



## EFFECTIVENESS OF LYMPHATIC MASSAGE ON PAIN AND FUNCTIONAL ABILITY AMONG PATIENTS WITH BREAST CANCER UNDERGONE MASTECTOMY

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### ABSTRACT

**BACKGROUND:** Changes in arm morbidities, physical activity level and health related quality of life after breast cancer surgery vary among patients. The development of lymph oedema, pain, and sensation of heaviness in the upper limbs significantly affect the functional ability of these patients even years after surgery. [1]

**OBJECTIVES:** The study focused on assessment of pain and functional ability among patients with breast cancer undergone mastectomy, evaluation of the effectiveness of lymphatic massage on pain and functional ability among patients with breast cancer undergone mastectomy and correlation between pain and functional ability.

**MATERIALS AND METHODS:** Quantitative approach was used for the study. 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. The technique of data collection used was self reporting. During the data collection period Lymphatic massage was given to the patient ten times, for 5- 7 minutes, once a day, for the first five consecutive days by the researcher. The massage technique was reinforced with the help of patient information booklet on lymphatic massage. Then an able patient or a care giver was asked to continue the lymphatic massage from day 6 to day 15. Post test evaluation were done on day 5, 10 and 15.

**RESULTS:** The study proved that lymphatic massage was effective in reducing pain and improving functional ability of affected arm among patients with breast cancer undergone mastectomy. Also it showed a strong positive correlation between pain and functional ability. The study found a significant association between pain and duration after surgery, and between functional ability and family type, level of axillary clearance, number of lymph nodes removed, duration after surgery and comorbidities among patients with breast cancer undergone mastectomy.

**CONCLUSION:** Based on the findings of the study it can be concluded that there is evident reduction in pain and improvement in functional ability of affected arm among patients with breast cancer undergone mastectomy after lymphatic massage.

### KEYWORDS :

### INTRODUCTION

Breast cancer is the most frequent malignancy in women. [2] Figures shows that the 5 year relative survival of women diagnosed with breast cancer has increased from 80% in the 1950s to 89% today relative to age matched women without the disease. [3] This is because breast cancer is diagnosed at an earlier and localised stage in nations where populations have access to medical care and progressive improvement in treatment strategies. In many countries with advanced medical care, the five year survival rate of early stage breast cancers is 80–90 per cent. [4] Lymph oedema is a highly prevalent condition in women who have undergone treatment for breast cancer, which negatively affects their quality of life. [5] The findings of a study conducted at UK to examine the effects of manual lymphatic drainage among women with breast cancer-related lymph oedema demonstrated that manual lymphatic drainage significantly reduces altered sensations, such as pain and heaviness. [6] A systematic review on prognosis of the upper limb following surgery and radiation for breast cancer reported that shoulder or arm pain was in between 9 and 68% of participants and arm weakness was in between 9 and 28% of participants. [1]

### MATERIALS AND METHODS

Quantitative approach was used for the study. 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. The technique of data collection used was self reporting. The following tools were used to collect the data on the present study.

**Tool 1 :** Socio personal and clinical data sheet.

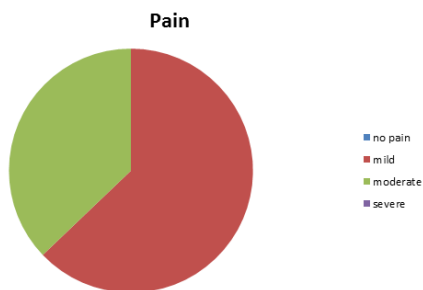
**Tool 2:** Numeric rating scale for pain

**Tool 3:** Modified quick DASH-9 rating scale for functional ability

Duration of the study was 15 days per patient. The intervention given was lymphatic massage. It is a form of massage that helps to stimulate the lymphatic system and encourages the flow of lymph fluid from the affected area. In this study lymphatic massage was given as a series of soft rhythmic strokes to the patient both on the inner and outer aspect of affected extremity. It was given to the patient ten times, for 5- 7 minutes, once a day, for the first five consecutive days by the researcher. The massage technique was reinforced with the help of patient information booklet on lymphatic massage. Then an able patient or a care giver was asked to continue the lymphatic massage from day 6 to day 15. Post test evaluation were done on day 5, 10 and 15.

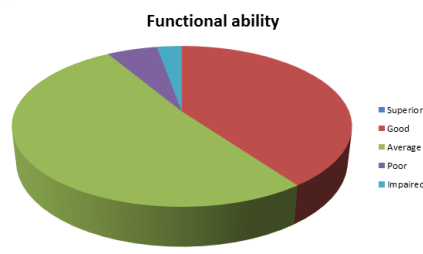
### RESULTS

A socio personal and clinical data sheet was prepared to collect information on different aspects. A few of the findings include the following. Over half (54.3%) of the patients with breast cancer belonged to nuclear family, whereas only 34.3% of the subjects belonged to extended family. Over three fourth (80%) of the patients, had undergone modified radical mastectomy and only 5.7% had undergone radical mastectomy. Among the subjects 48.6% underwent level 2 axillary clearance, but only 11.6% underwent level 3 axillary clearance. Number of axillary lymph nodes removed were equal (45.7%) in terms of less than 10 and 10-20 lymph nodes. Majority (45.7%) underwent surgery before 3-6 months and 25.7% underwent surgery less than 3 months before. Regarding the affected side of patients with breast cancer undergone mastectomy 51.4% were affected on their right side. Majority (74.2%) of the patients with breast cancer undergone mastectomy were free of any comorbidities. Among the diseased diabetic were 14.3%, those with hypertension 5.7%, both diabetic and hypertensive 2.9%. More than half (51.4%) of the subjects had normal body weight, 40% of the patients had overweight and a few (8.6%) were obese.



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

Most patients (62.9%) with breast cancer undergone mastectomy had mild pain and 37.1% of them had moderate pain. Nobody had severe or worst possible pain.



**Figure 2: Frequency distribution and percentage of patients with breast cancer undergone mastectomy with respect to functional ability, n=35**

More than half (51.4%) of the patients with breast cancer undergone mastectomy had average functional ability of affected arm whereas, only 2.9% had impaired functional ability.

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

Variable	Mean rank				df	χ <sup>2</sup>
	Pre test	Post test 1	Post test 2	Post test 3		
Pain	3.43	3.01	2.36	1.20	3	81.14 ***
Functional ability	3.50	2.84	2.44	1.21	3	80.27 ***

\*\*\*significant at 0.001 level

The study findings concluded that lymphatic massage was effective in reducing pain (p < 0.001) and improving functional ability (p < 0.001) of affected arm among patients with breast cancer undergone mastectomy and the effect was sustained for repeated intervals.

**Correlation between pain and functional ability**

The study reported a statistically significant correlation between pain and functional ability (p < 0.01) among patients with breast cancer undergone mastectomy.

**DISCUSSION**

The present study was conducted to evaluate the effectiveness of lymphatic massage on lymph oedema, pain and functional ability among patients with breast cancer undergone mastectomy. A pre test was done among the subjects to assess pain and functional ability using numeric rating scale for pain and modified quick DASH-9 rating scale respectively. The investigator provided lymphatic massage to study subjects immediately after pre test and continued for 5 days. From day 6-15 the patient or the caregiver was instructed to continue the massage therapy. Post tests were conducted using

same assessment tools to measure lymph oedema, pain and functional ability of the affected arm on day 5, 10 and 15. The data were analysed using descriptive and inferential statistics.

The results showed that lymphatic massage had a statistically significant (p < 0.001) influence in reducing pain of affected extremity among patients with breast cancer undergone mastectomy. The findings of the study was congruent with a systematic review on manual lymphatic drainage for lymph oedema following breast cancer treatment. The review showed that 60% to 80% of the participants reported feeling better with regard to symptoms such as pain and heaviness.[6,7]

Also the study revealed that lymphatic massage had a statistically significant (p < 0.001) influence in the functional ability of affected extremity among patients with breast cancer undergone mastectomy. The findings were similar to a study conducted in China on the efficacy of self manual lymph drainage after modified radical mastectomy for the prevention of shoulder joint dysfunction among breast cancer patients. The study revealed that self manual lymph drainage, in combination with physical exercise, was beneficial for breast cancer patients in preventing post mastectomy shoulder joint dysfunction. [6,8,9]

**CONCLUSION**

Based on the findings of the study the following conclusions were drawn. Pain and impaired functional ability were a major issue among patients with breast cancer undergone mastectomy. Lymphatic massage is an effective therapy to reduce pain and to improve functional ability of affected extremity among patients with breast cancer undergone mastectomy.

The number of patients with breast cancer is increasing day by day. Many patients face health issues such as lymph oedema, pain and impaired functional ability after treatment of breast cancer. Such issues present a challenge not only to patients and their caregivers but also to health care systems and health care professionals. Nevertheless, the education provided by nurses on measures to improve the quality of life of patients with breast cancer undergone mastectomy, such as lymphatic massage can provide early relief to their sufferings resulting from pain and impaired functional ability of affected arm. [10]

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