How to Cite:
Kumar, S., Verma, R. L. S., Kumar, A., Kumar, R., & Gupta, U. K. (2022). Study of occurrence of benign breast disease according to age groups, marital status and parity. *International Journal of Health Sciences*, *6*(S1), 12232–12239. https://doi.org/10.53730/ijhs.v6nS1.8061

Study of occurrence of benign breast disease according to age groups, marital status and parity

Shesh Kumar
Assistant Professor, Department of Surgery, Uttar Pradesh University of Medical Sciences, Saifai-Etawah-206130, India

Ram Lakhan Singh Verma
Assistant Professor, Department of Surgery, Uttar Pradesh University of Medical Sciences, Saifai-Etawah-206130, India

Anil Kumar
Assistant Professor, Department of Surgery, Uttar Pradesh University of Medical Sciences, Saifai-Etawah-206130, India

Rajesh Kumar
Associate Professor, Department of Surgery, Uttar Pradesh University of Medical Sciences, Saifai-Etawah-206130, India
Corresponding author email: verma.rajesh4848@gmail.com

Umesh Kumar Gupta
Assistant Professor, Department of Surgery, Uttar Pradesh University of Medical Sciences, Saifai-Etawah-206130, India

***Abstract*---**Background: With the better understanding of physiology and development of breast tissue it is by and large now agreed that BBD is the Aberration of Normal Development and Involution (ANDI). Objective: To compare occurrence of benign breast disease according to age groups, marital status and parity. Materials & methods: The present study comprises of 76 females and 2 males of Benign Breast Diseases, who attended the out patient department and indoor of Department of Surgery, Nehru Chikitsalaya, B.R.D. Medical College, Gorakhpur. Results: Benign Breast Diseases were most common in third decade (51.28%) followed by fourth decade (23.07%) of life. Most of the patients belonged to middle (37.17%) and higher (32.5%) socio economic status, were literate (92.3%) and were urbanites (65.4%). Early menarche, nulliparity, fewer offsprings and late first confinement were found to be associated with increased incidence of Benign Breast Disease. Number of parity decreased the incidence of BBD. Thin built and patients having low or average breast fat content

Manuscript submitted: 27 March 2022, Manuscript revised: 9 April 2022, Accepted for publication: 18 May 2022

had higher incidence of BBD. Family history of BBD or Breast Carcinoma was important. History of Breast carcinoma or BBD in mothers was more common. Conclusion: It was concluded that early menarche, nulliparity, fewer offsprings and late first confinement were found to be associated with increased incidence of Benign Breast Disease. Number of parity decreased the incidence of BBD.

***Keywords*---**Benign breast disease, Age, marital status, Parity.

Introduction

The term benign it self is objectionable because it ignores the fact that there are a good many BBD that are not neoplasms and among the neoplasms there are several that are very important because they predispose to carcinoma. To this added the confusion of giving different terms to the same conditions and mixing of concepts with pathological conditions. Similarly incomplete appreciation of normal processes of development and involution has resulted in confusion of normality with pathology. At the root of this confusion are the complex biological behavior, epidemiology and natural history of BBD.

The female breast, quiescent from birth, undergoes marked development at puberty. Little is known about factors that influence this development- in animal oestrogen, together with prolactin, hydrocortisone, growth hormone and insulin cause extension and arborisation of ducts. Progesterone probably causes development of the terminal ductal complex. During pregnancy, little change occurs in the first trimester, but in the second trimester much more florid epithelial proliferation is seen, with development of true functional acini from terminal ductules. [1]

Involutional changes occur quite early from the age of 35 and 45, with moderate loss of glandular tissue (the double layer of epithelium regresses and flattens, and the lumen disappears) and partial replacement of the specialized connective tissues of the lobules with more 'ordinary' fibrous tissue, and round cell infiltration. Microcysts and apocrine changes are frequently seen, and three of the features of 'fibrocystic disease' fibrosis, cyst formation and apocrine metaplasia occur as a result of normal involutional processes. There is increasing evidence that the great majority of cancers of the breast arise from the terminal duct-especially its intralobular portion. [2]

In the simplest of words, the benign breast disorders (BBD) can be defined to include all those breast diseases which are not malignant. The diagnostic dilemma is for the diseases like atypical ductal hyperplasia, mammary intraepithelial neoplasia, ductal carcinoma in situ and lobular carcinoma in situ. Hence present study was conducted to compare occurrence of benign breast disease according to age groups, marital status and parity

Material and Methods

The present study comprises of 76 females and 2 males of Benign Breast Diseases, who attended the outpatient department and indoor of Department of Surgery, Nehru Chikitsalaya, B.R.D. Medical College, Gorakhpur from August 2011 to October 2012. Ethical clearance was obtained from the institutional ethical committee for the present study.

Patients under study were thoroughly interrogated and clinically examined, for detailed history regarding the various risk factors of BBD and epidemiological variables regarding BBD and all information's were recorded on a predesigned and pre-tested proforma.

Females were divided into low, average and fatty breast by clinical palpation of breast and clinically estimating the breast fat contents
The cases were classified as follows-

i). Under weight : 45 kg or less body weight
ii). Average built : 45-60 kg body weight
iii). Obese : 60 kg or more body weight

For approaching the diagnosis of BBD fine needle aspiration cytology was done. In selected number of cases ammography complemented with ultrasonography was done. However, diagnosis was confirmed on histopathological examination of paraffin sections. The treatment was given according to the lesion detected.

In cases of fibroadenoma the lump was excised, in breast abscesses incision and drainage and antibiotics according to culture and sensitivity of pus were given. In Fibroadenosis, Vit. E, analgesics and mild diuretics were initially given. If patient did not show response danazol was given for 3 months and patient followed up. In cases of fibroadenosis with lump, excision of lump was performed. In cystosarcoma phylloides excision of lump was performed. In galactocoele aspiration was done and if not regressed within one week, excision was done. In tuberculosis of breast antitubercular treatment was given. In duct ectasia excision of lump was performed. In Gynaecomastia, cause was sought and proper treatment of causes along with debulking surgery was performed. Lipoma of breast were excised. Breast cysts were aspirated and aspirate examined microscopically for further course of treatment. The patients under study were followed up for a period of 1 year to study their present status and overall response to treatment.

Results

Out of 78 cases there were 2 males (2.56%) in the age group of 20-30 years and, rest 76 cases (97.4%) were females. The age of patients in the study ranged from 14 years to 57 years, the mean age being 28.56 years. The majority of the patients were in the age group 21-30 years i.e. 40 out of 78 patients (51.28%) followed by 18 cases (23.07%) in age group 31-40 years, 11 cases (14.10%) in 11-20 year age group and 7 cases (8.97%) in age group of 41-50 years and 2 cases (2.56%) in more that 50 years age group. Table 1

Table-1
Age distribution of 78 cases

Age Group (in years)	No. of Patients	Percentage (%)
< 10	00	00.00
11-20	11	14.10
21-30	40	51.28
31-40	18	23.07
41-50	07	08.97
≥ 51	02	02.56
Total	78	100.0

Out of 78 cases 27 (34.6%) were from Rural background and 51 (65.4%) were from Urban background. When the cases were divided according to socio economic status, it was found that 30.76% patients belonged to low socio-economic status, 37.17% patients belonged to middle, and 32.5% belonged to high socio-economic status.

When patients were divided according to literacy status, 7.7% patients were illiterate, 10.3% patients had studied till primary, 21.8% patients had completed studies till 8th class, 28.26% patients had done High School, 19.23% had studied till Intermediate, 8.97% patients were Graduates and only 3.8% patients were Post-Graduates. When age at menarche was noted in patients with B.B.D. it was noted that majority (55.26%) had attained menarche by 13 years. There were only 15.79% patients who attained menarche after 16 years. Table 2

Table-2
Distribution of cases According to Age at Menarche

Age of Menarche (years)	No. of Patients	Percentage (%)
< 12	00	00.00
12-13	42	55.26
14-15	22	28.94
16-17	09	11.84
> 18	03	03.95
Total	76	100.0

Who our study of 76 females 78.9% patients were married and 21.1% patients unmarried. Table 3

Table-3
Distribution of cases According to Marital status

Marital status	No. of Patients	Percentage (%)
Married	60	78.9
Unmarried	16	21.1
Total	76	100.0

Out of 60 married females in our study 8.3% were nullipara, 71.6% had 3 children or less and only 19.99% patients had 4 or more children.

Out of 60 married females 55 had conceived. Out of these 55 females 4 (7.27%) had first childbirth before 18 years of age. Earliest pregnancy was reported in 17 years old female. Majority of patients had first childbirth between 21-23 years of age. Only 3.63% patients had their pregnancy after 27 year. Maximum age at first pregnancy was reported at 36 years.

There were 3.7% cases in age group 11-20 years. Majority of cases presented in age group of 21-30 years (59.25%). 25.92% cases presented in age group of 31-40 years and 7.4% cases in age group of 41-50 years. The youngest case was a girl aged 18 years and oldest case reported was 57 years of age. Table 4

Table-4
Age Distribution of 27 cases of Fibroadenosis

Age Group (in years)	No. of Patients	Percentage (%)
0-10	00	00.00
11-20	01	03.70
21-30	16	59.25
31-40	07	25.92
41-50	02	07.41
≥ 51	01	03.70
Total	27	100.0

Majority of cases (57.14%) were in age group of 21-30 years followed by 28.57% cases in 11-20 years age group and 14.28% cases in 31-40 years of age group. In the present study majority of cases 73.68% were in their third decade of life and 15.79% cases in 4th decade, while 5.27% each in 2nd and 5th decade of life. Table 5

Table-5
Age Distribution in 21 cases of Fibroadenoma

Age group (in years)	No. of Patients	Percentage (%)
0-10	00	00.00
11-20	06	28.57
21-30	12	57.14
31-40	03	14.28
41-50	00	00.00
Total	21	100.0

In the present study majority of cases 73.68% were in their third decade of life and 15.79% cases in 4th decade, while 5.27% each in 2nd and 5th decade of life. Table 6.

Table-6
Age Distribution of 19 cases of Mastitis

Age Groups (in years)	No. of Patients	Percentage (%)
10	00	00.00
11-20	01	05.25
21-30	14	73.68
31-40	03	15.79
41-50	01	05.27
≥ 51	00	00.00
Total	19	100.0

Discussion

In the present study 40 patients (51.28%) were in age group of 21-30 years and 18 patients (23.07%) were in the age group of 31-40 years. The mean age was 28.56 years. The results of the present study are in conformity with *Nayas and Kulkarni (1985)* who also found the commonest age group between 15 and 35 years with an average age of 27 years. [3] Number of our cases is not a reliable means to estimate relative frequency of BBD in terms of total population because patient attending our hospital belong to a particular socioeconomic status and includes cases referred from a very wide area.

Majority of our patients (65.4%) were from urban inhabitance and only 34.6% patients came from rural area. This may be because of the fact that urban females are more concerned even for benign conditions and rural females tend to neglect them. In our study most of the cases belonged to middle (37.17%) socio-economic status. 60.26% cases were educated upto High School and beyond. This is in conformity with findings of *other researcher* who have also shown that higher socio-economic status and literacy increases the awareness and such patients are more likely to seek medical advise. [4]

Majority of our patients attained menarche between ages of 12-13 year (55.26%), 41.81% cases were in age group of 21-23 years at the time of first confinement and 12.72% conceived for the first time at age group of 24 to 26. If Breast Carcinoma and Benign Breast Disease are causally related, as suggested by several follow ups with previous BBD early menarche and late first confinement may also be increased risk factors for development of BBD, as they are for development of Breast Carcinoma. [5,6]

Out of 76 female patients 16 (21.1%) were unmarried. Out of 60 married, 8.3% females were nulliparous. 49.9% females had 2 or less than 2 children. Only 19.99% females had 4 or more than 4 children. Considering the percentage of unmarried and nulliparous females in our society, the percentage of unmarried and nulliparous patient with BBD but it in our study is high. This is in conformity with findings of *other researcher* according to whom nulliparous women were found to have higher risk of BBD and that risk was inversely associated with increasing number of pregnancies. [7] However *other* found an increased risk of BBD with increasing number of pregnancies. [8]

In our study 60.26% patients were thin built and 28.20% were average built. *Other researcher* reported that higher weight showed inverse relationship with risk of development of BBD but it may be an artifact because breast lumps are more difficult to detect in women with more adipose tissue. In our study 4 patients (5.26%) had positive maternal history of Breast Carcinoma or BBD, 1 case (1.31%) had positive history of her sister having Breast Carcinoma or BBD.

In the present series, majority of patients of fibroadenosis were found to be in their third decade (59.25%) and fourth decade (25.92%) of life. *Marcuse (1962)* in his study of 794 patients of fibroadenosis found the highest incidence in fifth decade (298 patients) and forth decade (284 patients) of life. [9] *Haagensen (1971)* reported its greatest frequency in the period between 35-50 years of age. The patients in our series being comparatively younger may be explained by the fact that average life span of Western females is much higher than Indian females. [10] Although fibroadenoma was second most common (26.9) lesion in our series, it has been reported as the most common solid tumor by *Page et al (1987)* but in his series women less than 30 years of age were included. [11] *Haagenson* [10] reported mean age of patients of fibroadenoma of breast as 31 years. In the present series incidence of duct ectasia was 3.84% and majority of patients were in their fifth decade.

In this study the incidence of nipple discharge was 6.41%. and mean age of patients 34.6% years. It constitutes the most distinct symptom and occurs in 5-15% of women having breast problem *(Lewison and Chambers, 1951).* [12] The average ages of patients in most series were reported to be in their forties. *Copeland and Huggins (1960)* found average3 age to be 38.91 years as against 49 years in patients having discharge with malignancy. [13]

Conclusion

It was concluded that Benign Breast Diseases were most common in third decade (51.28%) followed by fourth decade (23.07%) of life. Most of the patients belonged to middle (37.17%) and higher (32.5%) socio economic status, were literate (92.3%) and were urbanites (65.4%). Early menarche, nulliparity, fewer offsprings and late first confinement were found to be associated with increased incidence of Benign Breast Disease. Number of parity decreased the incidence of BBD. Thin built and patients having low or average breast fat content had higher incidence of BBD. Family history of BBD or Breast Carcinoma was important. History of Breast carcinoma or BBD in mothers was more common.

Acknowledgements: I would like to express my profound gratitude to all the participants.

Declarations
Funding: None

Conflict of interest*:* None

Ethical approval*:* Ethical clearance was obtained from the institutional ethical committee for the present study.

References

1) Hughes LE, Mansel RE: Benign breast disease. Recent Advances in Surgery. *Churchill Livingstone. 11:101-128, 1982.*
2) Hughes LE, Mansel RE, Webster DJT. Abberations of Normal Development and Involution (ANDI). A new perspective on pathogenesis and nomenclature on benign breast disorders. *Lancet. 2:1316-19, 1987.*
3) Nayas KG, Kularni RM: Benign Tumours of the breast. *The Antiseptic. 82 (4): 325 -330, 1985.*
4) Cole M.N., Sellwood R.A., England P.C. Griffiths K.: Serum Prolactin concentrations in benign breast disease throughout the menstrual cycle. *Europ. J. Cancer, 13:597-603, 1977.*
5) Mansel RE Benign breast disease. Practitioner 236:830-837, 1992.
6) Dupont WD, Page DD Risk factors for breast cancer in women with proliferative breast disease. *N Engl J Med. 312:146-151, 1996.*
7) Niclson SR. Fibrocystic disease. *Surgery. (9): 299-304, 1991.*
8) Sitruk-Waire R, Sterkers N, Mauvais-Jarvis P: Benign breast disease. Part I-Hormonal investigation. *Gynaecol. 53: 457-460 1979.*
9) Marcuse PM: Fibrocystic disease of the breast; Correlation of morphologic features with clinical course. *Am J Surg. 103:428-431, 1962.*
10) Haagensen CD: Diseases of the breast. *2nd Edn Revised, WB Saunders and Col, Philadelphia, 1971.*
11) Page DL, Vander Zwaag R, Rogers LW, Williams LT, Waler WE, Hanmann WH: Relation between component parts of fibrocystic disease complex and breast cancer. *JNCI. 61:1055-1063, 1978.*
12) Lewison EF, Chambers RG: Clinical significance of the nipple discharge. *JAMA. 147: 295-299, 1951.*
13) Copeland N.M., Higgins T.G.: Significance of discharge from the nipple in nonpuerperial mammary conditions. *Ann. Surg., 151:638-648, 1960.*