

Effect of yoga on stress, hyperactivity and inattention of government school students in Andhra Pradesh

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Abstract:

Introduction: School days are memorable one, where young people will be prepared to face the adult world with education of morals and attitudes. So many students put their wellness to achieve good marks, ranks and degree, hence stressed. Yoga is an exercise that can be performed by balancing the elements of the body. In this study we examined the impact of yoga and meditation on stress, hyperactivity and inattention of engineering college students.

Method: A total of 100 students are randomly selected whose age limit is between 13-15 years. These subjects were divided into two groups, yoga group and control group. The data is collected with the questionnaires and analysed.

Results: There were no significant differences in pre test of perceived stress, hyperactivity and inattention between the two groups. The interaction of group and time was not significant in predicting the slope of change in perceived distress. Pairwise t-tests did not show a significant reduction in perceived distress for either group. There was no significant interaction in hyperactivity and significant interaction in inattention of group and time. Pairwise t-tests demonstrated a significant reduction in hyperactivity and inattention for the yoga group but not the control group.

Conclusion: Yoga may improve attention and hyperactivity for the students of government school.

Keywords: Government, stress, hyperactivity, attention, yoga, and meditation

1. Introduction

School days are memorable one, where young people will be prepared to face the adult world with education of morals and attitudes. So many students put their wellness to achieve good marks, ranks and degree. Hence students will be undergoing for stress in writing exams, finishing home works, projects etc to achieve good grades. Recent research revealed that stress and anxiety are the major factors that affected the academic performance negatively. Yoga is an exercise that can be performed by balancing the elements of the body. It controls and connects our body and mind. We have numerous benefits like releasing stress, anxiety, increasing concentration etc making physically and mentally strong.

The aim of the study is to determine the effect of yoga on stress, hyperactivity and inattention of government school students in Andhra Pradesh. It was hypothesized that there would be decreased stress with increased hyperactivity and inattention of the experimental group, who receive yoga program for 3 months when compared with controlled group.

2. Methods

A total of 100 students are randomly selected from the government school. The subjects are the students studying in government school ranging from eighth class to tenth class. Hence the age limit is between 13 – 15 years. The randomly selected subjects are divided into two groups, yoga group and control group with the strength of 50 each. The written consent of willingness to participate has been taken from each and every student before the study. The yoga group will participate in the yoga practice during the sports hour, especially in the morning session. The practice session will be 45 minutes thrice a week for 3 months. This 45 min is covered with stretching, yoga poses, meditation and relaxation done under the guidance of the yoga master. The data will be collected with the pre and post experiment questionnaire.

Perceived stress scale. The perceived stress scale (PSS) is a widely used instrument for measuring the perception of stress. This 10-item scale assesses the degree to which situations in one's life are appraised as stressful. Scores on the PSS can range from 0 to 40: scores ranging from 0 to 13 are considered low stress, 14 to 26 moderate stress, and 27 to 40 high perceived stress. The ADHD symptoms and normal behaviour (SWAN) is an 18-item questionnaire, in which items 1 to 9 is an inattentive subscale (IA) and items 10 to 18 is a hyperactive subscale (HI). The scores range from 0 to 18. If the score is six or greater on the IA, indicates ADHD—inattentive type, the HI indicates ADHD—hyperactive type, and both the IA and HI indicate ADHD—combined type.

3. Data analysis

Descriptive statistics and a series of t-tests and chi-square tests were conducted to examine the differences between the independent groups. The dependent variables are stress, hyperactivity and inattention and independent variables are time (Pre — before the training and Post – After the training) and group (Yoga Group and Control Group). Post hoc moderation analyses were also conducted to examine the moderator role of baseline levels of perceived stress for the effect of group membership on the slope of change in inattention and hyperactivity.

4. Results:

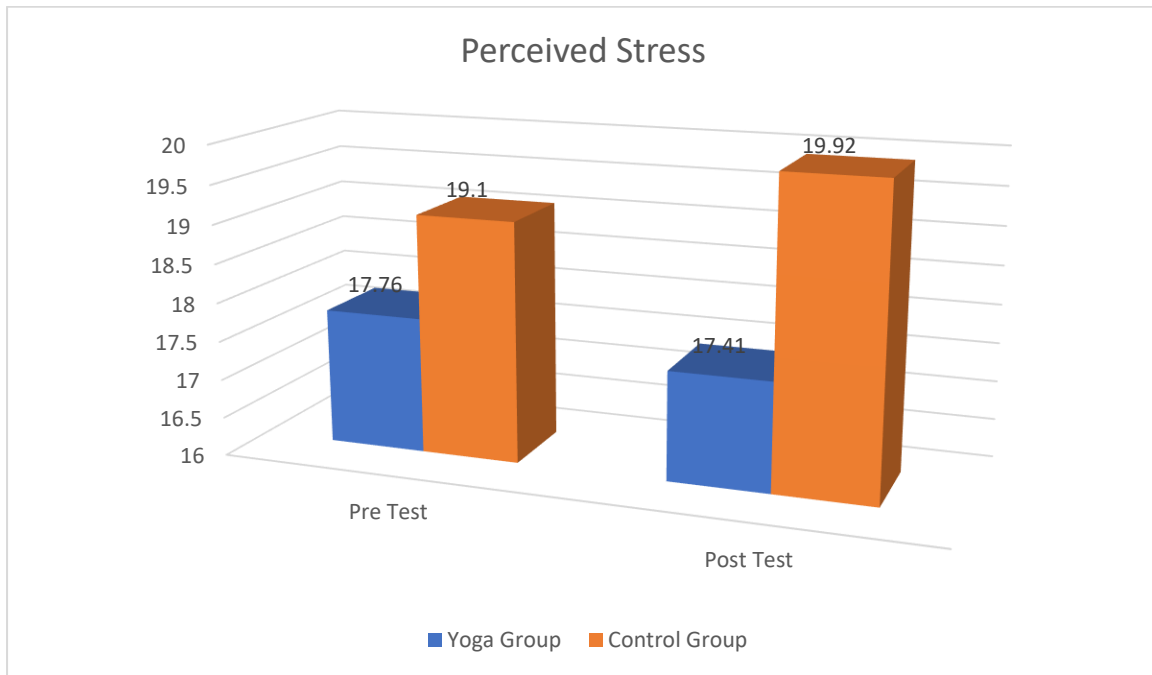
The t-test comparisons did not show any significant differences regarding the baseline of perceived stress, hyperactivity and inattention between the yoga and control groups.

Table 3: Scores of PSS, ADHD Hyperactive and ADHD Inattentiveness for Yoga and Control group

Mean ± Standard Deviation	Yoga Group		Control Group		P
	Pre	Post	Pre	Post	
PSS	17.76 ± 7.77	17.41 ± 7.761	19.10 ± 6.703	19.92 ± 7.256	0.28
ADHD Hyperactive	1.80 ± 1.949	1.39 ± 1.795	1.45 ± 1.474	1.51 ± 1.837	0.25
ADHD Inattentiveness	2.11 ± 2.001	1.57 ± 1.904	2.06 ± 1.964	2.67 ± 2.197	0.86

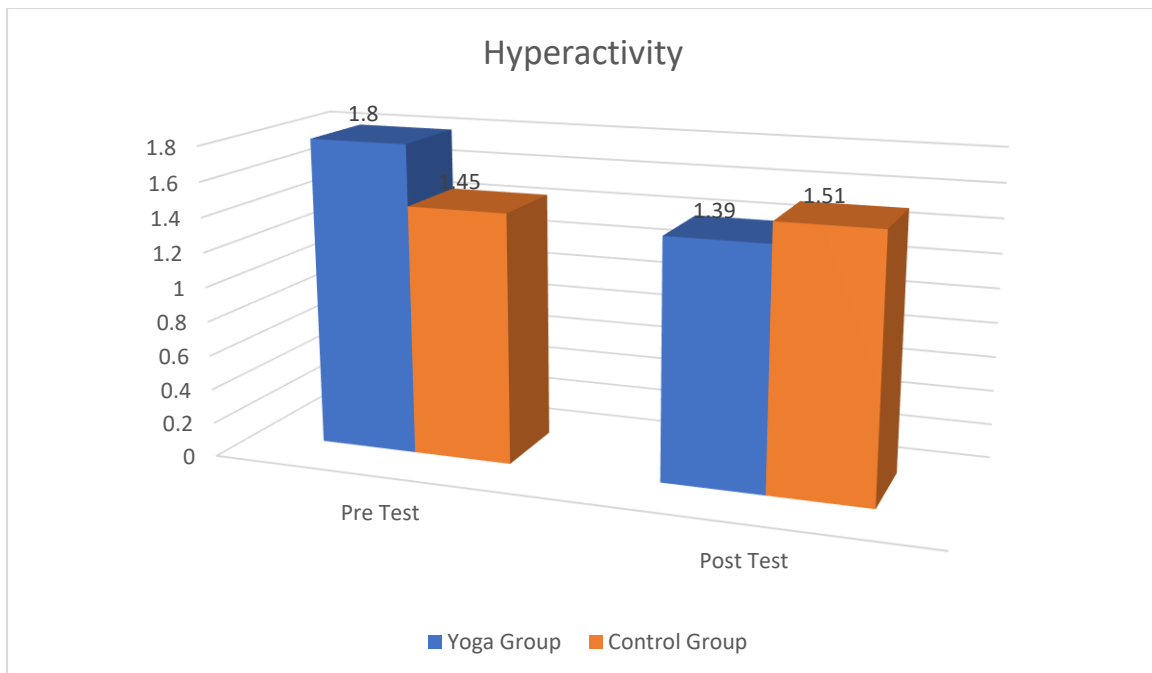
Perceived stress scale

There is no significant difference between group and time in predicting the slope of change in perceived stress ($b = -0.93$, $SE = 1.19$, $p = 0.43$). Pairwise t-tests did not show a significant reduction in perceived stress for either Yoga Group ($t = 0.223$, $df = 118$, $p = 0.824$) or Control Group ($t = 0.604$, $df = 49$, $p = 0.549$). Home practice and perceived helpfulness did not change the effect on Perceived stress in time ($b = -1.11$, $SE = 1.90$, $p = 0.56$, and $b = 0.70$, $SE = 0.73$, $p = 0.34$, respectively).



Hyperactivity

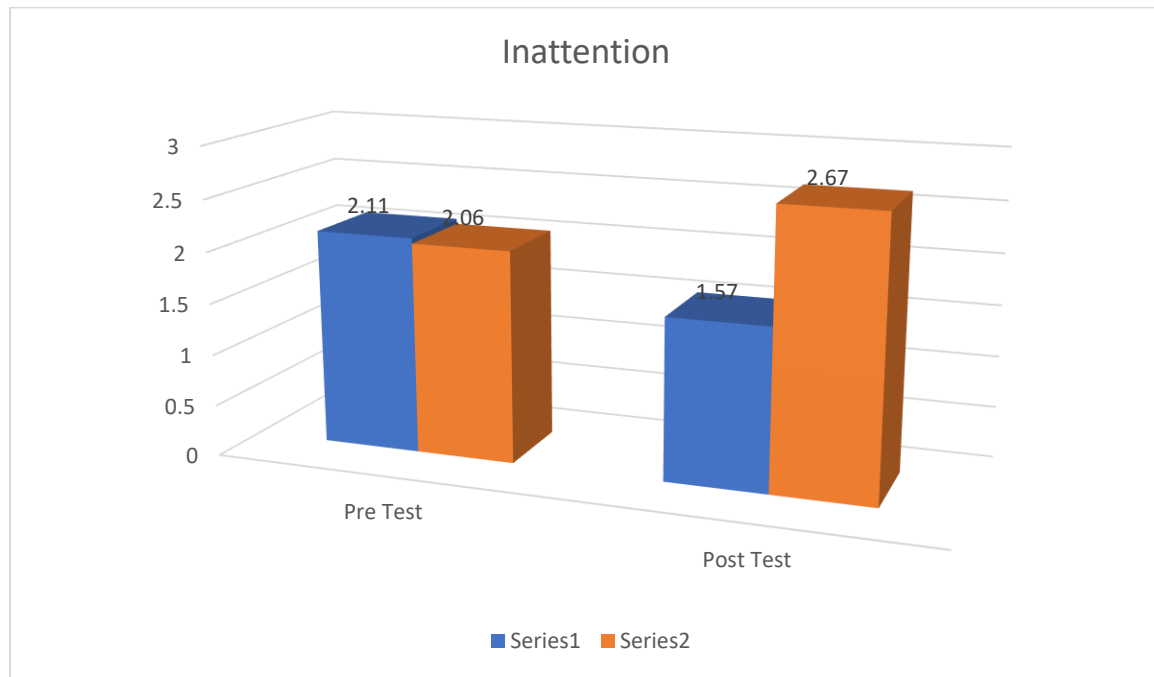
By controlling the baseline levels of perceived stress, there is no significant difference of group and time in hyperactivity ($b = -0.43$, $SE = 0.26$, $p = 0.1$). Pairwise t -tests demonstrated a significant reduction in hyperactivity for the Yoga Group ($t = 2.670$, $p = 0.009$; Cohen's $d = 0.22$), but not the Control Group ($t = -0.323$, $p = 0.748$). Post hoc moderator analysis did not support the moderator role of perceived stress ($b = 0.03$, $SE = 0.04$, $p = 0.43$). Home practice and perceived helpfulness did not change the effect on hyperactivity in time ($b = -0.14$, $SE = 0.56$, $p = 0.79$, and $b = 0.22$, $SE = 0.21$, $p = 0.30$, respectively) within the yoga group.



Inattention

By controlling the baseline levels of perceived stress, there is significant difference of group and time in inattention ($b = -1.09$, standard error [SE] = 0.30, $p < 0.001$). Pairwise t -tests showed a significant reduction on

inattention for Yoga Group ($t = 3.239$, $p = 0.002$; Cohen's $d = 0.27$) and a significant increase in inattention for the Control Group ($t = -2.574$, $p = 0.013$). Post hoc analysis did not show a significant moderator effect for perceived stress in the relationship ($b = -0.02$, $SE = 0.04$, $p = 0.66$). Home practice and perceived helpfulness did not change the effect on inattention in time ($b = 0.32$, $SE = 0.61$, $p = 0.59$, and $b = 0.10$, $SE = 0.23$, $p = 0.65$, respectively) within the Yoga group.



5. Discussion

This study determined the effect of yoga on decreased stress with increased hyperactivity and inattention of school students. The parameters of this study are three months training with three days a week for school children.

The Results indicate that there is no significant difference were found between yoga group and control group with respect to perceived stress scale after three months of experimentation. Other studies yielded similar results and gave back ground support. In this study we can find reduced hyperactivity and inattention of subjects who practiced yoga for three months when compared with control group.

There might be differences in findings because of duration, frequency, amount of tough of sessions. Hence if the sessions are increased, we may find decrease of stress levels. This study can serve as a preliminary assessment of stress levels and can be helpful for the clinical intervention.

6. Conclusions

As school age is the right age to modify and correct ourself for better life and physical education teacher is the one who can do this. Yoga can not only modify the physical deformities but also increase our mental alertness and sharpness. From the study it is clear that by practicing yoga one can decrease the stress and increase the hyperactivity and attention. Hence Yoga is made compulsory with grade points in schools and implemented with specialised person and facilities for the betterment of the children.

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