RESEARCH ARTICLE

A STUDY TO EVALUATE THE EFFECTIVENESS OF MEDITATION ON DEPRESSION AMONG WOMEN WITH BREAST CANCER SUBJECTED TO MASTECTOMY ADMITTED IN SELECTED HOSPITALS AT CHENNAI

Santhi S[1]., Ravi A[2]., Rajeswari vaidhyanathan[3]., Srinivasan B[4] and Sridevi[5]

[1]Sri Ramachandra College of Nursing, Sri Ramachandra University, Chennai, TamilNadu
[2] General Surgery, SriRamachandra University, Chennai, TamilNadu
[3]Chennai, TamilNadu
[4]Psychiatry, Chettinad Hospital and Research Institute, Chennai, TamilNadu
[5]Surgical Oncologist, Cancer Institut Adyar, Chennai, TamilNadu

ARTICLE INFO

ABSTRACT

Breast cancer is the top most cancer in women when compared with other cancers in developed and developing countries. The present study was done to evaluate the effectiveness of meditation on depression and associate the selected background variables with depression among women with breast cancer subjected to mastectomy. Related literature was reviewed. The research design adopted for this study was quantitative, quasi- experimental and non-randomized with the components of manipulation, non-randomization and control. The sample size was 300; 150 in each group selected through purposive sampling technique. The instruments had 3 parts: Part I- Background and Clinical Variables, Part II- BDI-II. Data were collected from both groups on the day prior to surgery, after 30th day and 90th day from the day they were discharged. The study incorporated with repeated measures ANOVA of depression among women with breast cancer subjected to mastectomy. In the study group pretest mean depression was 18.03, posttest I the mean value was 14.23 and in posttest II mean was 11.12. There was a reduction in levels of depression among the study group in pretest, posttest I and II which was highly significant at $p<0.001$, whereas in the control group, it was moderately significant between pretest, posttest I and II at $p<0.01$. The multiple regression combination of the eight background variables disclosed small linear relationship to the depression was R^2 value = 6.1%. An estimated 6.1% of variance of the background variables can be accounted for multiple regression combination on predictors: Age, residence, educational status, marital status, occupation, religion, income and type of family. The conclusion of the study was that that meditation is effective in reducing the level of depression among women with breast cancer subjected to mastectomy and meditation practice improves their well being.

INTRODUCTION

Nearly 1.4 million cases of breast cancer were diagnosed across the world in 2008 when compared with about 500,000 cases in 1975. This represents about 11% of all new cancer cases and 23% of all female cancers. It is predicted that the number of cases may rise to 2.1 million by 2030 (WCRF International, 2008). As per Ogaan Cancer Foundation - Mumbai (OCF), breast cancer is the leading cause of cancer-related deaths worldwide. In recent years it has also emerged as the most common female cancer in developing Asian countries. In the west, one in eight women runs the risk of developing breast cancer in her lifetime. In urban India the risk is one in 30, just two years ago, it was one in forty. Breast cancer has overtaken cervical cancer as the number one cancer

in all women in India. The leading cancer sites among females are breast (26.1%) followed by cervix uteri (21.1%) at Chennai (ICMR, 2006). Gilbody *et al*. (2004) stated that depression is a leading cause of disability worldwide. It is the third most common reason for consultation in primary care. The enhanced management of depression in primary care is central to the WHO strategy for mental health. Despite, the frequency of presentation and the availability of effective intervention in the diagnosis and the treatment of depression the non specialist practitioners often do not follow current guidelines potentially. Thus, compromising the patient's outcome**.** Practicing meditation regularly is believed to calm the mind, increase alertness, bring a person into a state of physical and psychological balance. Meditation may help wipe out some repetitive thoughts about the past or future that can clutter the

mind after the treatment is over. It may also reduce loneliness and decrease the body's inflammatory response to stress which can trigger serious illness. Some studies have been known to prove that meditation has helped to reduce stress, improve moods, improve quality of sleep and reduce fatigue. Nurses being the primary care giver can assess, identify and treat both physical and psychological problems. Since the expression of depression among women with breast cancer is seldom recognized, nurses have a pivotal role to play in the hospital and within the community to focus their attention on women with breast cancer to help them to overcome the transition. Swaminathan, Shanta, Ferlay, Balasubramanian, Bray and Sankaranarayanan, (2011) stated that breast cancer has been the most common cancer in Chennai since 2002 and it burden is predicted to increase by 73% in the next 10 years. It is also predicted that it would dislodge cervical cancer to emerge as the most common cancer in Tamil Nadu in 2016.Carlson, Speca, Patel and Goodey, (2003) conducted a study on the growth of clinical treatment and wellness programs based on mindfulness meditation in relation to Quality of Life (QoL), mood, symptoms of stress, and immune parameters. A study was conducted among 49patients with breast cancer and 10 patients with prostate cancer who participated in an 8-week mindfulness based stress reduction (MBSR) program that incorporated relaxation, meditation, gentle yoga, and daily home practice and there was a change in Total Mood Disturbance (TMD). The scores represented a 13% reduction of overall mood disturbance for the participants after practicing meditation. The professional experience of the researcher shows the effects of complementary therapies which are the highly expected forms of intervention by nurses while providing care for the patient.   The researcher during her clinical experience found that the women with breast cancer were noted to be often aloof, angry, irritated, preoccupied with disease and poor personal hygiene. So, the investigator felt a need to help these women introspect themselves with the help of meditation practice that quietens their mind, releases physical distress, and allow them to experience greater vitality and well-being. Thereby, the women are made to realize the importance of meditation and integrate it into their day- to-day practice. Nurses are competent in general and specialized care. Mental health care rendered is seldom projected as the work of psychiatric nurse. The nurse's holistic approach towards mental health care would improve the QoL among women with breast cancer. The hidden and felt need of women with breast cancer has the need of meditation in the Indian scenario with minimum resources. Hence the study problem was chosen for the study. Many studies have identified psychological problems and impairment of QoL in breast cancer patients. Meditation is highly effective as a model, hence is being used as an intervention in this study.

MATERIAL AND METHODS

Aim: To assess the level of depression and effectiveness of meditation on depression among women with breast cancer subjected to mastectomy

Objectives: To evaluate the effectiveness of meditation on depression among women with breast cancer subjected to mastectomy and associate the selected background variables with depression among women with breast cancer subjected to mastectomy in Study and Control groups.

METHODOLOGY

The research design adopted for this study was quantitative quasi experimental non-randomized with the components of manipulation, non-randomization and control. The aim of the study was to determine the effectiveness of meditation on depression among women with breast cancer subjected to mastectomy.

Sample: Women diagnosed with breast cancer subjected to mastectomy and those who fulfilled the inclusion criteria and those who available during data collection period from March 2010 to Oct 2011 in Sri Ramachandra Medical College and Cancer Institute Adyar, Chennai. Sample size was determined using power analysis and effect size. The study involves comparison of two means. A total of 140 subjects were needed to achieve the significance of 0.05 and a power of 0.74 for a 50% reduction in the total depression score (Lengacher, 2001). The investigator considering the possibility of dropouts decided to enroll 10% of excess sample for the study. Hence the sample constituted of 150 subjects in each group. The researcher rounded up the size of the total sample to 300. Three hundred women with breast cancer gave concern to participate in the research in the period of one and half years. During the two years data collection period, 150 in study group and 150 in control group were selected through purposive sampling technique.

Procedure The researcher was obtained ethical permission in both the institutions and she introduced herself to the participants and obtained informed written consent from those who met the inclusion criteria. The participants were selected through purposive sampling technique. The women were asked to sit in comfortable position to watch a video assisted teaching on one to one basis. The pre-test was conducted among women through demographic and clinical variables, level of depression in study and control group before installing intervention with the help of research assistants. The women were asked to sit in comfortable position to watch a video assisted teaching on one to one basis at bedside, a day prior to surgery and 2nd and 3rd post operative days along with routine care. After watching the video assisted teaching the participant enacted under the supervision of the researcher. On the third post-operative day, the investigator gave the meditation performance diary to the subjects to maintain at home to improve the skill on meditation. The reminder call was given through telephone, every fortnight to the study group to reinforce the importance of practising meditation to reduce depression. The posttest I was conducted on 30th day (28, 29, 30, 31, and 32) for the study group when they came for follow up and the subjects were assessed on their level of depression with the help of research assistants along with routine care. The participants were asked to perform meditation to enhance their skill with the help of meditation performance checklist. The posttest II was conducted on 90th day (88, 89, 90, 91, and 92) for the study group when they came for follow up and the subjects were assessed for their level of depression with the help of research assistants along with routine care. The participants were asked to perform meditation to enhance their skill with the help of meditation performance checklist. The control group subjects were assessed for the level of depression scale during pretest along with routine care. When the subjects came for follow-up on the 30th day (28, 29, 30, 31, and 32) their level of depression was measured along with routine care. For the second time, the subjects were assessed on 90th day (88, 89, 90, 91, and 92) to check their level of

depression along with routine care and then the video assisted teaching was showed to the control group. Everyone was encouraged to come for the follow-up to encourage the quality of care given by the both institutions. So the researcher found no attrition in the study. Descriptive statistics was used to arrange the data in a scientific way. Inferential statistics was used to test the hypothesis. Data were analyzed using the Statistical Package for the Social Sciences (SPSS version 16).

Findings: The analysis and interpretation of the data collected from 300subjects to assess the effectiveness of meditation on depression and quality of life among women with breast cancer subjected to mastectomy. The responses were tabulated and analyzed under the following headings.

of 63.069 with p=0.000.Comparison of posttest II level of depression showed that 102 (68 %) in the study group and a mild depression was seen in 76 (50.7 %) in the control group. A significant difference was exhibited by chi square value of 119.406 with p=0.000

Table 2 reveals the mean depression score of the study group in pretest as 18.03 with SD 4.19 and control group mean value as 19.23 with SD of 3.44. The independent t test value was 1.93 which is statistically not significant. There is no significant difference between the groups. In posttest I and II, the depression score between the study and control group showed a statistically significant reduction in depression at the level of p<0.001.

Table1 Comparison of the level of depression among women with breast cancer subjected to mastectomy between the study and the control group during pretest, posttest 1 and posttest II (N= 300)

Level of depression	Study Group (n = 150)		Control Group (n = 150)		χ^2 & P value
	No.	%	No.	%	
Pretest					
Minimal	20	13.4	05	3.3	4.540
Mild	77	51.3	69	46	0.103NS
Moderate	53	35.3	76	50.7	
Posttest I					
Minimal	73	48.7	13	8.7	63.069
Mild	59	39.3	85	56.7	0.000***
Moderate	18	12	52	34.7	
Posttest II					
Minimal	102	68	15	10	119.406
Mild	43	28.7	76	50.7	0.000***
Moderate	5	3.3	59	39.3	

NS - Non Significant, *** - p<0.001

Table 2 Comparison of mean score of depression among women with breast cancer subjected to mastectomy between the study and the control group (N=300)

Duration of assessment	Study Group (n = 150)		Control Group (n = 150)		Independent t Test & P value
	Mean	SD	Mean	SD	
Pretest	18.03	4.19	19.23	3.44	1.932 0.057 NS
Posttest I	14.23	3.98	18.1	3.03	28.371 0.000 ***
Posttest II	11.12	3.28	18.20	3.56	57.458 0.000 ***

NS - Non Significant, *** - p<0.001

Table 3 Multiple regression analysis of posttest II depression score with selected background variables of women with breast cancer subjected to mastectomy in the study group (n=150).

Background Variables	Standard Error	Beta Coefficient	t - value	P – value	95% C.I
Age	0.34	0.096	1.089	0.278	-0.30 – 1.03
Residence	0.71	0.020	0.223	0.824	-1.25 – 1.56
Educational status	0.26	-0.161	1.623	0.107	-0.93 – 0.09
Marital status	0.27	0.038	0.447	0.655	-0.42 – 0.66
Occupation	0.46	0.044	0.526	0.600	-0.66 – 1.14
Religion	0.54	-0.086	0.980	0.329	-1.61 – 0.54
Family income	0.29	0.019	0.195	0.846	-0.52 – 0.63
Type of family	1.01	0.005	0.058	0.954	-1.93 – 2.05
Model Summary			**R² value = 6.1%**		

Table1 represents, in the pretest 53 (35.3 %) had moderate depression in the study group and the control group exhibited 76 (50.7 %). There was no significant difference between the groups, the homogeneity between the groups was maintained and the chi square value is 4.54 with p value of 0.103.Comparison of posttest I in the study group had 73 (48.7%) of minimal depression and control group had 85 (56.7 %) in the control group had mild depression. The groups had a significant difference which was exhibited by chi square value

Table 3 shows that the multiple regression combination of the eight background variables had small linear relationship to the posttest I, R² value= 6.1 %. An estimated 6.1 % of variance of the background variables can be accounted for the multiple regression on predictors- age, residence, educational status, marital status, occupation, religion, income and type of family. The background variables exhibited no significant influence on depression.

DISCUSSION AND CONCLUSION

Depression affects the quality of life for cancer patients by disrupting everyday activities, interfering with relationships and the ability to relax. According to Wood. J (2012) around 50 percent of breast cancer survivors are depressed. It was found that meditation techniques help the breast cancer survivors to improve their emotional and physical well-being. The detailed discussion on the findings of the study interpreted from the statistical analysis. The present study (Table1) represents, in the pretest 53 (35.3 %) had moderate depression in the study group and the control group exhibited 76 (50.7 %). Comparison of posttest I in the study group had 73 (48.7%) of minimal depression and control group had 85 (56.7 %) in the control group had mild depression. The groups had a significant difference which was exhibited by chi square value of 63.069 with p=0.000.Comparison of posttest II level of depression showed that 102 (68 %) in the study group and a mild depression was seen in 76 (50.7 %) in the control group. A significant difference was exhibited by chi square value of 119.406 with p=0.000 (Table2) revealed that in pretest the mean depression of the study group was 18.03 with SD 4.19 and in the control group the mean value was 19.23 with SD of 3.44. The independent 't' test value was 1.93 which was statistically not significant. In posttest I and II depression score between the study and the control group a significant reduction in depression existed at the level of p<0.001. According to Wood. J (2012) around 50 percent of breast cancer survivors are depressed. It was found that meditation techniques help the breast cancer survivors to improve their emotional and physical well-being. Table 3 depicts that the multiple regression combination of the eight background variables as small linear relationship to the depression, R² value = 6.1 %. An estimated 6.1 % of variance of the background variables can be accounted for multiple regression combination on predictors- age, residence, educational status, marital status, occupation, religion, income and type of family. Meditation is effective in reducing the level of depression and the meditation practice decreases the level of depression among women with breast cancer subjected to mastectomy. .Nurses in the clinical setting play a vital role is disseminating evidence based Complementary Therpies (CT) practice to help the women to teach one to one basis to lead a healthy environment and it reduces morbidities. The present study strongly suggested that adequate literature support and meditation practice improves the sense of wellbeing which influences the patient's life style to bring about a peaceful environment in their family. As a nurse, this message should be echoed in the clinical and community setting.

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