



“EFFECTIVENESS OF SELECTED YOGA EXERCISES ON THE PERCEIVED LEVEL OF STRESS AMONG BREAST CANCER PATIENTS IN SELECTED TERTIARY CARE HOSPITALS AT DELHI NCR”

Nursing

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ABSTRACT

BACKGROUND AND INTRODUCTION: Research has demonstrated that there is positive effect of yoga on physical wellbeing and psychological wellbeing. However, insights of yoga will influence on stress levels by releasing endorphins. Hence the present study was taken to assess the perceived stress score among breast cancer patients to check whether the level of stress is reduced by the planned yoga program.

MATERIALS AND METHOD: 50 breast cancer patients belonging to the age group of 25-45 years were studied. Study group i.e. (n=50) participants underwent yoga training for 15 weeks. Stress levels were assessed before and after intervention (Planned Yoga Program). The post levels were assessed at 30th, 60th and 90th day. The yoga was trained for 6 days with a day of rest.

RESULTS: The study group was assessed for baseline stress level and the levels of stress were high during pre-test, the SMD (standardized mean difference) reporting of the group was 2.88 ± 0.904 ($t=40.49$, 95%CI, $P<0.001$). Further, in post-test-1, SMD 2.55 ± 0.703 ($t=38.58$, 95%CI, $P<0.001$). Furthermore, post-test-2, SMD 2.34 ± 0.225 ($t=35.39$, 95%CI, $P<0.001$). Additionally in post-test-3, SMD 2.04 ± 0.114 ($t=30.66$, 95%CI, $P<0.001$). The computed Mauchly's $W=0.792$ and the probability (.001) is less than .05, and hence it is concluded that the variances between the four sets of scores were not equal. The computed mean square value was 916.25 and a repeated measures one-way ANOVA revealed that there were significant differences in level of stress values of breast cancer patient between the four times of measurement, $F(1,49) = 801.52$, $p=0.001$, and this was a relatively significant effect size (Eta-squared = 0.322). Post Hoc LSD comparisons revealed that all four means were significantly different from each other and significant at 0.05 levels. The reducing mean from pre-test to post-test-3 revealed that the levels of stress reduced with practice of planned yoga program

Conclusion: Yoga has got a significant beneficial effect on level of perceived stress. Hence, reduces stress levels.

KEYWORDS

Yoga, Stress.

INTRODUCTION

Breast cancer is one of the most common types of cancer in women in the U.S. Healthcare providers don't yet know exactly what causes it. Once breast cancer forms, cancer cells can spread to other parts of the body (metastasize), making it life-threatening. (1) An estimated 40,870 deaths (40,410 women, 460 men) were anticipated from breast cancer. (2) In India, there is an estimated cancer burden of about 1.16 million new cancer cases, 7,84,800 cancer deaths, and 2.26 million 5-year prevalent cases in India's population of 1.35 billion. One fifth of world's cancer cases are from India. Hence, reducing cancer in India would lead to major impact on global elimination of the disease as a public health problem. (3)

Yoga is an ancient science deals with asana, breathing techniques and meditation. Many research studies have reported beneficial effects of yoga on physiological and psychological functions. Life in this competitive world is stressful which could be the reason for stress-related disorders. Yoga is the best remedy for alleviating stress and its cost-effective method to deal with stress and stress-related disorders. (6)

Exercise should be embedded as part of standard practice in cancer care and viewed as an adjunct therapy that helps counteract the adverse effects of cancer and its treatment. (4) In another major analysis of 28 trials involving over 1,000 participants with advanced cancers (including leukemia, lymphoma, multiple myeloma, lung, breast, GI, and prostate), an yoga exercise program during treatment was associated with significantly improved physical function, energy levels, weight/BMI, psychosocial function, sleep quality, and overall quality of life. (4)

61 clinical trials of women with all stages of breast cancer, those who underwent an yoga exercise program during treatment had significantly improved quality of life, fitness, energy, and strength, as well as significantly less anxiety, depression, and lower body mass index and waist circumference compared with the regular care groups. (5)

OBJECTIVES

1. To assess the cancer patients perceived level of stress before and after implementation of the planned yoga exercises
2. To develop and administer module of selected yoga exercises for the breast cancer patients.

3. To correlate the perceived level of stress scores with regularity of yoga exercises practice.

MATERIALS AND METHODS

Participants:

In the present study samples are the cancer patients visiting selected cancer care hospitals, especially with breast cancer were selected.

Parameters studied:

Perceived Stress Scale is the most widely used psychological instrument for measuring the perception of stress. It comprises of ten items, four of which are reverse-scored, measured on a 5-point scale from 0 to 4. PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. Total score ranges from 0 to 40.

Research design:

Quasi experimental one group time series design
Experimental Group (O1 – X – O2, O3, O4)

Key:

X = Intervention (planned yoga program)
O1 = Pre-test
O2 = Post-test – 1
O3 = Post-test – 2
O4 = Post-test – 3

Table 1: Represents the research design for assessment of level of perceived Quasi experimental time series design

Experimental Group				
Pre Test Day 1	Intervention Planned Yoga Program for 29 days	Post-test 1 30th day Continue with the Planned Yoga Program	Post-test 2 60th day After 29 days of continued Planned Yoga Program	Post-test 3 90th day After 29 days of continued Planned Yoga Program
O1	X	O2	O3	O4

Intervention given: Planned selected are yoga training program included Kapalhati, Pawanmuktasana, Trikonasana, Bhujangasana, Anulom vilom, Salabhasana, Sukhasana, Parvatasana, Malasana, Ardha salabhasana along with lifestyle modifications, pranayama, and meditation.

Statistical technique: Statistical assessment included both descriptive and inferential statistics they are mean, standard deviation, t-test and repeated measures ANNOVA.

RESULTS

Comparison of means for the perceived level of stress among breast cancer patients

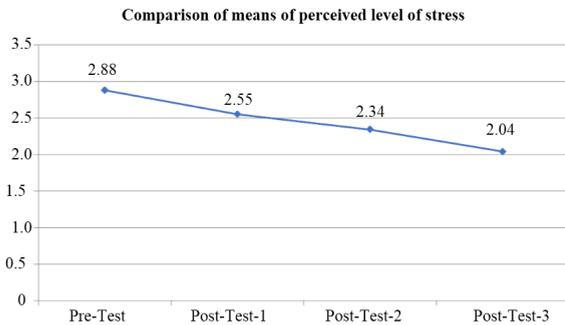


Figure 1 shows that the mean scores of pre-test (2.88) came down gradually in post-test-3 (2.04) significantly representing effectiveness of planned yoga program. The SMD (standardized mean difference) reporting of the group was 2.88 ± 0.904 ($t=40.49$, 95%CI, $P<0.001$). Further, in post-test-1, SMD 2.55 ± 0.703 ($t=38.58$, 95%CI, $P<0.001$). Furthermore, post-test-2, SMD 2.34 ± 0.225 ($t=35.39$, 95%CI, $P<0.001$). Additionally in post-test-3, SMD 2.04 ± 0.114 ($t=30.66$, 95%CI, $P<0.001$).

DISCUSSION

In the present study, the researcher found a significant reduction in stress level among study group participants who underwent 15 weeks yoga practice session. These findings of study are in line with Satyapriya et al. who demonstrated reduced perceived stress among pregnant women. The 122 healthy women recruited between the 18th and 20th week of pregnancy at prenatal clinics in Bangalore, India, were randomized to practicing yoga and deep relaxation or standard prenatal exercises 1-hour daily. The results for the 45 participants per group who completed the study were evaluated by repeated measures analysis of variance. Perceived stress decreased by 31.57% in the yoga group and increased by 6.60% in the control group ($P=0.001$). During a guided relaxation period in the yoga group, compared with values obtained before a practice session, the high-frequency band of the heart rate variability spectrum (parasympathetic) increased by 64% in the 20th week and by 150% in the 36th week, and both the low-frequency band (sympathetic), and the low-frequency to high-frequency ratio were concomitantly reduced ($P<0.001$ between the 2 groups). Moreover, the low-frequency band remained decreased after deep relaxation in the 36th week in the yoga group. Yoga reduces perceived stress and improves adaptive autonomic response to stress in healthy pregnant women.

CONCLUSION

The researcher's observations suggested that yoga reduces the stress level among breast cancer patients with regular practice. Yoga has got a significant beneficial effect on level of perceived stress.

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