

## TO STUDY THE EFFECT OF YOGIC PRANAYAMA PRACTICES ON ANXIETY AND GENERAL WELL BEING OF PARA-MEDICAL STUDENTS

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### Abstract

**Background:** Yoga is a combination of asana, pranayama and meditation. Pranayama are gaining importance now a day by the way they train and discipline the mind. Hence, the present study focuses on exclusive yogic Pranayama practice. Present study to find out the effect of yogic Pranayama practice on anxiety levels and general well-being of Para-Medical students. **Materials and Methods:** Present study was conducted in Dept. Of Physiology Darbhanga Medical Collage Darbhanga (Bihar). Thirty Para-Medical students (Boys & Girls) of 20 to 30 years of age were selected randomly. Permission of Ethical Committee and Consent of all participants were taken before entering in study. They practiced a set of five yogic Pranayama for 6 weeks. Subjects were made to fill in Zung self-rating anxiety scale, Beck anxiety inventory and Psychological general well-being schedule before and after 6weeks of Pranayama practice. **Result:** The data was analyzed statistically using paired-t test. The results showed a significant decrease in anxiety scores of Zung anxiety scale and Beck anxiety inventory. There was also significant improvement in general well-being scores. **Conclusion:** The study we have shown that positive benefit of Yogic Pranayama when regularly practiced for a period of 6 weeks causes reduction in anxiety and improvement in general well-being among Students, It may be introduced in medical and para medical curriculum.

## INTRODUCTION

The word "Yoga" means "Unity" or "Oneness" and derived from the Sanskrit root 'Yuj' meaning to bind, join connect and balance, to direct and concentrate one's attention on, to use and apply. Yoga is the science of right living and, as such, is intended to be incorporated in daily life. It works on all aspects of the person: the physical, vital, mental, emotional, psychic and spiritual. This unity or joining is described in spiritual terms as the union of the individual consciousness with the universal consciousness. On practical level, yoga is a means of balancing and harmonizing the body, mind and emotions. This is done through the practice of asana, pranayama, mudra, bandha, shatkarma and meditation, and must be achieved before union can take place with more. The word pranayama is comprised of two roots: 'Prana' plus 'Ayame'. 'Prana' means vital energy' or life force'. It is the force which exists in all things, whether animate or inanimate. Although closely related to the air we breathe. Pranayama utilizes breathing to influence the flow of prana in the Nadis or energy channels of the

pranayama kosha or energy body. Ayame" is defined as 'extension' or 'expansion'. Thus, the word pranayama means 'extension or expansion of the dimension of prana'. In the modern era everybody is working hard because of high level of competition which causes a lot of stress on one's mind. Stress and anxiety have become a part of our daily life. Up to an extent anxiety is good as it helps us to cope up with the stressful situations but excessive anxiety impairs the daily routine activities of life and has effect on individual performance. Stress and anxiety have been implicated as contributors to many chronic diseases and to decreased quality of life. Stress and anxiety affects both physical and mental health. Stress symptoms include anxiety, depression, sleep disturbances, insomnia, menstrual disturbances, eating disorders, body weight fluctuations; irritation etc.

Yoga is widely practiced for its benefits to body and mind and is associated with instantly occurring physiological changes that include reduced sympathetic nervous system activity. reduced metabolism, lowered heart rate. reduced blood pressure. and decreased respiratory rate. Thus it streamline the autonomic nervous system and gives a

sense of well-being to the individual. Research studies have shown that yoga can provide a wide range of psychological benefits, both in reducing negative affect and in fostering positive wellness. Therefore, we should know the fitness benefits of various types of yogic practices so that they can be offered separately or in combination according to individual lifestyles and requirements. Thus, the present study was undertaken to find out the effect of exclusive yogic Pranayama practice on anxiety and general well-being of Para-Medical students as they experience high level of work related stress.

#### Aim and Objectives

1. To study found out Beck Anxiety inventory and Zung Anxiety Score in Para- Medical student before study started.
2. Effect of Pranayama on Beck Anxiety inventory and Zung Anxiety Score of students. Point
3. Compare result between before and after Pranayama exposure.

### MATERIALS AND METHODS

The present study was conducted on 30 Para-Medical students (girls & boys) of 20 to 30 years of age. Inclusion criteria for the study was that there should not be history of medical or psychiatric illness, no prior experience of yoga, not on long term medications, committed to perform yoga. Pregnancy, neuromuscular and skeletal disorders were ruled out while selection and also there should not be any history of smoking or alcohol intake. Written informed consent was obtained from the students and the study was as per the guidelines laid by our institution's ethics committee. Before beginning the study the subjects were made to fill zung self-rating anxiety scale, beck anxiety inventory, psychological general well-being index. The next day subjects were called at 6 am without breakfast, wearing light and loose fitting clothes fitting clothes. A warmup exercise for 10 min was performed by the subject. After that subject performed a set of five yogic pranayama (bhastrika, kapalbhati, anulom- vilom, bhramari and udgeeta and pranav) as instructed by a certified yoga teacher leach pranayama was maintained for 5-10 mins as per compliance and in between savasana the subjects spent 3 mins. Total time taken for the whole set was 60mins. After teaching the Pranayama, objects performed the Pranayama daily in hostel and they were followed up twice a week for 6 weeks. At the end of 6 weeks, the students were subjected again to same scales as described below: The Zung anxiety scale designed by WWK Zung, to quantify patient's level of anxiety. It is a 20 points self-report questionnaire built to measure 4 manifestations of anxiety: cognitive cognitive symptoms of anxiety scoring from 0 to 3. 141 PGWBI was designed by Harold Dupuy, used to assess the health and quality of life of general population. It consists of 22 items measuring 6 dimensions: anxiety, depressed mood, positive well being, self control, general health and vitality.

### RESULTS

For interpretation of the results the data recorded was analyzed statistically using paired-t test with SPSS software, version 20.0. p value <0.05 was considered significant and < 0.01 considered highly significant.

**Beck anxiety inventory (bai)and zung anxiety scores:** BAI and Zung anxiety scale which measures anxiety levels of individuals showed significant reduction in their mean scores suggesting decrease in anxiety. The decrease in BAI mean scores was linear from basal 13.7  $\pm$  3.573 to 11.7 $\pm$ 2.588 at 6 weeks with p value < 0.01 [Figure 1]. Also a linear decrease was seen in Zung scores from basal 45.23  $\pm$  5.25 to 41.87  $\pm$  4.273 at 6 weeks with p value < 0.01 [Figure 2]. **PGWBI SCORES:** Fig.3 shows the effect of yogic asanas on Psychological General Well Being Index (PGWBI) scores in relation to time. Linear increase was seen in scores from basal 64.9  $\pm$  6.799 to 91.3  $\pm$  4.292 at 6 weeks and was found to be significant with p value <0.01 indicating improvement in general wellbeing.

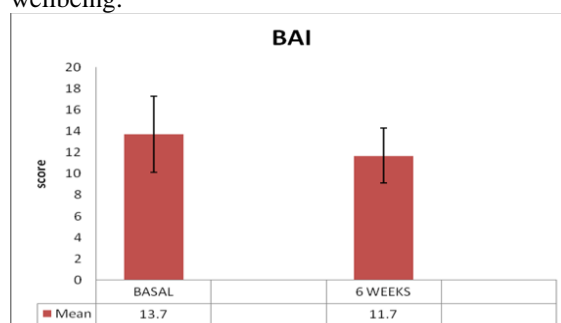


Figure 1: Effect of Yogic Asanas on Beck Anxiety Inventory (Bai) Scores

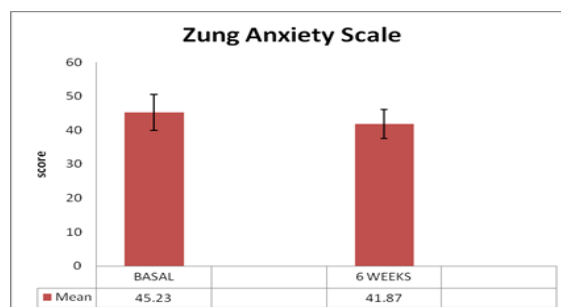


Figure 2: Effect of Yogic Asanas On Zung Anxiety Scale

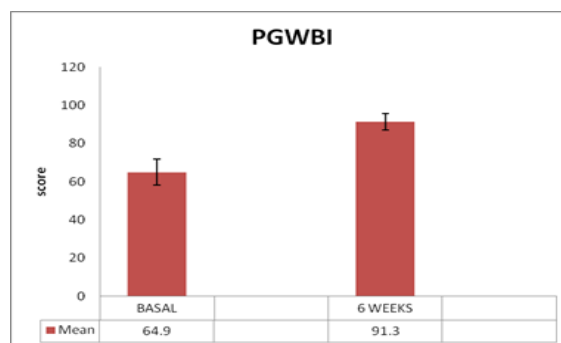


Figure 3: Effect of Yogic Asanas On Psychological General Well Being Index

## DISCUSSION

Anxiety has a negative effect on all aspects, such as social, personal, and academic performance. Rhythmic, deep and slow respiration is stimulated by calm, content, states of mind. Irregular breathing disrupts the rhythms of the brain and leads to physical, emotional and mental blocks. These, in turn, lead to inner conflict, an unbalanced personality, a disordered lifestyle and disease. Pranayama establishes regular breathing patterns, breaking this negative cycle and reversing the debilitating process. It does so by giving us control of the breath and reestablishing the natural, relaxed rhythms of the body and mind. Although breathing is mainly an unconscious process, conscious control of it may be taken at any time. Consequently, it forms a bridge between the conscious and unconscious areas of the mind. Through the practice of pranayama, the energy trapped in neurotic, unconscious mental patterns may be released for use in more creative and joyful activity. It is associated with arousal of autonomic nervous system. Pranayama works to open channels of energy in the body, releases blockages and tension held in physical, mental and emotional bodies.<sup>[9,10]</sup> Pranayama has an immediate quieting effect on the HPA axis response to stress and anxiety.<sup>[10-12]</sup> The practice of Pranayama is associated with increased brain GABA levels which have been found to be reduced in anxiety and mood disorders. The improvement in PGWBI scores after pranayama may be due to stimulation of central opioid system caused by increased activity in the sensory afferent fibers innervating proprioceptors in the joints and mechanoreceptors in the exercising skeletal muscles.<sup>[13-15]</sup> This causes release of endorphins which are known to produce a feeling of euphoria. The improvement seen in this index may also be attributed to a reduction in anxiety.

## CONCLUSION

Thus, Pranayama practices are beneficial for students and may be introduced in medical and para medical curriculum. The limitation of this study was paucity of studies in the field of Pranayama. More research studies to find out the effect of only Pranayama need

to be done as there are limited studies evaluating the effects of different Pranayama practices separately.

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