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# Effect of Yogic Practice on Selected Physical Fitness among Overweighted School Boys

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Abstract

The objective of the study was to investigate the impact of yogic practice among overweighted school boys. To achieve this purpose, thirty overweighted school boys from various schools in Tiruchirappalli district were selected at random. Their age ranged between 14 and 17. The selected subjects were divided into two equal groups of 15 each, namely yogic practice group (group A) and control group (group B). The experimental group had undergone yogic practices for 12 weeks, five days a week. Whereas the control group (group B) maintained their daily routine activities and no special training was given. The subjects of the two groups were tested using standardized tests and procedures on selected physical variables before and after the training period to find out the training efforts in the following test items: BMI (body mass index) by measuring their height and weight of the subjects and flexibility by sit and reach box. The collected data were analyzed statistically through analysis of CoVariance (ANCOVA) to find out the pre and post training performances. To compare the significant difference between the adjusted final means and better group. The yogic practice group showed significant improvement due to 12 weeks of training on BMI and flexibility compared to control group.

Key Words: Yogic practice, BMI and flexibility

## Introduction

All the wonders of modern science will not bring happiness, peace of mind, health or long life. Although wonders have been achieved in our external environment – space travel, computer etc, our internal environment has been neglected. Thousands of years ago the ancient yogis turned their minds inwards and discovered their true nature. Yoga provides one of the best means of self improvement and attaining ones full potential [7].

"The Art of life is to know to enjoy….a little and to endure much "said Hazlitt. Fitness programmes have become a trend that is now very much a part of the peoples' way of life. Fitness means 'able to do a physical work easily'. According to Harrison Clarke [1], physical fitness is the ability to carry out daily task with vigour and alertness, without undue and ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies.

According to WHO world health organisation, "Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in meters). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered as overweight. Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer [2,6]. Once considered this problem is in high income countries, overweight and obesity are now dramatically on the rise in low and middle - income countries, particularly in urban settings".

According to Martorell et al. [4] obesity among children is a problem in both developed and less developed countries around the world. Freedman et al. [5] "Obesity in childhood might lead to life threatening chronic diseases and to negative psychological consequence Moreover, 77% of obese children (BMI>25) reported obese (BMI>30) as adults. Cole et al. [3] had provided age and gender specific BMI cut-off points starting from childhood based on international data from different countries, which is linked to adults' cut-off points BMI>25 and>30 (age adjusted BMI based on International Obesity Task Force (IOTF) standards).

Yoga's global popularity testifies to India's growing cultural influence. It compensates for our recurring four-yearly embarrassment at not winning Olympic gold: that we are not a healthy, athletic people. How can Indian culture contribute to global health via yoga, and yet not produce winning athletes? The answer is simple: yoga was never meant to be a fitness regime. The word yoga is Hindustani from Sanskrit, meaning 'union'. In Indian philosophy yoga is a means to moksha (salvation or liberation), understood as isolation from physical nature or union with God. Physical yoga (that is, Hatha yoga) is only one form of yoga. Indian sages have taught many different forms of yoga- or ways of obtaining one's salvation. Western fans of yoga abuse it when they use it exclusively for physical fitness. Jews, Christians and Muslims naturally find it difficult to

understand how physical exercise could contribute to one's spiritual salvation [7].

The objective of the study was to investigate the impact of yogic practice among the overweight school boys.

## Materials and Methods

Thirty overweight school boys from the various schools in Tiruchirappalli district were selected at random. Their age ranged between 14 and 17. The selected subjects were divided into two equal groups of 15 each, namely yogic practice group (group A) and control group (group B). The training programme was scheduled for one session in the morning between 6.30 am to 7.30 am for five sessions in a week and the same was continued for 12 weeks.

| | |
|---|---|
| Asana | 30 minutes |
| Pranayama | 20 minutes |
| meditation | 10 minutes |

The yogic practices were designed by consulting experts in yoga investigator and were administered for a period of twelve weeks, five days a week; a session each day, session lasted an hour. The yogic group underwent their respective experimental treatment, whereas the control group maintained their routine activities and no special training was given. Yogic practice consists of asana, pranayama and meditation for experimental group. BMI (body mass index) and flexibility were selected as variables for this investigation.

The pre and post test were conducted one day before and after the experimental treatment. The means and standard deviations of control and experimental groups were calculated for BMI (body mass index) and flexibility for the pre as well as post tests. Analysis of covariance was used to analyse the collected data was to determine which of the paired mean differ significantly. Statistical significance was set to a priority at $p< 0.05$.

Table I: Test Analysis of Body Mass Index

| Variables | Groups | Mean±sd | | t-value |
|---|---|---|---|---|
| | | Pre test | Post test | |
| Body mass index | Experimental | 23.798 ±2.129 | 23.398 ±2.093 | 3.898* |
| | Control | 24.168 ±1.115 | 24.146 ±1.110 | 0.002 |

*Significant at 0.05 level

The table I show that, they obtained t-ratio between the pre and post test means of experimental and control group of Body Mass Index are 3.898 and 0.002 respectively. The table values required for significant difference with df 14 at 0.05 level is 2.144. Since, the obtained't' – ratio value of experimental group on Body Mass Index is greater than the value 2.144, it is concluded that the yogic practice had significantly improved of the Body Mass-Index.

Table II: Test Analysis of Flexibility

| Variables | Groups | Mean±sd | | t-value |
|---|---|---|---|---|
| | | Pre test | Post test | |
| Flexibility | Experimental | 14.866 ±3.854 | 16.066 ±3.741 | 4.852* |
| | Control | 19 ±4.778 | 25 ±4.905 | 0.001 |

*Significant at 0.05 level

The table II show that, they obtained t-ratio between the pre and post test means of experimental and control group of Flexibility are 4.852 and 0.001 respectively. The table values required for significant difference with df 14 at 0.05 level is 2.144. Since, the obtained't' – ratio value of experimental group on Flexibility is greater than the value 2.144, it is concluded that the yogic practice had significantly improved of the Flexibility.

Table III: Computation of analysis of covariance of body mass index and flexibility

| Variables | Adjusted post test means | | Source of Variance | Sum of squares | df | Mean Squares | 'F' – Ratio |
|---|---|---|---|---|---|---|---|
| | Experimental Group | Control Group | | | | | |
| Body mass index | 23.580 | 23.964 | Between | 1.092 | 1 | 1.092 | 48.238* |
| | | | Within | 0.611 | 27 | 0.23 | |
| Flexibility | 22.987 | 18.080 | Between | 145.280 | 1 | 145.280 | 122.391* |
| | | | Within | 32.050 | 27 | 1.187 | |

*Significant at 0.05 level

(The table value required for significance at .05 levels with df 1 and 27 is 4.21). Table III showed that the adjusted post test mean values on body mass index of experimental and control groups are 23.580 and 23.964 respectively. The

obtained F-ratio of 48.238 for adjusted post test means is greater than the table value of 4.21 with df 1and 27 required for significance at .05 level of confidence. The adjusted post test mean values on flexibility of experimental and control groups are 22.987 and 18.080 respectively. The obtained F-ratio of 122.391 for adjusted post test means is greater than the table value of 4.21 with df 1and 27 required for significance at .05 level of confidence. The results of the study indicate that there was significant mean difference between the adjusted pre test means of experimental group on body mass index and flexibility

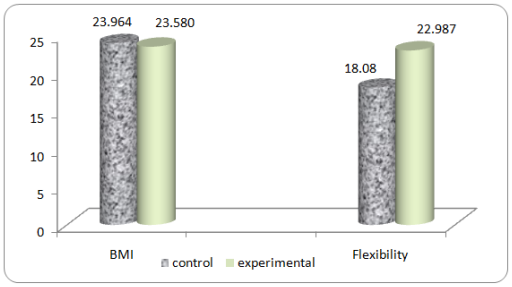


Figure – I: Bar diagram showing the adjusted mean values of pre and post tests of control group and experimental groups on body mass index and flexibility

## Conclusions

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

1. Experimental group had achieved significant improvement on body mass index and flexibility.
2. Significant differences were found between experimental group and control group towards improving the selected variables of body mass index and flexibility.

In the present study it was concluded that body mass index and flexibility were improved by yogic training. Hence it is recommended to the coaches, trainers and physical educators to adopt these findings to improve to body mass index and flexibility for their overweight children.

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