



EFFECTIVENESS OF LYMPHATIC MASSAGE ON LYMPH OEDEMA AMONG PATIENTS WITH BREAST CANCER UNDERGONE MASTECTOMY IN A TERTIARY CARE HOSPITAL

Nursing

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ABSTRACT

Breast cancer is the most frequent malignancy in women.[1] The incidence of lymph oedema after breast cancer treatment varies from 25% to 38%.[2] The aim of the study was to evaluate the effectiveness of lymphatic massage on lymph oedema among patients with breast cancer undergone mastectomy at Govt. Medical College Hospital, Kottayam. A quantitative approach was used for the study and the design adopted was pre experimental design. The conceptual framework, Betty Neuman's system model theoretically supported the study. Thirty five patients with breast cancer undergone mastectomy and on treatment in the Department of Radiotherapy were selected by non probability purposive sampling technique. The data were collected using socio personal and clinical data sheet and modified Foldi lymph oedema rating scale. A pre test was conducted among the subjects on the first day before the intervention. The intervention -lymphatic massage- was given as a series of soft rhythmic strokes to the patient both on the inner and outer aspect of affected extremity. The massage technique was reinforced with the help of patient information booklet on lymphatic massage. Findings revealed that lymphatic massage had statistically significant effect on lymph oedema ($p < 0.05$) among patients with breast cancer undergone mastectomy. Based on the findings of the present study, it can be concluded that lymphatic massage was effective in reducing lymph oedema at repeated post tests among patients with breast cancer undergone mastectomy.

KEYWORDS

Effectiveness; Lymphatic massage; Lymph oedema; Patient with breast cancer undergone mastectomy.

1. INTRODUCTION

The global incidence of breast cancer is 35-44 per 100,000 women per year, and its frequency is increasing. It makes up 25% of all new cancer diagnoses in women around the world. Prevalence of breast cancer in Asia is 59% of the world population and 39 percentage of new breast cancer cases. In India its incidence rate is 30.6 per 100,000 women, [1] whereas in Kerala the incidence is 27 cases per 100,000 women per year.[3]

Breast cancer treatment especially axillary node dissection and radiotherapy may disrupt lymphatic system of the upper limb leading to secondary lymph oedema.[2] The incidence of breast cancer related lymph oedema is 0 to 3% after lumpectomy alone and 65 to 70% after modified radical mastectomy with regional nodal radiation. Overall, 80% to 90% of women develop lymph oedema within 3 years of treatment, but the risk persists years later as the remaining 10% to 20% develop lymph oedema at a rate of 1% per year.[4]

There is a wide range of interventions for post treatment lymph oedema among breast cancer survivors with varying degrees of success and patients acceptance but there is no standard treatment as yet. Multi layered compression bandage, simple lymphatic drainage, manual lymphatic drainage, proper skin care, exercise and electro-physical agents are some of the current methods for managing breast cancer related lymph oedema.[2]

Manual lymphatic drainage is a set of specialized hand movements with different sequences to provide pumping action on the skin. It has been shown to have a number of physiological effects including increasing lymph flow and reabsorption without increasing filtration and hence reducing lymph oedema.[2]

2. Objectives

- 1 To assess lymph oedema among patients with breast cancer undergone mastectomy.
- 2 To evaluate the effectiveness of lymphatic massage on lymph oedema among patients with breast cancer undergone mastectomy.

3. MATERIALS AND METHODS

A quantitative approach was used for the study. The study design selected was pre experimental design. Non probability purposive sampling technique was employed to select 35 women with breast cancer undergone mastectomy attending Govt. Medical College Hospital, Kottayam. All women in the study were with breast cancer undergone mastectomy, who were able to follow instructions and willing to participate in the study. Those excluded from the study were

patients with breast cancer undergone mastectomy who had paralysis or previous vascular disorder in the affected arm, a contraindication for lymphatic massage such as cellulitis, deep venous thrombosis, heart failure, uncontrolled hypertension, renal impairment and radiodermatitis and those who could not comprehend and communicate Malayalam. To assess lymph oedema among patients with breast cancer undergone mastectomy, modified Foldi lymph oedema rating scale was used before starting the therapy. Lymphatic massage was given to the patients for five consecutive days by the researcher. An able patient or a caregiver was asked to continue the lymphatic massage from day 6 to day 15. First, second and third post tests were done on the 5th, 10th and 15th day respectively to evaluate the effectiveness of lymphatic massage on lymph oedema using modified Foldi lymph oedema rating scale. The obtained data was tabulated and analysed in term of objectives of the study using descriptive and inferential statistics.

4. RESULTS

4.1 Findings related to sample characteristics

Majority of patients (60%) with breast cancer undergone mastectomy were aged between 48-62 years and only 25.7% were between 33- 47 years. Majority (57.1%) possessed secondary school education, while only 5.7% were educated to degree and above. Also 2.9% had no formal education. All of them were either married (77.1%) or widowed (22.9%). Most (88.5%) of the patients were unemployed. Majority (62.8%) had a monthly income between ` 5000- 10000 and few (28.6%) had income below ` 5000. Those belonged to nuclear family were 54.3%, whereas only 34.3% of the subjects belonged to extended family. Near seventy percentage (68.6%) of the patients had no family history of cancer and the rest (31.4%) had a positive family history. Majority (80%) of the patients were non vegetarian, compared to a fewer (20%) vegetarian population.

4.2 Findings related to Lymph oedema among patients with breast cancer undergone mastectomy

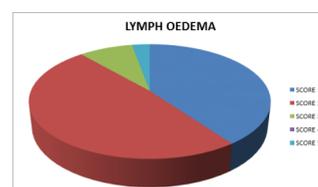


Figure 1: Frequency distribution and percentage of patients with breast cancer undergone mastectomy with respect to lymph oedema, n=35

Where score 1 is level 0 lymph oedema, score 2 is Level 1a lymph oedema, score 3 is Level 1b lymph oedema, score 4 is Level 2 lymph oedema, and score 5 is Level 3 lymph oedema.

Among the patients with breast cancer undergone mastectomy, who participated in the study 48.5% had level 1a lymph oedema 40% had level 0 lymph oedema and 8.6% had level 1b lymph oedema. Only 2.9% were with level 3 lymph oedema.

4.2 Findings related to effectiveness of lymphatic massage on lymph oedema among patients with breast cancer undergone mastectomy

Table 1: Mean rank and Chi square value of lymph oedema scores among patients with breast cancer undergone mastectomy at pre test, post test 1, post test 2 and post test 3 n=35

Group	Mean rank	df	χ^2
Pre test	3.69		
Post test 1	3.03	3	86.45*
Post test 2	1.96		
Post test 3	1.33		

*significant at 0.05 level

The Chi square value of Friedman's test of lymph oedema scores among patients with breast cancer undergone mastectomy before and after the lymphatic massage was 86.45, which was statistically significant at 0.05 level ($p < 0.05$). That means lymphatic massage was effective in reducing lymph oedema among patients with breast cancer undergone mastectomy and the effect was sustained for repeated intervals.

Table 2: Mean rank, Sum of ranks and Z value of lymph oedema scores among patients with breast cancer undergone mastectomy at pre test, post test 1, post test 2 and post test 3 n=35

Sl no	Pairs	Lymph oedema		Z
		Mean Rank	Sum of Ranks	
1	Pre test	0	0	-4.12 ***
	Post test 1	9	153	
2	Pre test	0	0	-5.25 ***
	Post test 2	16.5	528	
3	Pre test	0	0	-5.24 ***
	Post test 3	17.5	595	
4	Post test 1	0	0	-4.69 ***
	Post test 2	11.5	253	
5	Post test 1	0	0	-5.44 ***
	Post test 3	18	630	
6	Post test 2	0	0	4.00 ***
	Post test 3	8.5	136	

***significant at 0.001 level

Pair wise comparison using Wilcoxon signed rank test revealed that there was a statistically significant difference at 0.001 level between mean ranks of lymph oedema among patients with breast cancer undergone mastectomy before and after lymphatic massage therapy between pre test and post test 1, pre test and post test 2, pre test and post test 3, post test 1 and post test 2, post test 1 and post test 3 and post test 2 and post test 3. From the above findings, it could be concluded that lymphatic massage was effective in reducing lymph oedema among patients with breast cancer undergone mastectomy and the effect was sustained for repeated intervals.

5. DISCUSSION

In the study it was found that 48.5% had level 1a lymph oedema and 40% had level 0 lymph oedema and only 2.9% were with level 3 lymph oedema. The results were similar to a study on physical therapies for reducing and controlling lymph oedema of the limbs. The subjects were patients with breast cancer related lymph oedema. In that study all had developed lymph oedema after the first year from surgery, 27.5% had mild lymph oedema and 52% had moderate lymph oedema [5]

The present study revealed that there was a significant difference in the median scores of lymph oedema at post test 1, post test 2 and post test 3 among the subjects. The findings were statistically significant ($p < 0.05$). That means lymphatic massage was effective in reducing lymph oedema among patients with breast cancer undergone mastectomy and the effect was sustained for repeated intervals. The findings of the study were supported by a systematic review conducted at University of South Australia on common conservative therapies for arm lymph oedema secondary to breast cancer treatment. The review reported two studies with 12–17 participants who received manual lymphatic drainage and who experienced a volume reduction of 8–10%, with one study reporting that the volume reduction was maintained at 6 months follow up. The other study reported reductions in heaviness and tension [6, 7, 8, 9]

6. CONCLUSION

Based on the findings of the study it can be concluded that there is evident reduction in lymph oedema of affected arm among patients with breast cancer undergone mastectomy after lymphatic massage.

7. REFERENCES

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