

# Impact of Pranayamas on Body Fat Percentage (%) of Males School Going Children

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**Abstract:** The aim of this study was to observe the impact of Pranayamas on body fat percentage (%) of subjects with the age range 8 to 10 years. For this 30 male subjects were drawn from Muni International School, A-2/16-18, Mohan Garden, Uttam Nagar New Delhi-110059, India by using simple random sampling. Pre post data were collected before and after intervention of Pranayama for 90 days. Body fat was measured by the lence skin fold calipers and the sum of the skin fold thickness of all the four sites of the body was converted in to percentage by body fat as suggested by Durnin & Womersley. Since calculated value of  $t$  ( $=1.83$ ) is less than tabulated  $t_{0.05}$  (29) ( $=2.045$ ) so no significant result was found. It is concluded that significant improvement was not found in Body fat percentage (%) as a result of the experimental treatment.

**Keywords:** Pranayama, body fat percentage (%).

## 1. Introduction

tasmin-sati svasa-prasvasa-yor-gati-vicchedah pranayamah,

– Patanjali Yoga Sutra II: 49

Two Sanskrit words are combined in the word 'Pranayama' Prana and Ayama. 'Prana' means life force i.e Breath. 'Ayama' means development or control. Therefore Pranayama is the control of breath .Breath is the life force that sustains life. Nobody can survive more than a few minutes without air. When the breath stops, life ends .In simple terms pranayama may be called the control of the breath. Its essence lies in the modification of our normal process of breathing.The practice of Pranayama and Meditation, and must be achieved before union can take place with the higher reality. The application is pranama is considered beneficial for health and cure of certain disease for stress management and for improving general efficiency of individual in different fields. pranayama is also a spiritual pursuit for many seekers of truth. And in the case of Body fat is a lipid (fat) produced in the body, and this may be influenced by diet, exercise and genetics. Body fat percentage is that percentage of body mass that is not made up of bone, muscle, connective tissue and fluids; that is, everything else. A person's total body fat percentage is the total weight of the person's fat divided by the person's weight. The resulting number reflects both essential fat and storage fat.

### 1.1 Objectives

This study has aimed to study the impact of Pranayamas on body fat percentage (%) level of the male school going children.

### 1.2 Hypothesis

Practice of Pranayamas causes significant decrease in body fat percentage (%) of the all subjects.

## 2. Methodology

### 2.1 Sampling

This study was conducted in 30 samples from Muni International School, A-2/16-18, Mohan Garden, Uttam Nagar New Delhi-110059, India. Samples were selected by applying the simple random sampling using lottery method. 30 were males of age range 8-10 yrs.

Research design: pre-post single group

Symbolically,  $A Q_1 X Q_2$

Where,

A= single group

Q = pre- test

X= Pranayama (45 min. for each morning per day)

Q2= Post-test

### 2.2 Procedures

Body fat was measured by the lence skin fold calipers and the sum of the skin fold thickness of all the four sites of the body was converted in to percentage by body fat as suggested by Durnin & Womersley, Firstly, by using the lence skin fold calipers fat % of each subject was measured and post measurement of fat % for the same subjects were taken after allowing practice of Pranayama for 90 days. During the practice, each subject was allowed for inhalation (Puraka), retention (kumbhaka) and exhalation (Recaka) in equal ratio, thrice through left nostril and the same through right nostril and then inhalation through both nostrils and the exhalation through mouth which is supposed to be one round. Same procedure was suggested with different deep feelings in Puraka, Kumbhaka and Recaka steps. The reference of this technique can be obtained from Super Science of Gayatri written by Pandit Sriram Sharma Acaaya, founder of all worlds Gayatri Pariwara.

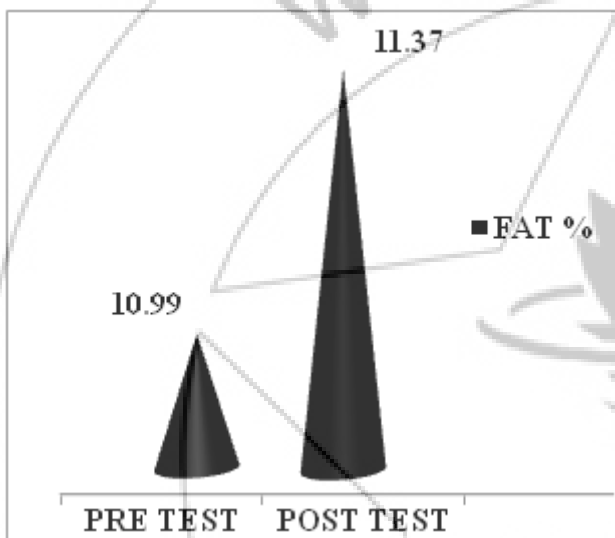
### 3. Results

**Table 1:** Paired Sample Statistics

		Mean	N	S.D	S.E(Mean)
Pair 1	Pre Fat %.	10.99	30	4.70	0.85
	Post Fat %.	11.37	30	4.00	0.73

**Table 2:** Paired T-Test Table

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	S.D	SE (Mean)	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pre Fat %. Post Fat %.	-0.38	1.14	0.20	-0.80	0.04	-1.83	29	0.07



**Figure 1:** Graph for Total Subjects (Mean)

### 4. Interpretation of Findings

The following interpretation can be made on the basis of the results shown in the above output.

The values of the mean, standard deviation and standard error of the mean for the data on fat % in the pre and post testing are shown in the Table-1. These values can be used for further analysis.

2. It can be seen from Table-2 that the value of t statistic is 1.83. This t value is insignificant as the p value is 0.07 which is higher than 0.05.

For one - tail test, the value of tabulated t at 0.05 level of significance and 29 (N -1 = 29) df which is 2.045. Since calculated value of t (=1.83) is lesser than tabulated  $t_{0.05}$  (29) (=2.045), Hypothesis may not be accepted.

### 5. Discussion

In the present study no significant difference was found in case of Body fat percentage (%), after administrating the Pranayama training programme.

Body fat percentage (%) depends on type of work out, daily fooding habits, personal habits and so many other factors. Duration of the training programme was on the month of august, September, October and November and during those month it was the festival season (like:- Navaratra, Dushehara, Id-UI-Zuha, Diwali) in India for due to this reason research scholar have no control on the diet pattern of the subjects and on the other hand the Pranayama training programme progressed traditionally. Due to those reason no significant difference was found in case of Body fat percentage (%).Therefore, proposed hypothesis has been rejected in case of Body fat percentage (%).

### 6. Conclusions

Significant improvement was not found in Body fat percentage (%) as a result of the experimental treatment. The authors recommended that a yoga intervention of a longer period might show a significant effect on Body fat percentage (%), as well.

### 7. Recommendations

1. Pranayama programme should be an essential part of routine of the children's daily life schedule.
2. Yoga based therapeutic exercise programme must be appropriately blended with effective yogic Asanas and appropriate Pranayama.
3. A study of similar type may be conducted on the male and female of different age group.
4. More combination of Yogic Asanas, varieties of Pranayamas, Kriyas, Mudras and Meditation also can be in cooperated to experiment and to find out the efficacy on the total health aspects of the children.

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