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## Influence of simplified kundalini yoga on selected body mass index and resting pulse rate among obese school girls

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### Abstract

The purpose of the Random group experimental study was to find out the influence of Simplified Kundalini Yoga on selected Body Mass Index and Resting Pulse Rate among Obese School Girls. It was hypothesized that there would be significant differences in Body Mass Index (BMI) and Resting Pulse Rate among Obese School Girls due to the influences of Simplified Kundalini Yoga. To achieve the purpose of the study, 30 Obese (BMI of 30 to 35) school girls from Alagappa Group of Educational Institutions, Karaikudi, Sivagangai District aged between 14 to 18 years were selected randomly into experimental and control groups of 15 subjects each. The selected subjects were divided into one experimental group and a control group with 15 subjects each in a group. Experimental group underwent Simplified Kundalini Yoga for the period of 12 weeks, six days per week of 1 hour basically, then slightly increased to 1.15 hours and 1.30 hours in the morning. The control group was not exposed to any specific training but they participated in their regular activities. The pre-test and post- tests were conducted before and after the training for both the groups. The Body Mass Index (BMI) was measured by Weighing machine, Meter Scale and Resting Pulse Rate was measured by BP Monitor machine. The data pertaining to the variables collected from the two groups before and after their training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference. The hypotheses were tested at 0.05 level of confidence. The results of the study showed that Body Mass Index (BMI) and Resting Pulse Rate were decreased significantly as a result of Simplified Kundalini Yoga. Hence, the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Simplified Kundalini Yoga was effective in decrease Body Mass Index (BMI) and Resting Pulse Rate among Obese School girls.

**Keywords:** Simplified Kundalini yoga, body mass index (BMI), resting pulse rate, obesity

### Introduction

Today, more than at any other time in the history of humanity, people are facing stresses and strains that are beyond their control. There is an unprecedented rise in psychosomatic and mental illnesses. The evolution identity of an individual is lost. Happiness, freedom and peace have become empty words. Health is the very foundation of happy life (Vethathri Maharishi). Obesity, an ailment characterized by an excessive accumulation of body fat, is fast emerging as world's single most preventable health problem. Obesity is the sixth most major contributor to a host of disorders and diseases. It is estimated that of 2.1 billion are Obese, worldwide. 9.8% of men are obese globally. One in every two American adults will be obese by 2030. Obesity will create tremendous economic burden in the country (WHO).

- Improve our physical endurance (Simplified Yoga Exercise)
- Reduces the mental frequency (Meditations)
- Enhances awareness (Introspection)
- Improves intellectual sharpness and understanding (Kaya Kalpa)
- (Vethathiri Maharishi)

### Purpose of the Study

The purpose of the study was designed to find out the influence of Simplified Kundalini Yoga on selected Body Mass Index and Resting Pulse Rate among Obese School girls.

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### Hypothesis

It was hypothesized that there would be significant difference in Body Mass Index (BMI) and Resting Pulse Rate among Obese School girls due to the influences of Simplified Kundalini Yoga.

### Methodology

To achieve the purpose of the Random group experimental study, 30 Obese (BMI of 30 to 35) School girls from Alagappa Group of Educational Institutions, Karaikudi, Sivagangai District aged between 14 to 18 years were selected randomly into experimental and control groups of 15 subjects each.

The selected subjects were divided into one experimental group (SKY) and a control group (CG) with 15 subjects each in a group. Experimental group (SKY) underwent Simplified Kundalini Yoga for the period of 12 weeks, six days per week of 1 hour basically, then slightly increased to 1.15 hours and 1.30 hours in the morning. The Control group (CG) was not

exposed to any specific training but they participated in their regular activities.

The Simplified Kundalini Yoga was given to the experimental group which include Simplified Kundalini Yoga Exercise, Kaya Kalpa Yoga, Nadi suddhi Pranayama, Meditations (Agha, Thuriya and Shanti) and Introspection.

The selected variables, Body Mass Index (BMI) were measured by Weighing machine, Meter scale and Resting Pulse Rate was measured by BP Monitor machine.

### Results and Discussions

The data pertaining to the variables collected from the two 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 confidence.

The Analysis of Covariance (ANCOVA) on Body Mass Index (BMI) of the Simplified Kundalini Yoga (SKY) and the Control Group (CG) was analyzed and are presented in tables 1.

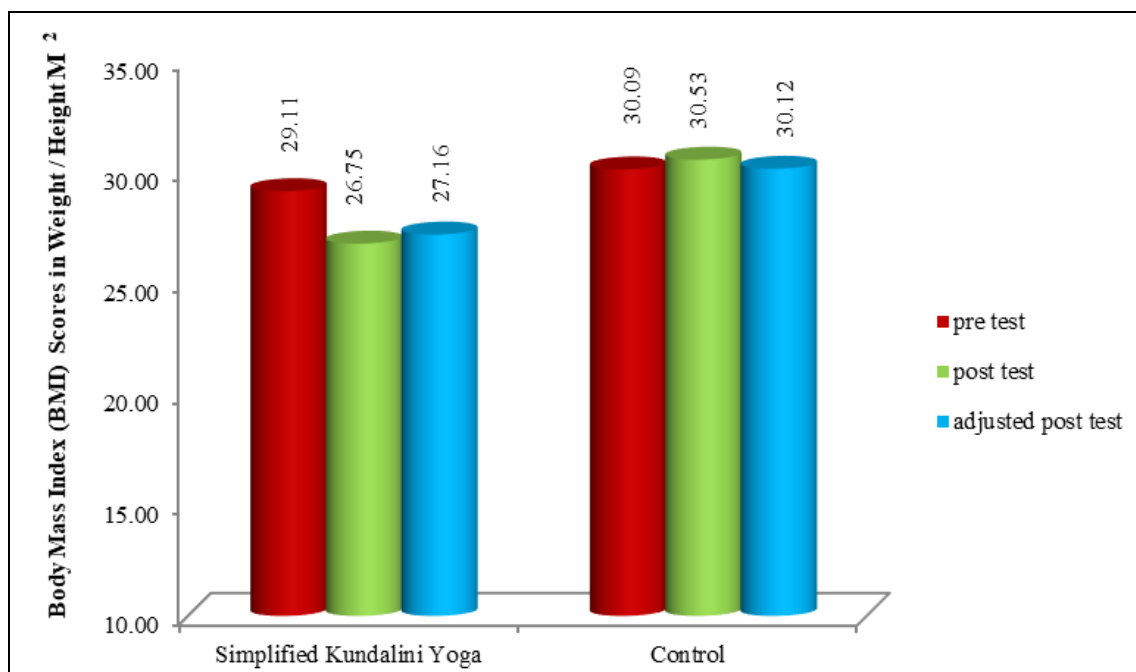
**Table 1:** Analysis of covariance (Ancova) of data on body mass index (BMI) between simplified Kundalini yoga and control groups

| Test      | Simplified Kundalini Yoga | Control | SV      | SS     | df    | MS     | F       |
|-----------|---------------------------|---------|---------|--------|-------|--------|---------|
| Pre test  | 29.11                     | 30.09   | between | 7.12   | 1.00  | 7.12   | 3.72    |
|           |                           |         | within  | 742.22 | 28.00 | 26.51  |         |
| Post test | 26.75                     | 30.53   | between | 107.13 | 1.00  | 107.13 | 5.15 *  |
|           |                           |         | within  | 582.14 | 28.00 | 20.79  |         |
| Adjusted  | 27.16                     | 30.12   | between | 65.17  | 1.00  | 65.17  | 29.26 * |
|           |                           |         | within  | 60.15  | 27.00 | 2.23   |         |
| Mean gain | 2.36                      | -0.44   |         |        |       |        |         |

\*Significant at 0.05 level of confidence. Table F ratio at 0.05 level of confidence for (1, 28 and 1,27) = 4.20,4.21 respectively

The obtained F-ratio values were greater than the table value, it indicates that there was significant difference among the post test and adjusted post-test means of the SKY and the CG on Body Mass Index (BMI).

The pre- test, post- test and adjusted post -test mean values of Simplified Kundalini Yoga Group (SKY) and Control Group (CG) on Body Mass Index (BMI) were graphically presented in Figure 1.



**Fig 1:** Mean Scores of Pre, Post Tests and Adjusted Post Test Of Sky And Cg On Body Mass Index (Bmi)

The results of the study showed that Body Mass Index (BMI) decreased significantly as a result of Simplified Kundalini Yoga. Hence, the hypothesis was accepted at 0.05 level of confidence. Systematic Simplified Kundalini Yoga decreased the Body Mass Index (BMI) effective than Control group. The

above findings can also be substantiated by observations made by renowned expert Sahay BK (2007).

The Analysis of Covariance (ANCOVA) on Resting Pulse Rate of the Simplified Kundalini Yoga (SKY) and the Control Group (CG) was analyzed and are presented in table 2.

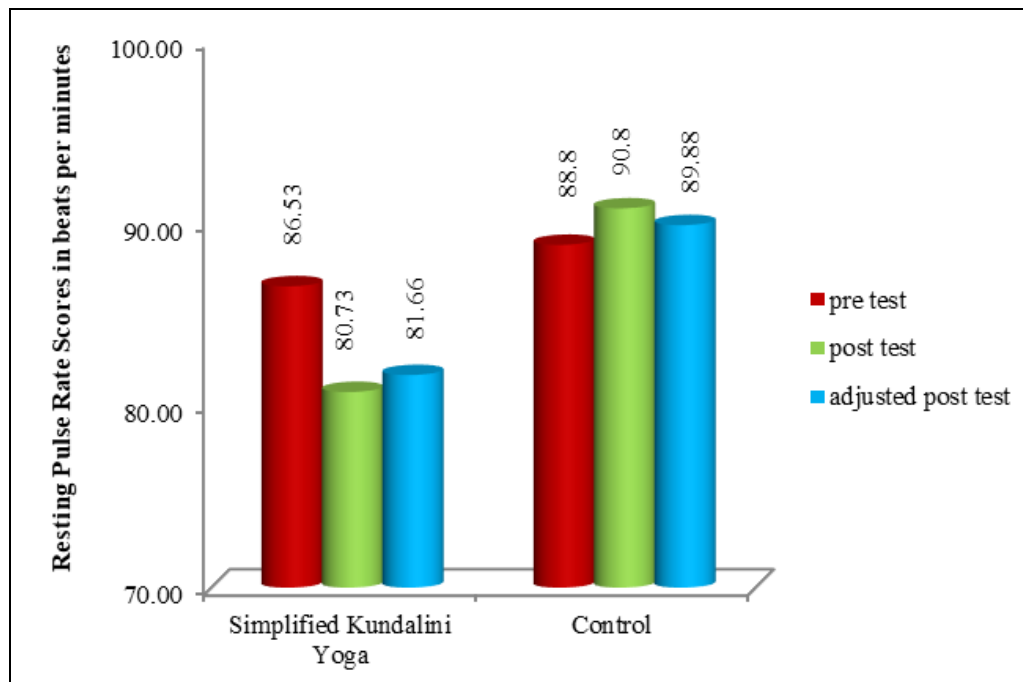
**Table 2:** Analysis of covariance (Ancova) of data on resting pulse rate between simplified Kundalini yoga and control groups

| Test      | Simplified Kundalini Yoga | Control | SV      | SS      | Df    | MS     | F       |
|-----------|---------------------------|---------|---------|---------|-------|--------|---------|
| Pre test  | 86.53                     | 88.80   | between | 38.53   | 1.00  | 38.53  | 2.62    |
|           |                           |         | within  | 2824.13 | 28.00 | 100.86 |         |
| Post test | 80.73                     | 90.80   | between | 760.03  | 1.00  | 760.03 | 8.72 *  |
|           |                           |         | within  | 2439.33 | 28.00 | 87.12  |         |
| Adjusted  | 81.66                     | 89.88   | between | 500.26  | 1.00  | 500.26 | 23.69 * |
|           |                           |         | within  | 570.21  | 27.00 | 21.12  |         |
| Mean gain | 5.80                      | -2.00   |         |         |       |        |         |

\*Significant at 0.05 level of confidence. Table F ratio at 0.05 level of confidence for (1, 28 and 1,27) = 4.20,4.21 respectively.

The obtained F-ratio values were greater than the table value; it indicates that there was significant difference among the post test and adjusted post-test means of the SKY and the CG on Resting Pulse Rate.

The pre-test, post-test and adjusted post-test mean values of Simplified Kundalini Yoga group (SKY) and Control group (CG) on Resting Pulse Rate was graphically presented in Figure 2:

**Fig 2:** Mean scores of pre, post tests and adjusted post test of sky and cg on resting pulse rate

The results of the study showed that Resting Pulse Rate decreased significantly as a result of Simplified Kundalini Yoga. Hence, the hypothesis was accepted at 0.05 level of confidence. Systematic Simplified Kundalini Yoga decreased the Resting Pulse Rate effective than Control group. The above findings can also be substantiated by observations made by renowned experts McCaffrey R, *et al.* (2005) [7].

### Conclusion

It was proved that Simplified Kundalini Yoga could decrease Body Mass Index (BMI) and Resting Pulse Rate among Obese School Girls.

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