

# PROSPECTIVE COHORT STUDY OF BENIGN BREAST DISEASES

**DR NAIK H.M.**

Associate prof. Dep. of surgery Vikhe Patil Hospital Ahmednagar

**DR MAGAR R.A**

Assistant prof. Dep. of surgery Vikhe Patil Hospital Ahmednagar

**DR TANWAR H.V.**

Assistant prof. Dep. of surgery Vikhe Patil Hospital Ahmednagar

**CO AUTHER:  
DR DABADE S.V.**

Junior resident. Dep. of surgery Vikhe Patil Hospital Ahmednagar

**DR MRS JUNAGADE T.P.**

Ass.Prof Sr resident Dep. of surgery Vikhe Patil Hospital Ahmednagar

**Objective:** To determine the frequencies of various benign breast diseases (BBD) in female patients in Dr Vikhe Patil Medical College and Hospital Ahmednagar.

**Methodology:** This prospective cohort research includes all female patients with breast issues who visit the surgery clinic. The Dr. Vikhe Patil Medical College and Hospital in Ahmednagar hosted this study over the course of nearly two years, from August 2020 to August 2022. The research covered all female patients with breast issues who visited the surgery clinic. Patients with clear clinical signs of malignancy or those who were shown to have carcinoma after a workup were not included in the research.

**Results:** The research involved 193 patients in total. Between the ages of 21 and 30 years, almost 44% (90/193) of the patients were in their third decade of life, and 33% were in their fourth (age between: 31 – 40 years). The most frequent benign breast illness was fibroadenoma, which affected 27% (35/193) of patients. Fibrocystic disease affected roughly 21% (27/193) of patients. **Conclusion:** Females of reproductive age frequently experience benign breast diseases (BBD). The most prevalent benign breast illness in our system is fibroadenoma, which is often diagnosed in the second and third decades of life. The next prevalent BBD, whose prevalence rises with age, is fibrocystic breast disease.

**KEY WORDS:** *Benign breast disease, Fibroadenoma, Fibrocystic diseases, Galactoceles, Mastalgia*

## INTRODUCTION:

The phrase "benign breast diseases" (BBD) refers to a diverse set of lesions that can exhibit a variety of symptoms or be found by chance during microscopic examination. All non-malignant breast disorders, such as benign tumours, trauma, mastalgia, mastitis, and nipple discharge, are included in BBD. Pathologic alterations that have no effect on a patient's chance of getting cancer, lesions that marginally raise risk, and lesions that carry a risk of breast cancer of up to 50% are all examples of benign tumours. A palpable lump, discomfort, and nipple discharge or inversion might be symptoms of 2 BBD. In comparison to malignant tumours of the breast, the issue of BBD has received stepmotherly care and has been a comparatively overlooked element of breast disorders. This is true even though the great majority of breast lesions are benign and it has been noted that benign breast lesions are far more common than malignant ones. 1,3 Additionally, it has been observed that breast clinic patients will have non-malignant conditions in at least 90% of cases. 4,5 It was deemed reasonable to assess the range of BBD in this region of the world given the background circumstances. The purpose of this study was to ascertain the prevalence of different BBD among our hospital's female patients.

## Materials and Methods:

This study included a total of 193 female patients with benign breast disorders. Their clinical, radiological, and pathological findings, as well as their epidemiological traits, were studied.

**Inclusion criteria:**

Female patients clinically diagnosed as having benign breast diseases were included in this study after obtaining their written consent and on guidelines as per the institute's ethical committee.

**Exclusion criteria:**

1. Cases diagnosed as having malignant breast disease were excluded.
2. Women who were previously treated for breast malignancy.

A detailed history and clinical examination of the patients was done – General physical, systemic and local examination of both breasts. USG and/or Mammography of both breasts were done. FNAC and/or Histopathology of benign breast lesion was done.

**Statistical analysis:**

At the end of the study, statistical calculations were performed using the SPSS 16.0 software.

**RESULTS:**

Patients were included in the trial for a total of three years, from March 2004 to February 2007. The majority of patients (44%) were between the ages of 21 and 30 (third decade), followed by 33% between the ages of 31 and 40 (fourth decade), 11% between the ages of 41 and 50 (fifth decade), and 10.5% between the ages of 51 and 60 (second decade) (aged between 11 and 20). Fibroadenoma, which affected 27% of patients, was the most prevalent benign breast illness, followed by fibrocystic disease, which affected roughly 21% of patients. Breast abscess, duct ectasia, and mastalgia were all detected in 16%, 12%, and 11% of patients, respectively. Additionally, 4.7% of patients had duct papilloma's, 2.5% had galactoceles, and 4% of patients had tuberculous mastitis. About 57% of fibroadenoma patients were in their third decade of life, followed by 32% in their second decade. About 51% of fibrocystic disease patients were in their fourth decade, 26% were in their fifth, and 17.5% were in their third. Patients (58%) in their third decade and patients (33.3%) in their fourth decade frequently had breast abscesses. A little over 38% of patients with duct ectasia were diagnosed in their fourth decade of life, followed by 35% in their third and 26% in their fifth. About 45% of mastalgia cases occurred in the third decade of life, while 35% occurred in the fourth. 57% of patients were diagnosed with galactoceles in their fourth decade of life, which made up 2.5% of all BBD. Duct papilloma was similarly prevalent in both the third and fourth decades of life, although granulomatous mastitis was more frequent—54%—in the third decade. Table-I presents a thorough description of these BBD according to the various age groups.

Table-I: Distribution of being breast diseases in various age groups

| Sr no | diseases                    | Age in years |       |       |       |       | totals |
|-------|-----------------------------|--------------|-------|-------|-------|-------|--------|
|       |                             | 1-20         | 21-30 | 31-40 | 41-50 | 51-60 |        |
| 1     | <i>Fibroadenoma</i>         | 20           | 30    | 5     | 1     |       | 56     |
| 2     | <i>Breast abscess</i>       | 3            | 20    | 15    | 1     |       | 39     |
| 3     | <i>Mastalgia</i>            | 2            | 10    | 12    | 1     |       | 25     |
| 4     | <i>Tuberculous mastitis</i> |              | 5     | 4     | 1     |       | 10     |
| 5     | <i>Duct papilloma</i>       |              | 5     | 6     |       | 2     | 13     |
| 6     | <i>Galactocoele</i>         |              | 2     | 4     |       |       | 6      |
| 7     | <i>Duct ectasia</i>         |              | 2     | 3     | 10    |       | 15     |
| 8     | <i>Fibrocystic disease</i>  |              | 4     | 9     | 12    | 2     | 27     |
| 9     | <i>Fat necrosis</i>         |              |       | 2     |       |       | 2      |
| Total |                             | 25           | 78    | 60    | 26    | 4     | 193    |

## DISCUSSION:

The breast is a dynamic structure that experiences several physiological stages, including 7 pregnancy, breastfeeding, involution, cyclic changes, and development. These physiological changes give rise to the idea of an aberration of normal development and involution (ANDI). This doesn't mean that BBD doesn't exist; rather, it only means that it should only be used to describe illnesses that are so severe as to be obviously anomalous. The age range of BBD patients in our research ranged from 11 to 40, with the largest prevalence (43.5%) occurring in the 21 to 30 age group. The breast is a dynamic structure that passes through many physiological stages. These results are consistent with those of the Out AA6 experiment, whose patients were mostly young adults. Ihekweaba's study from Western Africa indicates that between the ages of 21 and 40, BBD virtually equally affected patients. 8 Dunn et al., however, disputes the findings of all the studies described above, where the median age of the BBD patients was 50. 9 In our study, 75 of the patients had fibroadenoma, the most prevalent BBD. The breast is a dynamic structure that goes through several physiological phases. These outcomes are reliable. Fibroadenoma was most frequently observed (57%) in individuals in their third decade of life (21–30 years) and (32%) in those in their second decade of life (11–20 years). This finding was confirmed in two local studies, where fibroadenoma was identified as a prevalent BBD with incidence rates of 42% and 45%, respectively. 10,11 In a study of roughly 698 BBD patients, Murillo et al. discovered a 38% incidence of fibroadenoma. 4 In the most recent literature, there was no discernible difference in the age groups with fibroadenoma. 8 This is related to increased awareness among females as a result of its presentation as a freely moving distinct lump in the breast of young females. In our study, the second most prevalent BBD (21%) was fibrocystic disease. The vast majority of fibrocystic disease patients (51%) were in their fourth decade of life, while 26% were in their fifth. Fibrocystic disease was identified by Rashid et al. 10 and Ali et al. 11 as the second most prevalent BBD, behind fibroadenoma, with 36% and 17% of cases, respectively. According to Stern et al. 12, fibrocystic disease is most prevalent in women of all ages, particularly those in their middle years. In their study of 234 patients, Chaudhary et al. 8 discovered that fibrocystic disease was the most prevalent BBD, with the maximum age at which it occurred being in the fifth decade of life, while Kamal et al. discovered that 65% of patients with breast fibrocystic disease were between the ages of 31 and 50. 13 Patients with fibrocystic disease vary in age based on their geographic location. Possible explanations include social custom, menarche and parity ages, breastfeeding practises, the use of birth control pills, and self-awareness. Due to low female literacy rates and more rural areas, fibrocystic disease-affected females typically only see a surgeon when their symptoms are seriously concerning. Fibrocystic changes are currently thought to be the most prevalent and common type of BBD. Women between the ages of 20 and 50 who are premenopausal are typically affected by such changes. 1,2 The term "fibrocystic disease" is now preferred because this process is noticeable, despite the fact that many other names have been used to describe this entity over the years, including (fibrocystic disease, Cystic mastopathy, chronic cystic disease, mazoplasia, Reclus's disease). 13 Patients with fibrocystic disease vary in age based on their geographic location. Possible explanations include social custom, menarche and parity ages, breastfeeding practises, the use of birth control pills, and self-awareness. Due to low female literacy rates and more rural areas, fibrocystic disease-affected women typically only see a surgeon when their symptoms are histologically evident in 90% of cases and clinically evident in up to 50% of cases. 14,15 In our study, 16% of the patients experienced a breast abscess, with the incidence peaking in the third decade of life. During the first three months following delivery, this was most frequently seen in lactating females. Acute bacterial mastitis is common at any age, according to Barton et al, but it affects lactating women the most. 13 There are regional differences in the age group among fibrocystic disease patients. Possible explanations include social custom, menarche and parity ages, breastfeeding practises, the use of birth control pills, and self-awareness. Because it can mimic invasive carcinoma clinically, 116 mammary duct ectasia, also known as periductal mastitis, is a unique clinical entity. 1 In our study, 12% of the patients had duct ectasia, with almost equal incidence seen in the third and fourth decade of life. More than 40% of Western patients with duct ectasia have significant duct dilatation by the age of 70 years. 3 It typically manifests as nipple discharge, a palpable subareolar mass, pain, nipple inversion (Slit-like), or nipple retraction. Smoking In our study, 11% of patients experienced mastalgia. In our study, 11% of the participants had mastalgia. 25% of referrals to breast clinics in the West are due to mastalgia 3, a condition that can affect up to 70% of women at some time in their lives. 8 In our study, 90% of the mastalgia patients varied in age from 11 to 40, with the majority being in their third decade. However, western women in their fourth and fifth decades of life experienced this more frequently. Nipple discharge was the most prevalent presentation in our research, where 4.7% of the patients had duct papilloma's. Granulomatous mastitis, which can be brought on by an infection, a foreign item, or a systemic inflammatory condition, can damage the breast. In our research, granulomatous mastitis affected 11 participants (4%). Mastalgia was reported by 11% of the individuals in our research. Throughout the West, 25% of referrals to breast clinics are due to mastalgia 3, which can affect up to 70% of women at some time in their life. 8 In our study, 90% of the mastalgia patients were between the ages of 11 and 40, with the largest proportion in their third decade. However, western women in their fourth and fifth decades of life were more likely to experience this. In our study, duct papilloma's were found in 4.7% of the patients, with nipple discharge being the most common manifestation. Granulomatous mastitis can affect the breast and be brought on by an autoimmune condition, a foreign item, or an infectious source. In our research, 11 individuals (4%) experienced granulomatous mastitis.

## CONCLUSION:

BBD issues are prevalent in females who are of reproductive age. Women frequently consult with or are referred to breast clinics for the following issues: palpable lumps, breast pain, and nipple discharge. The most prevalent benign breast disease in our system is fibroadenoma, which is typically diagnosed in the second and third decades of life. The next prevalent BBD, whose incidence rises with age, is fibrocystic breast disease.

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