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EFFECTIVENESS OF SWEDISH MASSAGE ON IMPROVEMENT OF MOOD DISORDERS AMONG WOMEN WITH BREAST CANCER

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ABSTRACT

Aim of the study: Is to assess the effectiveness of Swedish massage on improvement of mood disorders among women with breast Cancer.

Background: Breast cancer and its treatment are associated with several complications, the most common being pain and psychological distress, which includes concerns about the illness and declining health, disturbances in concentration, loss of appetite, depression, anxiety and anger. Massage is one of the most common and suited non-medical interventions in cancer patients.

Design: One group pre test post test design

Methods: Non probability convenience sampling technique was used to select 30 samples. Data was collected using structured interview questionnaire and the Modified Affective Control Scale (ACS) was used to assess the level of mood disorders. Swedish massage was given for a period of 15 minutes daily for 2weeks. At the end of the second week, post test was done using the same Modified Affective Control Scale (ACS) to assess the level of mood disorders. Descriptive and inferential statistics were used for data analysis.

Result: The findings of the study revealed that in the pre test the mean and standard deviation for anger was 33.46 ± 10.13 , whereas in the post test it was 24.1 ± 8.40 and the calculated 't' value was 12.57 which was found to be statistically highly significant at $p < 0.001$ level. Also in the pre test the mean and standard deviation for depression was 33.7 ± 11.40 , whereas in the post test it was 27.5 ± 10.77 and the calculated 't' value was 15.32 which was found to be statistically highly significant at $p < 0.001$ level. And for anxiety in the pre test the mean and standard deviation was 62.17 ± 18.01 , whereas in the post test it was 47.92 ± 16.02 respectively and the calculated 't' value was 21.43 which was found to be statistically highly significant at $p < 0.001$ level. There were no statistically significant association found between the post test level of mood disorders with the selected demographic variables.

Conclusion: The study findings reveal that there was a significant improvement in the mood disorders after the intervention which showed that Swedish massage was effective in improvement of mood disorders among women with breast cancer.

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INTRODUCTION

The World Health Organization states that breast cancer is the most common cancer in women worldwide and is the second leading cause of cancer deaths with nearly 1.7 million new cases diagnosed in 2012. This represents about 12% of all new cancer cases and 25% of all cancers in women.

The risk of suffering from breast cancer in a woman's lifetime is 12.3%, and it has been estimated that one out of every eight women will probably suffer from breast cancer. It is estimated that worldwide over 508 000 women died in 2011 due to breast cancer (Global Health Estimates, WHO 2013).

Background

Cancer and its treatment are associated with several complications, the most common being pain and psychological distress, which includes concerns about the illness and declining health, disturbances in concentration, loss of appetite, depression, anxiety and anger. In order to increase the survival rates of women with breast cancer and alleviate its psychological stress, psychological treatments are recommended as complimentary therapy, along with clinical treatments. Massage is one of the most common non-medical interventions in cancer patients which increases the secretion of endorphins, dopamine, and serotonin and reduces the levels of stress hormones, such as cortisol, epinephrine, and norepinephrine and reduces anxiety, fatigue, stress hormones, such as cortisol, epinephrine, and norepinephrine.

Augustin *et al.*, (2016) conducted a retrospective study on epidemiology of breast cancer in the Central African Republic with the aim to investigate the epidemiological and histopathological characteristics of breast cancer in Bangui based on the data collected from pathological anatomy records from 2003 to 2015 in Bangui. A questionnaire was designed to collect information and data was analysed using descriptive and inferential statistical methods. It was found that the age group of 45–54 years represented the majority of the study population (29.3%), the breast cancer prevalence was 15.27%. The age-standardized incidence and death by world population (ASW) were 11.19/100,000 and 9.97/100,000 respectively. 50–54 years were most affected. Left breast cancer is mainly common. Most (69%) of the samples analysed were lumpectomy. The most common morphology of breast cancer was invasive ductal carcinoma (64.9%). Invasion of regional lymph node differed significantly among the pathological type of breast cancer ($\chi^2 = 24.6, p = 0.02$). Surgery and chemotherapy were appropriate treatment yet 84.5% of the cases died. The findings of this study showed that breast cancer is common and mostly affected women and the establishment of an appropriate framework will effectively contribute to promoting the early detection and reducing the incidence of this disease in the population.

A systemic study was conducted by Barreto DM, Batista MVA (2017) on Swedish Massage to review its physical and psychological benefits for various populations and to highlight its relevance as an alternative medical practice in health promotion and disease prevention. The research team performed a review of the literature using the key terms massage, relaxation, and benefits of massage using the SciELO, PubMed, and Medline databases. Participants in the reviewed studies included varied populations, such as nurses in hospitals, infants and older children, pregnant women, older adults, and cancer patients. A total of 4516 articles were identified for consideration through the electronic database searches. It was found that massage reduced lower-back pain for nurses, and improved adrenocortical function in infants. They concluded that Swedish massage has shown beneficial effects for multiple populations and can be used as a therapy. Its use in disease prevention is highly recommended.

Aim of the study

Was to assess the effectiveness of Swedish massage on improvement of mood disorders among women with breast Cancer.

MATERIALS AND METHODS

A one group pre test post test design was used to assess the effectiveness of Swedish massage on improvement of mood disorders. The population consisted of all patients diagnosed with breast cancer from which the samples were chosen using non probability convenience sampling technique. Data was collected using structured interview questionnaire and the Modified Affective Control Scale (ACS) was used to assess the level of mood disorders. Swedish massage was given for a period of 15 minutes daily for 2weeks. At the end of the second week, post test was done using the same Modified Affective Control Scale (ACS) to assess the level of mood disorders. Data analysis and interpretation were done using descriptive and inferential statistics.

Ethical consideration

The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study.

RESULTS

Section 1

Table 1. Frequency and percentage distribution of demographic variables of women with breast cancer

Demographic Variables	n = 30	
	Frequency (f)	%
1. Age in years		
a) 20-30	0	0%
b) 31-40	6	20%
c) 41-50	19	63.33%
d) 51-60	5	16.67%
2. Religion		
a) Hindu	21	70%
b) Christian	7	23.33%
c) Muslim	2	6.67%
d) Others	0	0%
3. Educational status		
a) No formal education	16	53.33%
b) Primary school	10	33.33%
c) High school	4	13.34%
d) Higher secondary or above	0	0%
4. Occupation		
a) Housewife	19	63.33%
b) Daily wages	7	23.33%
c) Self-employed	0	0%
d) Others	4	13.34%
5. Family income per month		
a) <Rs.10000		
b) Rs.10001 – 15000	13	43.33%
c) Rs.10001 – 15000	15	50%
d) Rs.15001 – 20000	2	6.67%
e) >Rs.20001	0	0%

Table 1 depicts that among 30 breast cancer women, majority 19(63.33)% were in the age group of 31-40 years, 21(70%) were Hindu, 16(53.33%) had no formal education, 19(63.33%) were housewife and 15(50%) had a family income per month between Rs.10001-15000.

Section 2

From the above figure it is clear that among 30 antenatal mothers, in the pretest majority, 18(60%) had moderate anger level whereas in the post test after the Swedish massage majority 15(50%) had mild anger. This shows that the Swedish

message given to improve the mood disorders was effective in bringing down the level of anger among women with breast cancer.

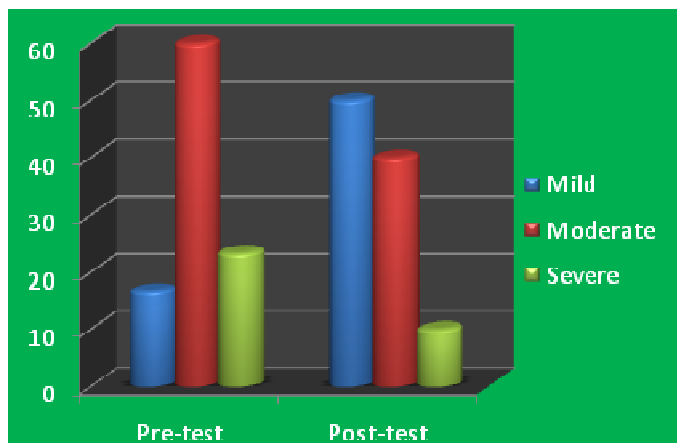


Figure 1. Pretest and post test level of anger among women with breast cancer

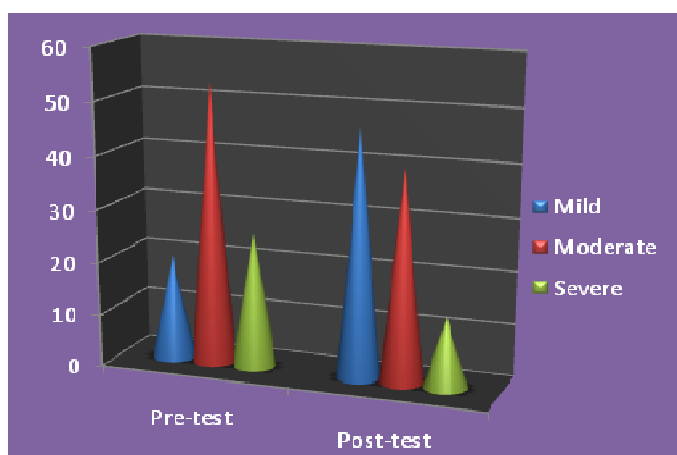


Figure 2. Pretest and post test level of depression among women with breast cancer

From the above figure it is clear that among 30 antenatal mothers, in the pretest majority 16(53.33%) had moderate level of depression whereas in the post test after the Swedish massage majority 14(46.67%) had mild level depression.

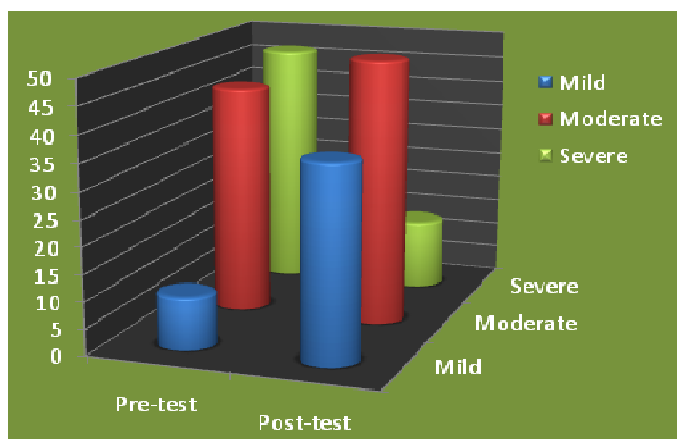


Figure 3. Pretest and post test level of anxiety among women with breast cancer

The above figure depicts that among 30 antenatal mothers, in the pretest majority, 14(46.67%) had severe level of anxiety

whereas in the post test after the Swedish massage majority, 15(50%) had moderate level depression. This shows that the Swedish massage given to improve the mood disorders was effective in bringing down the level of anxiety among women with breast cancer.

Section 3

Table 2. Effectiveness of Swedish massage on level of anger among women with breast cancer

n = 30				
Variable	Test	Mean	S.D	't' value
Level of anger	Pretest	33.46	10.13	t=12.57
	Post test	24.1	8.40	P=0.000, S

*** p < 0.001, S – significant

The above table shows that the Swedish massage was found effective in reducing the level of anger among women with breast cancer. (p < 0.001)

Table 3. Effectiveness of Swedish massage on level of depression among women with breast cancer

n=30				
Variable	Test	Mean	S.D	't' value
Level of depression	Pretest	33.7	11.40	t=15.32
	Post test	27.5	10.77	P=0.000, S

*** p < 0.001, S – significant

The above table shows that the Swedish massage was found effective in reducing the level of depression among women with breast cancer. (p < 0.001).

Table 4. Effectiveness of Swedish massage on level of anxiety among women with breast cancer

n=30				
Variable	Test	Mean	S.D	't' value
Level of anxiety	Pretest	62.17	18.01	t=21.43
	Post test	47.92	16.02	P=0.000, S

*** p < 0.001, S – significant

The above shows that Swedish massage was found effective in reducing the level of anxiety among women with breast cancer. (p < 0.001)

Section 4

Association of post test level of mood disorders with selected demographic variables among women with breast cancer

There was no statistically significant association between post test level of mood disorders with the demographic variables.

DISCUSSION

The first objective was to assess the level of mood disorders among women with breast cancer

Breast cancer is the most common cancer in women worldwide, with nearly 1.7 million new cases diagnosed in 2012 becoming the second most common cancer overall. This represents about 12% of all new cancer cases and 25% of all cancers in women and is the fifth most common cause of death from cancer in women. Breast cancer risk doubles each decade until menopause, after which the increase slows. Cancer and its method of treatment are associated with several

complications, the most common being pain and psychological distress, which includes concerns about the illness and declining health, disturbances in concentration, loss of appetite, depression, anxiety, and anger. In order to assess the level of mood disorders in women with breast cancer, the present study was conducted at Saveetha Medical College and Hospital, Thandallam among 30 women with breast cancer meeting the inclusion criteria. The level of mood disorders was assessed using the Modified Affective Control Scale (ACS). It was revealed that in the pretest among 30 patients, majority, 18(60%) had moderate anger, 16(53.33%) had moderate level of depression and 14(46.67%) had severe anxiety. Whereas in the post test after the Swedish massage, majority 15(50%) had mild anger, 14(46.67%) had mild level of depression and 15(50%) had moderate level of anxiety. It was found that a similar study was conducted by Karen J. S. et. al., to evaluate the effectiveness of therapeutic massage for persons with generalized anxiety disorder (GAD). 68 persons with GAD were randomized to therapeutic massage (n=23), thermotherapy (n=22) or relaxing room therapy (n=23) for a total of 10 sessions over 12 weeks. Mean reduction in anxiety was measured by the Hamilton Anxiety Rating Scale (HARS). Secondary outcomes included 50% reduction in HARS and symptom resolution of GAD, changes in depressive symptoms (PHQ-8), worry and GAD-related disability. They compared changes in these outcomes in the massage and control groups post-treatment and at 6 months using generalized estimating equation (GEE) regression. All groups had improved by the end of treatment (adjusted mean change scores for the HARS ranged from -10.0 to -13.0; $p < 0.001$) and maintained their gains at the 26 week follow-up. No differences were seen between groups ($p=0.39$). It was concluded that massage was not superior to the control treatments, and all showed some clinically important improvements, likely due to some beneficial but generalized relaxation response.

The second objective was to assess the effectiveness of Swedish massage on improvement of mood disorders

The detection and treatment of breast cancer may create mental pressure and lower mood levels, causing anxiety, depression, stress, and pain for the patients. One of the most common non-medical interventions in cancer patients is massage therapy. Massage increases the secretion of endorphins, dopamine, and serotonin, and reduces the levels of stress hormones, such as cortisol, epinephrine, and norepinephrine, which can reduce anxiety, fatigue, stress, and physical and mental strain. From the present study it is revealed that in the pre test the mean and standard deviation for anger was 33.46 ± 10.13 , whereas in the post test it was 24.1 ± 8.40 respectively. The calculated 't' value was 12.57 which was found to be statistically highly significant at $p < 0.001$ level. Also in the pre test the mean and standard deviation for depression was 33.7 ± 11.40 , whereas in the post test it was 27.5 ± 10.77 respectively. The calculated 't' value was 15.32 which was found to be statistically highly significant at $p < 0.001$ level. And in the pre test the mean and standard deviation for anxiety was 62.17 ± 18.01 , whereas in the post test it was 47.92 ± 16.02 respectively. The calculated 't' value was 21.43 which was found to be statistically highly significant at $p < 0.001$ level among the women with breast cancer. It became evident from the study that a well administered Swedish massage therapy was found to be effective in improving the mood disorders. The investigator assessed the level of mood disorders using the Modified

Affective Control Scale (ACS) and then gave Swedish massage for a period of 15 minutes daily for 2 weeks. At the end of the second week, post test was done using the same Modified Affective Control Scale (ACS) to assess the level of mood disorders. The Swedish massage appeared to have a significant effect on the mood of the women with breast cancer whereby anger, depression and anxiety mood disorders that are commonly seen with cancer patients have been seen to improve. The present study was supported by Sara, et. al., who conducted a study on effects of Swedish Massage on the improvement of mood disorders in women with breast cancer undergoing radiotherapy on 100 patients with breast cancer. The participants were chosen randomly, with their consent, by the use of polling, to be included in the intervention group (which received a Swedish massage three times a week, for 30 minutes, over five weeks) and control group (which received routine care). At the beginning of the intervention and after 5 weeks, the mood disorders of the patients, including anger, anxiety, depression, and any positive affect, were assessed using the affective control scale (ACS) questionnaire. The average of the overall scale in the Swedish massage group decreased from 3.52 ± 0.65 to 2.42 ± 0.76 when compared to the pre-intervention conditions, and to ($P < 0.001$) after the intervention. Moreover, the values for the control group were 3.41 ± 0.94 for the pre-intervention and 3.38 ± 0.9 after the intervention ($P = 0.620$). It was concluded that when compared to the control group, the Swedish massage showed an improvement in the mood disorders of women with breast cancer.

The third objective was to associate the post test level of mood disorders with selected demographic variables

It was found that there were no statistically significant association between the post test level of mood disorders with the selected demographic variables.

Conclusion

Thus the present study was an attempt to address the importance of Swedish massage therapy as being an effective non - medical treatment and the benefits it can produce when it is included as an alternative therapy to reduce psychological and mental stress and hence improve the mood disorders. The study findings reveal that the Swedish massage was effective in reducing the mood disorders in women with breast cancer. There was a significant improvement in the mood disorders which show that the massage was effective in promoting mood disorders among women with breast cancer. More studies should be encouraged to be done in this aspect.

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