

# EFFECT OF YOG HAND MUDRA INTERVENTION ON RESPIRATORY RATE AMONG YOUNG ADULTS

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## ABSTRACT

Yog hand mudra the mudra of air which gives rise to the breathing capacity of individual and balance vata dosha in the body, resulting to increase level breathing capacity and stable mind as well. Stimulating the air element this pose spiritually awakens and calm the body and mind and resulted into increasing memory power, pituitary gland production and stimulate nervous system. A regular practice of this mudra considerably controls and harmonizes natural body energies like sneezing, blinking and yawning. For the present study, male and female students aged between 18-25 years were included. Yog mudra intervention (Yog hand mudra) was tried as per experimental design and normal breathing was measured using manual breathing rate measurement. Scores were recorded before and after performing yog hand mudra practice. This was observed that regular practice of Yog hand mudra in normal healthy person creates and improves breathing capacity and reduces resting breathing rate as the healthy sign of good respiratory function and breathing capacity.

## Keywords:

*Yog mudra, Vayu Mudra, Respiratory Fitness, Respiratory Rate*

## INTRODUCTION

The word Mudra origin in Sanskrit is 'gesture' or 'attitude'. Mudra represent the psychic, emotional, devotional and aesthetic gesture or attitude. There are numerous yoga and meditation techniques associated with ancient scriptures and yoga practices. Yogmudra is one of primordial technique along with pranayama and meditation is which describes as flow of energy and attitude intended to connect distinct pranic force with cosmic force.<sup>[1]</sup>

In scientific terms and explanation mudra works as medium and means that stimulate reflexes and primary instinctive pattern of habits which originate in the brain and areas around the brain stem. Mudra creates a refined non-intellectual connection with areas of brain and brain stem. Each type of mudra creates a specific connection with brain areas and stimulate the body mind and prana in different ways and patterns. The objective of performing mudra remains in fixed repetitive postures and gestures which can be easily adapted by practitioner in a natural way and establishes a more effective and refined consciousness.<sup>[2]</sup>

The mudra therapy is an ancient science which relates to the flow of energy in mind body and soul. In other worlds mudra is an manifestation of internal feeling and expression by the medium of posture, gestures of body, hand, palm, fingers.<sup>[3]</sup>

Mudra is a scientific knowledge of spirituality and physical wellbeing and considered as integral part of yoga, spirituality and physical wellbeing. In fact, mudra creates a specific connection with nervous system and stimulates specific energy pathways which involves entire by doing subtle hand, fingers acquiring a particular posture and gestures. Mudra has potential benefits on physical mental and emotional wellbeing by doing hand and body movements, kriya and bandh practices involving postures and gestures.<sup>[4]</sup>

Practicing mudra deals with many emotional, physical, psychological and physiological problems like headache. Pain, anxiety, depression, stress, problems of heart and lungs disorder, cholesterol and ailment and problems of other body parts and organ as well.<sup>[5]</sup>

## **MUDRA THERAPY IN AYURVEDA**

In Ayurveda science explanation, human body is made up of five elements agni (fire), jal (water), vayu (air), akash (space) and prithvi (earth). This the nature of body to maintain right balance in healthy condition.<sup>[6]</sup>

Our body has an ability to maintain right and optimum balance of these elements. However, any kind of imbalance in the body leads to ailments and affect the body on a negative ways. Mudra practice according to representation of these five elements. If mudra practice is performed according to specific mudra for balancing these five elements, the balance is restored and person recovers form imbalance and ailments.<sup>[7]</sup>

The principal of mudra lies in the transfer of energy which takes place form higher level to lower level. The law is similar as applicable in thermodynamics, electrostatic, magnetism, atomic and nuclear bonding.<sup>[8]</sup>

## **RESPIRATORY RATE**

Respiratory Rate is known as number of breaths taken per minute by person in resting condition. for an adult, the normal respiration rates at rest is between 12-20 breaths per minute. respiration rate above at resting position below 12 or above 25 breaths per minute is considered abnormal. The abnormal conditions of change in normal breathing rate are asthma, anxiety, congestive heart, lung disease, pneumonia or use of narcotics or drug overdose.

## **YOG HAND MUDRA**

This mudra is also known as mudra of air as the index finger symbolizes air element and it reduces air element form body which balances the vata dosha, resulting to control restlessness, nervousness, and calm an uneasy mind. It helps in problems like arthritis, gas problem, sciatica, gout, knee pain or bulging stomach. this mudra is performed by bending index finger and pressing it by thumb keeping other fingers straight. This practice is ideally done sukhasana or padmasana, however, it can be performed in any comfortable position as individual finds. This mudra harmonizes natural body energies like sneezing, blinking and yawning. It also overcharged endocrine glands soothes strained voice and control many other problems related to endocrinal imbalance. It controls the vata dosha and helps with Arthritis, gas problems, Sciatica, Gout, knee pain or bulging stomach; relaxes the muscles, overcharged endocrine glands, soothes strained voice and with many other problems. It also harmonizes natural energy of human body, such as blinking, sneezing or yawning. Bending index finger and press it with your thumb while keeping other fingers straight. It can be done anytime and anywhere.

## **HYPOTHESIS**

The following hypothesis was drawn for the study:

1. The 4 weeks Yog hand mudra interventions will positively improve respiratory rate of young female adults.
2. The 4 weeks Yog hand mudra interventions will positively improve young male adults.

## **METHODOLOGY**

For the study Pre-test and Post-test randomized group experimental design was used. For the present study 25 male and 25 female students for experimental group. The following practices were performed by the experimental groups for 4 weeks except Sundays and holidays. The training program was prepared for the students keeping in view to improve the selected physiological characteristics. Preparation and Gayatri Mantra: 3 minutes followed by yogmudra practice for 15 minutes and ending om for 2 minutes. In this study psychological characteristic anxiety was measured pre- and post-training thorough pre- and post-experimental research method in which standardized methods have been used for collection of data. Pre-test and Post-test data of selected physiological characteristic were collected with the help of reliable tools of measurements to find out the significant difference. The data was collected with the reliable instruments and tools before and after giving the Yogmudra Intervention to the experimental group using manual measurement of normal breathing rate of individual. Scores were recorded before and after performing Yog hand mudra practice. For the purpose of the study, descriptive statistic (mean, standard deviation, standard error and independent t-test) as the statistical technique and the level of significance was set at the 0.05 level.

Tables: Effect of Yog hand mudra on Respiratory Rate

Table -1 Female Students

|            | N  | Mean    | Std. Deviation | Std. Error Mean |
|------------|----|---------|----------------|-----------------|
| Pre -Test  | 20 | 15.6000 | 1.09545        | .24495          |
| Post -Test | 20 | 13.4500 | 1.14593        | .25624          |

Female Students

|            | Test Value = 0 |    |                 |                 |                                           |         |
|------------|----------------|----|-----------------|-----------------|-------------------------------------------|---------|
|            | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |         |
|            |                |    |                 |                 | Lower                                     | Upper   |
| Pre -Test  | 63.687         | 19 | .000            | 15.60000        | 15.0873                                   | 16.1127 |
| Post -Test | 52.490         | 19 | .000            | 13.45000        | 12.9137                                   | 13.9863 |

Table-2 Male students

|            | N  | Mean    | Std. Deviation | Std. Error Mean |
|------------|----|---------|----------------|-----------------|
| Pre -Test  | 21 | 14.9524 | .92066         | .20090          |
| Post -Test | 21 | 13.6190 | .92066         | .20090          |

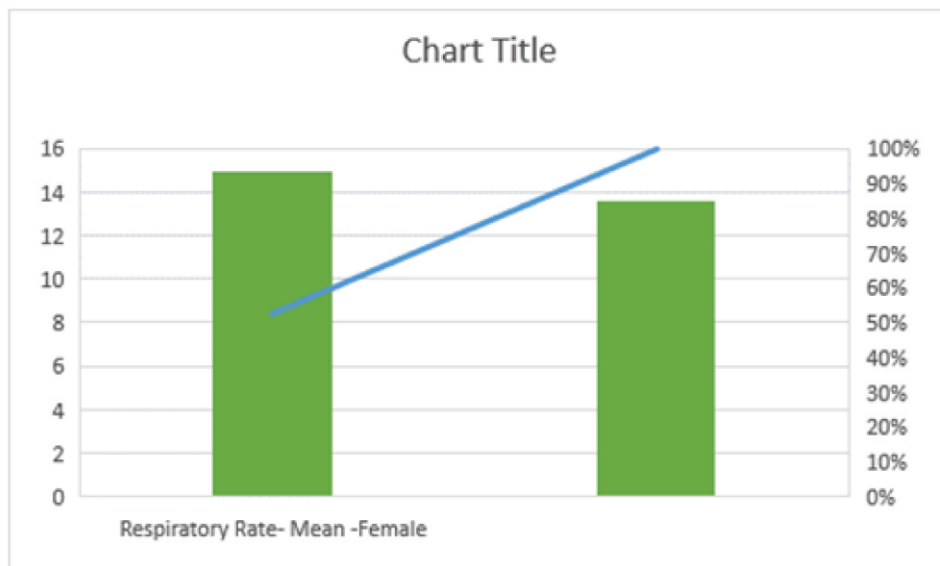
Male Students

|            | Test Value = 0 |    |                 |                 |                                           |         |
|------------|----------------|----|-----------------|-----------------|-------------------------------------------|---------|
|            | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |         |
|            |                |    |                 |                 | Lower                                     | Upper   |
| Pre -Test  | 74.425         | 20 | .000            | 14.95238        | 14.5333                                   | 15.3715 |
| Post -Test | 67.789         | 20 | .000            | 13.61905        | 13.2000                                   | 14.0381 |

Table -3 : Effect of Yog hand mudra on Respiratory Rate. Value=Mean±SD

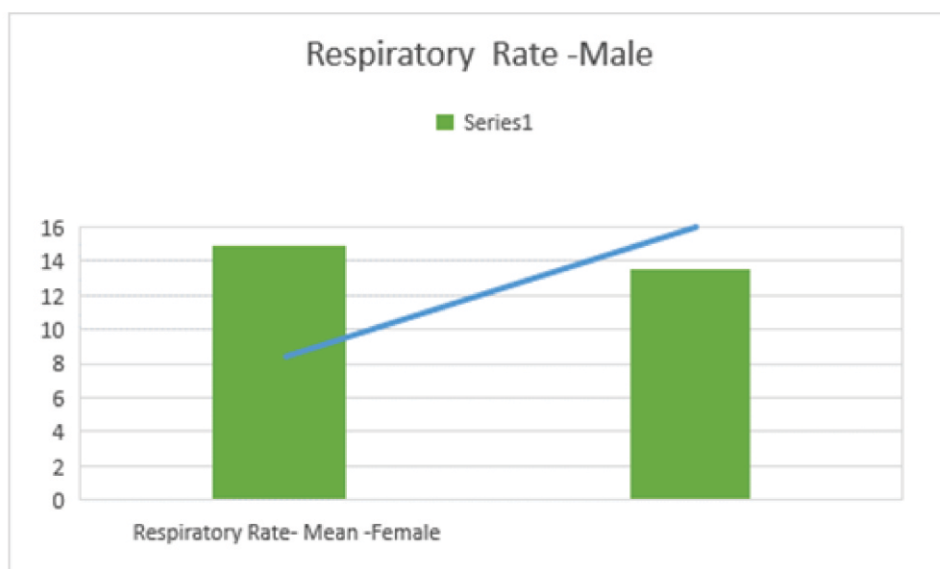
| S. no.          | Pre Test -Before yoga mudra:- Mean±SD | Post Test -After yoga mudra:- Mean±SD | P value |
|-----------------|---------------------------------------|---------------------------------------|---------|
| Male students   | 14.95 ± 0.92                          | 13.61 ± 0.92                          | 0.1     |
| Female students | 15.60 ± 1.09                          | 13.45 ± 1.14                          | 0.001   |

**Figure -1**



**Significance of difference between pre and post (\*\*P<0.1, \*\*\*P<0.01 Student's 't' test)**

**Figure -2**



**Significance of difference between pre and post (\*\*P<0.1, \*\*\*P<0.05 Student's 't' test)**

## RESULTS AND DISCUSSION

The data for 20 students who performed Yog hand mudra for 15 minutes were analyzed. The results obtained are expressed as mean  $\pm$  standard deviation (Table-3) The effect of Yog hand mudra on experimental group of male and female students measuring respiratory rate is as shown in table. The level of respiratory rate data shows statistically significant results after performing Vayumudra. Further Breathing Rate also showed similar results. All experimental values are significantly lower than pretest result.

In a study conducted by Kuldeep Singh (2015) showed that hand and fingers gestures stimulate energy flows and makes significance connections in nervous system and specific energy pathways. Yogis of ancient time experienced and designed hand areas and its reflexes associated with various parts of nervous system and effects on other organs of body and blood circulation. The study also showed that mudra increases the the blood circulation to various parts of the brain and to the important junction of nerves and glands.<sup>[10]</sup>

In a study conducted by Balaji P V Deekshitulu (2016) reviewed that interventions of mudra yoga reduce and control stress, anxiety, depression, fear and promote many other psycho- physiological health issues. The study also indicated the beneficial effects of mantra therapy on the level of mental and physical health of an individual.<sup>[11]</sup> Another study on yoga hand mudra conducted by Deepti Tripathi et al., (2016) studied that yog hand mudra helps in a novel way and to be effective in controlling high blood pressure and found an effective way of normalizing high blood pressure. This was also studied that hand mudra is helpful in emergency situation where immediate medical help is not available.<sup>[12]</sup>

## CONCLUSION

Regular practice of Yog hand mudra yoga may reduce the respiratory level to normal which good respiratory function and lung capacity, breathing pattern and appropriate health status of an individual and it also helps in improvement of lung and breathing functions and respiratory fitness of people of all age groups.

It may be concluded from the findings from the present study, that Yog hand mudra interventions improves respiratory function maintain an optimum breathing rate to restore state of good respiratory fitness in healthy person. A significant level of respiratory rate at resting position was indicating better respiratory fitness in an individual. Therefore, it is suggested that Yog hand mudra practices is an appropriate solution for maintaining good respiratory health and fitness, it is helpful in improving respiratory fitness and breathing capacity level and help to deal with physiological problems related to breathing and respiratory function.

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