

## EFFECT OF EIGHT WEEKS JALANDHAR BANDH PRACTICE ON PHYSIOLOGICAL VARIABLES OF COLLEGE YOUTHS

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**Dr. Binod Chowdhary**, Assistant Professor,  
Seva Bharati Mahavidyalaya,  
Kaggari, Paschim Medinipur, (W.B.)



### Abstract

Jalandhar bandha is one of the three important Bandhas which are essentially required to be performed during Kumbhaka in Pranayama. Excessive pressure is developed in the lungs during Kumbhaka which elevates the blood pressure. The purpose of the study is to investigate the effect of eight weeks Jalandhar Bandh practice on Physiological Variables of College Youths. Twenty students were randomly selected from Seva Bharati Mahavidyalaya, Kaggari, Paschim Medinipur of age ranged from 22 to 25 yrs. The physiological variables resting heart rate and blood pressure were selected for the present study. Pre and post test were conducted in order to identify the significance difference. The collected data was analyze by applying 't' test. The result shows that there is a significant difference was found in resting heart rate and blood pressure.

**Keywords:** Bandh, Kumbhaka, Pranayama, Resting Heart Rate and Blood Pressure

### Introduction

Yoga is a spiritual technique and system of philosophy, but it is also the oldest and most thoroughly tested form of physical and mental exercise known as humanity. Yoga breathing is considered an intermediary between the mind and body. Yoga breathing owes their great potentials to prana. Regular practice of yoga breathing gives maximum benefits through complete and comprehensive utilization of the prana system. Yoga science of breathing is called Pranayama. Oxygen is the most vital nutrient to our body. It is essential for the integrity of the brain, glands, nerves, and internal organs. The meaning of the word Jalandhar, 'Jal means Net' in this case, net of nadis (energy channels) and the words "Dhar" means to stop or to hold the flow of the fluid (Amrut), flowing through the nadis. In this bandh, it is expected to contract the neck and to press the chin firmly on to the depression at the end of the throat (jugular notch). Bandhas are internal energy valves which activated allow the energy to flow through the area activating the dormant potential of spirit while embodied they have been richly dealt in our yogic scriptures they have their own neurological endocrinological effect. The subtle pranic effect of the bandhas is now used as therapy. However it has its own limitations with the benefits far exceeding the limitations, the present world is finally looking up to this yogic practice for getting rid of physical and mental problems. Bandhas are a group of physical locks which allow the practitioner to control different organs of the body and their nerves. The word bandha means to hold or tighten'. These locks, created by contracting different areas such as the

throat, abdomen and perineum, massage the physical organs and release psychic energy by the stimulation of chakras and prana. They help to redirect prana and strengthen the whole body.

### Objective of the Study

To investigate the effect of eight weeks Jalandhar Bandh on physiological variables of college youths.

### Methodology

The present study conducted on twenty students of Seva Bharati Mahavidyalaya, Kaggari, Paschim Medinipur. Their age ranged from 22 to 25 Years. Before administration of Jalandhar Bandh programme, pre test data was collected on the resting heart rate and blood pressure. The subjects were asked to sit in Padmasana and they were asked to practice one round of Purak and Kumbhaka with bending the neck and fixing the chin in the jugular notch only. They were asked to use the proper technique of Jalandhar Bandha i.e. during Kumbhaka with proper Jalandhar Bandha i.e. by contracting the muscles of the neck from all sides and then bending the neck little forward. Eight weeks training programme was implemented in the morning session for 15 to 20 minutes. After completion of practice period post data was collected.

### Selection of Variables:

1. Resting Heart rate – Palpitation Method.
2. Blood Pressure - Sphygmomanometer.

### Statistical Analysis

To compare the physiological variables 't' test was applied to find out the significance of difference between the pre and post test means of the selected variables. The level of significance was chosen to test the hypothesis was 0.05.

### Results

TABLE – 1  
DIFFERENCE IN MEANS AND SD OF RESTING HEART RATE AND SYSTOLIC AND DIASTOLIC BLOOD PRESSURE

Variables	Pre-test	Post Test	MD	t-value
	Mean # SD	Mean # SD		
Resting Heart Rate (Beats/Mint.)	68.67± 8.70	62.16 ± 5.92	6.51	5.28*
Systolic BP (mmhg)	136.64 ± 14.46	125.48 ± 13.75	11.16	5.47*
Diastolic BP(mmhg)	80.12 ± 5.56	72.22± 5.46	7.9	8.32*

Significant at 0.05 level of significance i.e., 't'= 2.01

Table-1 indicates the Mean and standard deviation of pre- test of Resting Heart Rate and Systolic and Diastolic Blood Pressure which were found to be 68.67, 136.64 and 80.12 respectively, and the values of means and standard Deviation of post test of Resting Heart Rate and Systolic and Diastolic Blood Pressure were 62.16, 125.48 and 72.22 respectively. Table 1 indicate the value of 't' test of physiological variables, which shows that there was a significant difference in the pre and post test values of the variables. The calculated values of 't' was found to be 5.28 at 0.05 level of significance, which was higher than the tabulated 't' 2.01 at 0.05 level of significance (RHR). The calculated values of 't' was found to be 5.47 at 0.05 level of significance, which was higher than the tabulated 't' 2.01 at 0.05 level of significance(SBP). The calculated values of 't' was found to be 8.32 at 0.05 level of significance, which was higher than the tabulated 't' 2.01 at 0.05 level of significance(DBP).

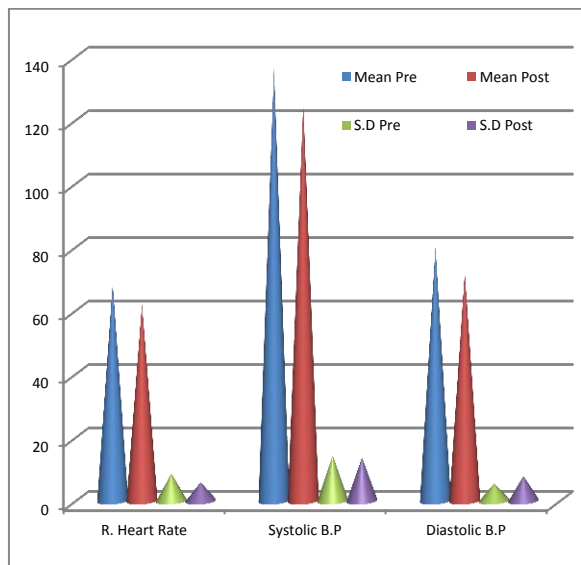


Fig. no. 1: Graphical representation of mean and standard deviation of selected variables of youth.

### Discussions

In this study, Resting Heart Rate of subjects was decreased by 6.51 beats/ minutes. There was a significant difference in the Resting Heart Rate between pre and post test after eight weeks practice of bandha. The mechanism for reduction of Resting Heart Rate can be due to improvement of cardiovascular system. In the present study practice of Bandha have a significant effect on the systolic and diastolic blood pressure of the subjects. The decrease in the Blood pressure can be due to the position and the description of the Jalandhar Bandha indicates that there is some relation in between increased blood pressure and Jalandhar Bandha. Jalandhar Bandha creates the pressure on the Carotial Sinus which in turn reduces the Blood Pressure. Hence the hypothesis is "Performing the Jalandhar Bandha in the proper way helps to reduce the Blood Pressure."

In a report on the effect of bandhas on heart rate, pulse rate and pulse pressure, K.B. Gopal, S. Lakshman and M. Batmanabne from the Dept. of: Biology and Anatomy, Jawaharlal Institute of Post Graduate Medical Education and Research, Pondicherry, India have made some interesting findings. These highlight the effects of yoga in the possible treatment of blood pressure.

The report states that during the tests made on eighteen trained yoga students; the cardiovascular system was affected in a beneficial manner by lowering of the heart rate and blood pressure within physiological limits. Gopal et al. have observed that this could be due to increased peripheral blood flow while performing bandhas in conjunction with Pranayama. This implies that there is a lessening of the sympathetic nervous stimulation of the peripheral blood vessels which leads to relaxation of mind and body. According to Gopal et al. in Jalandhar bandha (locking of the throat centre) the pressure receptors in the carotid artery are not stimulated. However, the carotid artery is stretched due to forward bending of the neck and elevation of the ribs which increase the diameter of the base of the neck. This, he believes, contributes to the lowering blood pressure in normal people (not in hypertension).

### Conclusions

There is a significant improvement in the Resting Heart Rate after eight weeks of Jalandhar Bandha on college youths. There is a significant improvement in the Systolic and Diastolic Blood Pressure after eight weeks of Jalandhar Bandha on college youths.

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