

Effect of Yoga on Perceived Stress Level of College Students

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Abstract: Stress among college students can be overwhelming and can affect many areas of a student's life and their families adversely. This study investigated the effect of Yoga on perceived stress level of college going students. Students experience greater stress during their study. Perceived stress measures how stressful a person is over a particular period of time. In this research study the sample of the study was 70 college students were selected with simple random sampling technique of Kasturi Devi College, Chaksu, Jaipur, Rajasthan aged between 17-years to 20-years including male and female. Randomly they divide into two groups i.e. experimental group (n=35) and control group (n=35). Assessment tools used in this study were Perceived stress scale-14(PSS-14) and Stress Symptoms scale to judge the stress level of students. As the design of the study is the pre-test and post-test experimental design. So the data is taken as pre-data using these tools before yogic intervention. The experimental group subjects received yogic interventions for one month for 30 minutes approx daily and the control group received no intervention. Assessment repeated after intervention and data is taken as post-data. The statistical analysis with t-test was employed to find out the significance of difference between pre and post scores and results showed that there was a significant decrement in stress level in the experimental group but no improvement in control group. Findings indicate that practice of yoga having positive impact on stress level of the college students.

Keywords: Stress, Yoga, Students

I. INTRODUCTION

Here Stress is an emotional and physical response you experience. It may be defined as any situation which tends to disturb the equilibrium between a living organism and its environment. In day-to-day life there are many stressful situations (Ranabir & Reetu, 2011). A college student can be stressful due to many causes/stressor during study like academic pressure, family expectations, personal expectations, time management, financial constraints, examinations, competitions, Struggling to reach educational goals, job outlook etc. (Sharp & Theiler, 2018). Exams or academic load are the main sources of perceived stress among adolescent students.

Stress isn't always bad. In small doses, it can help you perform under pressure and motivate you to do your best (Behere et al., 2011). But when you're constantly having stress for long time, then it is harmful as it may affect your mental health and physical health. Chronic stress can cause long-term or permanent alterations in mental, physiological, and behavioral responses (Cohen et al, 2007). Furthermore, it is correlated with low academic performance (Ansari, & Stock, 2010).

Perceived stress isn't about counting the number of stressful events that happen in a person's life; instead it's about how they feel about how stressful their life is in general and how well they can cope with it (Varghese et al, 2015).

Yoga is an ancient Indian science and way of life which brings about relaxation and also induces a balanced mental state. Yoga is one of India's greatest gifts to the world. Yoga deals with the body, mind and behavior in a synergistic way. Yoga refers to union between body and mind.

In today's modern and fast paced life, everyone is realizing the need for peaceful breaks in between continuous hectic life. Yoga is an ancient Indian science and way of life which brings about relaxation and also induces a balanced mental state. In yoga the mind reaches in a neutral stage thereby relieving mental exhaustion (Jain & Sharma, 2017).

Yoga, a popular and readily available mind-body practice, is safe, has a low barrier to entry, and may easily be cost-effective as it is offered to large groups. Practice of yoga makes an individual to think in a proper way, to live in a proper way with a philosophical view. It improves the quality of life and brings health and harmony in the society.

The holistic science of yoga is the best method for prevention as well as management of stress and stress induced disorders (Peal, 2018). Numerous studies have shown yoga to have an immediate down-regulating effect on HPA axis responses to stress. Effectiveness of yoga against stress management is well established (Kirkwood et al, 2005).

In today's education system a student becomes a victim of stress that in turn affects the mood, behavior, cognition and academic performance of the students and in

turn its affecting the physical health too (Chattha et al, 2008). Yoga is most useful in controlling and treating stress in the present day scenario (Bakshi & Kumar, 2009). Earlier findings suggest that yoga reduces stress in students which enhances their academic performance (Kauts, & Sharma, 2009). Even many experts of various branches of medicine including modern medical science are realizing the role of yoga science in the prevention of disease and promotion of health.

So the objective of present study is to assess the effect of yoga on perceived stress level of college students.

II. MATERIALS AND METHODS

2.1 Participants

Participants are the 70 college students of Kasturi Devi College, Chaksu, Jaipur, Rajasthan. Students aged between 17-years to 20-years including male and female. Students are excluded who diagnosed with Serious mental and physical health issue, a recent major life crisis, and having practicing yoga. The aim and design of the study was explained and consent was taken from the students.

2.2. Study design

The pre-post experimental design was used for conducting this research study. The students were assigned randomly into Experimental Group (n=28) and Control group (n=28). The pre-data was taken using the assessment tools of both group then yogic intervention was given to the Experimental group for one month and there was no practice in control group. After one month, the post data was taken from both groups with same assessment tools. Appropriate Statistical techniques were used to compare the data for concluding the result.

2.3. Assessment Tools

The following 2 assessment tools were used in this study:

1. Perceived Stress Scale-14 (PSS-14) -

The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It contains 14 questions of a general nature to measure the stress level. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

PSS 14 was given to each subject before and after the intervention, in post test subjects were instructed that the last month means the duration of yogic intervention. PSS-14

scores are obtained by reversing the scores on the seven positive items, e.g., 0=4, 1=3, 2=2, etc., and then summing across all 14 items. Items 4, 5, 6, 7, 9, 10, and 13 are the positively stated items. The high score represents the high level of stress (Andreou et al, 2011).

2. Stress Symptom Scale- Any imbalance in our body or mind shows the symptoms. So the stress symptoms scale shows the level of the stress according to the score of the symptoms. This scale was also used as pre test and post test in the present study. Each item was rated on a five point Likert-type scale (0 = never to 4 = very often). Total scores are calculated by summing up all scores. A higher score indicates greater stress (Kenneth & Christopher, 2000).

III. YOGIC INTERVENTION

The Yogic intervention was prepared for yoga training that contains the Pranayama and meditation.

Table 1 - Yogic Intervention

Prayer	
योगेन चित्तस्य पदेन वाचां।मलं शरीरस्य च वैद्यकेन ॥ योऽपाकरोत्तमं प्रवरं मुनीनां। पतञ्जलिं प्राञ्जलिरानतोऽस्मि ॥	
Yogic Practice	Duration (approx)
Pranayama	
Bhastrika	2-3 min.
Alternate Nostril Breathing (Anulom Vilom)	5-7 min.
Skull Cleansing(Kapal Bhati)	5-7 min.
Bee Breathing (Bhramari)	3-4 min
Meditation(On Breathing)	5-8 min.
शांति मंत्र	
ॐ सह नावतु । सह नौ भुनक्तु । सह वीर्यं करवावहै । तेजस्वि नावधीतमस्तु मा विद्विषावहै । ॐ शान्तिः शान्तिः शान्तिः ॥	

Yoga practices was started with Prayer and concluded with Shanti Path. Duration of the training is approx 25-30 minutes daily in morning. This intervention was given to the participants of the experimental group. Control group received no intervention was regular with their daily schedule.

IV. DATA ANALYSIS

The data collected for both PSS14 and Stress symptoms scale from both group (experimental and control)

were analyzed using statistical procedures. The mean, standard deviation and mean differences were calculated in pre- and post-test scores and then t-test was applied to examine the significant mean differences if any, in pre- and post-test scores.

Comparison of means of pre and post test situation was done to see the changes in participants of control group. (Table 2)

Table 2: Pre-test mean and post test mean scores of control group, with results of paired t-test for stress level.

Test	Group	N	Mean	SD	MD	t	P value	Significant
Perceived Stress Scale	Pre control	35	27.6	4.82	-0.26	1.02	0.1589	Not significant at $p \leq 0.05$.
	Post control	35	27.86	4.26				
Stress Symptoms Scale	Pre control	35	34.78	8.89	-0.14	0.6	0.278	Not significant at $p \leq 0.05$.
	Post control	35	34.92	8.42				

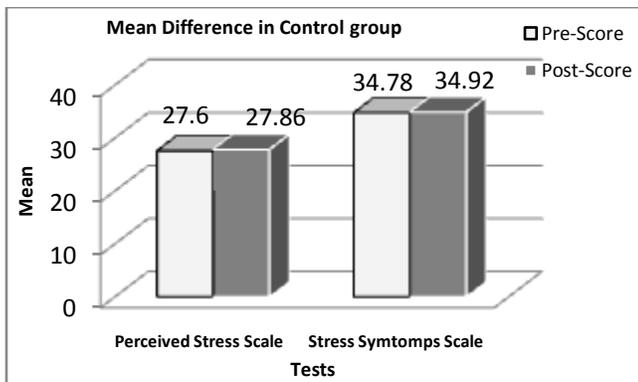


Fig.1. Graphical representation of significant difference of means of control group

Comparison of means of pre-test and post-test situation was done to see the changes in participants of experimental group and shown in table 3 for both PSS14 and Stress symptoms scale.

Table 3: Pre-test mean and post test mean scores of Experimental group, with results of paired t-test for stress level.

Test	Group	N	Mean	SD	MD	T	P value	Significant
Perceived Stress Scale	Pre Experimental	35	28.03	4.87	4.03	-8.86	8.97E-10	Extremely significant at $p \leq 0.05$.
	Post Experimental	35	24	3.44				
Stress Symptoms Scale	Pre Experimental	35	34.57	8.56	3.47	-8.66	1.41E-09	Extremely significant at $p \leq 0.05$.
	Post Experimental	35	31.1	6.94				

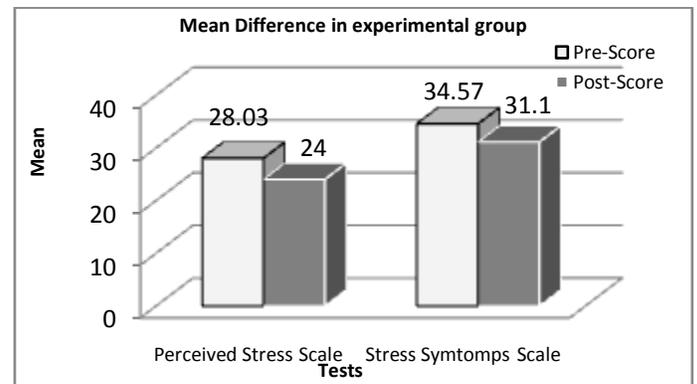


Fig.2. Graphical representation of significant difference of means of experimental group.

V. RESULTS

Table 2 shows the significant difference of means of control group in pre-test and post-test situations. It was seen from the tables that mean scores and standard deviations of PSS test in the pre-test and post-test situations were 27.6, 27.86 and 4.82, 4.26 respectively. The obtained t-value was 1.02 which is not significant at 0.05 level of significance. And the mean scores and standard deviations of SSS test in the pre-test and post-test situations were 34.78, 34.92 and 8.89, 8.42 respectively. The obtained t-value was 0.6 which is not significant at 0.05 level of significance.

So it indicates that control group had almost equal “stress level” in both pre and post test situations. This Comparison of means is also represented graphically in fig.1 that shows no change in stress level.

From the table 3 and fig.2 it is seen that means score of PSS in the pre-test and post-test situations were 28.03 and 24.00 with the respective standard deviations of 4.87 and 3.44. The obtained t-value was -8.86, which is extremely significant at 0.05 level of significance. And for SSS test, means scores of the pre-test and post-test situations were 34.57 and 31.1 with the respective standard deviations of 8.56 and 6.94. The

obtained t-value was -8.66, which is also significant at 0.05 level of significance. Both PSS and SSS tests were used to measure the level of stress, and indicate reduction in stress level.

The above interpretation states that the daily practice of yoga reduces perceived stress level and has the positive impact on health of students.

VI. CONCLUSION

The results of this research study showed reduction in stress level with daily practice of yogic intervention: pranayama and meditation. It concludes that the practice of yoga have positive effect on stress level of college students.

Yoga, being a simple and inexpensive health regimen so easily adoptable by students, so it can be included in their daily life as other daily activities. So the students will get better mental health and physical health simultaneously and their life will be balanced.

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