

Pattern of External Breast Prosthesis Use by Post Mastectomy Breast Cancer Patients in India: Descriptive Study from Tertiary Care Centre

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Abstract In India, Breast cancer is now the most common cancer in urban and 2nd most common in rural areas [1]. The incidence is rising, more younger women are getting affected and due to increase in survival rates there is an increase in the total number of women suffering from breast Cancer. So far there are no studies evaluating the pattern of breast prosthesis use in Indian scenario. The aim of this study is to address the patterns of external breast prosthesis used in India and view of Indian women on such prosthesis after mastectomy for breast cancer. This was a descriptive longitudinal study. In this study we interviewed (telephonic) 63 people, after three years of completing treatment under The Department of Surgical Oncology, St. Johns medical college, Bangalore. Among the study group, 27 members (40 %) were using various prosthesis, rest 36 women were not using any type of prosthesis. Among the users of prosthesis, silicon prosthesis was used by 6 women, padded cups by 8 women, cloth or cotton by 12 women and 1 woman used other type of prosthesis. Most women use simple items like cloth and cotton (44 %). Next most commonly used prosthesis are padded cups(). Only 22 % of women were found using silicon prosthesis in this study. Most of the well educated patients used external prosthesis either in the form of silicon prosthesis or padded cups. Most of women below age of 50 used external breast prosthesis. Use of prosthesis was more in urban compared to rural population (48 % vs 25 %). Prosthesis users worried more about the body image than women not using prosthesis. 25 % of women using prosthesis had body image issues where as only 5 % of

non prosthesis users had such problems. Prosthesis users need improvement in terms of comfort, size, shape and affordability. Most common reasons for not using prosthesis are age, lack of motivation and awareness. Less than half of the women included in this study used external prosthesis after mastectomy for breast cancer. Most of the women are used home made prosthesis like cloth and cotton (44.4 %). Education, age and urban status are the strong factors which influences use of prosthesis. Prosthesis users are those who are more concerned about their body image. There is a palpable need to develop better prosthesis at affordable price.

Keywords Breast cancer · Prosthesis · India

Introduction

In India, Breast cancer is now the most common cancer in urban and 2nd most common in rural areas.[1] Breast cancer accounts for 25 % to 32 % of all female cancers in urban area. This implies, practically, one fourth (or even approaching one thirds) of all female cancer cases are breast cancer.[1] In India, the average age of developing a breast cancer has undergone a significant shift over last few decades.[1] Almost 48 % patients are below 50. An increasing numbers of patients are in the age group of 25 to 40 years.[1] The overall 5 year survival for breast cancer has increased from 75 % in 1970's to almost 89 % presently. Since the number of cases are raising it is seen that younger women are getting affected. Due to improvements in cancer care, the number of survivors of breast cancer are increasing. However, no study has evaluated the pattern of breast prosthesis use in Indian scenario. This study is done with an intent to address few aspects of breast prosthesis use in post mastectomy breast cancer patients in an Indian scenario.

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Table 1 Pattern of prosthesis in study group

Prosthesis	No of women	Percentage of prosthesis use women
Silicon	06	22.2
Padded cups	08	29.6
Cloths and cotton	12	44.4
Other	01	3.8
total	27	100

Objective of the Study

To know about the pattern of breast prosthesis usage among post mastectomy breast cancer women in Indian scenario.

Methods

This is a descriptive longitudinal study. After getting the ethical committee approval, 63 patients who underwent mastectomy for breast cancer between 2008 and 2011 under the Department of Surgical Oncology at St. Johns Medical College were included in the study. For these patients, telephonic interview was done three years after completion of therapy.

Inclusion criteria: all patients diagnosed with carcinoma breast under the Department of Surgical Oncology between 2008 and 2011. Exclusion criteria are breast conservative treatment patients and patients undergoing reconstructive surgery. In this study we interviewed 63 people who were available three years after completion of treatment(surgery, chemotherapy and radiation therapy depend on stage).

Study population divided into location, age of the patient, education, marital status. Questionnaire included

- 1) Is patient using any prosthesis?,
- 2) Type of prosthesis- cloth, paper, cotton, silicon, others,
- 3) Reason for not using prosthesis
- 4) How has life changed after mastectomy?
- 5) perception of Body image
- 6) Will a good prosthesis improve your body image?
- 7) Are you interested to have a good prosthesis now at an affordable price?

Table 2: Pattern of prosthesis in rural and urban population

	No. of women	No. of prosthesis users
Rural	16 (25.4 %)	4 (25 %)
urban	47 (74.6 %)	23(48.9)
Total	63	27

Table 3 Age distribution of women

Age	No. of women	Percentage of study population	No. of women using prosthesis	% of women age group using prosthesis
30–39	6	9.5	6	100 %
40–49	14	22.2	09	64 %
50–59	21	33.3	08	38 %
60–69	13	20.6	03	23 %
70 and above	9	14.4	01	11 %
Total	63	100	27	42.8 %

Results

Among study group - 27 women used various prosthesis, rest 36 women did not use any type of prosthesis. Among 27 women - silicon prosthesis was used by 6 women, padded cups used by 8 women, cloth or cotton used by 12 women and other type of prosthesis used by one woman (Table 1).

In rural women 4 out of 16 women are using prosthesis. In urban women 23 of 47 are using prosthesis (Table 2).

Six women were between 30 and 39 years age, 14 women between 40 and 49 years age, 21 in 50–59 years age group, 13 women between 60 and 69 years age and 9 women were 70 and above (Table 3).

Among women below 39 years - all women used prosthesis, between 40 and 49 years - 10 women are used prosthesis (Fig. 1).

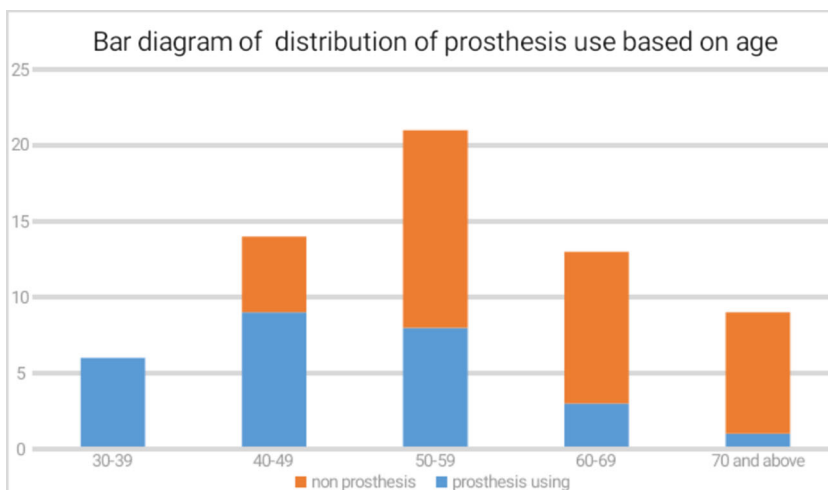
Education status of the patients:12 women were illiterate, 10 women were below SSLC, 16 women studied upto SSLC, PUC or matriculation, 25 women were graduate and post graduates (Table 4).

In this study none of the illiterate and women educated below SSLC used prosthesis. Where as 8 out of 16 among the SSLC, PUC and matriculation educated women wore some type of prosthesis.among the graduates and post graduates 19 out of 25 used prosthesis (Fig. 2).

In this study two women were unmarried rest were married. Both unmarried women were prosthesis users. Silicon prosthesis was only used by graduate and post graduate group. Among the prosthesis users, 11 women wanted improvements in the prosthesis for betterment of body image. 14 women felt cost constraints existed for the use of better prosthesis.

Main reasons given for not using prosthesis by 26 women of 36 non prosthesis users was that at their age there was no requirement of prosthesis. Three women were unaware of existence of prosthesis. 7 of the 27 prosthesis users felt decreased body image. 14 of the 27 women felt the prosthesis required improvements.

Fig. 1 Bar diagram of distribution of prosthesis use based on age



Discussion

An external breast prosthesis is an artificial material that is worn under clothing to imitate the shape of the breast [2]. After mastectomy, women usually suffers physically and psychologically because of loss of organ which is a sign of femininity. Most of the women do not think of any prosthesis or reconstruction due to fear of recurrence of the disease, society and poor economic status [3]. Although breast reconstructive surgery is available, there are still many women who wear an external prosthesis either through choice or because of age or the presence of comorbidities prohibiting reconstructive surgery or affordability.

Most breast prostheses are made from soft silicone gel encased in a thin film. They are moulded to resemble the natural shape of a woman’s breast, or part of a breast. The outer surface feels soft and smooth, and may include a nipple outline. Mastectomy bras are made by sewing in a piece of stretchy material loosely across the back of the cup for well-fitting and supportive bra [4]. Some women use cloth or cotton (Fig.3) to get the shape of lost breast.

This study shows that 40 % of the study group used some form of external prosthesis. Most of the women are using home made things like cloth and cotton (around 44 %). Next

most commonly used prosthesis are padded cups. Only 22 % of women used silicon prosthesis in this study.

Education and age of the patient strongly affect the prosthesis use. Most of the well educated patients used external prosthesis either in the form of silicon prosthesis, padded cups or cloth. All women below age of 50 used external breast prosthesis, except one who discontinued due to prosthesis discomfort.

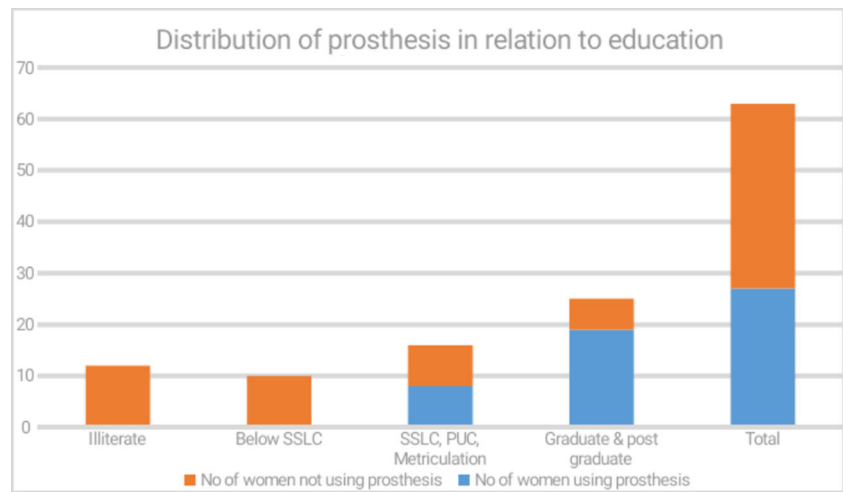
Urban patients have a higher proportion of prosthesis users(48 % vs 25 %) Prosthesis users were more worried about the body image than non prosthesis users. 25 % of women using prosthesis had body image problems where as only 5 % of non users had body image problem. Women who are used prosthesis felt the need for improvement in the prosthesis in terms of comfort, size, shape and affordability.

Most common reason for not using prosthesis was advancing age and lack of motivation. Since all patients cannot afford silicon prosthesis, most of patient opted for home-made cotton or cloth for making external prosthesis.

Various studies have compare the psychological and body image after the use of internal breast prosthesis [5, 6]. There are no studies on external breast prosthesis types and pattern of breast prosthesis usage and psychological issues and desire of women for external prosthesis.

Table 4. Education distribution among women and prosthesis pattern

Education	No. of womens	Percentage of study population	No of women using prosthesis	Percentage of age group women using prosthesis
Illiterate	12	19.2	0	0 %
Below SSLC	10	15.8	0	0 %
SSLC, PUC, Metriculation	16	25.3	08	50 %
Graduate & post graduate	25	39.7	19	76 %
Total	63	100	27	42.8 %

Fig. 2 Distribution of prosthesis in relation to education

Conclusion

Less than half of breast cancer treated patients used external prosthesis after mastectomy for breast cancer. Most of the women used custom made prosthesis like cloth and cotton. Education, age and urban living were the strong factors which influenced the prosthesis use. Women below fifty years and those educated more than SSLC mostly used prosthesis. Women using prosthesis are affected with body image issues after mastectomy. Most of the prosthesis users felt that there is need for developing better prosthesis which are more user friendly and affordable. This study team felt that proper counselling is required for post mastectomy women regarding

the various prosthesis and their usage. There is a need for improved research and development of better prosthesis which are patient friendly and affordable. Lack of awareness about external prosthesis is major reason for not using prosthesis. If properly counselled, patients of advancing age, low education status, rural back ground and low economic status can also wear custom made external prosthesis which can be affordable, thereby boosting their body image and self confidence.

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**Fig. 3** cloth and cotton prosthesis used for external breast prosthesis