

## Demographic survey on women breast cancer patients in a specialty govt. Hospital at Kolkata in India

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### Abstract

The aim of the present work is to assess extent and quality of the soft skill application by the caregivers of breast cancer women indoor patients of CNCI (Chittaranjan National Cancer Institute) at Kolkata and it was found that 87% of the population was satisfied by availing soft skill application and rest 13% were eager for betterment. To find out the coordination between patients and doctors of CNCI it has been found that 74% of indoor patients were admitted after proper consultation with the doctors and have obtained free bed facility through their advise and recommendations to the higher authority of the hospital. 26% patients were admitted through similar process in the paying bed at lower rate in comparison to the private hospitals. The initiative of CNCI about screening of breast cancer patients in the community has also been evaluated. Improved financial and staff support can uplift the program. By studying percentage of district wise population distribution of Breast cancer patients of West Bengal state admitted at CNCI Kolkata during June 2008 to June 2012, it has been found that Kolkata and adjacent two districts like 24 pgs(N) and 24 pgs(S) are more susceptible to breast cancer having 44% and remaining 56% patients were from other districts. Causes of disease may be unsafe food habit, pollution, socioeconomic parameter, unsafe work schedule etc. The extent and quality of palliative care of this institute has been analyzed and it was found that 90% of the patients availed palliative care.

**Keywords:** Oncologists, Soft Skill, Breast Self Examination, Screening, Palliative Care

### Introduction

Breast cancer is one of the common cancers of women worldwide occurring every year with 10 lakh new cases amounting to 20% of all malignancies with high fatality rate. Age adjusted incidence rate in India amounts to 15-29 per lakh population per year and is ever increasing. Identification of high risk

patient and proper prevention potentially reduces mortality [Das et al. 2012]. Breast cancer incidence rates have been reported to be increasing by up to 5% per year in many populations in developing countries. For example, breast cancer rates in Japan, Singapore, and Korea have doubled or tripled in the past 40 years. Similarly, in the

past decade, China's urban cancer registries have documented increased incidence rates of between 20% and 30% for breast cancer. Further, the same pattern of increasing incidence of breast cancer is observed in urban areas of India [Coughlin and Ekwueme 2009].

The mortality of breast cancer is significantly higher in developing countries than in high-income countries. In 2012 nearly 62% of deaths associated with breast cancer occurred in developing countries [Hossain et al. 2014]. Globally, breast cancer 5-year relative survival rates range from 80 to 90% in high-income countries, to 60% in middle-income countries, to below 40% in low-income countries; in parts of Africa, it may be as low as 12%. These differences have been attributed to disparities in early detection, type of breast cancer, access to treatment, type of treatment, and social and cultural barriers [Anderson et al 2013]. Even the blockbuster drugs (generating more than \$ 1 billion dollar annually) show efficacies in 40–60% of the patients whereas 50% (estimated) of cancer patients fail to get benefited from chemotherapy. Reasons include intrinsic or acquired multi drug resistance (MDR), DNA polymorphisms and most importantly the presence of inter tumor heterogenic subpopulations, responding to radio, chemo and targeted therapies differently amongst different individuals within the same cancer type [Mukhopadhyay et al 2014]

Mammographic screening is the only evidence-based early detection method for breast cancer, though it is not always feasible to implement [Youlten et al 2012]. It is generally agreed that mammography may not be an appropriate screening test for low- and middle-income countries (LMICs). Mammography is expensive, requires skilled manpower and stringent quality control, and is on the whole a complex screening test. In addition, since the median age at diagnosis of breast cancer is approximately ten years

younger in LMICs than that in the developed world, and since mammography is less effective in women below the age of fifty, this test may not significantly affect mortality in these populations [Mittra 2011]. The World Health Organization (WHO) describes a “low-resource scenario” as one where the infrastructure and human resources for cancer prevention or control are non-existent or very limited in quantity, quality and accessibility [Anderson et al 2011]. In a study conducted in an urban-resettlement colony in India, it was observed that only 56% of women were aware of breast cancer; while a study of 1402 women conducted in Iran showed that 61% of women knew about breast cancer [Mittra 2011].

In eastern India, Breast Cancer is the most frequently reported cancer (22.7%) in females and the age-specific incidence rate is 25.1 per 100,000 populations [Jana et al 2012]. The first population-based cancer registry (PBCR) in India was organized in Mumbai (Bombay) in 1963. A PBCR was organized in Kolkata (Calcutta) in the Department of Epidemiology and Biostatistics of the Chittaranjan National Cancer Institute (CNCI), one of the premier Regional Cancer Centres in India, to collect incidence data on the resident population of the city from 1 January 1997. The objective of this initiative is to continuously provide information on the prevailing cancer patterns in a sample population in Eastern India. PBCRs are primarily concerned with the cancer burden in a population resident in a defined geographic region as well as describing data on cancer incidence and survival. The data also help in the planning and evaluation of cancer control activities [Sankaranarayanan et al 2002].

Recent evidence has demonstrated that palliative care, provided concurrently with disease-modifying treatment early in the course of advanced cancer, can improve quality of living (QOL), length of survival,

symptom burden, mood, and utilization of health services. Palliative care is “patient and family-centered care that optimizes QOL by anticipating, preventing, and treating suffering. Palliative care throughout the continuum of illness involves addressing physical, intellectual, emotional, social, and spiritual needs and facilitating patient autonomy, access to information, and choice.” Services are provided by an interdisciplinary team of doctors, nurses, and other specialists who work with a patient’s other physicians to provide additional support [Mazanec and Prince-Paul 2014].

The present work is aimed to assess the extent and quality of the soft skill application to the indoor breast cancer patients by the care givers of the CNCI. It is also aimed to explore if and to what extent the treatment decision is done by the doctor jointly with the breast cancer patient and her relatives/ friends. The strategy followed by CNCI hospital for screening of breast cancer in the community and to evaluate its efficacy is also investigated. Furthermore, measuring the level of treatment adherence by the breast cancer patients and identification of the possible reasons for non- compliance or suboptimal compliance is a key research parameter in this study. Finally, analysis of the relative status together with the extent and quality of palliative care in the breast cancer patients of this hospital is also studied.

## **Materials and methods**

### **Materials**

The report of indoor patients of CNCI having name, date of admission, name of guardian, age, sex, religion, address, phone number, duration of stay, marital status, education, occupation, mother tongue, number of dependants, income per month were collected.

The report also contains information about diagnosis including histology, stage of cancer & Tumor Board Decision in details

with sequence. Surgery [s], chemotherapy [CT], Palliative [PAL], Radiotherapy [RT] information were available within the report. Immunotherapy [I] columns are there in the report. It also contains Admission, discharge dates along with clinical history containing symptoms & duration. In the next part of the report past history / previous treatment were found. Relevant family history along with relationship and disease were available.

In personal habits column of the report none, cigarette, bidi, snuff, chewing tobacco, betel nut, gutka, khaini, hormonal contraception etc. were there.

Menstrual and obstetric history was also available in the report. In relevant medical history area of the report diabetes, hypertension, heart disease, jaundice, & other columns were found.

General examination portion of the report included case histories of patients having edema, pallor, clubbing, obesity, cyanosis, surface area, height, weight, pulse, B.P. etc. Cervical, maxillary, inguinal and other columns maintained information about lymph nodes. Systemic examination included cardiovascular, respiratory, abdomen and neurological reports. Report of local examination was also kept in it.

Investigation part of the report includes biopsy or cytology , slides, block- submitted or to be submitted, routine blood examination, X-ray chest, E.C.G., blood biochemistry, urine R/E, Urine C/S, Stool R/E & OPC, complete haemogram , barium swallow, barium meal follow through, USG-pelvis/whole abdomen/neck USG-FNAC, CT scan, bone marrow, bone scan and MRI.

In addition to this the above report contained tumor markers, endoscopy, final diagnosis, operative note, radiotherapy note, concomitant chemotherapy note mentioning CT Regime-1, drug used, cycle date.

Palliative treatment note, anesthesia / ITU note, death note, comments/referral note/ follow up remarks were given in the report.

**Methodology of patient analysis**

Records of the Institute [CNCI], personal interview with the caregivers & patients, reports from NGO like Hitoishini, & Kalpana Dutta Foundation Cancer care, different books, research papers and journals were the source of data.

**1) To assess extent and quality of the soft skill application to the indoor women breast cancer patients by the caregivers of CNCI:**

In this method 45 breast cancer women patients were enquired of their experience of availing extent and quality of the soft skill application provided by the caregivers like doctors, nurses and other paramedical staff.

**2) To explore if and to what extent the treatment decision is done by the doctor jointly with the patient and her relatives/ friends:**

The records of 1114 indoor women breast cancer patients of CNCI relating to Board meeting for admission into the hospital and also enquiries from doctors, nurses, patients and patients’ relatives/friends about diagnosis, disease conditions and treatment guidelines etc. are the sources of study.

**3) Strategy followed by CNCI hospital for screening of breast cancer in the community and to evaluate its efficacy:**

Information collected from various records and documents of CNCI along with attached NGO like Hitoisini, Kalpana Dutta Foundation Cancer Care, and Ruma Abadina Hospice etc. were the sources of study.

**4) To measure the level of treatment adherence by the patients and identify the possible reasons for non compliance or suboptimal compliance:**

Information was collected from hospital records, doctors, nurses and other Para medical staff of the institute.

**5) Analysis of the relative status, the extent and quality of palliative care in the patients under study:**

A cohort of 50 breast cancer women patients at CNCI were enquired of availing palliative care or not.

**Results and discussions**

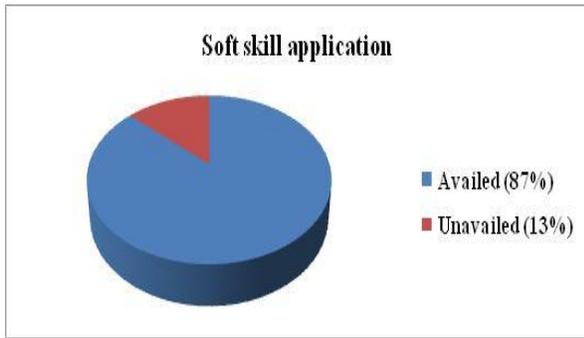
**1. Extent and quality of the soft skill application by the caregivers:**

In hospital soft skills are mainly provided by doctors, nurses, pharmacists, technicians and other paramedical staffs. Patients come to hospital leaving their home and become weak both physically and mentally. Naturally along with treatment they become eager to get kind conduct from the caregivers along with soft speaking. The parameter of soft skill application is very much delicate and proper application of it in a busy and crowded hospital may be difficult. But to show good conduct needs no money. It requires a kind heart, patience, time and attitude. It should be provided by the caregivers to the patients. At this hospital doctors, nurses, technical & paramedical staff, private nurses provided by the patient party try to fulfill the soft skill requirements of the patients. Pie chart shows 87% of the patients got soft skill application by the caregivers and 13% feel it should be improved. But care-givers of the hospital try to provide their best to the large number of patients with respect to better listening skill, interpersonal relationship and Communication skill.

Figure 1 shows 87% of the populations availed soft skill application and 13% of the patients think it should be improved.

**Table 1: Soft Skill Application.**

Availed	Unavailed
39	6



**Fig. 1: Chart showing distribution of patients availing soft skill application.**

**2. To explore if and to what extent the treatment decision is done by the doctor jointly with the patient and her relatives/friends:**

Initially in the outdoor and then during Board meeting of CNCI doctors discuss with the patients and her relatives about disease conditions and procedure of treatment for Indoor patients.

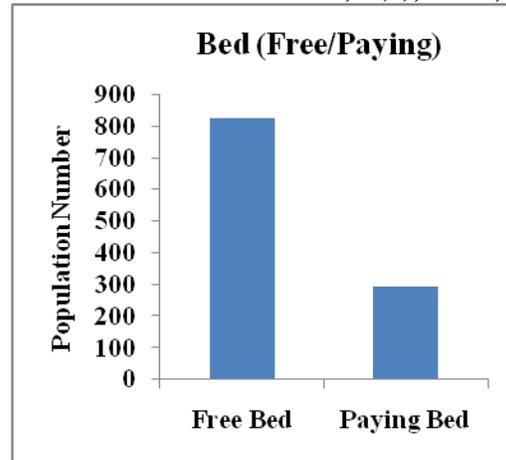
In this Board meeting free or paying bed is provided considering the financial conditions of the patient and availability of seats etc. From June 2008 to June 2012 the total allotment of free beds and paying are as follows.

Figure 2 shows through the bar chart distribution of number of patients according to the availability of free/paying bed facility. The number of free bed facility is about 3 times than the number of paying bed. This facility helps the poor patients and their family members very much.

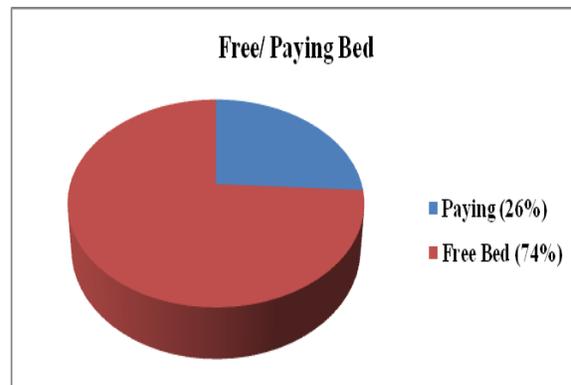
**Table 2: Beds (Free/Paying).**

FREE BED	PAYING BED
822 (73.79%)	292 (26.21%)

Figure 3 depicts that out of 1114 patients free bed availability by the patients is 74% and paying bed is 26%.



**Fig. 2: Distribution of patients according to availability of free/paying bed facility.**



**Fig. 3: Chart showing distribution of patients availing free/ paying bed facility.**

**3. Strategy followed by hospital for screening of breast cancer in the community and to evaluate its efficacy.**

CNCI encourages Hitoisini a non government voluntary organization run mostly by some kind women some of whom were attacked by and survived from breast cancer. They have been recommended for screening of breast cancer in the community. This organization has allotted this NGO few rooms and infrastructures in the hospital to perform BSE and also to educate the people about breast cancer. They educate the patients about BSE and about various exercises needed for the breast cancer patients. This organization gives free

medicines and various types of assistance to the poor patients.

Kalpana Dutta foundation Cancer Care is another voluntary organization female members of which perform breast cancer screening program in remote places of the state keeping link with this institute.

Cancer screening program are arranged time to time by the organization (CNCI). But man power and fund is a constraint.

However, coordination of this institute with above mentioned voluntary organizations has produced an enormous benefit of the poor patients which is praise worthy.

**4. To measure the level of treatment adherence by the patient and identify the possible reasons for non-compliance or suboptimal compliance.**

The level of treatment adherence is moderate. Follow up part is also neglected. The patient’s addresses show (enclosed bar chart Fig. 4) most of the patients come from remote districts, and most of them come from poor family. Patients require regular follow up and various other supports like purchase of some medicines and other important articles etc. and encouraging the patients by attending regularly at the visiting hour of the Hospital. The earning male member of the family when attends regularly

to the patients lose his regular earning therefore instead of getting free bed at the Hospital she becomes unable to continue her treatment for long period. Some of the patients (age group chart) have little children at their home and become homesick and discontinue follow up treatment. Some patients who can afford higher costs go to private hospitals.

When all the treatment is completed the primary treating doctor asks the patient to come for clinical checkup every three months. This tri monthly check up is required usually for 2 years. After 2 years, the checkups are done every 6 months for 5 years. Beyond 5 years, most cases will be asked to come for check up only once a year. Every year during follow-up period, some tests like mammogram or ultrasound or MRI or needle biopsy etc. are recommended. Other tests like Liver Function Tests /Ultrasound scans to check liver, uterus, ovaries etc are required. Sometimes Bone density scan /CT scans /MRI scans/PET CT scan/Pap smears etc are required.

All the above mentioned procedures are time consuming and costly which all the patients cannot afford. Those are the reasons identified for non compliance or sub-optimal compliance.

**Table 3: District wise population distribution of patients susceptible to breast cancer.**

HOWRAH	24 PGS (N)	24 PGS (S)	BANKURA	BIRBHUM
93	109	138	16	28
BURDWAN	DARJEELING	DINAJPUR (S)	DINAJPUR (N)	DINAJPUR (W)
73	1	4	6	1
HOOGHLY	JALPAIGURI	KOLKATA	MALDA	MURSHIDABAD
91	7	240	26	54
MIDNAPORE(E)	MIDNAPORE(W)	NADIA	PURULIA	OTHERS
58	73	66	5	25

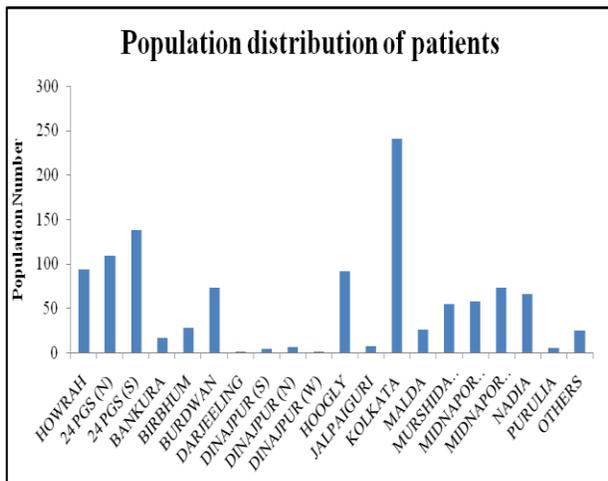
**FROM JUNE 2008 TO JUNE 2012  
NUMBER OF INDOOR PATIENTS:  
1114**

Table 3 depicts district wise population distribution of patients susceptible to breast cancer. From June 2008 to June 2012 total 1114 patients were admitted in this cancer institute mostly from different districts of West Bengal. 240 patients were from Kolkata district which is the highest of all districts. It may be due to various reasons like increased population, availability of the hospital facility in nearby place, pollution, food habit, addiction etc.

Next come two closer districts of Kolkata, 24Pgs (S) and 24 Pgs (N) having 138 and 109 patients. Reasons may be closeness to Kolkata. All the reasons for Kolkata are applicable to adjacent districts of Kolkata. Darjeeling has sent only 1 patient may be for being remote from Kolkata. The number of patients from other districts falls in between those.

Figure 4 depicts population distribution of patients admitted from different districts of West Bengal by its bar chart. The distribution pattern is self explanatory.

It shows Kolkata and adjacent districts like 24PGS (N) and 24 PGS(S) are more susceptible to breast cancer. Causes may be various. Pollution, food habits, unsafe work schedule, socio-economic parameter etc.



**Fig. 4: District wise population distribution of breast cancer patients.**

**Table 4: District wise population distribution of indoor breast cancer patients.**

District	No. of cases	Percentage
HOWRAH	93	8.35
24 PGS (N)	109	<b>9.78</b>
24 PGS (S)	138	<b>12.39</b>
BANKURA	16	1.44
BIRBHUM	28	2.51
BURDWAN	73	6.55
DARJEELING	1	0.09
DINAJPUR (S)	4	0.36
DINAJPUR (N)	6	0.54
DINAJPUR (W)	1	0.09
HOOGLY	91	8.17
JALPAIGURI	7	0.63
KOLKATA	240	<b>21.54</b>
MALDA	26	2.33
MURSHIDABAD	54	4.85
MIDNAPORE (E)	58	5.21
MIDNAPORE (W)	73	6.55
NADIA	66	5.92
PURULIA	5	0.45
OTHERS	25	2.24
<b>Total</b>	<b>1114</b>	<b>100</b>

Table 4 depicts district wise population distribution of indoor patients in West Bengal where Kolkata has the highest number of patients being 240 in number and percentage wise it is 21.54%. Next come 24 Pgs(S) and 24 Pgs(N) having 138 and 109 in numbers and 12.39% & 9.78% respectively. Darjeeling district has only 1 patient which is 0.09% and lowest. Other districts remain in between these.

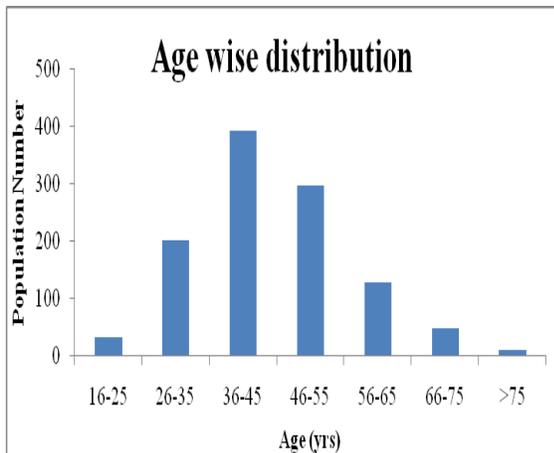
**Table 5: Determination of p-value from district wise population distribution of breast cancer patients by Student's t-test.**

District	No. of Cases	Mean	p-value
KOLKATA & 24 PGS	487	162.33± 68.81	6.45x10 <sup>-5</sup>
OTHERS	627	36.88± 33.13	

Table 5 depicts that mean  $\pm$  standard deviation of number of subjects of three breast cancer prone districts like Kolkata, 24pgs (S) & 24pgs (N) is  $162.33 \pm 68.81$  and mean  $\pm$  standard deviation of other districts is  $36.88 \pm 33.13$ . *p*- Value is 0.00006, so the result is extensively significant.

Table 6 depicts 36-45 years age group is most susceptible group having 392 patients out of 1114. The second vulnerable group is 46-55 years age group having 297 patients out of 1114. The next group is 26-35 years which has 202 out of 1114 patients. Greater than 75 years has lowest population of 11 only might be due to limitation of life span etc.

Figure 5 depicts bar chart showing age wise distribution of indoor breast cancer patients which shows 36-45 years age group has the highest population and 46-55 years age group is the next. Next come 26-35 years and 56-65 years age group respectively. Greater than 75 years age group is the lowest. Other groups remain in between those groups.



**Fig. 5: Chart showing age wise distribution of indoor breast cancer patients.**

**Table 7: Age wise distribution of indoor breast cancer patients.**

Age (years)	No. of cases	percentage
16-25	34	3.05
26-35	202	18.13
36-45	392	<b>35.19</b>
46-55	297	<b>26.66</b>
56-65	129	11.58
66-75	49	4.39
> 75	11	0.99
<b>Total</b>	<b>1114</b>	<b>100</b>

Table 7 depicts age wise distribution of indoor breast cancer patients where 36-45 years age group has 392 patients which cover 35.19% and 46-55 years age group has 297 patients which covers 26.67% which are major groups. Remaining minor groups are 26-35 years having 202 numbers of patients covering 18.13%. 56-65 years age group has 129 patients cover 11.58%. The next is 66-75 years age group having 49 patients cover 4.4%. The 4<sup>th</sup> minor group is 16-25 years age group having 34 patients cover 3.05%. The lowest group is >75 years age group having only 11 patients covering 0.99%.

Table 8 shows 36-45 years age group population is most sufferer, being 392 out of 1114 patients. Next comes the age group of 46-55, having 297 out of 1114. Age group wise less sufferer groups are 26-35, 56-65, 66-75 and 16-25 having 202, 129, 49 & 34 respectively.

**Table 6: Age wise distribution of patients susceptible to breast cancer.**

16-25 (yrs)	26-35 (yrs)	36-45 (yrs)	46-55 (yrs)	56-65 (yrs)	66-75 (yrs)	>75 (yrs)
34	202	392	297	129	49	11

Lowest sufferer is the age group > 75 years, being 11 out of 1114.

The mean± standard deviation of two most vulnerable groups like 36-45 and 46-55 is 344.5±67.18. The mean± standard deviation of other five age groups i.e. 16-25, 26-35, 56-65, 66-75 & > 75 years is 70.83±78.76. The p- value is 0.005. So the result is highly significant.

**5. Analysis of the relative status, the extent and quality of palliative care in the patients under study:**

Situation comes in the life of breast cancer patients when surgery is over, the course of valuable chemotherapy is finished, Radiotherapy is complete but those were not useful for the patients. Doctors declare that they have nothing to do more. But then also patients survive for some days or months. At that period they require mitigation of their pains. Their standard of lives should be tried to be improved. In case of arrival of new physical problems solutions should be sorted out. At the end of the life this is a big question to the patients. Palliative care is very much needed in this situation.

In West Bengal both in govt. or private hospitals there is very little infrastructure about palliative care of cancer patients.

Kerala is giving the leadership role in palliative care. Out of 925 palliative cares unit in India 840 palliative care units are at Kerala.

Ruma Abedana Hospice, Hitoisini & Kalpana Dutta foundation Cancer Care are such non govt. organizations having palliative care unit situated at West Bengal adjacent to Kolkata. They try to provide palliative care of the patients through coordination with CNCI. At this cancer institute patients are served mostly from outdoor's palliative care unit. Morphine Tablets are supplied to relieve pain of the cancer patients along with other medicines required according to the requirement. Non supply of Morphine Tablets etc for various reasons is some obstacles to serve such

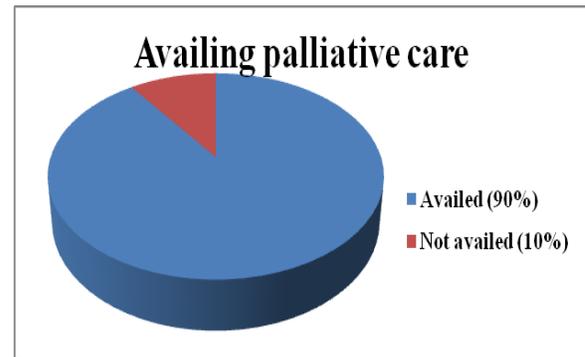
patients. Such patients are admitted in the indoor of the hospitals also considering the exigency of the patients.

A cohort of 50 breast cancer patients has been prospectively followed up to assess status of palliative care extended by the hospitals and the results are as follows:

**Table 9: Palliative care.**

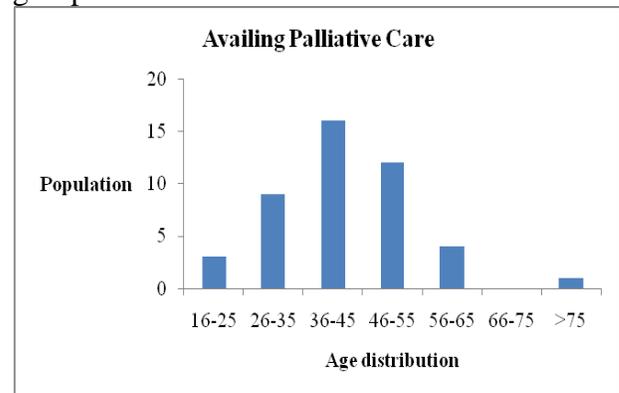
AVAILED	NOT AVAILED
45 patients	5patients

Figure 6 shows 90% of the patients availed palliative care where as 10 % did not.



**Fig. 6: Chart showing distributions of patients availing palliative care.**

Figure 7 depicts age wise distribution of patients availing palliative care received by the patients. Chart shows 36-45 years age group in spite of being large in number availed palliative care. Next come 46-55 years age groups, 26-35 years age group, 56-65 years age group and 16-25 years age group.



**Figure 7: Age wise distribution of patients availing palliative care.**

## Conclusions

The study indicates about soft skill application of the caregivers, patient doctor relationship, strategy adopted by the hospital for screening of breast cancer, measuring level of treatment adherence by the patient and finding out possible reasons for non compliance or suboptimal compliance by the breast cancer patients and also analysis of extent and quality of palliative care of the hospital.

Soft skill includes proper listening, interpersonal relationship skill and communication skill of the care givers. In govt. hospitals numbers of caregivers like doctors, nurses, pharmacists and other staff are lower in comparison to the number of patients. Therefore scope of soft skill application is limited. Study shows 87% of the patients get moderate quality of soft skill applications and 13% gets the minimum.

Joint discussions are done between doctors and patients including their relatives about the disease conditions and treatment procedure facilitates providing free beds to the poor patients. Study shows 74% patients availed free bed facility and 26% patients got paying bed.

CNCI arranges program for screening of breast cancer in the community by Breast Self Examination. More govt. support in terms of man power and finance are required to fulfill the need.

In this hospital level of treatment adherence is moderate. Follow up part is not up to the mark. Patients come from remote districts and come from poor family.

After primary treatment doctors asks the patients to come for clinical check up at regular intervals up to 5-10 years and some costly testing like MRI scans/ PET CT scan etc. are recommended but the patient can not comply.

The patient has a need to lead a life that is as normal, congenial and dignified as possible.

From the study it was noticed that 90% of the patients availed medium quality and

10% availed minimum quality of palliative care.

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