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## Prevalence and Awareness of Breast Cancer in the South Indian Region

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**Keywords:** Prevalence and Awareness, Breast Cancer, South Indian Region, prevalence of breast cancer

### ABSTRACT

We aimed to describe the prevalence of breast cancer in the Karimnagar district of Telangana state. We reviewed all the patients admitted in the hospital diagnosing with breast cancer over a period of six months. We also found that people are lacking the knowledge regarding breast cancer. Finally, along with the prevalence of breast cancer, we also provided the awareness among the patients, patient representatives and the common people residing locally regarding the signs and symptoms of breast cancer, risk factors causing breast cancer and majorly on the breast self-examination (BSE). **Index terms:** Prevalence, breast cancer, Karimnagar, awareness, breast self-examination (BSE), mammogram.



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## INTRODUCTION

Prevalence in epidemiology is the proportion of a particular population found to be affected by a medical condition (disease or a risk factor). In this study, the period prevalence is used which, means the proportion of a population that has the condition at some time during a given period and includes the people who already have the condition or disease at the start of the study period as well as those who acquire it during the period.<sup>[1]</sup>

Epidemiological studies have shown that many cancers may be avoidable. It is widely held that 80%-90% of cancers may be due to the environmental and lifestyle factors such as tobacco, alcohol and dietary habits<sup>[4]</sup>. It was estimated that in the year 2000, worldwide over 10 million new cases of cancers occurred including 5.3 million men and 4.7 million women and over 6 million people died from different type of cancers<sup>[5]</sup>.

Cancer is the major cause of morbidity and mortality in developing and developed countries alike<sup>[2]</sup>. Population ageing is often assumed to be the main factor for the increase in cancer incidence, death rates and health care costs<sup>[3]</sup>. The burden of cancer is still increasing worldwide despite advances for diagnosis and treatment.

Breast cancer is a disease that occurs when cells in breast tissue change (or mutate) and keep reproducing. These abnormal cells usually cluster together to form a tumor. A tumor is cancerous (or malignant) when these abnormal cells invade other parts of the breast or when they spread (or metastasize) to other areas of the body through the bloodstream or lymphatic system, a network of vessels and nodes in the body that plays a role in fighting infection.

Breast cancer usually starts in the milk-producing glands of the breast (called lobules) or the tube-shaped ducts that carry milk from the lobules to the nipple. Less often, cancer begins in the fatty and fibrous connective tissue of the breast.

New cases of breast cancer are about 100 times more common in women than in men, but yes, men can get breast cancer too. Male breast cancer is rare, but anyone with breast tissue can develop breast cancer<sup>[6]</sup>.

Breast cancer awareness is essential for every woman. The ideal time to do a breast self-exam is every month after your menstrual periods are over, during shower in front of a mirror.

One should also be aware of the symptoms of breast cancer. Although in the initial stages, the only way of detecting breast cancer is a mammogram, the following signs should make you suspicious and seek a physician's opinion.

- If during a breast self-exam, you notice a new lump in the breast or underarm
- Any kind of redness or flaky skin in the nipple area or the breast.
- Pulling in of the nipple or pain in the nipple area.
- Any nipple discharge other than breast milk, including blood.
- Any change in the size or the shape of the breast.
- Pain in any area of the breast.

There are 2 main ways of screening: self-breast examination and a mammogram. A self-breast exam is the single most cost effective way of screening. An exam would help pick up nearly 70% of all breast abnormalities. Mammogram is an X-ray of your breasts. It helps detect the smaller lesions, which cannot be picked up by a self-breast exam. If you are between 50-74 years of age, you should definitely get a mammogram done once every 2 years.

This study has been carried out in the Oncology department of Chalmeda Anandrao Institute of Medical Sciences (CAIMS), Cancer Hospital and Research Institute & Sushruta cancer hospital, Karimnagar which caters to neighboring districts like Adilabad, Jagital, Mancherial, and Peddapalli.

## **METHODOLOGY**

To determine the prevalence of breast cancer derived from population based cancer registries which aim to record information on all the new cases of cancer occurring in a defined population and provide them with the information regarding the procedure of breast self examination, disease information.

We collected and reviewed data of all patients admitted with breast cancer to Chalmeda Anandrao Institute of Medical Sciences (CAIMS), Cancer Hospital and Research Institute

and Sushruta cancer hospital in the Karimnagar district of Telangana state for the period of 6 months.

The CAIMS is a full-fledged Medical college with 1000 bedded teaching Hospital established in 2003 located in Karimnagar region of Telangana State which is attached with the cancer research institute. It is a referral hospital for cancer patients from Karimnagar district, although some cancer patients come from outside the district. After medical checkup in causality ward, cancer patients were admitted in oncology; cancer research institute which contains 100 beds with doctors and supporting staff. Sushruta cancer hospital (A unit of Sankshema charitable trust) located in Karimnagar of Telangana state, has 120 beds with 8 doctors and supporting staff.

Data were collected prospectively from patient medical files and patient interview. Only patients who were hospitalized were included in the study. Patient with breast cancer were identified by performing specific diagnostic tests like mammogram, Fine-Needle Aspiration Cytology (FNAC) and biopsy. Information regarding demographics (age, sex, weight, height, occupation, address and marital status), diagnosis, menstrual history, family history, and all the relevant and necessary data is collected. The data from all case sheets were entered into a database to calculate descriptive statistics.

## **MATERIALS AND METHODS**

### **Study site:**

The present study was conducted at in-patient department in Chalmeda Anandrao Institute of Medical Science and Cancer Hospital and Research Institute & Sushruta Cancer Hospital, in Karimnagar city, Telangana.

### **Study design:**

This is a prospective observational study.

### **Study period:**

This study was carried out for a period of six months.

**Study criteria:**

*Inclusion criteria:*

- All the women with and without breast cancer

*Exclusion criteria:*

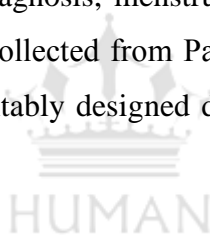
- Age below 18 and above 70.
- Patients who are not willing to sign in consent form.

**Study population:**

Total 198 subjects data was collected and the awareness was given to 150 people.

**Source of data:**

The data including demographics, diagnosis, menstrual history, family history, and all the other relevant and necessary data is collected from Patient's case sheet, Patient's interview. All the data was documented in a suitably designed data collection form developed for the study.



**RESULTS AND DISCUSSION**

Epidemiology is the study of the distribution and determents of diseases and other health states in population. Descriptive epidemiology describes disease and/or exposure and may consists of calculating rates like incidences and prevalence.

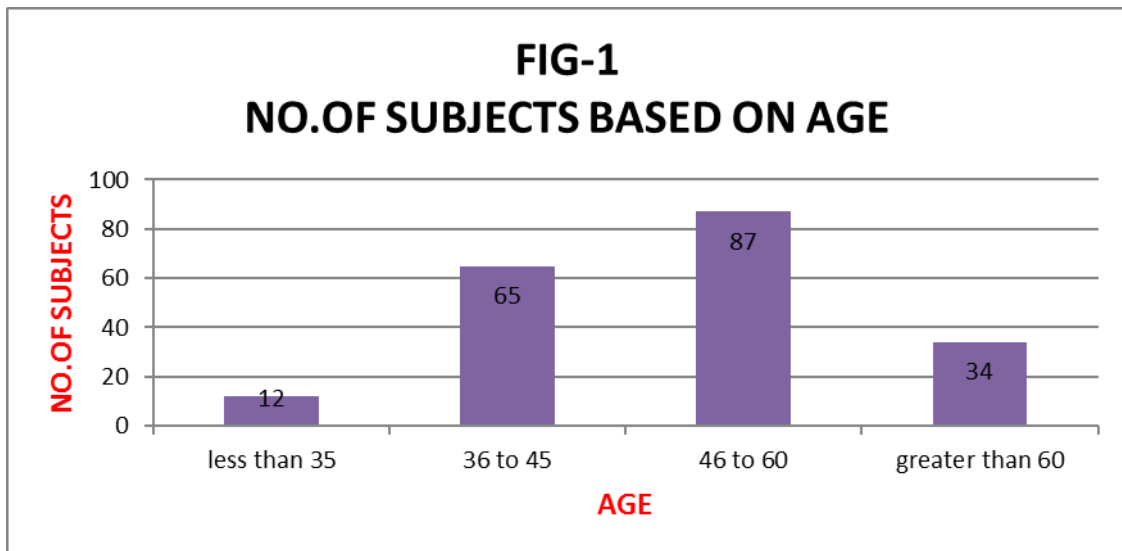
The Greek physician Hippocrates is known as the father of medicine, he is the first person known to have examined the relationship between occurrence of disease and environmental influences <sup>[7]</sup>.

1. The study was conducted for a period of 6 months and the data of about 198 patients were collected and analyzed.
2. Out of the total number of subjects, the age group of 46-60 years is high followed by 36-45 years, greater than 60 and the group less than 35 years (fig-1). This study reveals that the

women of age group 46-60 are more prone to breast cancer comparative to other age group people. (table-1)

**Table-1** The data regarding the age

AGE	NO. OF SUBJECTS
less than 35	12
35 to 45	65
45 to 60	87
greater than 60	34
<b>TOTAL</b>	<b>198</b>

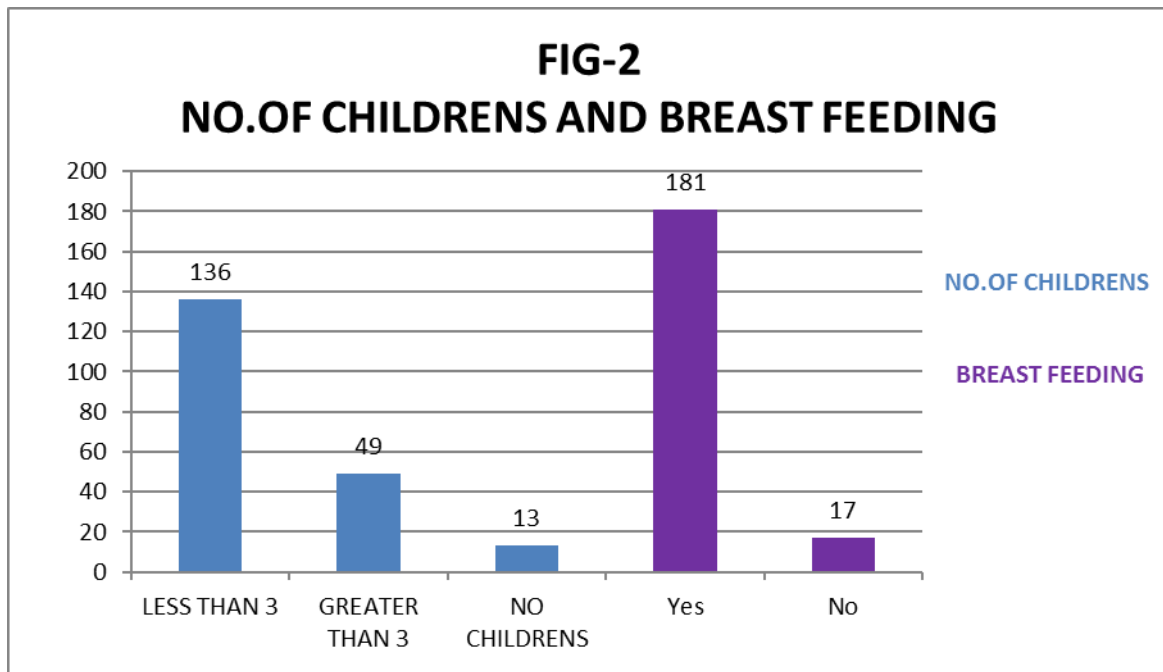


- Fig-2 shows the data of number of children and the breastfeeding history of the subjects. It is important in relation to breast cancer because the breastfeeding and the more number of children will decrease the risk of causing the breast cancer.(table-2) From fig-2, out of 198 subjects, 136 subjects are with less than 3 children, 49 subjects are with no children and among 198 subjects, 181 subjects are done the breastfeeding while 17 subjects are not breast fed.

**Table-2 The history of the children patients**

BREASTFEEDING	NO.OF PATIENTS
Yes	181
No	17

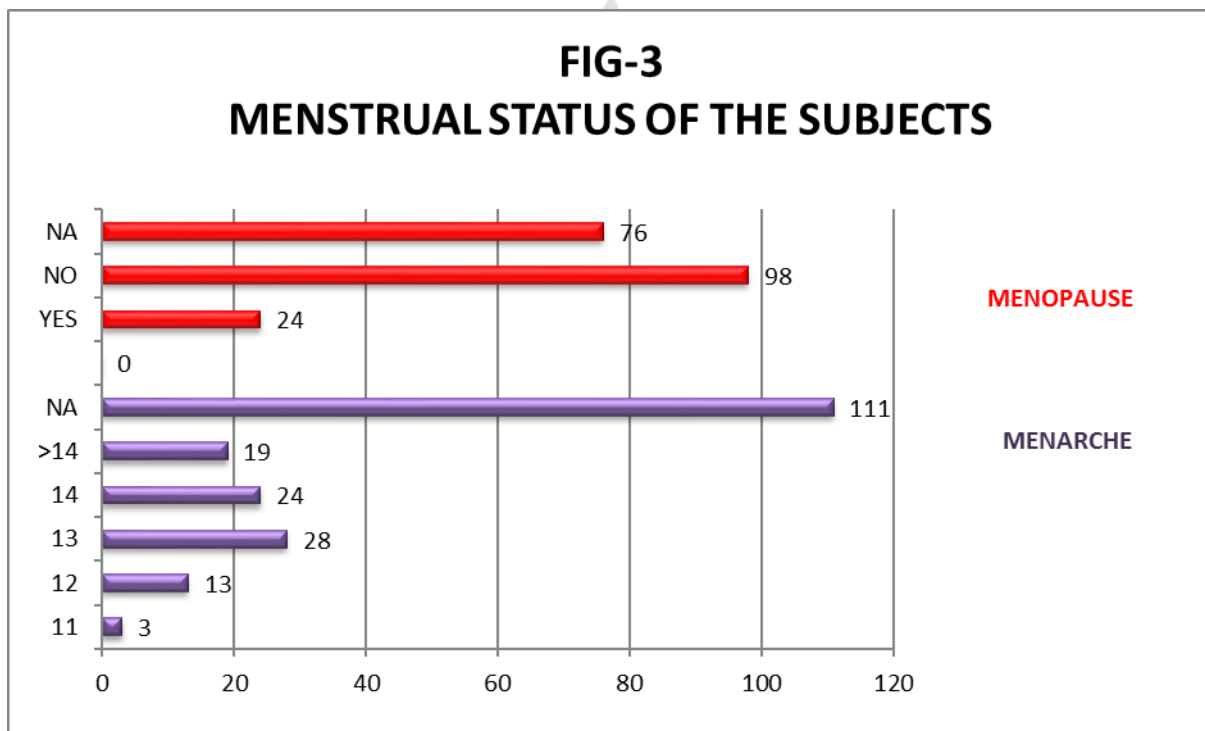
NO. OF CHILDRENS	
<3	136
>3	49
NO CHILDRENS	13



- Fig-3 shows the menstrual status of the subjects. The menstrual history includes the age at menarche and the age at menopause.(table-3) It is considerably important factor for causing the breast cancer, because it effect the exposure of the estrogen to the breast cells and cause cancer, the early menarche and the late menopause increase the risk of breast cancer.

**Table-3 The menstrual histories of the patients**

MENOPAUSE	NO.OF PATIENTS
YES	24
NO	98
NA	76
AGE OF MENARCHE	NO.OF PATIENTS
11	3
12	13
13	28
14	24
>14	19
NA	111



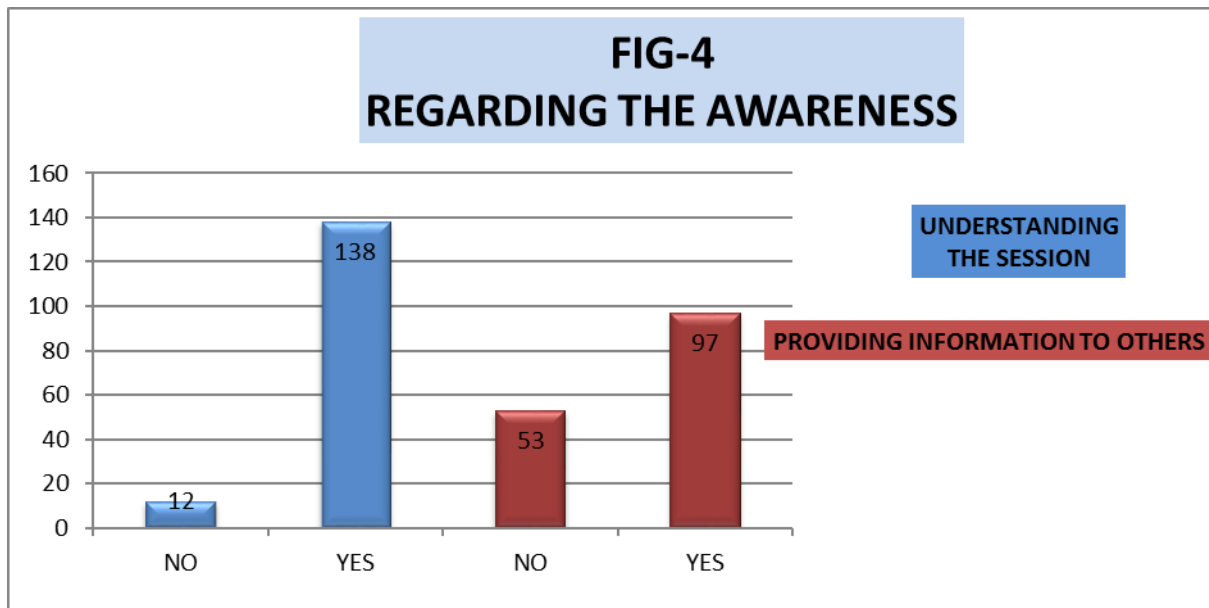
- Along with the prevalence of breast cancer, awareness was also given to the patient representatives and the breast cancer awareness program also conducted. The feedback was taken from the subjects (fig-4) (table-4) shows that the out of 150 people, 138 people are satisfied with the session and 97 people are with enough information to provide the



information to others. Fig-5 shows the percentage of the people who are priorly aware of the breast self-examination (BSE) procedure. Only 8% of the people are aware about the breast self-examination procedure. (table-5)

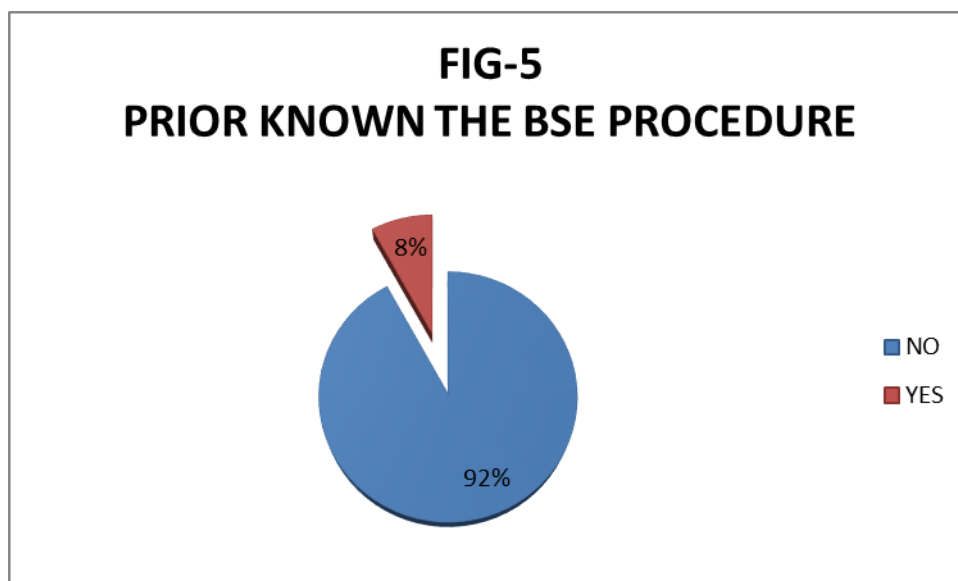
**Table-4 The data regarding the awareness**

<b>PROVIDING INFORMATION TO OTHERS</b>	<b>NO.OF SUBJECTS</b>
NO	53
YES	97
<b>UNDERSTANDING THE SESSION</b>	<b>NO.OF SUBJECTS</b>
NO	12
YES	138



**Table-5 The prior known BSE**

<b>PRIOR KNOWN THE BSE</b>	<b>NO.OF SUBJECTS</b>
YES	12
NO	138



### STATISTICAL ANALYSIS

Parameter	P-value	Standard deviation	Significance
Age	<0.0001	10.546203	> 99.99%

### CONCLUSION

From this study, it is concluded that-

- The occurrence of breast cancer is more in the age group of 46-60 years. (After the application of statistics, the effected age group is 48.254278 to 51.210369).
- The awareness programmes were conducted in order to promote awareness regarding the breast cancer symptoms, procedure of breast self-examination (BSE) etc.

### ACKNOWLEDGMENT

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