Original Article

Effectiveness of physiotherapy on quality of life after breast cancer surgery

Farah Shaheen, Maryam Shabbir, Bilal umar, Umair Ahmed

Departments of Physiotherapy, Shalamar Hospital, Lahore, Riphah College of Rehabilitation Sciences, Riphah International University, Lahore campus and University of Lahore, Pakistan

Objective: To evaluate the physiotherapy effectiveness in breast cancer patients after mastectomy in enhancing wellbeing related personal satisfaction in post mastectomy patients.
Methodology: This study was conducted at Inmol Hospital, Lahore, Pakistan. A total 60 breast cancer patients between the age of 35 to 65 after mastectomy were included in the study using purposive sampling technique. A guided activity proposition was set to every patient with comprehensive design, sessions and frequencies of all activities. Information was gathered utilizing SF-36 wellbeing study before and after 12 weeks of therapy.
Results: There was a huge difference between physical and mental component summary of these patients before and after physiotherapy treatment.
Conclusion: A physiotherapy system was useful in improving personal satisfaction in post mastectomy malignancy patients. (Rawal Med J 201;42:86-89)
Keywords: Breast cancer, mastectomy, quality of life.

INTRODUCTION

Post mastectomy management of patients with breast cancer can enhance the wellbeing related personal satisfaction of these patients.[1]Post treatment unfriendly consequences of shoulder range of movement and advancement of lymphedema can influence the personal satisfaction of these patients.[2] Breast cancer related lymphedema has turned into an inexorably vital clinical issue.[3] Those females who had undergone chemotherapyand radiotherapy after modified radical mastectomy have extreme physical and mental working issues along emotional episodes.[4]

As compared to India and Iran,the occurrence of disease is 2.5 times higher in Pakistan.[5] Exercise has appeared to enhance both physical and mental sufferings in breast cancer patients.[6] Personal satisfaction was observed to be poor among post mastectomy patients who developed lymphedema.[7]The objective of this study was to evaluate the physiotherapy effectiveness in breast cancer patients of Lahore after mastectomy in enhancing wellbeing related personal satisfaction.

METHODOLOGY

This study was carried out atRadiotherapy and Chemotherapy Department of Inmol Hospital, Lahore, Pakistan from January 7, 2014 to July 7, 2014, after the endorsement from moral audit advisory group and Consent was taken from all patients. The inclusion criteria included females having age from 35 years to 65 years with stage I, II and III of breast cancer along partial or complete mastectomy. Those females who could not cope exercise sessions, having pregnancy induce breast cancer and had history of recurrence of breast cancer were excluded from the study.

The study included 60 patients and they were furnished with printed representations of all the activities with composed points of interest of number of sessions every week and redundancies per session. Every one of the members got coordinated non-intrusive treatment regimen of 19 shoulder works out. Patients were solicited to perform 3 sessions from activities for every week in nearness of a relative. The greater part of the activities wascompleted 10-times a day along interval of 60-seconds. The activities included

dynamic scope of movement of involved shoulderjoint in all cardinal planes i.e. flexion, extension, abduction, adduction, rotations, circumduction and stretching exercises for keeping up versatility of the muscles.

Information was gathered at two occasion's that is before the initiation of treatment and after 12 weeks application. Institutionalized survey for personal satisfaction appraisal SF-36 (rendition 2) was utilized to evaluate the wellbeing related personal satisfaction. SF-36 is approved to gauge wellbeing related personal satisfaction and has a decent inner dependability in measuring personal satisfaction in growth patients. Data were analyzed using SPSS version 20. Wilcoxon signed rank test was utilized to ascertain before and after-test contrasts in mean scores.P<0.05 was taken as significant.

RESULTS

Out of 60 participants, 75% females were married. Mean age was 46.6±6.97 years. Left side was involved in 38(63.3%) patients, right side in 20 (33.3%) patients and 2 (3.33%) had had bilateral mastectomy. The Mean score for physical component summary (PCS) was 32.74±8.94, pre-treatment and 42.86±5.19 post treatment whereas the mean score for the mental component summary (MCS) was 20.09±6.08, pre-treatment and 33.09±9.13, post-treatment (Table 1).The mean values for the physical component summary and mental component summary were greater Post treatment in 56 (93.3%) and 53 (88.9%) participants. None of the participants showed same mean scores for PCS and MCS both pre and post treatment (Table 2).

Table 1. Mean scores of physical component summary and mental component summary.

		Mean ± SD
Physical Component summary	**Pre-test**	32.74**±8.94**
	Post-test	42.86**±5.19**
Mental Component summary	**Pre-test**	20.09**±6.08**
	Post-test	33.09**±9.13**

*SD= standard deviation

Table 2. Pre and post treatment differences in Physical component summary (PCS) and Mental component Summary (MCS).

		N (n=60)	Mean Rank	Sum of Ranks
Post treatment PCS* score- Pretreatment PCS score	Negative ranks	4	33.5	134
	Positive ranks	56	30.3	1696
	Ties	0		
Post treatment MCS** score- Pre-treatment MCS score	Negative ranks	7	13.9	97
	Positive ranks	53	32.7	1733
	Ties	0		

*physical component summary
** mental component summary

Table 3. Wilcoxon signed rank test for the pre and post treatment differences in Physical component summary (PCS) and mental component Summary (MCS).

	Z	p-value
Post treatment PCS* score- Pretreatment PCS score	-5.75	.000
Post treatment MCS score- Pretreatment MCS score**	-6.03	.000

*physical component summary
** mental component summary

The Wilcoxon signed rank test showed that the difference between pre-treatment (Median=32.8) and post-treatment (Median=41.1) Physical component summary was significant, Z=-5.75, p<0.05 (Table 3). The difference in mean score of mental summary component pre-treatment (median=18.4) and post-treatment (Median=37.9) was also statistically significant, Z=-6.03, p<0.05 (Table 3).

DISCUSSION

The mastectomy is the extensive surgical procedure and decreases of upper arm ability to clear axillary lymph.[8]Physical activity plays a vital role on personal satisfaction among breast cancer patients.[9,10]Economic loss of disease survivors work in 2008 was £5.3 billion in England.[13]Physiotherapy practices for patients can diminish and forestall disability.[11]Physiotherapy activities can likewise

diminish distressing side effects, for example, lymph edema and fatigue, which influences the vast majority of tumor patients.[12]As indicated by Cochrane survey, activities and patient guiding can prompt higher come back to-work than regular and will bring critical budgetary profit.[14]Effects of activity on malignancy and disease site-particular personal satisfaction have been contemplated by different analysts and outcomes recommend that activity expands bosom growth particular personal satisfaction.[15-18]

A noteworthy improved quality of life found among participants in the exercise intervention groups when associated with non-exercising control groups in breast cancer patients was the standardised mean difference was 0.23.[19] The impacts of directed activity treatment in these patients demonstrated that personal satisfaction level of weakness and shoulder scope of movement enhanced among breast cancer post-mastectomy patient that got managed kinseotherapy.[20]The limitation of study was absence of randomization. Nonetheless this would be an initial move towards further randomized controlled trials.

CONCLUSION

The physiotherapy regimen was useful in enhancing personal satisfaction in post mastectomy bosom malignancy patients. The patients demonstrated change in both the physical synopsis segment and the mental rundown part.

Author contributions:
Conception and design: FS, BU, MS
Collection and assembly of data:FS, BU, MS
Analysis and interpretation of the data: FS, MS
Drafting of the article: FS,MS
Critical revision of the article for important intellectual content: MS,UA
Statistical expertise: BU,MS
Final approval and guarantor of the article: MS, BU,UA
Corresponding author email: Farah Shaheen:farahzahid2008@hotmail.com
Conflict of Interest: None declared
Rec. Date: Jun 26, 2016 Revision Rec. Date: Sep 22, 2016 Accept Date: Nov 29, 2016

REFERENCES

1. Gomide L, Matheus J, Candido dos Reis F. Morbidity after breast cancer treatment and physiotherapeutic performance. Int J Clin Pract 2007;61:972-82.
2. Leal NF, Carrara HH, Vieira KF, Ferreira CH.Physiotherapy treatments for breast cancer-related lymphedema: a literature review. Revista latino-americana de enfermagem 2009;17:730-6.
3. Shah C, Akhtur DW, Wazer D, Khan A, Ridner S, Vicini F. The impact of early detection and intervention of breast cancer?related lymphedema: a systematic review.Cancer Med2016;5:1154-62.
4. Chachaj A, Małyszczak K, Pyszel K, Lukas J, Tarkowski R, Pudełko M, et al. Physical and psychological impairments of women with upper limb lymphedema following breast cancer treatment. PsychoOncol 2010;19:299-305.
5. Davies N, Bateup L, Thomas R. The role of diet and physical activity in breast colorectal and prostate cancer survivorship: a review of the literature. Br J Cancer. 2011;105 Suppl 1:S52-73.
6. Asif HM, Sultana S, Akhtar N, Rehman JU, Rehman RU. Prevalence, risk factors and disease knowledge of breast cancer in Pakistan. Asian Pac J Cancer Prev 2014;15:4411-6.
7. López-Sendín N, Alburquerque-Sendín F, Cleland JA, Fernández-de-las-Peñas C. Effects of physical therapy on pain and mood in patients with terminal cancer: a pilot randomized clinical trial. J Alternat Complement Med 2012;18:480-6.
8. Sato F, Arinaga Y, Sato N, Ishida T, Ohuchi N. The Perioperative Educational Program for Improving Upper Arm Dysfunction in Patients with Breast Cancer at 1-Year Follow-Up: A Prospective, Controlled Trial.Tohoku J Experi Med2016;238: 229-36
9. Ridner SH. Quality of life and a symptom cluster associated with breast cancer treatment-related lymphedema. Supportive Care Cancer 2005;13:904-11.
10. Pinar R. Reliability and construct validity of the SF-36 in Turkish cancer patients. Quality Life Res2005;14:259-64.
11. Gautam AP, Maiya AG, Vidyasagar MS. Effect of home-based exercise program on lymphedema and quality of life in female postmastectomy patients: pre-post intervention study. J Rehabil Res Develop 2011;48:1261-8.
12. Headley JA, Ownby KK, John LD, editors. The effect of seated exercise on fatigue and quality of life in women with advanced breast cancer. Oncol Nurs Forum. 2004;31:977-83.
13. Campbell A, Foster J, Stevinson C, Cavill N. The importance of physical activity for people living with and beyond cancer: a concise evidence review. London: Macmillan Cancer Support; 2011.
14. Holmes MD, Chen WY, Feskanich D, Kroenke CH, Colditz GA. Physical activity and survival after breast cancer diagnosis. JAMA 2005;293:2479-86.
15. Featherstone H, Whitham L, Exchange P. The cost of cancer: Policy Exchange; 2010.
16. Gordon LG, Scuffham P, Battistutta D, Graves N, Tweeddale M, Newman B. A cost-effectiveness analysis of two rehabilitation support services for women with

breast cancer. Breast Cancer Res Treatment 2005;94:123-33.
17. Campbell A, Mutrie N, White F, McGuire F, Kearney N. A pilot study of a supervised group exercise programme as a rehabilitation treatment for women with breast cancer receiving adjuvant treatment. Eur J Oncol Nursing 2005;9:56-63.
18. Courneya KS, Segal RJ, Mackey JR, Gelmon K, Reid RD, Friedenreich CM, et al. Effects of aerobic and resistance exercise in breast cancer patients receiving adjuvant chemotherapy: a multicenter randomized controlled trial. J Clin Oncol 2007;25:4396-404.
19. Mutrie N, Campbell AM, Whyte F, McConnachie A, Emslie C, Lee L, et al. Benefits of supervised group exercise programme for women being treated for early stage breast cancer: pragmatic randomised controlled trial. BMJ 2007;334(7592):517.
20. Segal R, Evans W, Johnson D, Smith J, Colletta S, Gayton J, et al. Structured exercise improves physical functioning in women with stages I and II breast cancer: results of a randomized controlled trial. J Clin Oncol 2001;19:657-65.