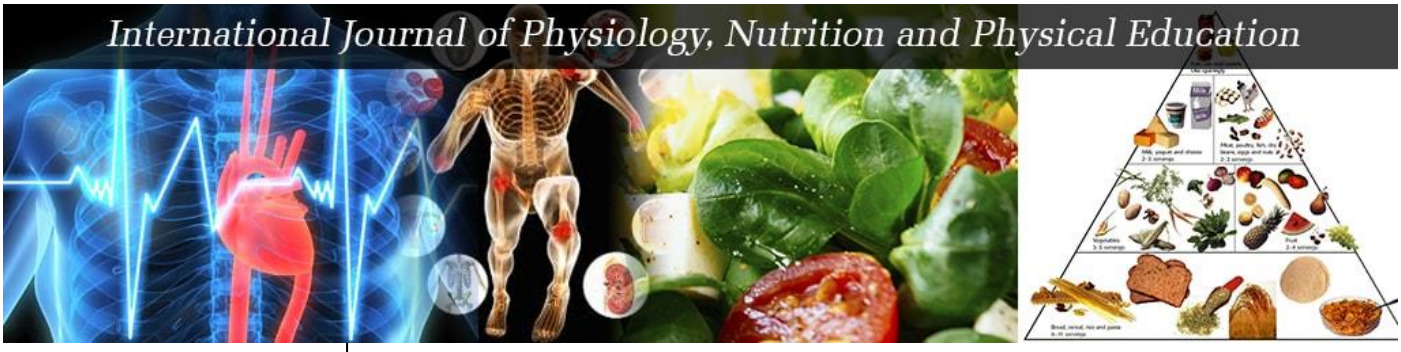

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The impact of specific asana on the body mass index and stress of 12 to 16 years school children

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Abstract
The main aim of this study is to find the effect specific asanas on the Body mass Index and Stress of 12 to 16 years school children. Considering the mentioned objective, 40 students of B.I.PS Bagalkot, Karnataka State are selected as cases for this study and they are randomly divided into training group and controlling group. The first group, participated in specific asanas process continued 8 weeks, while; the latter group did not participate in any exercise programs and continued with their daily activities.

Keywords: Specific asanas, body mass index, stress

Introduction
Yoga is one such alternative form of physical activity that is used mainly for the purpose of health promotion. Yoga comprises mainly body postures (asanas), breathing exercises (pranayama), and meditation (Dhyana). Yoga is also gaining increasing popularity as a therapeutic measure. Some 80% of persons practicing yoga in the US (more than 16 million people) reported that they had taken up the practice with the explicit goal of improving their health. In this setting, the hope to maintain body mass index and reducing stress, was the most important reasons for taking up yoga. Although initial evidence for the effectiveness of yoga on weight control, improved body composition and reducing stress from surveys is now available. Current researches have also suggested that with the physical activity including specific asanas, an improvement in Body Mass Index and reducing stress will be experienced.

Meaning of Specific asana
An asana is a body posture, originally a sitting pose for meditation, and later in hatha yoga and modern yoga, adding reclining, standing, inverted, twisting, and balancing poses to the meditation seats. The Yoga Sutras of Patanjali define "asana" as "[a position that] is steady and comfortable". Patanjali mentions the ability to sit for extended periods as one of the eight limbs of his system. Asanas are also called yoga poses or yoga postures in English.

Meaning of Body Mass Index
The height and weight of an individual ratio squared it is used as a measure of body composition.

Meaning of Stress
Everybody has to overcome stresses. Every time there is a stress situation. A mature individual mobilizes the available resource and utilize. Then to best of his ability to overcome the stress. a state of mental or emotional strain or tension resulting from adverse or demanding circumstances.

The aim of this study
The aim of this study is to find the effect of 8 weeks of Specific Asanas on the Body Mass Index and stress of 12 to 16 years school children.

Method

Study sample

Study participants were recruited from the class of BIPS, Bagalkot, and Karnataka State. The purposeful sampling method was used to select 40 students aged between 12 to 16 years. Then, the random sampling method was adopted to divide students into the experimental (N=20) and control (N=20) groups.

Study methods and procedures

The study was conducted between 2/08/2018. To 2/10/2018. Every Monday to Friday, the Specific Asanas training was administered from 5; 00 p.m to 6.00p.m. The random sampling method helped to divide students into the experimental (N=20) and control (N=20) groups, and all students went through a pre-test of Body Mass Index and Stress. Students in the experimental group were then provided with 8 weeks of Specific Asanas training, and those in the control group were asked to keep regular hours. A post-test of Body Mass Index and Stress was performed after the 8-week training intervention.

Training prescriptions in the experimental group

Specific Asanas duration and frequency

All the participants included in this study were selected from BIPS, Bagalkot, and Karnataka State. Out of total participants, 20 regular participants were considered under experimental group. These participants took part in every day's 1 hour. The common yoga practices followed by the participants were Prayer, neck bending, trunk movement, and knee movement, Surya Namskara, Specific asanas (standing posture: Tadasana, Vriksasana, Padahastasana, Ardhachakrasana and Trikonasana; siting posture: Bhadrasana, Ardha-Ustrasana, Sasankasana and Vakrasana; prone postures: Bhujangasana, Salabhasana, Makarasana; supine postures: Setubandhasana, Pavanamuktasana and Savasana), and finally, Santih patha (mantra for peace, harmony, and happiness).

Data management and analysis

Test results were analyzed using SPSS 17.0 for Windows. Statistical methods included:

1. Using paired t-test to compare the health-related physical fitness between pre-test and post-test of the experimental group
2. The significance level of statistical analyses was set at $\alpha = .05$.

Results

In order to gather the required data, 40 students between 12 to 16 years old of Bagalkot are selected. After calls in all B.I.P. School, Bagalkot, Karnataka State, some families have accepted to participate in the study. The selected cases are divided into two groups (20 for each) which are training and controlling groups. The demographic characteristics of the subjects are presented in Table. The results of t-test have shown that the two groups have homogeneous age, height, body mass and body mass index (BMI) and Stress.

Table 1: Analysis of mean Standard deviation and‘t’- value for Body mass index among control and experimental group of specific asanas training group

Variable	Group	No	Mean		Std. deviation		Df	t-value	Sig.
			Pre test	Post test	Pre test	Post test			
BMI	Control	20	18.23	16.87	3.97	2.69	19	2.903	.009
	Experimental	20	18.89	17.05	3.99	2.34	19	3.914	.001

Significant at 0.05 level, df=19, ‘t’ 0.05=2.09

From the above table it is clear that there was a significant difference in Body mass index between pretest and posttest among Experimental group of sports persons as calculated t-value 3.91 > table value 2.09 at 0.05 level, in control group also shows there was slight significance in Body mass index Pretest and posttest among control as calculated t-value 2.90>table value 2.09 at 0.05 group of specific asanas training group.

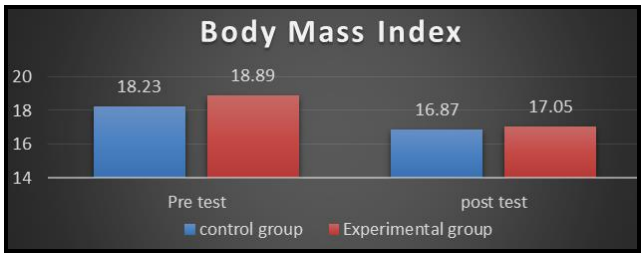

Fig 1: Bar graph representation of the mean values of Body mass index of the Control and Experimental groups in pretest and posttest of specific asanas training group

Table 2: Analysis of mean Standard deviation and ‘t’- value for Stress among control and experimental group of specific asanas training group

Variable	Group	No	Mean		Std. deviation		Df	t-value	Sig.
			Pre test	Post test	Pre test	Post test			
stress	Control	20	178.35	163.65	15.52	16.78	19	3.125	.006
	Experimental	20	188.75	163.15	11.85	13.74	19	8.618	.000*

Significant at 0.05 level, df=19, ‘t’ 0.05=2.09

From the above table is clearly indicates that there was a highly significance difference in Stress between pretest and posttest among Experimental group of school children as calculated t-value 8.61 > table value 2.09 at 0.05 level, in control group also shows there was slight significance stress index Pretest and posttest among control as calculated t-value 3.12>table value 2.09 at 0.05 group of specific asanas training.

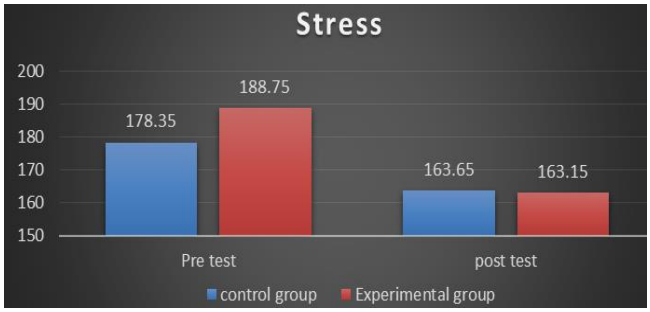

Fig 2: Bar graph representation of the mean values of Stress of the Control and Experimental groups in pretest and posttest of specific asanas training group.

Discussion

Based on the findings of this study, 8 weeks of specific asanas improves the Body Mass Index and stress of 12 to 16 years school children. This study also confirms the findings of the effect of specific asanas on these Body Mass Index and stress measurements were conducted 8 weeks after the experiment concluded. The experimental group and control group showed significant differences in Body Mass Index and Stress. Therefore, the results of this study suggest that specific asanas is effective for the improvement of the Body Mass Index and improvement in managemening stress, and this specific asanas can help maintain the physical fitness. However, this study has some limitations: The research subjects included only school children, and the experiment was implemented using only specific asanas. Although it may be increased by some exercises, this change is not noticeable. This fact can be the result of a slight change in the Body Mass Index and Stress of the students after specific asanas.

Conclusion

This study indicates that there was a highly significance difference in Body mass index between pretest and posttest among Experimental group of school children as calculated t-value 3.91 > table value 2.09 at 0.05 level,, in control group also shows there was slight significance in Body mass index Pretest and posttest among control as calculated t-value 2.90>table value 2.09 at 0.05 group of specific asanas group. According to the obtained results, it is concluded that specific asanas increases the Body Mass Index of 12 to 16 years school children. This study indicates that there was a highly significance difference in Stress between pretest and posttest among Experimental group of school children as calculated t-value 8.61 > table value 2.09 at 0.05 level, in control group also shows there was slight significance stress index Pretest and posttest among control as calculated t-value 3.12>table value 2.09 at 0.05 group of specific asanas. According to the obtained results, it is concluded that, specific asanas can management the stress of 12 to 16 years school children.

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