.

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