

A STUDY TO COMPARE THE EFFECTIVENESS OF COMPLEX DECONGESTIVE THERAPY VERSUS STANDARD PHYSIOTHERAPY IN THE TREATMENT OF BREAST CANCER RELATED LYMPHEDEMA***Manjula S. and Dr. P. Senthil Selvam**¹MPT, Asst Prof, School of Physiotherapy, Vistas, Thalambur, Tamil Nadu- 600130, India.²PHD, Prof, Hod, School of Physiotherapy, Vistas, Thalambur, Tamil Nadu- 600130, India.***Corresponding Author: Manjula S.**

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ABSTRACT

Background: The comparison of two different physiotherapy methods in treatment of lymphedema after breast surgery was illustrated by Karadik Didem, Yurdalan S. Ufuk, Saydam Serdar and Arican Zumre from the School of Physical Therapy and Rehabilitation. It revealed the importance of physiotherapy treatment of lymphoedema following mastectomy. **Aim of The Study:** The aim of the study is to compare the effectiveness of Complex Decongestive Therapy versus Standard Physiotherapy in the treatment of breast cancer related Lymphedema.

Objectives of The Study

The main objective of the study is

- To assess the effect of Complex Decongestive Therapy in the treatment of breast cancer related Lymphedema
- To assess the effect of Standard Physiotherapy in the treatment of breast cancer related Lymphedema
- To compare the effectiveness of Complex Decongestive Therapy versus Standard Physiotherapy in the treatment of breast cancer related Lymphedema

Method: In this experimental study, 30 subjects were selected according to the inclusion and exclusion criteria. They were divided into 2 groups namely group A and group B, group A consisting of 15 subjects and group B consisting of 15 subjects. The subjects in both the groups performed the stipulated exercises. The treatment was given 1 hour per day for 3 days per week for 4 weeks making a total of 12 sessions. Pre and post test scores were measured based on range of motion, circumference measurement of limb length and pain. **Results:** The result showed that complex decongestive therapy was more effective than standard physiotherapy after 4 weeks of treatment. **Conclusion:** The therapy session concluded that the treatment session was effective which showed that the shoulder mobility was increased and the pain and oedema was reduced by the treatment Complex Decongestive Therapy program.

KEYWORDS: Complex Decongestive therapy, standard physiotherapy, post mastectomy, lymphedema, breast cancer, circumference, pain, range of motion.

INTRODUCTION

Breast cancer has become one of the most common diseases in women especially in Indians. Breast cancer may arise from the breast tissues, glands, ducts, etc.^[1] Swelling of the limbs arises, which obstructs the flow of lymph vessels after axillary dissection due to surgery, radiotherapy, chemotherapy, etc. Lymphedema is the accumulation of fluid after surgery as it interrupts the flow of lymph vessels. The incidence of 23-50% of women is complicated to lymphedema after breast surgery. In surveys, the incidence of lymphedema in the upper extremities ranges from 15-28%.^[9] Lymphedema management and treatment includes Complex Decongestive Therapy, Physiotherapy, multiple therapies, chemotherapy.^[5] After several researches, Complex Decongestive Therapy has been proven as more effective in treating breast cancer related

lymphedema.^[3] Delaying of treatment may cause decreased activities, mental disturbances, reduced quality of life, pain, weakness, discomfort, etc.^[5,9,11]

Complex Decongestive Therapy

Complex decongestive therapy becomes more effective in treating lymphedema after mastectomy. Many researches, concluded that complex decongestive therapy is more beneficial in mastectomy patients after surgery to attain a quality of life.^[3] It includes skin care, manual lymph drainage, multi layered bandage, remedial exercise.^[3,4,6]

Standard Physiotherapy

Standard physiotherapy includes compression stockings, shoulder exercises, skin care.^[11] The home advices for both the patients are self-massage, walking, exercises,

skin care.^[2,11,12] The American Cancer Society recommends the patients, the way to reduce complications by weight loss, exercises, skin care.^[5] The prevalence of breast cancer related lymphedema may reduce the mortality rate. As it decreases the fear of secondary lymphedema, the prevalence of lymphedema should be attended earlier to reduce the secondary complications as it exacerbated the fear among the mastectomy patients.^[13] The cancer survivors are world widely increasing as the survival rate reaches a great awareness among both the childhood and adult cancers.^{[9][12]} Physiotherapy is the major for the rehabilitation of mastectomy patients after surgery to increase the physical activity and to avoid limitations and restrictions of the psychological and physiological activities.^[8]

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RESEARCH DESIGN AND METHODOLOGY

An experimental study design was conducted with 30 patients within the age group of 31 to 60 years who fulfilled the inclusion and exclusion criteria.

Procedure In Table

GROUP -A	GROUP -B
Age : 31-60 Samples : 15 Duration : 3 days per week Management: ✓ Skin care	Age : 31-60 Samples : 15 Duration : 3 days per week Management: ✓ Skin care
✓ Manual lymphatic drainage (45 minutes) ✓ Multi- layered bandaging (Till next session) ✓ Remedial exercises (Each exercise for 5-10 minutes 5-10 seconds hold and relax, 3 times a day) ✓ Limb elevation	✓ Compression stocking ✓ Shoulder exercises (3-5 breathes, 10 repetition,10 secs hold and relax) ✓ limb elevation ✓ Walking

Data Analysis and Interpretation

Descriptive Statistics of all Variables

The average age of a subject in Group A is 44.07 years (SD = 9.42) and that of Group B is 46.33 years (SD =

Inclusion Criteria

- Among the age group of 31-60 years old.^[11]
- Having mild- moderate degree lymphedema.^[11]
- Lymphedema with a duration of at least 1year.^[11]
- Having 5cm difference between the circumference on both the arms.^[10,11]

Exclusion Criteria

- Obvious on going psychiatric illness.^[11]
- Severe cardiac disease.^[11]
- Severe pain in the axillar region.^[11]
- Uncontrolled hypertension.^[2,11]
- Metastasis, acute infection.^[2,11]

Outcome Measures

1. Circumference measurement.^[5]
2. Range of Motion.^[11]
3. Pain measurement.

Tools Used

- Goniometer.^[15]
- Inch tape.^[2]
- Compression stockings.^[13]
- Multi-layered bandage.^[13]

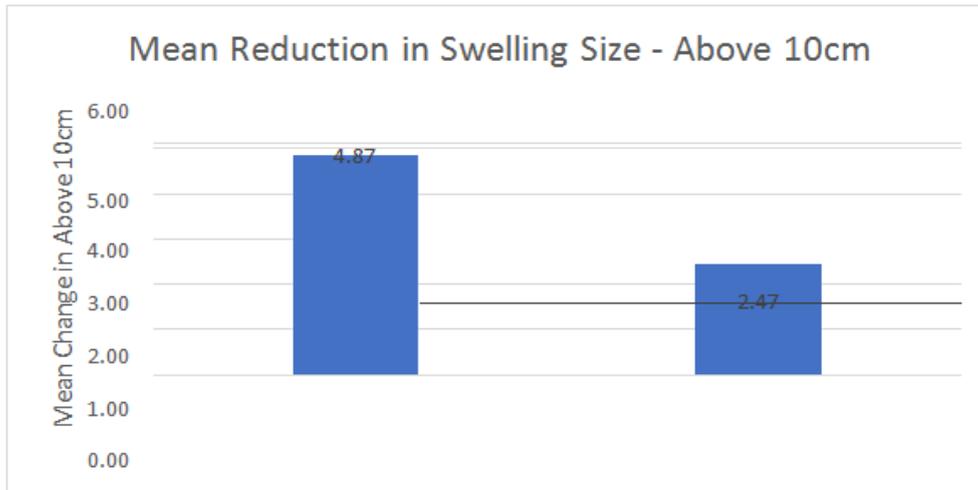
Procedure

The subjects with lymphedema after mastectomy are selected according to the inclusion and exclusion criteria.

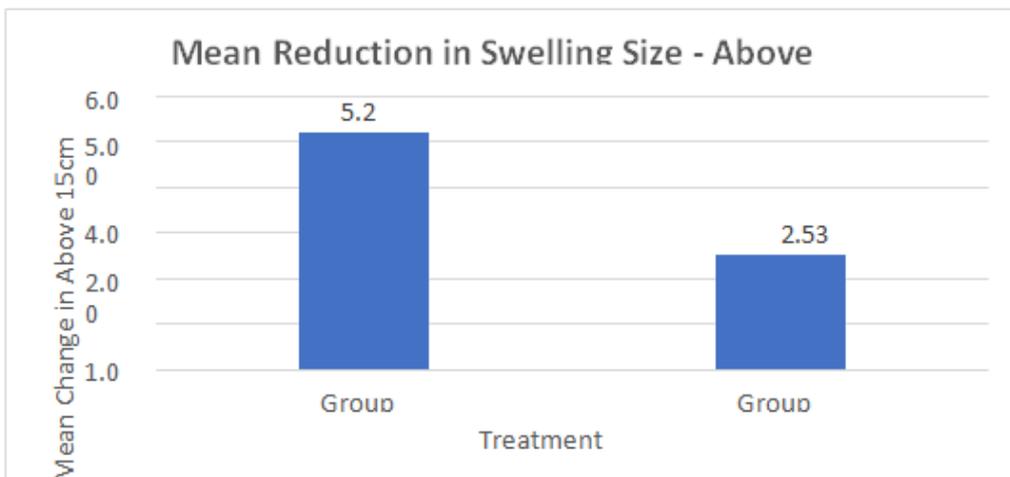
- The written consent form was obtained from the samples.
- The procedures, rules and regulations were thoroughly explained to the samples.
- The 4 weeks of study duration was informed to the samples.
- 30 samples were randomly taken for the study. GROUP- A consisting of 15 samples for complex decongestive therapy and GROUP- B consisting of 15 samples for standard physiotherapy participated in this study.

8.10). Similarly, the descriptive statistics had been calculated for all parameters and are shown in the above two tables.

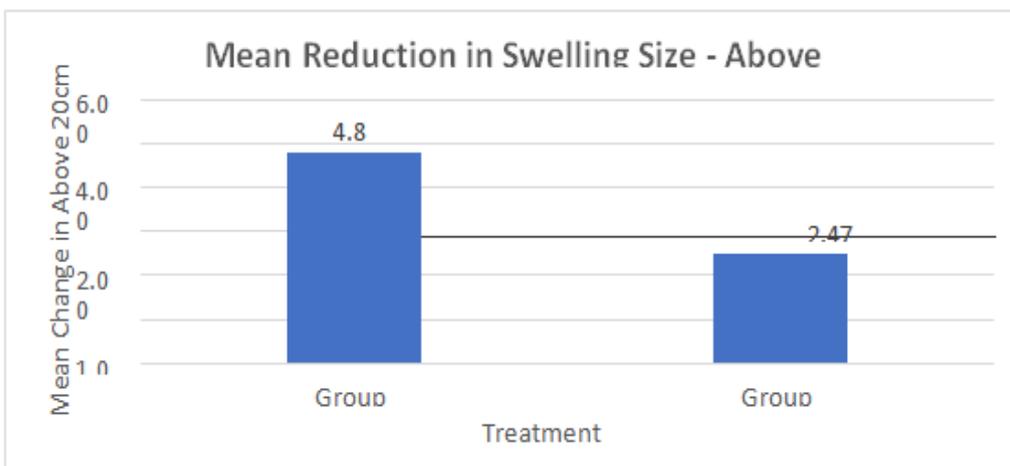
**Inter-Group Analysis (Between Group Analysis)
Comparing the effect of Treatments A and B in terms of change in Swelling Size for Circumference Above 10cm**



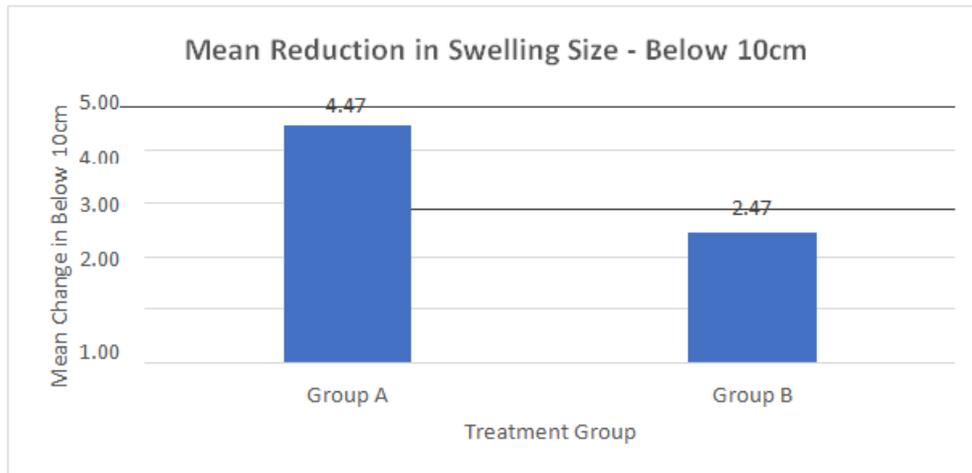
Comparing the effect of Treatments A and B in terms of change in Swelling Size for Circumference Above 15cm



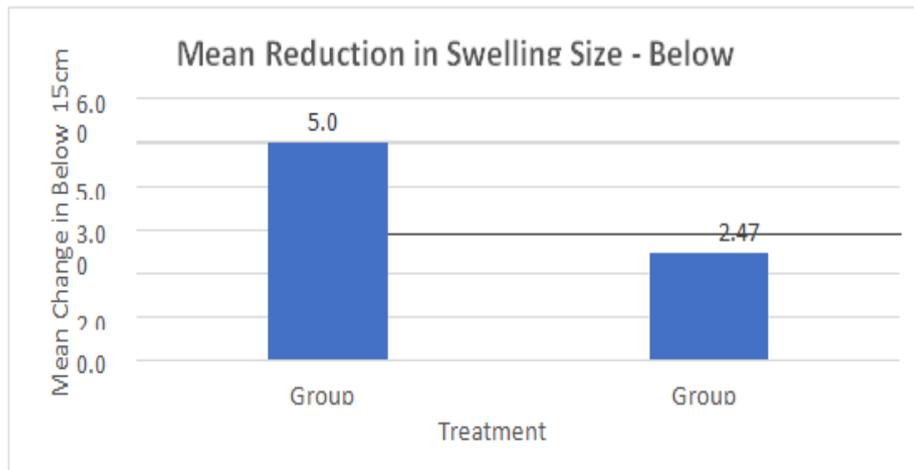
Comparing The Effect of Treatments A And B In Terms Of Change In Swelling Size for Circumference Above 20cm



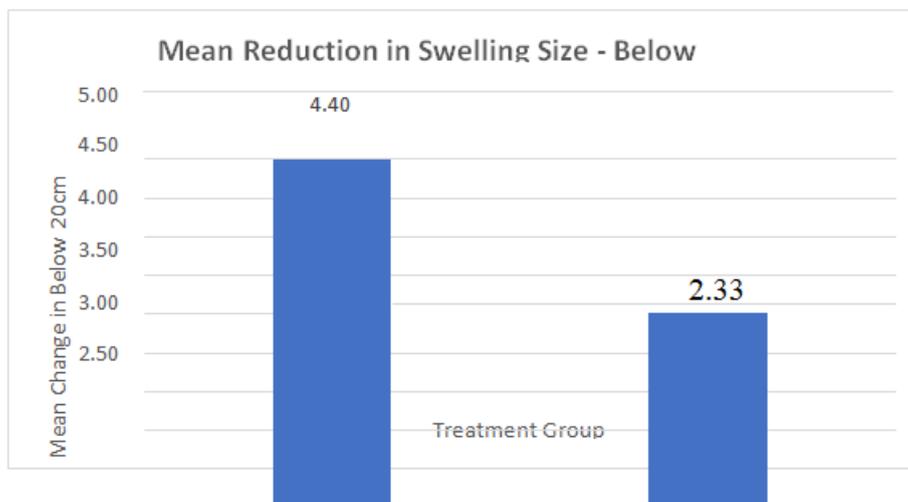
Comparing The Effect of Treatments A and B In Terms of Change In Swelling Size for Circumference Below 10cm



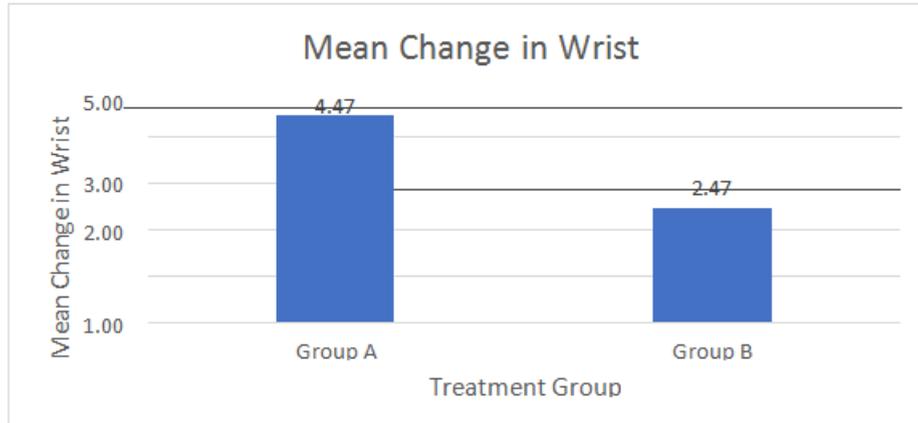
Comparing the effect of Treatments A and B in terms of change in Swelling Size for Circumference Below 15cm



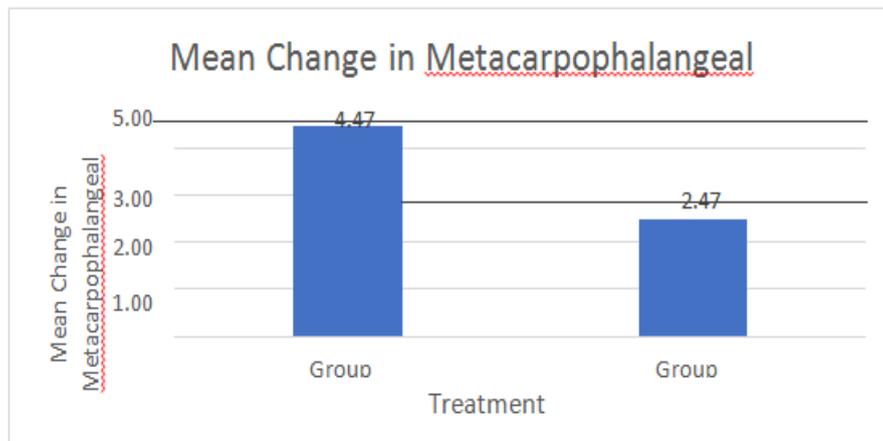
Comparing The Effect of Treatments A and B In Terms of Change In Swelling Size for Circumference Below 20cm



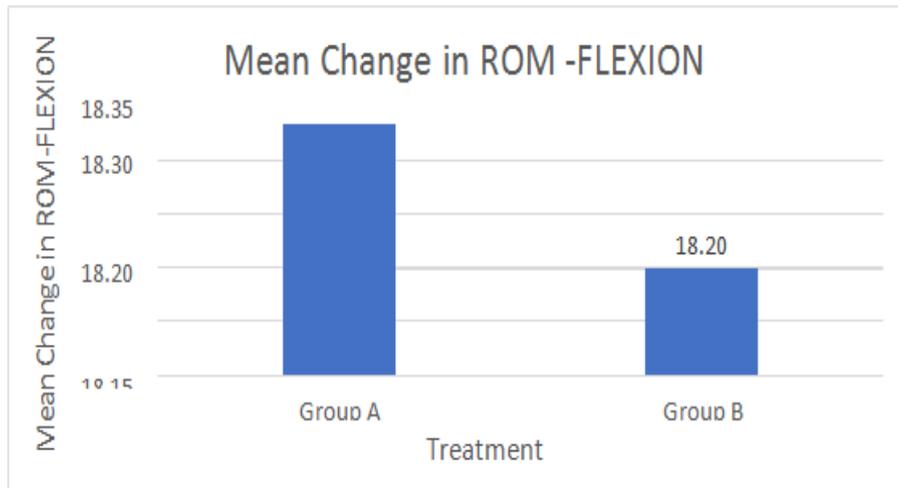
Comparing the effect of Treatments A and B in terms of change in WRIST



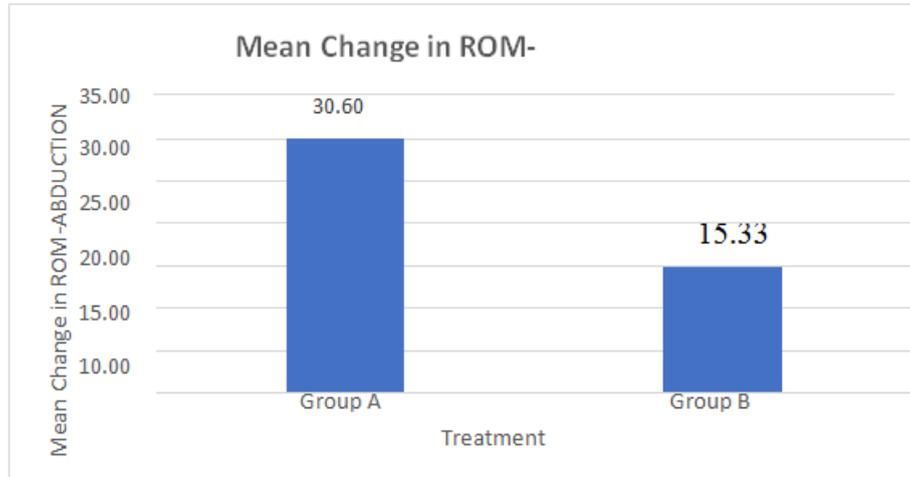
Comparing the effect of Treatments A and B in terms of change in METACARPOPHALANGEAL



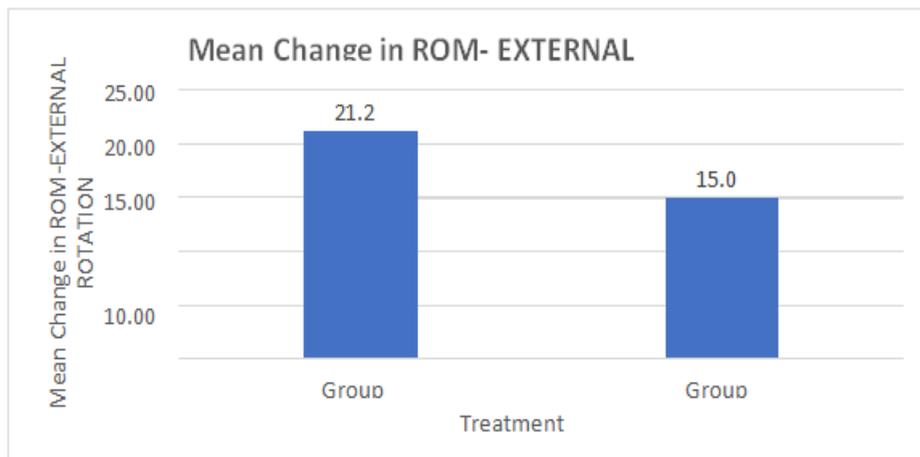
Comparing the effect of Treatments A and B in terms of change in ROM – FLEXION



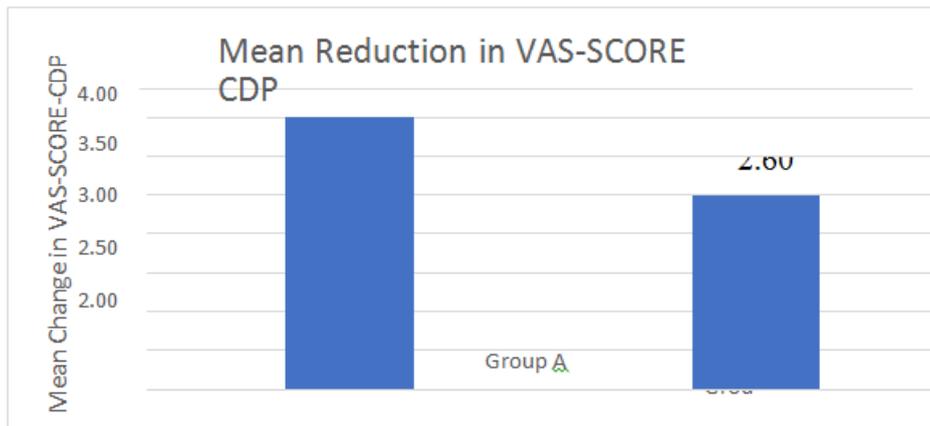
Comparing the effect of Treatments A and B in terms of change in ROM- ABDUCTION



Comparing the effect of Treatments A and B in terms of change in ROM- EXTERNAL ROTATION



Comparing the effect of Treatments A and B in terms of change in VAS-SCORE



Final Conclusion

The intra-group analysis clearly showed that both the treatments (A and B) are effective in terms of change in all the parameters from Pre to Post test. However, the inter-group analysis showed that Treatment A is effective than Treatment B in terms of improvement in all the parameters.

RESULT**Comparison of Treatment- A and Treatment- B.**

PROTOCOL	MEASUREMENT	T-VALUE	P-VALUE
	Above 10cm	-12.73	0.000<0.05
	Above 15cm	-3.59	0.001
CIRCUMFERENCE	Above 20cm	-13.65	0.000<0.05
	Below 10cm	-10.61	0.000
	Below 15cm	-13.20	0.000<0.05
	Below 20cm	-11.37	0.000
	Wrist	-10.61	0.000<0.05
	Metacarpophalangeal	-9.42	0.000
RANGE OF MOTION	Flexion	0.09	0.000<0.05
	Abduction	8.21	0.000
	External Rotation	6.76	0.000<0.05
PAIN	Visual Analog Scale	-3.72	0.000<0.05

DISCUSSION

The study was conducted to evaluate the effectiveness of complex decongestive therapy and standard physiotherapy in the treatment of breast cancer related lymphedema. Many researchers used to measure the oedema by using circumference measurement to estimate the abnormality of the limb. Karadibak Didem, et al., suggested that circumferential measurement to evaluate the circumference of the arm. Bhaskar Amatya, et al., suggested that therapeutic exercises will help the post mastectomy patients to survey from the condition. Jigar Mehta, et al., suggested Physiotherapy can be helpful in improving shoulder ROM, post-operative pain, and chest expansion. This study included 30 samples of female who were selected according to the inclusion criteria and exclusion criteria. It is a simple random sampling. The age group of the patient is from 31-60 years of old. The patients were divided into two groups Group-A and Group-B with 15 samples in each group. Group-A were given Complex Decongestive Therapy and Group-B were given Standard Physiotherapy. The duration of the treatment session was 4 weeks. The treatment was continued for 3 days per week randomly.

Both the groups had different interventions and it concluded that the effectiveness of Complex Decongestive Therapy and Standard Physiotherapy was effective, but however it was, the Complex Decongestive Therapy where the patient was treated with multiple layered bandaging, manual lymphatic drainage, skin care, limb elevation, shoulder movements was more effective than the Standard Physiotherapy where the patient was treated with stockings, skin care, head-neck movements, walking, self-massage.

CONCLUSION

The inter-group analysis showed that Treatment A is effective than Treatment B in terms of improvement in all the parameters. Hence, it was concluded that the complex decongestive therapy was more effective in the treatment of breast cancer related lymphedema.

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