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Effect of asanas practice on flexibility and suprailiac fat of obese men

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Abstract

The purpose of the study was to find out the effect of regular asanas practice on flexibility and suprailiac fat of obese men. 30 obese men staying in Lovely Professional University (age 30-38 years) were selected to conduct the study. Selected variables for the study were Flexibility and suprailiac fat. To measure flexibility, Sit and reach test used and Skinfold calliper used to measure suprailiac fold of skin. Experiment was given to selected subject for seven weeks. Descriptive statistics such as Mean and Standard deviation were used to assess the selected variables and to compare Flexibility and suprailiac fat between pre-test and post-test data of obese men paired t-test was applied at 0.05 level of significance. To calculate the collected data SPSS version-16 and MS-EXCEL 2007 were used. **Results and conclusions:** Mean and Standard deviation of pre-test and post-test data of 30 sedentary men for Flexibility and suprailiac fat were 3.75±1.72, 6.36±1.69, 15.56±2.67 and 11.03±2.53 respectively. T-value of Flexibility was 7.42 and suprailiac fat was 7.87 at 0.05 level of significance, tabulated T-value was 2.04 at degree of freedom (29).The results revealed that significance difference were found for Flexibility and Suprailiac fat of obese men and regular asanas practice help to improve flexibility and reduces suprailiac fat of obese men.

Key words: Flexibility, suprailiac fat, asana, obesity etc.

1. Introduction

The physical practice of yoga, consists of maintaining regular and steady breathing while changing the positioning of the body through a series of Asanas (static postures) during which all the targeted and supporting muscle groups are engaged (under tension), Connecting breathing mechanics to an engaged musculoskeletal system while performing the poses provides a holistic challenge to the whole body. For example, when adopting standing lunge position an upright torso is twisted inward and the hips and head are twisted in the opposite direction; with emphasis on the muscular effort of the arms and legs. The arms are aligned with the shoulders and are stretched outward as far as possible while hyper-extending and internally rotating the trailing leg. During these movements, the timing and duration of each breath are regulated to coincide with the duration of each pose as well as with the initiation of transitions between each pose.

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. People are generally considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, is over 30 kg/m2, with the range 25–30 kg/m2 defined as overweight. Some East Asian countries use lower values. Obesity increases the likelihood of various diseases and conditions, particularly cardiovascular diseases, type 2 diabetes, obstructive sleep apnea, certain types of cancer, osteoarthritis and depression. Obesity is most commonly caused by a combination of excessive food intake, lack of physical activity, and genetic susceptibility. A few cases are caused primarily by genes, endocrine disorders, medications, or mental disorder. The view that obese people eat little yet gain weight due to a slow metabolism is not generally supported. On average, obese people have greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.

The sum of 'fat fold' is an indicator of relative degree of fatness among individuals. McArdle et al. (1991) pointed out that exercise-induced change in fat fold values can be evaluated either as absolute or on percentage basis. Peterson (1996) pointed out that body fat is a very personal datum and it is strongly recommended that this information be presented discreetly. Here the purpose of this study was to find out the effect of regular asanas practice on flexibility and suprailiac fat of obese men.

2. Methodology

2.1 Subjects

Thirty obese men of Lovely Professional University were selected as the subjects for this study.

2.2 Variables / Contents selected

Flexibility and suprailiac fat.

2.3 Test used to measure selected variables

For flexibility : Sit and reach test.

Body fat (suprailiac) : Skinfold calliper used to measure suprailiac fold of skin.

2.4 Experiment used

As experiment thirty obese men aged between 30-38 years were practiced regular asanas for seven weeks. Each week one day rest was given to subjects, in order to recover from fatigue. Selected asanas were halasana, karnapidasana, janusirsasana sukhasana, paschimotanasana, dhanurasana, gomukhaasana, sarvangaasana etc. These asanas were performed by the instructor and then subjects carefully perform the same asana. Instructor helped them to learn and perform.

2.5 Statistical analysis of data

To find the effect of Asana, Paired 'T' test was used to analyse the pre-test and post-test data at 0.05 level of significance.

3. Findings of the Study

The collected pre-test and post-test data were analysed by Paired 'T' test to find out the effect of regular asanas practice.

Table-1

Paired 'T' test of pre-test and post-test data of flexibility (in centimeters) of obese men

		Mean	N	Std. Deviation	T value
Pair 1	Flexibility-pretest	3.7467	30	1.71700	7.42*
	Flexibility-posttest	6.3567	30	1.69394	

*Significant at 0.05 level of significance,

Tabulated value of T at 0.05 level of significance with degree of freedom (29) =2.04.

It is evident from the Table-1 that the calculated value of t for flexibility was 7.42 and tabulated value of t was 2.04 at degree of freedom (29) at 0.05 level of significance. Since calculated value of t was higher than the tabulated value of t, It can be concluded that significant differences was found between the pre-test and post-test data of flexibility of obese men. Since post-test data of flexibility of obese men improved significantly (which has been shown in table-1) than the pre-test data of flexibility of obese men. So we can say that regular asanas practice is beneficial to improve the flexibility of obese men.

Figure-1

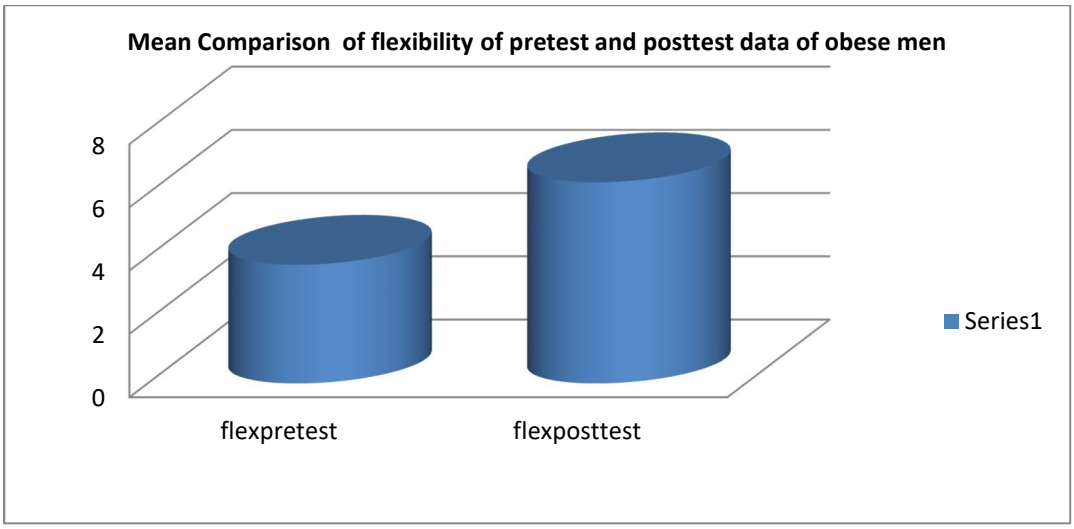


Table-2

Paired 'T' test of Pre-test and Post-test data of Suprailiac fat (in milimetres) of obese men

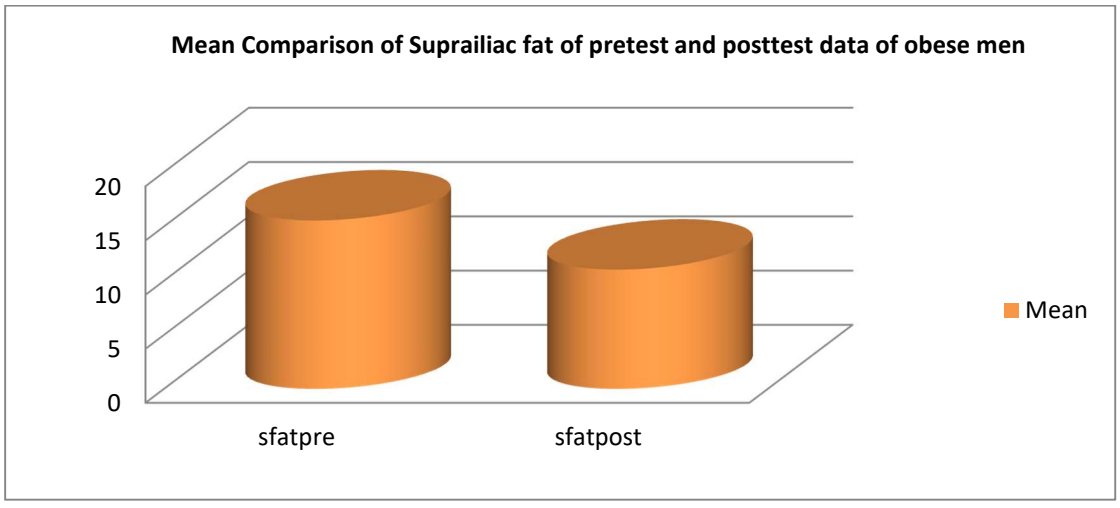
		Mean	N	Std. Deviation	T value
Pair 1	Suprailiac fat-pretest	15.5600	30	2.66880	7.87*
	Suprailiac fat-posttest	11.0333	30	2.52864	

*Significant at 0.05 level of significance

Tabulated value of T at 0.05 level of significance with degree of freedom (29) =2.04.

It is evident from the Table-1 that the calculated value of t for Suprailiac Fat was 7.87 and tabulated value of t was 2.04 at degree of freedom (29) at 0.05 level of significance. Since calculated value of t was higher than the tabulated value. So we can say that regular asanas practice is beneficial to burn the Suprailiac Fat of obese men. It can be concluded that significant differences was found between the pre-test and post-test data of Suprailiac Fat of obese men. Since post-test data of Suprailiac Fat of obese men reduced significantly (which has been shown in table-2) than the pre-test data of flexibility of obese men.

Figure-2



4. Discussion

Practicing yoga and asanas has been associated with many positive outcomes in various aspects of physical performance and well-being. The positive health outcomes that have been observed include a decrease in blood pressure, a decrease blood lipid values, a decrease in body mass index, as well as an improvement in pulmonary function. From a performance standpoint, yoga has been reported to enhance muscle torque, increase in handgrip strength, decrease low back pain, delays the onset of muscle soreness following strenuous activity, increase flexibility and balance as well as improved cardiovascular performance. The impact of yoga has also been linked to improvements in mental health. Such positive influences include reductions in anxiety, depression reduction, enhanced the state of relaxation, and enhanced motivation. In addition to these, there may be direct benefits to improve the body composition attributes commonly linked to human performance. Body fat, body mass ratio and muscle thickness are some of attributes of body composition, which shows direct improvement due to yogasana and training. With clearer evidence and a better understanding of its impact on movement performance yoga could become an important component of a comprehensive training regime alongside or even replacing those of traditional exercises. These may be the reason that this study showed significant improvement in flexibility and suprailiac fat of obese men after practicing asanas for seven weeks.

The Results of present study supported by Amin D.J. and Goodman M. (2014) evaluated the effects of a six week Iyengar yoga intervention on flexibility. N = 16 low to moderately active females (52.37 ± 7.79 years) attended Iyengar yoga practice for a total of 6 weeks, consisting of one 90 min session per week. Lumbar and hamstring flexibility were assessed pre and post-intervention using a standard sit and reach test. The results show a significant increase in flexibility, indicating 6 weeks of single session yoga training may be effective in increasing erector spinae and hamstring flexibility. This is important when considering that much of the population find it difficult to attend more than one session a week into their training schedule. Also M Jay Polsgrove, Brandon M Eggleston, and Roch J Lockyer investigated impact of 10-weeks of yoga practice on flexibility and balance of college athletes. Over a 10-week period, a yoga group (YG) of athletes (n = 14) took part in biweekly yoga sessions; while a non-yoga group (NYG) of athletes (n = 12) took part in no additional yoga activity. Performance measures were obtained immediately before and after this period. Measurements of flexibility and balance, included: Sit-reach (SR), shoulder flexibility, and stork stand dynamic measurements consisted of joint angles measured during the performance of three distinct yoga positions. Significant gains were observed in the YG for flexibility (SR, P = 0.01; SF, P = 0.03), and balance (SS, P = 0.05). No significant differences were observed in the NYG for flexibility and balance. Results suggest that a regular yoga practice may increase the flexibility and balance as well as whole body measures of male college athletes and therefore, may enhance athletic performances that require these characteristics.

5. Conclusion

On the basis of the findings of data and within limitation of the project the following conclusions may be drawn-

- It can be concluded from the result that obese men showed significant difference between pre-test and post-test flexibility due to regular asanas practice.
- It can be concluded from the result that obese men showed significant difference between pre-test and post-test suprailiac fat due to regular asanas practice. It can be concluded that regular asanas practice reduces or burn the suprailiac fat.

6. Acknowledgement

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