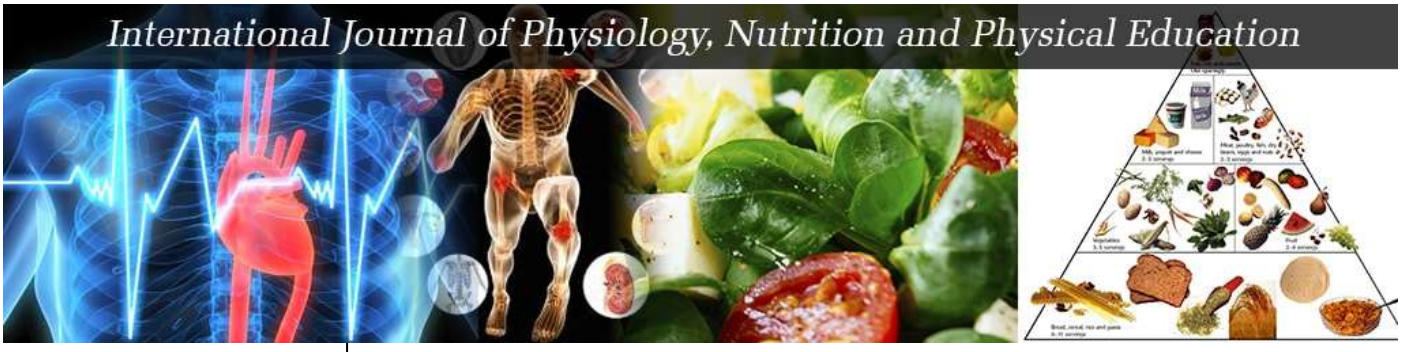


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# Combined and isolated effect of asanas and pranayama practices on depression among obese men

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**Abstract**
This study was to find out the combined and isolated effect of asanas and pranayama practices on depression among obese men. To achieve this purpose of the study sixty obese men selected from in and around Perambalur, Tamil Nadu, India and their age ranged between 17-25 years will be selected as subjects. The selected subjects will be divided into four equal groups, in which, group – I (n = 15) will undergo asana practices, group – II (n = 15) will undergo pranayama practices, group – III (n = 15) will undergo asana and pranayama practices and group – IV (n = 15) will act as control which do not participate in any special training. The training programme will be carried out for this study is three days per week for twelve weeks. The subjects were tested on depression before and after the training period. Prior after the training period depression were measured by using Beck depression inventory II. Analysis of Covariance (ANCOVA) was applied as statistical tool for the present study. The Scheffé S test was used as post-hoc test at whatever point the 'F' - ratio of the adjusted post-test means were discovered to be significant at 0.05 level of significance. Both asana, pranayama and asanas with pranayama practices group influence on depression when compared with control group. asana with pranayama practices may have better influence on depression of obese men.

**Keywords:** Asana practices, pranayama practices, asana with pranayama practices, depression and obesity

## Introduction
Although there are hundreds of asanas, possibly only approximately 100 are well-known today. There are two categories of asanas: contemplative and therapeutic preventative. The prana flow and the physical body are affected by the energising effects of pranayama exercises, the heating effects of vitalizing methods, the cooling effects of tranquillizing techniques, and the balancing effects of balancing techniques. All of these methods fundamentally serve to harmonize, decongest, charge, and purify the pranic flow's frequency while promoting correct distribution to various regions of the body through the extensive system of nadis.

Obesity is a medical disorder in which an individual's body fat has accumulated to an amount that it may negatively impact their health, resulting in a shortened lifespan and/or more health issues. When a person's body mass (BMI), which is calculated by dividing their weight in kilogrammes by their height in metres squared, is greater than 30 kg/m2, it is said to be obese.

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. Also called major depressive disorder or clinical depression, it affects how you feel, think and behave and can lead to a variety of emotional and physical problems.

## Statement of the problem
The present study stated based on the systematic background and expert opinion that, the purpose of the study was to find out the combined and isolated effect of asanas and pranayama practices on depression among obese men.

## Methodology
To achieve this purpose of the study sixty obese men selected from in and around Perambalur, Tamil Nadu, India and their age ranged between 17-25 years will be selected as subjects.

The selected subjects will be divided into four equal groups, in which, group – I (n = 15) will undergo asana practices, group – II (n = 15) will undergo pranayama practices, group – III (n = 15) will undergo asana and pranayama practices and group – IV (n = 15) will act as control which do not participate in any special training. The training programme will be carried out for this study is three days per week for twelve weeks. The subjects were tested
on depression before and after the training period. Prior after the training period depression and depression were measured by using wet spirometer.

**Analysis of data**

The data collected prior to and after the experimental periods on depression on asana practices, pranayama practices, asana with pranayama practices and control group were analysed and presented in the following table -1.

**Table 1:** Analysis of covariance on depression of combined and isolated asanas and pranayama practices group and control group

| | Combined Group | Asana Practice Group | Pranayama Practice Group | Control Group | SOV | SS | df | MS | 'F' |
|---|---|---|---|---|---|---|---|---|---|
| Pre-test mean<br>S.D | 28.6000<br>1.121 | 28.5333<br>1.060 | 28.7333<br>1.032 | 28.7333<br>1.032 | B<br>W | 0.450<br>63.20 | 3<br>56 | 0.150<br>1.129 | 0.133 |
| Post-test mean<br>S.D | 23.5333<br>1.125 | 24.2000<br>1.207 | 26.8000<br>0.941 | 28.8000<br>0.861 | B<br>W | 65.40<br>6.93 | 3<br>56 | 8.469<br>1.088 | 31.304* |
| Adj.<br>Post- test mean | 23.577 | 24.302 | 26.727 | 28.727 | B<br>W | 47.90<br>3.069 | 3<br>55 | 12.63<br>0.238 | 147.74* |

* Significant at 0.05 level of significance.

(The table value required for significance at 0.05 level of significance with df 3 and 56 and 3 and 55 were 2.78 and 2.77 respectively).

The obtained 'F' value on pre-test scores 0.133 is less than the required 'F' value of 2.78 to be significant at 0.05 level. This proves that there is no significant difference among the groups at initial stage and the randomized assignment of the subjects into four groups are successful.

The post test scores analysis proves that there is significant difference among the groups, as the obtained 'F' value 31.304 is greater than the required 'F' value of 2.78. This proves that there is significant difference among the post-test means of the subjects.

Taking into consideration of pre and post-test scores among the groups, adjusted mean scores are calculated and subjected to statistical treatment. The obtained 'F' value of 147.74 is greater than the required table 'F' value of 2.77. This proves that there is significant differences existed among the adjusted means due to twelve weeks of combined and isolated asanas and pranayama practices on depression. Since the significant improvements are recorded, the results are subjected to post hoc analysis using Scheffe's Confidence interval test. The results are presented in Table -2.

**Table 2:** Scheffĕ s test for the difference between the adjusted post-test mean of depression

| Adjusted Post-test Mean on Depression | | | | | |
|---|---|---|---|---|---|
| **Combined Group** | **Asana Practice Group** | **Pranayama Practice Group** | **Control Group** | **Mean Difference** | **Confidence interval at .05 level** |
| 23.577 | 24.302 | | | 0.725 | 0.939 |
| 23.577 | | 26.727 | | 3.15* | |
| 23.577 | | | 28.727 | 5.15* | |
| | 24.302 | 26.727 | | 2.425* | |
| | 24.302 | | 28.727 | 4.425* | |
| | | 26.727 | 28.727 | 2* | |

*Significant at 0.05 level of significance

Table – 2 shows that the adjusted post-test means difference in depression between, combined exercise group and pranayama practices group is 3.15, combined exercises group and control group is 5.15, asana practices group and pranayama practices group is 2.425, asana practices group and control group is 4.425, pranayama practices group and control group is 2 which were higher at 0.05 level of significance. But the adjusted post-test mean difference in depression between combined exercises group and asana practices group is 0.725 which was insignificant at .05 level of significance. It could be completed from the after effect of the test that the combined and isolated asanas and pranayama practices groups have significant improvement in depression after their training programs.

The adjusted post-test mean values on depression of combined and isolated asanas and pranayama practices and control groups are graphically represented in figure - I.

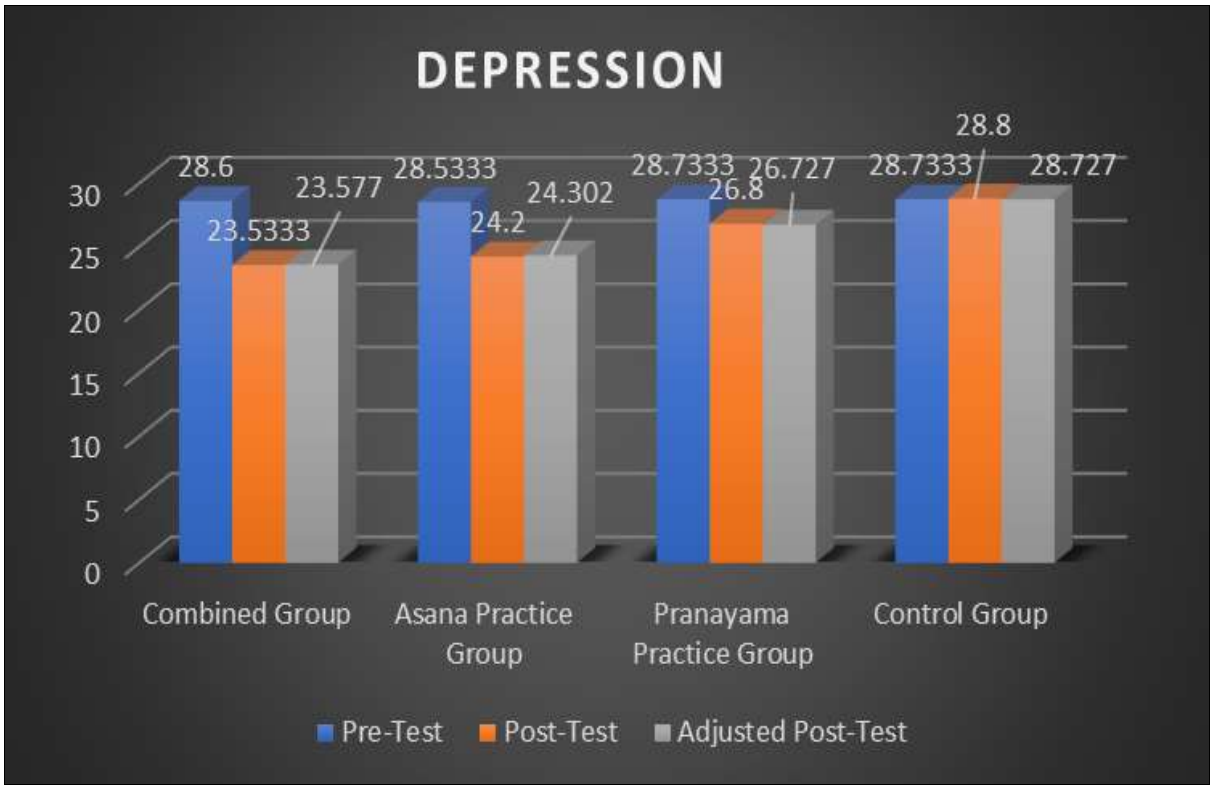


**Fig 1:** Pre, Post and Adjusted post-test mean values on depression of combined and isolated asanas and pranayama practices and control groups

## Conclusion

From the analysis of the data, the following conclusion were drawn.

Depression was decreased after the combined and isolated asana and pranayama practices programmes when compared with the control group. There was no significant difference which happened between the combined exercise group and asana practices group on depression.

## Recommendations

The following recommendations were drawn, from the results of the present study:

1. Further studies may be made to investigate the effect of asana and pranayama practices on anthropometric measures, bio-chemical variables.
2. The effect of combined and isolated asana and pranayama practices programmes can be assessed on physiological factors.
3. In the current study, the subjects chosen was obese male students and in future studies, the subjects may be chosen obese female students and middle aged obese men and women., etc.

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