RESEARCH PAPER

A Study To Assess The Effectiveness Of Video Assisted Pranayama On Stress Among Students Of Selected College In Chennai.

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ABSTRACT

Stress is inevitable in life. With increasing complexities, aspirations and uncertainties associated with socio-economic, political and cultural upheavals, stress is more likely to increase. College students today feel pressure and stress coming at them from all different levels. They have stress from their own feelings and internal barometer on how they are fitting in socially and academically. The estimated stress levels of students in college reveal that 25% of students are poor at managing stress, while 58% report feeling worried about their grades. Additionally, 71% state that their grades have a direct affect on their level of stress. **Methodology:** True experimental research design was used. Hundred college students were selected by using Simple Random Technique at Saveetha college of Engineering, Chennai. An interview schedule used for baseline state assessment and modified stress assessment scale was used for stress assessment. The collected data was organized and analyzed by using descriptive and inferential statistics. **Results:** Effectiveness of video assisted pranayama on stress among college students in experimental group was found by using paired' test, which shows significance at the level of $P<0.001$ implying there was significant reduction in the level of stress among college students in experimental group. The comparison of effectiveness of video assisted pranayama on stress among college students between experimental and control group was found using independent 't' test and it was significant at the level of $P<0.001$. This shows that there was a significant level of reduction on stress among college students in experimental group who had undergone video assisted pranayama than those who did not undergone. The chi – square test revealed that there was no significant association with age, gender, medium of instruction, educational status, Monthly Income, religion, are of residence, type of family, type of transport, birth order at the level of $P<0.01$. **Conclusion:** On the basis of the findings of the present study there was advancing stress factors related to increasing risk of psychiatric disorders and poor academic performance, therefore it is to be concluded that the study participants may get benefited by practice of pranayama to reduce stress in terms making the body and mind relaxed.

Key Words: Assess, Effectiveness, Video Assisted Pranayama, Stress

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INTRODUCTION

Stress is a common psychophysiological response that occurs when academic, social and personal demands exceed an individual's adaptive capacity. College students are especially vulnerable because they face academic workload, examinations, competition, career uncertainty, financial concerns, peer pressure and adjustment-related challenges. Globally, mental health problems among young people are increasing; the World Health Organization reports that one in seven adolescents aged 10–19 years experiences a mental disorder, contributing to 15% of the global burden of disease in this age group.[1] In India, the National Mental Health Survey reported 13.7% lifetime prevalence and 10.6% current prevalence of mental morbidity among adults, indicating the public health importance of early preventive strategies.[2]

Stress among professional college students is a significant concern because it affects sleep, memory, concentration, academic performance, emotional stability and quality of life. A study conducted among medical and engineering students in Kancheepuram district, Tamil Nadu, reported that 75.8% of students had perceived stress; 69.6% had moderate stress and 6.2% had severe stress.[3] Similar studies among university students have also shown considerable levels of depression, anxiety and stress symptoms.[4–6] Pranayama, a yogic breathing technique, is a simple, low-cost and non-pharmacological intervention that may reduce stress by improving autonomic balance, reducing sympathetic arousal and promoting relaxation.[7–9] Video-assisted pranayama may further enhance learning by providing uniform demonstration, visual clarity and repeated practice opportunities. Hence, the present study is planned to assess the effectiveness of video-assisted pranayama on stress among students of selected colleges in Chennai.

NEED OF THE STUDY

Stress among college students requires timely assessment and intervention because prolonged stress may lead to psychological distress, poor academic achievement, unhealthy coping behaviour and reduced quality of life. Studies have identified academic pressure, sleep disturbance, personal problems and poor time management as important stress-related factors among professional students.[3] In Tamil Nadu, undergraduate students have shown notable prevalence

of depression, anxiety and stress, indicating the need for structured mental health promotion within college settings.[6]

Although counselling and clinical services are useful, many students with moderate stress may benefit from simple self-regulation practices that can be delivered in groups. Evidence shows that cognitive, behavioural and mindfulness-based interventions are effective in reducing stress among university students.[10] Pranayama is particularly suitable for student populations because it is inexpensive, safe, culturally acceptable and easy to practice. Sharma et al. found that both fast and slow pranayama significantly reduced perceived stress among young health-care students.[7] A randomized controlled trial also reported that a 12-week yoga intervention significantly reduced perceived stress and anxiety and improved emotional well-being among university students.[9]

Video-assisted pranayama can standardize the intervention, reduce instructor variation and improve student adherence through audio-visual guidance. However, there is limited true experimental evidence regarding its effectiveness among college students in Chennai. Therefore, this study is needed to assess baseline stress levels in experimental and control groups, determine the effectiveness of video-assisted pranayama, and examine the association between stress reduction and selected demographic variables.

OBJECTIVES

This study is aimed to

- assess the level of stress among college students in experimental and control group.
- determine the effectiveness of video assisted pranayama on stress among college students.
- associate the effectiveness of video assisted pranayama on stress with their selected demographic variables.

HYPOTHESIS

There is a significant difference in the level of stress among college students who have undergone video assisted pranayama than those who did not.

METHODOLOGY

Research Approach: An evaluatory Research Approach was used in this study

Research Design: A true experimental design with pre and post test was selected for this study to assess the effectiveness of video- assisted pranayama on stress among students of selected college in Chennai.

Setting: The study was conducted at selected area in kanjeepuram district. The study was conducted in the Engineering College of Saveetha, affiliated by Anna University and Saveetha university, Thandalam Chennai.

Variables:

1. Independent variables – Video assisted pranayama
2. Dependent variable – Level of stress

Population: The study population consists of all the students studying in selected colleges at Chennai.

Sample: College students those who have moderate and severe stress with partial and complete control and who met the inclusion criteria.

Sample Size: The samples size consists of 100 students in which experimental group– 50, control group -50

Sampling Technique: The simple Random technique was used for the study.

Data collection Tool: The data from samples was collected through stress scale and the reliability of tool checked by spilt half method and the value of r was 0.82.

RESULTS

Table 1: Frequency and Percentage Distribution of Level of Overall Stress in Pre Test and Post Test among Students for Experimental and Control Group

(N=100)

Level of Stress	Pre Test Stress Score				Post Test Stress Score			
	Experimental Group		Control Group		Experimental Group		Control Group	
	n	%	n	%	n	%	n	%
Mild Stress (0-17)	-	-	-	-	14	28.0	0	0.0
Moderate Stress (18-35)	47	94.0	46	92.0	35	70.0	47	94.0
Severe Stress (36-52)	3	6.0	4	8.0	1	2.0	3	6.0
Total	50	100.0	50	100.0	50	100.0	50	100.0
Chi square Test value	$\chi 2 = 0.154$, D.F. = 1, P = 0.695 (N.S)				$\chi 2 = 16.756$, D.F. = 2, P = 0.000 ***			

Note: N.S. – Not Significant

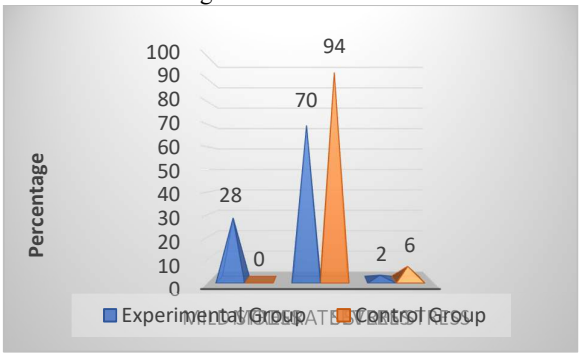

Fig 1: shows the Frequency and Percentage Distribution of Level of Overall Stress in Pre Test and Post Test among Students for Experimental and Control Group

Above table 1 and figure 1 reveals the distribution of level of over all stress among college students. In the study group 47(94%) of them had moderate stress and three (6%) of them had severe stress in the pre test. In the control group the level of stress was 46(92%) of them had moderate stress and four (8%) of them had severe stress in the pre test.

The distribution of level of overall stress in post test among college students. In the study group 14(28%) of them had mild stress and 35 (70%) of them had moderate stress, one (2.0 %) of them had severe stress in the post test. In the control group the level of stress was 47(94%) of them had moderate stress and rest all of them had severe stress of three (6%) in the post test.

Table 2 Frequency and Percentage Distribution of Level of Overall Stress Control Index in Pre Test among Students for Experimental and Control Group (N=100)

Level of Stress Control Index	Pre Test Stress Control Index				Post Test Stress Control Index			
	Experimental Group		Control Group		Experimental Group		Control Group	
	n	%	n	%	n		%	
Complete Control (0-51)	-	-	-	-	39	78.0	8	16.0
Partial Control (52-105)	50	100.0	50	100.0	11	22.0	42	84.0
No Control (106-156)	-	-	-	-	-	-	-	-
Total	50	100.0	50	100.0	50	100.0	50	100.0

Above table reveals the distribution of level of over all stress control index among college students. In the study and control group all of them had 50(100%) partial control in the pre test.

The distribution of level of over all stress control index among college students. In the study group 11(22%) of them had partial control and 39(78%) of them had complete control in the post test.

In the control group 42 (84 %) of them had partial control and 8 (16 %) of them had complete control in the post test.

Table 3 Mean and Standard Deviation of Overall Stress Control Index in Pre Test and post test among Students for Experimental and Control Group (N=100)

Group	Pre Test Stress Control Index		Post Test Stress Control Index	
	Mean	S.D	Mean	S.D
Experimental Group	65.10	11.70	41.42	11.70
Control Group	62.74	10.07	61.02	10.07
Independent t value and P value	t = 1.081 P = 0.282 (N.S)		t = 8.789 P = 0.000 ***	

Note: N.S - Not Significant - Note: *** - P<0.001 Level of Significant

This table reveals the mean and standard deviation of stress score among college students in the pre and post test of the experimental and control group. In the experimental group, the pre test mean score was 65.10 with standard deviation 11.70 and the post test mean score was 41.42 with SD 11.07 which is statistically significant at p<0.001, whereas in control group it is not significant. In the pre test mean score was 62.74 with standard deviation 10.07 and the post test mean score was 61.02 with SD 10.07 which is statistically significant at p<0.001 whereas in control group it is not significant.

Table 4: Effectiveness of Video Assisted Pranayama on Stress among Students for Experimental Group and Control Group (N=100)

Groups	Effective Stress Reduction Score			Effective Stress Control Index Reduction Score		
	Mean	S.D	Paired t Test Value and P value	Mean	S.D	Paired t Test Value and P value
Experimental Group	5.18	4.07	t = 4.069 p = 0.000***	23.68	10.52	t = 15.920 P = 0.000 ***
Control Group	0.26	2.35	T = 0.781 P=0.439	1.72	7.94	t = 1.532 P = 0.132 (N.S)

Note: *** - P<0.001 Level of Significant, N.S. – Not Significant

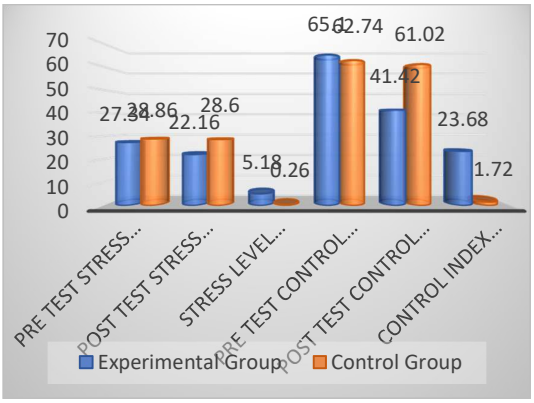

Figure 2: Effectiveness of Video Assisted Pranayama on Stress among Students for Experimental Group and Control Group (N=100)

Table 4 and figure 2 reveals the Effectiveness of Video Assisted Pranayama on Stress among Students for Experimental Group and Control Group. In the experimental group the mean was 5.18 with standard deviation 4.07 and the control group mean was 0.26 with SD of 2.35 .In stress control index study group shows the mean 23.68 with standard deviation 10.52 and in the control group the mean was 1.72 with S.D of 7.94 .This clearly indicates that the intervention had influence on stress and control over stress. The analysis of stress scores of study group applying independent 't' test reveals a highly significant difference (P<0.001).

The Association Between Level of Pre Test Overall Stress and Socio Demographic Variables

The association between level of Pre Test Overall Stress and Socio Demographic variables among Students for Experimental Group. It is statistically found that the demographic variables such as type of transport and birth order has significant relationship with the pre test level of over all stress at the level of P<0.01.by using chi- square, it was found that there was no significant associations between the with age, gender, medium of instruction, Educational status, Monthly Income, religion, area of residence, and type of family .

The association between Level of Post Test Overall Stress and socio Demographic variables among Students for Experimental group. The chi – square test revealed that there was no significant association with age, gender, medium of instruction , Educational status , Monthly Income, religion, area of residence , type of family ,type of transport , birth order at the level of P<0.01.

Association between Level of Pre Test Overall Stress and Socio Demographic variables among Students for Control Group The chi – square test revealed that there was no significant association with age, gender, medium of instruction, educational status, Monthly Income, religion, are of residence, type of family type of transport , birth order at the level of P<0.01.

Association between Level of Post Test Overall Stress and Socio Demographic variables among Students for Control Group. Association between Level of Post Test Overall Stress Control Index and Demographic variables among Students for Control Group The chi – square test revealed that there was no significant association with age, gender, medium of instruction , Educational status, Monthly Income, religion , are of residence , type of family ,type of transport , birth order at the level of P<0.01.

The chi – square test revealed that there was no significant association with age, gender, medium of instruction, Educational status, Monthly Income, religion, are of residence, type of family, type of transport, birth order at the level of P<0.01.

DISCUSSION

The present study revealed that the pre-test level of overall stress was almost similar in both groups, as 94.0% of students in the experimental group and 92.0% in the control group had moderate stress, while 6.0% and 8.0% respectively had severe stress. The non-significant pre-test chi-square value confirmed baseline homogeneity between both groups. Similar findings were reported by Vidya et al., who observed high perceived stress among medical and engineering students in Kancheepuram district, Tamil Nadu, indicating that professional students are commonly exposed to academic and personal stressors [3].

After video-assisted pranayama, the experimental group showed a clear shift toward lower stress, with 28.0% of students moving to mild stress and severe stress reducing to 2.0%. In contrast, the control group showed minimal change. The post-test difference was highly significant, supporting the effectiveness of pranayama. This finding is consistent with Sharma et al., who reported a significant reduction in perceived stress among young health-care students after fast and slow pranayama practice [13]. Prasad et al. also found that six weeks of yoga and meditation significantly reduced perceived stress among medical students from 18.44 to 14.52 (p=0.004) [14]. Similarly, Lemay et al. reported reduction in stress and anxiety among college students after a six-week yoga and meditation intervention [15].

The present study also showed significant improvement in stress control index. In the experimental group, 78.0% achieved complete control in the post-test compared with only 16.0% in the control group. The mean stress control index reduction was higher in the experimental group than in the control group, indicating better self-regulation after pranayama. This is supported by Castellote-Caballero et al., who demonstrated that a 12-week yoga intervention significantly reduced perceived stress and anxiety and improved emotional well-being among university students [16]. Nemati also reported that pranayama reduced test anxiety and improved test performance among students [17].

Regarding demographic association, only type of transport and birth order showed significant association with pre-test stress in the experimental group, while no demographic variables were associated with post-test stress. This suggests that video-assisted pranayama was effective across different socio-demographic categories.

CONCLUSION

The present study was conducted to assess the effectiveness of video-assisted pranayama on stress among college students in selected colleges of Chennai. The findings revealed that, during the pre-test, most of the students in both experimental and control groups had moderate stress, indicating that both groups were comparable before the intervention. After the administration of video-assisted pranayama, the experimental group showed a marked reduction in stress level, with 28.0% of students moving to mild stress and only 2.0% remaining in severe stress. In contrast, the control group showed minimal change.

The stress control index also improved significantly in the experimental group, as 78.0% of students achieved complete control in the post-test compared to only 16.0% in the control group. The mean stress control index score reduced from 65.10 to 41.42 in the experimental group, whereas the control group showed only a slight reduction. The paired and independent t-test values confirmed that the reduction in stress and improvement in stress control were statistically highly significant in the experimental group.

Thus, the study concludes that video-assisted pranayama was an effective, simple, low-cost and feasible intervention for reducing stress and improving stress control among college students.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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