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EFFECTS OF SAMA VRITTI PRANAYAMA ON STRESS MANAGEMENT AMONG POSTGRADUATE STUDENTS

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Abstract:
Introduction: The psychological well-being of college students is fundamental to their overall well- being. This study was conducted to find out the effects of sama vritti pranayama on stress management among postgraduate students.
Sample size: Sixty-two post-graduate students participated in this study in two groups as experimental group (n=31) and control group (n=31).
Methodology: Three months of sama vritti pranayama with one mental resolution was given to experimental group and the control group didn't practice any pranayama intervention and followed their routine life. Data were collected with DASS 42 questionnaire subscale for stress at base line and after three monthsof pranayama intervention for both groups. Paired t-test and independent t-test were used for statistical analysis.
Results: Results show that Three months of sama vritti pranayama practice with mental resolution significantly reduced stress within the experimental group and in the experimental group more than the control group.
Conclusion: Sama vritti pranayama with mental resolution is a technique to reduce stress among postgraduate students.
Key Words: Pranayama, Sama Vritti Pranayama and Stress.

Introduction:

Health is an essential requirement of every person to live a happy and prosperous life. The WHO constitution states: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." An important implication of this definition is mental health comprises more than just the absence of mental disorders or disabilities. A person is in a mentally healthy state when they are aware of their own abilities, able to handle life's typical challenges, able to work efficiently, and able to contribute to their community(WHO). The psychological wellbeing of college students is fundamental to their overall well- being. As the postgraduate students move from the graduate level to higher level, they must cope with a variety of stressors like academic achievement, job, and their planning for future life. Students who are unable to handle these demands may feel inadequate and become more stressed.

Stress is frequently mentioned by college students as their greatest health obstacle to academic achievement (American College Health Association, 2008). Previous study shows that yoga is used as an intervention for college students, is successful in enhancing psychological factors like sense of wellbeing and relaxation (Malathi, A., & Damodaran, A., 1999). A study shows that yoga and relaxation training enhanced mental toughness in tennis players and decreased stress and competition anxiety (Gopinathan P, 2013). A study states that mindfulness and yoga significantly reduce stress, depression and anxiety in college students (Falsafi, N., 2011). For decades, studies have shown that yogic practices reduce psychological disorders like stress, depression and anxiety. Pranayama is one among the yogic practices. A study with three pranayama namely Box breathing (Sama vritti Pranayama), Alternative nostril breathing and victorious breathing states that they improve students' mental wellbeing. Though students reveal stress is decreased in that study, it is not up to significant level. (Rajkumar, L.et.al, 2021). Another study states that Eight weeks of combined mindfulness-based Stress Reduction and sama vritti pranayama successfully reduced hypertension and uneasiness scores and improved the quality of rest in elderly hypertension people (Noventi, I.et.al, 2022). But there is no study which works only on sama vritti pranayama for stress management of post graduate students. So present study works on finding the effects of sama vritti pranayama on stress management among post graduate students.

Background of Sama Vritti Pranayama:

Pranayama is a part of yogic practices which utilize breathing exercises to the expansion of prana, the vital life force energy (Saraswati, S. S, 1996). Among the groups of pranayama practices, Sama vritti pranayama is a type of pranayama mentioned in the book of 'Light of Pranayama' by B.K.S. Iyengar. This pranayama is also called by various names as box breathing, square breathing and equal proportional breathing. Vritti means action, movement, a course of conduct or method (Iyengar, B. K. S., 1983). The word Sama implies equal, identical or in the same manner. Our breath has four parts as inhalation (Purace), Inner Retention (Antara Kumbaka), Exhalation (Rechaka) and Outer Retention (Bahya Kumbaka). In sama vritti pranayama we made an attempt to achieve uniformity in the duration of all the four stages. The equal duration of each phase can be started from three and up to the practitioner's levels. The equal ratio 1:1:1:1 is to be observed in any preferred duration as three or four or others.

Materials and Methods:

Study Design:

The study is a simple randomized Control study.

Inclusion Criteria:

- Post graduate students only included.
- Age limit should be from 20 to 23 only.

Exclusion Criteria:

- Students from diploma, UG and any other educational programs were excluded.

- Students beyond the age limit were excluded.

Participants and Sample Size:

In this current study 62 post graduate students participated aged between 20 and 23 who were studying in SRM Institute of Science and Technology, Chengalpattu district, Tamil Nadu. Among them 49 are girls and 13 are boys. The students were randomly assigned to either Experimental Group (n=31) or Control group (n=31). The experimental group received pranayama intervention and control group didn't receive any pranayama intervention and they followed their daily lifestyle.

Assessment Method:

DASS-42 (Depression Anxiety Stress Scale) was used to measure depression, stress, and anxiety, a standardized questionnaire which is freely available in public domain. For this study, we used a 42-item DASS questionnaire that is divided into three subscales: depression, anxiety, and stress. Each of these subscales has 14 questions and totally it contains 42 questions. The participants answer the stress subscale of DASS questionnaire on a 4-point Likert scale. (0 = Did not apply to me at all, 1 = Applied to me to some degree or some of the time, 2 = Applied to me to a considerable degree or a good part of time and 3 = Applied to me very much or most of the time). Higher scores show higher levels of stress. The validity and reliability were tested by Antony M.M. et.al and the results showed that Cronbach's alphas for stress is 0.95. This value is a good internal consistency reliability. Also, the study reveals it has acceptable validity for research purposes. (Antony. M.M. et.al, 1998).

Procedure:

Before starting the pranayama intervention, a pre-test was conducted through the DASS 42 questionnaire for both experimental and control groups. After that, the experimental group was taught about sama vritti pranayama, followed by mental resolution to keep peace. In Sama Vritti Pranayama, they followed a 1:1:1:1 ratio with a 3-count duration for all four phases of breathing. The time taken to complete one breath is 12 seconds. Thus, they practiced 5 rounds per minute for 3 minutes. The mental resolution consists of the following sentences: "I am a peacekeeper; I am a family peacekeeper; I am a national peacekeeper; and I am a global peacekeeper. Santhosham! Santhosham! Santhosham!" (Universal Peace Foundation). This practice of sama vritti pranayama along with above mentioned mental resolution is adopted from the Universal Peace Foundation at Udumalpet, Tiruppur District. The group members are advised to take this resolution in mentally in their mother tongue language without uttering the word after sama vritti pranayama. So that the resolution will be fixed strongly in the participants' minds. This Pranayama intervention was given for three months. After that intervention, again, a post-test was taken for both groups with the same questionnaire. All the data were collected and processed for data analysis.

Data Analysis:

Collected data were analysed using t-test in SPSS. To compare means difference within an experimental group paired t-test was used. An Independent t-test was used to find mean differences between groups.

Table 1: Paired t-test within the experimental group

Variable	Pre data Mean±SD	Post data Mean±SD	Mean difference	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed) p value
Experimental Group stress	16.61±6.561	10.42±5.130	6.194	6.789	1.219	5.079	30	<0.01

Table 2: Independent t-test between groups

Variable	Levene's Test for Equality of Variances		Exp Post Mean±SD	Cont Post Mean±SD	Mean Difference	Std. Error Mean	t	df	Sig. (2-tailed) p value
	F	p							
Experimental Group Stress	1.237	.270	10.42 ±5.130	20.58 ±6.541	-10.161	1.493	-6.806	60	<0.01

Results:

From Table 1, p value for the paired t-test is less than 0.01 which shows there is some significant difference between pre- and post-values of stress in the experimental group. The post-mean of 10.42 is lesser than the pre-mean of 16.61. So, there is some significant reduction in stress after the pranayama practice in the experimental group.

From Table 2, p value of the independent t-test is less than 0.01 which reveals that there is some significant difference between the post values of the experimental group and the control group. The post-mean of the experimental group 10.42 is less than post-mean of the control group 20.58. hence there is a significant reduction in stress levels in the experimental group to the control group after three months of pranayama practice.

Discussions:

From the results, the study shows that three months of sama vritti pranayama practice with mental resolution significantly reduced stress within the experimental group and in the experimental group more than the control group. This sama vritti pranayama also known as box breathing and Lauria et al. in 2017 suggested that box breathing is an evidence-based pranayama to reduce stress (El Asmar, N., 2021). Four square breathing similar to sama vritti pranayama which has equal proportion in four states of breathing for four counts reduced post labour pain in post-natal mothers (Vasava et al., 2021). But No study directly applied sama vriiti pranayama alone to find effects on psychological state. Slow deep breathing is a type of breathing practice which is like sama vritti pranayama but there is no retention in that. This slow deep breathing with inhaling and exhaling for the same duration also helped to reduce stress (Birdee, G., 2023). This result supports the research findings of the current study. Hence it can be concluded that the effects of three months of sama vritti pranayama reduce the stress level among postgraduate students. It is recommended that future studies be conducted on the effects of sama vritti pranayama on psychological conditions.

Conclusion:

The findings of this study reveal that the students who practiced sama vritti pranayama with mental resolution showed a significant reduction in their stress levels. Psychological well-being is the greatest asset for college students. This sama vritti

pranayama, when performed with mental resolution, produces tremendous changes in one's psychological state especially reduce stress. So, this sama vritti pranayama practice can be used as a technique for positive youth development.

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