

# EFFICACY OF BHRAMARI PRANAYAM ON STRESS AMONG FEMALE STUDENTS

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**ABSTRACT** : Stress induced health problems have increased rapidly over past few decades. Rapid industrialisation and urbanisation leading to excessive crowding, cut-throat competition unhealthy lifestyles have added to the stress related disorders amongst youth. Alarming figures of stress have been reported in the college going students in the last few years. Academic overload, negative emotional and health problems have been linked to stress in college going students. Female students being more sensitive to this changing environment are more susceptible to the threats of stress related disorders. Various research in the past decades, have established that the ancient yoga techniques of asana and pranayama have a positive impact on our physical as well as mental health.

**Objective:**

The present study is aimed to determine the impact of Bhramari Pranayama among female students.

**Material and Method:**

50 college going female students aged between 21 to 25 years from the Doranda and Hinoo area of Ranchi, Jharkhand were selected for the intervention of Bhramari Pranayama for 25 minutes daily and for 60 days to know the impact of Bhramari Pranayam on the stress levels of female students. Pre and post testing method was adopted to know the stress levels of the subjects.

**Result:**

Statistical analysis of the data obtained reveal that mean stress level of the subjects reduced significantly post 60-days intervention of Bhramari Pranayam.

**Conclusion:**

Bhramari Pranayam has a significant positive impact in reducing stress levels of the female students.

**Key words:**

Stress, Bhramari Pranayama

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**Introduction:**

Stress induced mental disorders are leading causes of ill-health and disability worldwide. According to World Health Organization (WHO) around 450 million people suffer from mental disorders globally. One in four people in the world is affected by mental or neurological disorders at some point in their lives. Mental health problems account for about 16 % of global burden of disease in people aged 10-19 years.

Over past few decades industrialisation and urbanisation has increased at a rapid pace along with rapid growth of population. Many parts of the world have become overcrowded. With limited and diminishing natural resources, competition has increased in many spheres of life, which ultimately has given rise to increased stress levels. Initially everyone tries to adapt himself to face such a strain. However if such a situation is allowed to continue for a long time the person fails to adapt himself and then he starts getting the manifestation of psychosomatic changes one by one. – Udupa-pg-131

Hypothalamus and pituitary, the main part of the brain are responsible for a person's reaction to stress. Hypothalamus helps in producing various changes leading to effective adaptation to stress. Hypothalamus works under the control of cerebral cortex.

Alarming figures of stress have been reported in the college going students in the last years. Many negative academic, emotional and health problems have been linked to stress in college going students. Unsuitable teaching methods, an unsatisfactory study environment, and fear of failure in examinations apart from

underlying social and family circumstances are some of the issues leading to stress among college going students and more so in female students. Negative life-style changes since initiation of the college degree course lead to anxiety and depression.

Several recent studies suggest that pranayama (yoga breathing techniques), can slow the harmful physical effects of stress. Bhramari Pranayama is an effective breathing technique for relieving stress. It helps to calm the mind rapidly and reduce stress.

This study aimed to evaluate the level of perceived stress among college going female students of Doranda and Hinoo area of Ranchi to know the effect of Bhramari Pranayama in reducing stress among female students. There is a clear correlation between mind and breathing (a pranic activity). According to Hathayog Pradipika Prana and mind are closely linked to each other. Disturbance in one leads to disturbance of the other. When either of the mind or the prana becomes balanced, the other becomes stable.

### **Literature Review**

Suprava Srivatava, Preeti Goyal, Shraddhesh Kumar Tiwary, Ashok Kumar Patel, studied the “Interventional Effect of Bhramari Pranayama on Mental Health among college students” and found that Bhramari Pranayama has significant effect on increased mental health. They have concluded that Bhramari Pranayama prides a means to individual peace, happiness, develops optimism attitude. Self esteem and proper coordination between mind and body.

Maheshkumar Kuppusamy, Dilara Kamaldeen, Ravishankar Pitani, and Julius Amaldas, (2016) studied the “Immediate Effects of Bhramari Pranayama on Resting Cardiovascular Parameters in Healthy Adolescents” and found that Bhramari Pranayama practice improves the cardiovascular parameters through parasympathetic dominance in adolescents and if practiced routinely, the stress induced cardiovascular risk can be reduced.

A Mooventhan and Vitthal Khode (2014) in a prospective randomized control trial studied the “Effect of Bhramari pranayama and OM chanting on pulmonary function in healthy individuals” and found that Bhramari pranayama and OM chanting are effective in improving pulmonary function in healthy individuals.

T Pramanik, B Pudasaini and R Prajapati, (2010) studied the “Immediate effect of a slow pace breathing exercise Bhramari pranayama on blood pressure and heart rate” and found that Bhramari pranayama induced parasympathetic dominance on cardiovascular system. Both the systolic and diastolic blood pressure were found to be decreased with a slight fall in heart rate. Fall of diastolic pressure and mean pressure were significant.

M.U. Sujan, K. Akhil Deepikaa, Shilpa Mulakur, Anu P. John, N.M. Babina, T.N. Sathyaprabha (2015) studied the “Effect of Bhramari pranayama (humming bee breath) on heart rate variability and hemodynamic” in a pilot study and found that practice of Bhramari Pranayama facilitates relaxation response in healthy volunteers by increasing parasympathetic activity. It can be one of the promising tool to control stress and related life style disorders.

Maheshkumar K, (2018), studied the “Effect of Bhramari Pranayama on Baseline Physiological Parameters in healthy Adolescents” and found that the regular and long term practice of simple yogic manoeuvre such as Bhramari pranayama can have tremendously beneficial effects on cardio-respiratory and cognitive functions. The coping mechanism to stress is also enhanced as indicated by both a reduction in biological stress markers as well as an increase in antioxidant levels.

Vivek Kumar Sharma, Madanmohan Trakroo, Velkumary Subramaniam, M Rajajeyakumar, Anand B Bhavanani,1 and Ajit Sahai (2013) studied the “Effect of fast and slow pranayama on perceived stress and cardiovascular parameters in young health-care students” and found that both types of pranayama practice are beneficial in reducing PSS in the healthy subjects but beneficial effect on cardiovascular parameters occurred only after practicing slow pranayama.

Pallav Sengupta, (2012) studied the “Health Impacts of Yoga and Pranayama” and in his “State-of-the-Art Review” established that pranayama reduces stress and anxiety, improves autonomic and higher neural center functioning.

Nidhi Gupta, Shveta Khera, R. P. Vempati, Ratna Sharama and R. L. Bijlani, (2006) studied the “Effect of Yoga based lifestyle intervention on State and Trait Anxiety” and found that a short educational programme for

lifestyle modification and stress management leads to remarkable reduction in the anxiety scores within a period of 10 days.

### **Research Methodology**

#### **Variables**

Dependant Variable: Stress. Stress in a medical or biological context is a state of mental or emotional strain or tension resulting from adverse or demanding circumstances and is typically characterized by symptoms of by feelings of anxiety, fear, etc. It is subjective and dependent on external as well as internal factors. It may be caused by external factors such as extreme climatic conditions, social situations or by internal factors such as disease condition or failure to achieve goals exceeding our resources for coping. According to Hans Selye (1936) stress is “the non-specific response of the body to any demand for change”.

#### **Independent Variable:**

Bhramari Pranayama; The word pranayama comprises of two root words prana and ayama meaning expansion of the dimension of prana. As there is an intimate connection between the breath and nerve-currents, control of breath leads to the control of vital inner currents. The Prana may be defined as the finest vital force in everything which becomes visible on the physical plane as motion and action and on the mental plane as thought. Pandit Shriram Sharma (1998) said that “Pranayama is a psycho-physical and spiritual process through which we can control our prana and create harmony between body and mind.”

In Bhramari pranayama during rechak (exhalation) a buzzing sound like that of a bhramari is produced. This sound relieves tension from mind, anxiety, frustration hypertension and predominates parasympathetic system which calms & quite the mind and induce a meditative state.

#### **Hypothesis:**

On the basis of above mentioned literature reviews, directional hypotheses is used in this research work.

- ❖ The effect of Bhramari Pranayama on stress among female students is significant.

#### **Research design**

Pre-Post experiment group research design is used in the study. A single group was tested in two conditions i.e., Pre and Post intervention of Bhramari Pranayama to know its effect.

#### **Sample & sampling**

The total sample consists of 50 female students aged between 21 to 25 years selected through accidental sampling from the college going students of Doranda and Hinoo area of, Jharkhand and who willingly volunteered to undergo the intervention.

#### **Tools**

‘Stress Scale’ developed by “Dr. M. Singh” Senior Psychologist in 2002, and Bisht Battery of Stress Scale (BBSS) developed by Abha Rani Bisht was used as tool for this research work.

#### **Procedure**

The selected students under the guidance of an Yoga expert, practised Bhramari Pranayama for 15 minutes in the morning hours (7.00 am to 7.30am) daily. However, before starting of Bhramari Pranayama, they were subjected to Surya-namaskar five rounds (5 minutes) for warming up, then sitting in Padmasana and Om Chanting 21 times (5 minutes) and finally Bhramari Pranayama for 15 minutes. This intervention was continued for continuous 60 days.

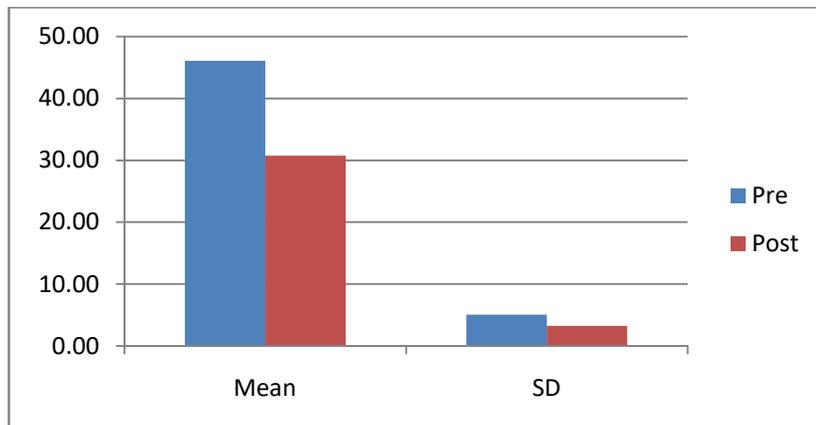
Stress Scale was used to determine level of stress of the 50 subjects in both Pre & Post intervention stages. Reliability Coefficient of the scale was estimated by split-half method and test-retest method and correlation was found to be 0.82 and 0.79 respectively. Validity Coefficient was computed with Bisht battery of stress scale developed by Abha Rani Bisht and correlation was found to be 0.61.

The data so collected was analysed using proper statistical method on ‘t’ test and the result is shown in table below.

Result table

	Mean	SD	r	SED	t- value	Significant level
Pre	46.10	5.05	0.585	0.58	26.461	0.01
Post	30.74	3.26				

n= 50, df= 49



### Discussion and Conclusion

As can be seen from the results of statistical analysis of the stress scale data, the pre-intervention mean is 46.10 & the post-intervention mean is 30.74. Thus the mean stress level is reduced by 15.36 points. It is also found that the 't' value of 26.461 is significant on the level of 0.01 meaning there is substantial difference in the two sets of data obtained in Pre & Post intervention. Thus a significant change is clearly observed in the stress level of the subjects in pre & post intervention stages. Before the Bhramari Pranayam practice the subjects had a moderate state of stress level and after 60 days of practice, their stress levels lie at very low state.

From the above results and analysis it is concluded that that there is positive effect of Bhramari Pranayam on Stress. It helps stop the uncontrolled and uninterrupted thoughts of mind, releases tension and calms the mind by harmonizing the thought process and directing the awareness inwards. The vibration of the sound induces a soothing effect on the mind and nervous system. Thus there is positive impact on brain waves and a state of relaxation of mind is achieved.

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