

Awareness of Physical Therapy Rehabilitation among Pre and Post Surgical Breast Cancer Patients – A Survey

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Abstract:-

➤ *Background:*

Breast cancer is the most common cancer and also the primary cause of mortality due to cancer in females all around the globe. There is a huge difference in breast cancer survival rates worldwide, with an estimated 5 year survival of 80% in developed countries and below 40 % in developing countries. Physical therapy Rehabilitation is effective and safe in the management of pre and post surgical breast cancer patients. Physiotherapy intervention empower patients in the management of their symptoms, side effects of treatment or recovery from surgery. Pre Surgical Physiotherapy Management is equally important that of the Post Surgical Physiotherapy Management. With the increasing number of females diagnosed with breast cancer and surviving it, quality of life outcomes are increasing in importance with numerous studies supporting physical activity and its positive impact. It is important to aware patients about physical therapy techniques and its effects to voluntary participate in rehabilitation, it creates lot of difference in the quality of life of cancer patients.

➤ *Aim :*

To Study the Awareness of Physical Therapy Rehabilitation among Pre and Post Surgical Breast Cancer Patients.

➤ *Method :*

The study involves 370 females diagnosed cases of Breast cancer which includes 185 pre and post surgical breast patients respectively. They voluntarily participated in the study by answering a structured questionnaire. Approval were taken from the Oncologist for collecting the patients data from their hospitals, in persons well as telephonically, these questionnaire was collected through google forms and Social media (Gmail and Whatsapp links) around Pune (India).

➤ *Result :*

The result showed a vast majority of subjects (96%) received physiotherapy treatment and got relief from it. Hence, it is noted that awareness of physical therapy rehabilitation is equally essential in pre surgical breast

cancer patients as well as in post surgical breast cancer patients. A below average of subjects (42.2%) were not referred to physical therapy during breast cancer treatment, while the majority of subjects (74.3%) were not aware about the pre surgical assessment and intervention provided by a physical therapist.

➤ *Conclusion :*

The pre and post surgical breast cancer patients both were less aware of the physical therapy rehabilitation in breast cancer. They did know about physical therapy treatments but didn't have enough knowledge about the physical therapy rehabilitation in breast cancer.

Keywords:- Awareness, Physical Therapist, Physical Therapy Rehabilitation, Pre Surgical Breast Cancer Patients, Post Surgical Breast Cancer Patients.

I. INTRODUCTION

The term "Breast Cancer" refers to a malignant tumor that developed by proliferation of cells in the breast.⁽¹⁾ It occurs more commonly in women with a family history of breast cancer than in general population.⁽²⁾ Less than 0.5% of patients with breast cancer are male.⁽²⁾ Breast cancer is now the most common cancer in Indian women.⁽³⁾ The latest WHO-GLOBOCAN data came out in October 2020. In India, approximately 1,78,361 i.e. 13.3% new cases of breast cancer are detected per annum with 90,408 i.e. 10.6% deaths. According to WHO-GLOBOCAN 2020, breast cancer ranks first in India and world i.e. 25.8% of world population among all the other cancer and it is leading cause of cancer deaths.^(1,3) Types of breast cancer: Invasive and Non-invasive breast cancer.⁽⁴⁾ The staging system most often used for breast cancer is American Joint Committee on Cancer (AJCC).⁽⁵⁾ The post surgical breast cancer complications include: 1. Scar tissue adhesions. 2. Pain: shoulder, chest, back, neck or arm. 3. Restricted Rom. 4. Stiffness of the shoulder, neck and spine. 5. Lymphedema. 6. Weakness and fatigue. 7. Neuropathy. 8. Axillary Web syndrome (cording). 9. Bowel and bladder changes. 10. Dyspareunia (Pain with intercourse). 11. Post mastectomy pain syndrome (PMPS).⁽¹¹⁾

Today the involvement of physiotherapist in the field of oncology is diverse and includes specific roles which are evidence based.⁽⁶⁾In physical therapy services, “physiotherapists assess, plan and implement rehabilitative programs that improve or restore human motor functions, maximize movement ability, relieve pain syndromes, and treat or prevent physical challenges associated with injuries, diseases and other impairments.”⁽⁷⁾

There are 4 stages of rehabilitation:

➤ *Preventive-Rehabilitation:*

Intervention focused on improving the patient’s level of function prior to the onset of the effects of cancer and its treatment, patient’s education and the psychological support.

➤ *Restorative-Rehabilitation:*

Intervention meant to assist the cancer patient to a level of function and addressing impairments, activity limitations and participation restrictions.

➤ *Palliative-Rehabilitation:*

Intervention focused on minimizing complications such as pressure ulcers, contractures and muscle deconditioning ensuring adequate pain control and emotional support for the family.⁽¹²⁾So in all stages patients involvement is very important so it is necessary for patients and also medical doctors be aware about how physical therapy plays an important role in maintaining the functional ability of an individual.⁽⁸⁾

Various studies show that there is a lack of knowledge about physical therapy among medical professionals also.⁽⁹⁾

➤ *Need of study.*

Physical therapy rehabilitation is effective and safe in the management of pre and post surgical breast cancer patients. Physiotherapy intervention empower patients in the management of their symptoms, side effects of treatment or recovery from surgery. Patient’s with breast cancer not only have post surgical complications but also have pulmonary and vascular complications. Some research have studied the awareness have studied the awareness of physical therapy treatment un medical professionals but there are very few study which has analyzed awareness of physiotherapy in patients and it is equally essential to find out whether these breast cancer patients are aware about pre and post surgical physiotherapy treatment, As patient is the most important member of rehabilitation team so that they voluntary participate in the rehabilitation and create a lot of difference in their quality of life.

➤ *Aim.*

To study the awareness of physical therapy rehabilitation among pre and post surgical breast cancer patients.

II. METHODOLOGY AND MATERIALS

Study Duration: 6 months, Study set up : Pune, Study design: Cross section study, Sampling size: 370, Sampling technique: Purposive sampling.

Smart phone, Google forms application, Internet connection, whatsapp or Email account, Awareness of physical therapy rehabilitation questionnaire among pre and post surgical breast cancer patients.

➤ *Outcome Measure:*

The questionnaire was a close ended multiple choice questionnaire with 15 questions included overall.

- Have you been taught how to do self breast Examination. (a) Yes. (b) No.
- If answer is Yes, who taught you: i. Doctor ii. NGO volunteer iii. Physical therapist iv. Nurse v. Others
- Do you have a Family history of Breast cancer. (a) Yes. (b) No.
- Are you regular with you follow up: (a) Yes. b) No
- Are you aware of the type of surgery you have undergone/you are going to undergo:(a) Yes (b) No.
- Have your surgeon mentioned you about the post surgical complication related to breast cancer surgery.(a) Yes (b) No.
- Have you ever referred to a physical therapist during your treatment. (a) Yes. b) No.
- Do you have enough knowledge about physiotherapy. (a) Yes (b) No.
- What are your source of information about physical therapy. (a) Personal Contact: i. Family members/Friends ii. Through medical-professionals/surgeon. Hospital/Healthcenter iv. NGO. (b) Mass-Media: i. Books/Newspaper ii. Internet in. iii Radio/ TV. iv. Others.
- Are you aware about the Pre-operative Assessment and Intervention provided by physical therapist. (a) Yes. (b) No
- Are you aware about the Post-operative Assessment and Intervention provided by a Physical Therapist. (a) Yes. (b) No
- Are you aware that a physical therapist provides you a brief counseling about your condition and Advice Regarding Exercises. (a) Yes (b) No

- Are you aware that a physical therapy rehabilitation improves your Quality of life. (a) Yes. (b) No
- What all Advantages does a physical therapy treatment cause: i.Improves physical and mental function. ii. Decreases pain and swelling. iii. Improves posture and prevents deformity iv. None v. All of the above.
- If Physical therapy received, got relieved from the same (a)Yes. (b) No.

➤ *Inclusion Criteria.*

Females, Age between 25-50years, Diagnosed C.A breast cases, Stage1-Stage4, Recurrence cases.

➤ *Exclusion Criteria.*

Males/Transgenders, undiagnosed cases, patients who are not technically equipped, patients with Ductal carcinoma in situ (DCIS) – stage0, Paget disease of the nipple, Distant metastasis, Extensive Intraductal carcinoma (invasive ductal carcinoma), Collagen disease: SLE (Lupus mastitis), Benign breast conditions, psychiatric diseases.

➤ *Procedure.*

Ethical approval was taken from the Ethical committee. Subjects were chosen on the basis of inclusion and exclusion criteria. A self devised questionnaire was prepared and distributed among 7 mpth physiotherapist and the face validity was been done. Different multi specialist cancer hospitals were approached. Approval were taken from the Oncologist for collecting the patients data from their hospitals, consent was taken from the approached patients participating in the study in person and as well as telephonically. The questionnaire were explained to patients in person as well as virtually through phone calls. The Questionnaire were distributed to the patients by using Google forms by a link share via social media (whatsapp/Gmail) and in person.

III. RESULT AND DATA ANALYSIS

A total of 370 diagnosed breast cancer patients participated in the study among them included (50%) 185 pre surgical breast cancer patients and 185 (50%) post surgical breast cancer patients respectively.

Q1. Table1, Shows out of 370 Patients, (74.99%) 277 patients were taught how to do Self Breast Examination Where as (25.1%) 93 patients were not taught how to do Self breast examination.

Q2. Table 2, Shows that Out if 277 patients, Self-Breast Examination were taught to (32.2%) 77 patients was by Doctor, (21.5%) 62patients were taught by Physical Therapist, (18.1%) 57 patients by Nurse, (16.4%) 45 by Ngo Volunteer and (11.9%)36 patients were taught self breast examination by others.

Q3. Table 3, Out of 370 patients, (55.7%)164 patients have a family history of breast cancer where as (45.3%) 206 patients didn't had family history of breast cancer.

Q4. Table 4, Out of 370 patients, (83.2%) 308 patients were Regular with follow up where as (16.8%) 62 patients were not Regular with their Follow up.

Q5. Table 5, Out of 370 patients, (84.6%) 313 patients were aware of the surgery they are undergoing or have undergone where as (15.4%) 57 patients were not aware of the surgery they have undergone or going to undergo.

Q6. Table 6, Out of 370 patients, (69.7%) 258 were mentioned about the Post Surgical Complication related to Breast cancer by the surgeon where as **(30.3%) 112 patients were not mentioned about the Post Surgical Complication related to Breast cancer by the surgeon.**

Q7. Table 7, Out of 370 patients (42.2%) 214 patients were not referred to physical therapy during their treatment where as **(57.8%) 156 patients were referred to physical therapy during their treatment.**

Q8. Table 8, Out of 370 patients (62.4%) 231 patients had enough knowledge about Physical Therapy where as **(37.6%) 139 patients didn't had enough knowledge about Physical Therapy.**

Q9. The Source of Information about Physical Therapy for 370 patients were from (31.3%) 115 patients through Medical Professional / Surgeon, (15.7%) 58 patients by Medical Camp / Awareness Campaign, (13.5%) 50 patients were from Internet, (12.7%) 47 patients were from Family members/Friends, (11.1%) 41 patients were from Hospital/Health Care Center/Support Group, (5.9%) 22patients were from Others, (5%) 19 patients from Books/Newspaper and rest (5%) 18 patients from Radio/Tv.

Q10. Table 10, Out of 370 patients about **(74.3%) 275 were not aware about the pre surgical assessment and intervention provided by the physical therapist.** Where as (25.7%) 95 patients were aware about the pre surgical assessment and intervention.

Q11. Table 11, **Out of 370 patients (40.5%) 150 patients were not aware about the post surgical assessment and intervention provided by a physical therapist,** where as (59.5%) 220 patients were aware about the post surgical assessment and intervention provided by a physical therapist.

Q12. Table 12, (22.2%) 82 patients were not aware by the brief counseling about the condition and advice provided regrading exercises.where as (77.8%) 288 patients were aware about the brief counseling about the condition and advice provided regrading exercises.

Q13. Table 13, **(77.8%)288 patients agreed physical therapy rehabilitation improves quality of life** where as (22.2%) 88 patients were not aware that physical therapy rehabilitation improves quality of life.

Q14. Table 14, The advantages of physical therapy treatment cause was answered (35.7%) 132 patients stated all of the above while (23.8%) 88 patients stated improves posture and prevents deformity, where as (22.2%) 82 patients stated it decreases pain and swelling, (14.3%) 53 patients stated it improves physical and mental health and rest (4%) 15 patients stated none.

Q15. Table 15 (A) Out of 370 patients, **(70.8%) 262 patients received the physical therapy treatment** where as (29.2%) 108 patients didn't received the treatment.

Table 15 (B) Out of 262 patients, **(96.2%) 252 patients got relief after physiotherapy treatment** where as (3.8%) 10 patients didn't get any relief after physiotherapy treatment.

Table 1 Self Breast Examination Description.

	SELF BREAST EXAMINATION DIDN'T TAUGHT
277/370	93/370

Table 2 Self Breast Examination Taught by Description.

SELF BREAST EXAMINATION TAUGHT BY:.	PATIENT WHO WERE TAUGHT SELF EXAMINATION. (277subjects)
DOCTOR	77
PHYSICAL THERAPIST	62
NURSE	57
NGO VOLUNTEER	45
OTHER	36

Table 3 Family History of Breast Cancer Description.

FAMILY HISTORY OF BREAST CANCER	NO FAMILY HISTORY OF BREAST CANCER.
164	206

Table 4 Regular with Follow up Description.

REGULAR WITH FOLLOW UP	NOT REGULAR WITH FOLLOW UP.
308	62

Table 5 Type of Surgery to Undergo/ Undergone Description.

AWARE OF THE TYPE OF SURGERY TO UNDERGO/UNDERGONE.	NOT AWARE OF THE TYPF OF SURGERY TO UNDERGO/UNDERWENT.
313	57

Table 6 Surgeon Mentioned About Post Surgical Breast Cancer Complication Description.

SURGEON MENTIONED ABOUT POST SURGICAL BREAST CANCER COMPLICATION.	SURGEON DIDN'T MENTIONED ABOUT POST SURGICAL BREAST CANCER COMPLICATION.
258	112

Table 7. Referred to Physical Therapy During Treatment Description.

Referred To Physical Therapy During Treatment.	Not Referred To Physical Therapy During Treatment.
214	156

Table 8 Knowledge About Physical Therapy Description.

HAVE ENOUGH KNOWLEDGE ABOUT PHYSICAL THERAPY	DOESN'T HAVE ENOUGH KNOWLEDGE ABOUT PHYSICAL THERAPY
231	139

Table 9 (A) Source of Information About Physical Therapy Information Description.

SOURCE OF INFORMATION ABOUT PHYSICAL THERAPY	SUB.
PERSONAL CONTACT.	
1. Through medical professional/ Surgeon.	115
2. Medical camp/ Awareness campaign.	58
3. Family/Friends.	47
4. Hospital/Healthcare center/Support group.	41

Table 9 (B) Source of Information About Physical Therapy Information Description.

SOURCE OF INFORMATION ABOUT PHYSICAL THERAPY	SUB.
MULTI-MEDIA.	
1. Internet.	50
2. Others.	22
3. Books/Newspaper.	19
4. Radio/Tv.	18

Table 10 Aware About Pre Surgical Assessment and Intervention Provided by Physical Therapist Description.

AWARE ABOUT PRE SURGICAL ASSESSMENT AND INTERVENTION PROVIDED BY PHYSICAL THERAPIST.	NOT AWARE ABOUT PRE SURGICAL ASSESSMENT AND INTERVENTION PROVIDED BY PHYSICAL THERAPIST
95	275

Table 11 Aware About Post Surgical Assessment and Intervention Provided by Physical Therapist Description.

AWARE ABOUT THE POST SURGICAL ASSESSMENT AND INTERVENTION PROVIDED BY PHYSICAL THERAPIST.	NOT AWARE ABOUT THE POST SURGICAL ASSESSMENT AND INTERVENTION PROVIDED BY PHYSICAL THERAPIST.
220	150

Table 12 Brief Counseling About Your Condition and Advice Provided Regarding Exercises Description.

AWARE ABOUT BRIEF COUNSELING ABOUT YOUR CONDITION AND ADVICE PROVIDED REGARDING EXERCISES.	NOT AWARE ABOUT BRIEF COUNSELING ABOUT YOUR CONDITION AND ADVICE PROVIDED REGARDING EXERCISES.
288	82

Table 13 Physical Therapy Rehabilitation Improves Quality of Life Description.

AWARE ABOUT PHYSICAL THERAPY REHABILITATION IMPROVES QUALITY OF LIFE.	NOT AWARE ABOUT PHYSICAL REHABILITATION IMPROVES QUALITY OF LIFE.
288	82

Table 14 Advantages of Physical Therapy Rehabilitation Description.

ADVANTAGES OF PHYSICAL THERAPY REHABILITATION.	RESPONSES BY PATIENTS.
IMPROVES PHYSICAL AND MENTAL FUNCTION.	53
DECREASES PAIN AND SWELLING.	82
IMPROVES POSTURE AND PREVENTS DEFORMITIES.	88
NONE.	15
ALL OF THE ABOVE	132

Table 15 (A) Physical Therapy Received Description.

PHYSICAL THERAPY RECEIVED	PHYSICAL THERAPY NOT RECEIVED.
262	108

Table 15.B. Relief after Physical Therapy Treatment Description.

RELIEF AFTER PHYSICAL THERAPY TREATMENT	NOT RELIEF AFTER PHYSICAL THERAPY TREATMENT
252	10

IV. DISCUSSION

The purpose of the study is to find awareness about the physical therapy rehabilitation among pre surgical and post surgical breast cancer patients, awareness about the pre and post surgical assessment and intervention provided by a physical therapist among the pre and post surgical breast cancer patients and awareness about physical therapy improves quality of life in pre and post surgical breast cancer patients.

To do, the study involves a self devised pre validated awareness of physical therapy rehabilitation questionnaire.

Cancer is physiological condition where affected cells in a body part grow and reproduce uncontrollable growth. The cancerous cells can assault and wipe out surrounding healthy tissues, including organs.

Mullai, Dhinakaran, Chanchal Gautam, Clarence Samuel Awareness of physical therapy rehabilitation for breast cancer related lymphedema among medical oncology Team-A survey stated that early physical therapy treatment improves the patient’s quality of life. Medical oncology team members felt that physical therapist is an important team member for rehabilitation of breast cancer in both pre as well as post operative phase, but few of them send their patients to out patients physiotherapy department. The study also stated that it is important that awareness of the physical therapy and its effects to the medical professionals is necessary and also inclusion of physical therapist in the rehabilitation team.

Devanshi Doshi, Mariya Jiandani, Rucha Gadgil, Neha Shetty Physiotherapy awareness in medical and non medical

population: A social media survey stated that though majority of health care professionals and general population are aware of physiotherapy, its role in the field of oncology is little known and remains under utilized. There is a felt need by both health care professionals and general population to create more specific understanding and promote utilization of services to promote quality of life.

Hari Krishnan R, Kamalambal H. Awareness and attitude towards physiotherapy among higher secondary students: A pilot study stated that the student have moderate awareness about physical therapy. The awareness about the role of physiotherapy in specialities other than Orthopedics is not satisfactory.

Davinder Kumar, Virender Kumar, Savarna. The role of physiotherapy for the management of breast cancer and enhancing lifestyle for breast cancer survivors through physical activity and exercise stayed the physiotherapist understands the patients underlying pathological condition. Exercise can contribute to improved mood, reduced anxiety and depression suffering breast cancer treatment. Exercise may prevent weight gain during cancer treatment and cause reduction in fatigue. In our study we found that, a few subjects (25.1%) were not taught self breast examination. Self breast examination is used as an important self screening tool for early detection of breast cancer because it is cheap, widely available and does not require complex technical training. It also enhances the sensitivity and alert on abnormal changes at earliest, so that women are aware of any breasts changes detected during self breast examination. Additionally, by performing regular self breast examination, it is able to empower women and encourage them to take responsibility for their own health. Thus, it is recommended for raising women's awareness for breast cancer.

A few subjects (16.8%) were not regular with the follow up. The follow-up may include regular physical examinations, medical tests, or both. Doctors want to keep track of your recovery in the months and years ahead. The major goal of follow-up is to check for a recurrence, which means that the cancer has come back. cancer recurs because small areas of cancer cells that don't respond to treatment may remain undetected in the body. Over time, these cells may increase in number until they show up on test results or cause signs or symptoms.

Some survivors continue to see their oncologist, while others transition back to the care of their primary care doctor, another health care professional, or even a physical therapist. A physiotherapist plays an important role in the rehabilitation process as they emphasize patients by educating them about the condition, complication and the treatment needed in brief.

A below average of subjects (42.2%) were not referred to physical therapy during breast cancer treatment. Physiotherapy Treatment not only reduce the incidence of post cancer musculoskeletal disorders but also reduce the incidence of anxiety, depression and stress.

A majority of subjects (74.3%) were not aware about the pre surgical assessment and intervention provided by a physical therapist, the pre-surgical assessment involves physical and psychological assessments to identify patient's baseline functional level and possible pre-existing comorbidities and the pre surgical interventions may include exercise, respiratory physiotherapy, nutritional support and psychological counseling encompassing a multi-modal approach. The pre surgical rehabilitation can prepare better cancer patients for the physical and psychological challenges ahead and potentially improve cancer treatment survival outcomes.

An average of subjects (40%) were not aware about the post surgical assessment and intervention provided by physiotherapist. Physiotherapists are experts in finding the best ways for cancer patients to be active; this may involve programs advice on everyday activities making the patient functionally independent.

A vast majority of subjects (96%) received physiotherapy treatment and got relief from it. Hence, it is noted that awareness of physical therapy rehabilitation is equally essential in pre surgical breast cancer patients as well as in post surgical breast cancer patients.

V. CONCLUSION

The study awareness of physical therapy rehabilitation among pre and post surgical breast cancer patients concluded statistically shown that both pre and post surgical breast cancer patients were less aware of the physical therapy rehabilitation in breast cancer. They did know about physical therapy treatments but didn't have enough knowledge about the physical therapy rehabilitation in breast cancer. The pre surgical patients were statistically less

aware about the pre surgical assessment and intervention provided by the physiotherapist.

Hence, our observational study statistically concluded that the pre and post surgical breast patients who received the physical therapy rehabilitation got relief from the treatment and thus it is important to create awareness among both pre and post surgical breast cancer patients.

➤ *Limitation of study.*

The Response to the Questionnaire was Subjective.

- No Special Exercises were asked in the Questionnaire.
- The Participants were particularly from the urban and developing cities, resulted into lack of diversity among participants.
- It did not capture the challenges the rural women experience.

➤ *Future scope of the study.*

Recommendations and scope of study.

- Survey can be done in different cities of india.
- Comparative surveys can be done to evaluate the awareness among the pre and post surgical breast cancer patients.
- Comparative surveys can be done to evaluate the awareness among the breast cancer patients and the medical oncology team.
- Survey can be done to determine the Quality of Life in patients receiving/received physiotherapy treatment.

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