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# EFFECT OF ASANA PRACTICES ON SELECTED PSYCHOLOGICAL VARIABLES AMONG BREAST CANCER PATIENTS

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**Abstract**

The present random group experimental study was designed to find out the effect of Asana practices on selected psychological variables among breast cancer patients. It was hypothesized that there would be significant differences in psychological variables such as stress, anxiety and self-confidence among breast cancer patients due to the influences of Asana practices. To achieve the purpose of the study, 60 breast cancer women patients from Honk Kong aged between 40 to 50 years were selected randomly into experimental and control group of 30 subjects each. Experimental Group underwent Asana training for 12 weeks, six days a week for a maximum of one hour in the morning. The control group was kept in active rest. The pre test and post test were conducted before and after the training for all two groups. Stress was measured by Standardized stress questionnaire constructed by Dr.Latha Satish (1997) consisting of 52 questions, Anxiety was measured by Taylor`s manifest Anxiety scale Questionnaire developed by Taylor consisting of 45 questions and Self-confidence was measured by Self-confidence questionnaire developed by Rekha Agnihotri (1987) consisting of 52 questions. The data collected from the groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The result of the study showed that the Stress and anxiety were significantly reduced and self-confidence improved as result of asana practices. Hence .the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the asana practices helped to reduce the stress and anxiety and improve the self confidence among breast cancer patients.
**Key words:** Yoga, Asana, Breast Cancer Patients, Stress, Anxiety and Self Confidence.

**Introduction**

Breast cancer is the most common type of cancer in women. Cancer is caused by the presence of some unbalancing forces, like physical carcinogens, dietary factors, lifestyle factors, represented thoughts with strong emotional content or chronic mental and emotional stress. When the mind plays and re[plays thoughts over and over again, it results in stimulation of the same patterns of neuropeptides which over a period of time and due to the cumulative effect, lead to

pranic blockages and pranic depletion in corresponding areas. It is postulated that this aggravates immune suppression and a generalized debility of the entire psychoneuroimmune apparatus. Breast cancer is ranked No.1 among all Indian women cancer patients.Yogic practices which directly affect the erring neuro peptide patterns normalize and bolster the flogging prana and set right the dysfunctional mental- emotional patterns. (Swami Yogapratap2009).M. Raghavendra Rao et al. (2009) conducted the study on anxiolytic effects of a yoga program in early breast cancer patients undergoing conventional treatment. They used the methodology of the study was Ninety-eight stage II and III breast cancer outpatients were randomly assigned to receive yoga ($n = 45$) or brief supportive therapy ($n = 53$) prior to their primary treatment i.e., surgery. Only those subjects who received surgery followed by adjuvant radiotherapy and six cycles of chemotherapy were chosen for analysis following intervention (yoga,$n = 18$, control, $n = 20$). Intervention consisted of yoga sessions lasting 60 min daily while the control group was imparted supportive therapy during their hospital visits as a part of routine care. Assessments included Speilberger's State Trait Anxiety Inventory and symptom checklist. Assessments were done at baseline, after surgery, before, during, and after radiotherapy and chemotherapy. They found the results from the study were A GLM-repeated measures ANOVA showed overall decrease in both self-reported state anxiety ($p < 0.001$) and trait anxiety ($p = 0.005$) in yoga group as compared to controls. There was a positive correlation between anxiety states and traits with symptom severity and distress during conventional treatment intervals. They derived the conclusion from the study was yoga can be used for managing treatment-related symptoms and

anxiety in breast cancer outpatients.Derry HM et al. (2015) studied yoga and self-reported cognitive problems in breast cancer survivors with the objectives of this study to find out the cancer survivors often report cognitive problems. Furthermore, decreases in physical activity typically occur over the course of cancer treatment. Although physical activity benefits cognitive function in non-cancer populations, evidence linking physical activity to cognitive function in cancer survivors is limited. In their recent randomized controlled trial, breast cancer survivors who received a yoga intervention had lower fatigue and inflammation following the trial compared with a wait list control group. This secondary analysis of the parent trial addressed yoga's impact on cognitive complaints. They used the methodology for this study was post treatment stage 0-IIIA breast cancer survivors (n = 200) were randomized to a 12-week, twice-weekly Hatha yoga intervention or a wait list control group. Participants reported cognitive complaints using the Breast Cancer Prevention Trial Cognitive Problems Scale at baseline, immediately post intervention, and 3-month follow-up. They found the results were Cognitive complaints did not differ significantly between groups immediately post intervention (p = 0.250). However, at 3-month follow-up,yoga participants' Breast.Cancer Prevention Trial Cognitive Problems Scale scores were an average of 23% lower than wait list participants' scores (p = 0.003). These group differences in cognitive complaints remained after controlling for psychological distress, fatigue, and sleep quality. Consistent with the primary results, those who practiced yoga more frequently reported significantly fewer cognitive problems at 3-month follow-up than those who practiced less frequently (p < 0.001). they concluded from the study were

yoga can effectively reduce breast cancer survivors' cognitive complaints and prompt further research on mind-body and physical activity interventions for improving cancer-related cognitive problems.

**Methodology**

The purpose of the study was designed to find out the effect of asana practices on selected psychological variables among breast cancer patients.It was hypothesized that there would be significant difference in psychological variables such as stress, anxiety and self-confidence among breast cancer patients due to the influence of asana practices.To fulfil the goal of the random group experimental study, 60 breast cancer women patients were selected at random from Hong Kong. The age of the subjects ranged between 40 to 55 years. The subjects were assigned into one experimental group and one control group with 30 subjects each. Experimental group was involved in Asana practices for 12 weeks, and the control group kept in active rest. Asanas given to the experimental group include Loosening

**Results and discussions**

The Analysis of Covariance on Stress of Asana Practices group and Control Group were analysed and presented in Table I.The obtained F ratio on pre test scores 0.26 was lesser than the required F value of 4.01 to be significant at 0.05 level of confidence. This proved that there was no significant difference between the groups in pre test and the randomization at the pre test was equal. The post test scores analysis proved that there was significant difference between the groups, as obtained F value 6.05 was greater than the required F value of 4.01. This proved that the differences between the post-tests means of the subjects were significant. The above study was substantiated by renowned experts by Derry HM et al.

Exercises,Suryanamaskara,veerabhadrasana, IIveerasana,sethubhandasana, marjari asana, suptabaddhakonasanasalabhasana,bhujangas ana,dhanurasana,padautthanasan,padasancha lanasana,suptapawanamuktasana,jhulanalurh akanasana,suptauthakarsanasana,shavaudark arsanasana noukasana and shavasana.The selected variables, Stress was measured by Standardizedstress questionnaire constructed by Dr.Latha Satish (1997) consisting of 52 questions, Anxiety was measured by Taylor`s manifest Anxiety scale Questionnaire developed by Taylor consisting of 45 questions and Self-confidence was measured by Self-confidence questionnaire developed by Rekha Agnihotri (1987) consisting of 52 questions.

**Data analysis**

The data pertaining to the variables collected from the subjects before and after the training period were statistically analysed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

(2015). It is clearly represented in bar graph below.The obtained F ratio on pre-test scores 0.06 at 0.05 level of confidence. And F ratio of Post-test was 10.78 which are significantly higher than table value of 4.01 at 0.05 level of confidence. It indicates that there is significant improvement in Post test. The result of the study showed that the anxiety level reduced due to asana practice. The above study was substantiated by renowned experts M. Raghavendra Rao et al. (2009)**.** It is clearly represented in bar graph below.The obtained F ratio on pre-test scores 0.12 was lesser than the required F value of 4.01 to be significant at 0.05 level of confidence. This proved that there was no significant difference between the groups in pre-test and the randomization at the pre-test was equal. The post test scores analysis

proved that there was significant difference between the groups, as obtained F value 7.27 was greater than the required F value of 4.01. This proved that the differences between the post-tests means of the subjects were significant. The above study was substantiated by renowned experts by Derry HM et al. (2015). It is clearly represented in bar graph below.

**Table I**
analysis of co variance of the means of asana practices group and the control group on stress

| Test | ASANA GROUP | CONT GROUP | SV | SS | df | MS | F | TV 0.05 |
|---|---|---|---|---|---|---|---|---|
| Pre test | 82.83 | 79.267 | between | 190.82 | 1 | 190.817 | 0.26 | 4.01 |
| | | | within | 42740.03 | 58 | 736.90 | | |
| Post test | 67.13 | 83.17 | between | 3856.02 | 1 | 3856.02 | 6.05* | 4.01 |
| | | | within | 36965.63 | 58 | 637.34 | | |
| Adjusted | 65.52 | 84.78 | between | 5533.75 | 1 | 5533.75 | 143.28* | 4.01 |
| | | | within | 2201.509 | 57 | 38.62 | | |
| Mean gain | 15.70 | -3.90 | | | | | | |

**\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1and 58 (df) =4.01, 1 and 57(df) =4.01)**

**Table II**
**ANALYSIS OF CO VARIANCE OF THE MEANS OF ASANA PRACTICES GROUP AND THE CONTROL GROUP ON ANXIETY**

| Test | ASANA GROUP | CONT GROUP | SV | SS | df | MS | F | TV 0.05 |
|---|---|---|---|---|---|---|---|---|
| Pre test | 29.23 | 28.5 | between | 8.07 | 1 | 8.067 | 0.06 | 4.01 |
| | | | within | 7248.87 | 58 | 124.98 | | |
| Post test | 21.77 | 30.17 | between | 1058.40 | 1 | 1058.40 | 10.78* | 4.01 |
| | | | within | 5693.53 | 58 | 98.16 | | |
| Adjusted | 21.48 | 30.45 | between | 1206.52 | 1 | 1206.52 | 54.59* | 4.01 |
| | | | within | 1259.865 | 57 | 22.10 | | |
| Mean gain | 7.47 | -1.67 | | | | | | |

**\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 58 (df) =4.01, 1 and 57(df) = 4.01)**

**Table III**

analysis of co variance of the means asana practices group and the control group on self confidence

| Test | ASANA GROUP | CONT GROUP | sv | Ss | df | MS | F | TV 0.05 |
|---|---|---|---|---|---|---|---|---|
| Pre test | 29.53 | 28.5 | between | 16.02 | 1 | 16.017 | 0.12 | 4.01 |
| | | | within | 7864.97 | 58 | 135.60 | | |
| Post test | 21.93 | 29.07 | between | 763.27 | 1 | 763.27 | 7.27* | 4.01 |
| | | | within | 6091.73 | 58 | 105.03 | | |
| Adjusted | 21.52 | 29.48 | between | 950.16 | 1 | 950.16 | 55.67* | 4.01 |
| | | | within | 972.847 | 57 | 17.07 | | |
| Mean gain | 7.60 | -0.57 | | | | | | |

**\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1and 58 (df) =4.01, 1 and 57(df) =4.01)**

**BAR DIAGRAM SHOWING THE MEAN DIFFERENCE AMONG ASANA PRACTICES GROUP AND CONTROL GROUP ON STRESS**
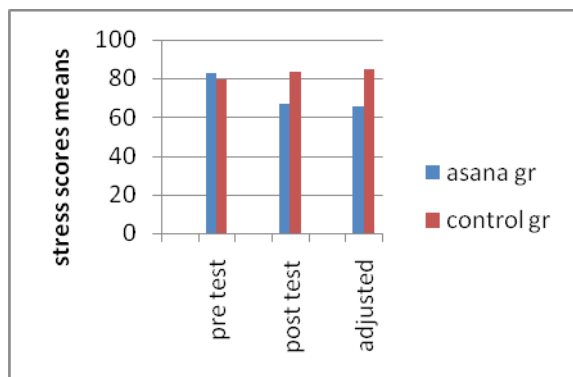


Figure 1

Hence systematic asana practices reduced stress.

The Analysis of Covariance on Anxiety of Asana Practices Group and Control Group were analysed and presented in Table II.

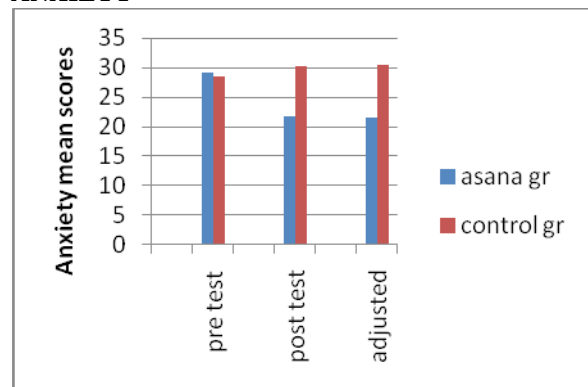**GROUP AND CONTROL GROUP ON ANXIETY**



Figure 2

Hence systematic asana practices reduced anxiety.

The Analysis of Covariance on Self-confidence of Asana Practices group and Control Group were analysed and presented in Table III.

**BAR DIAGRAM SHOWING THE MEAN DIFFERENCE AMONG ASANA PRACTICES**