

Effect of Selected Yogic Asanas and Pranayamas on Maximum Breath Holding Time of Asthmatic Patients

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Abstract

The purpose of the study was to see the effect of selected yogic asanas and pranayamas on Maximum Breath Holding Time of Asthmatic Patients. Total 30 patients were selected as subjects for the study and were randomly divided in two equal groups i.e. Control (15 patients) and Experimental Group (15 patients). The age of the subjects ranged between 35 to 45 years. The yogic training was executed only to Experimental Group in addition to their daily tasks for two months i.e. Monday to Friday, 01 hour a day in the evening and Control Group did not receive any yogic training but continued with their daily schedule. The pre-test was conducted for Experimental and Control groups before the start of two months yogic training and similarly the post-test was conducted after the completion of two months yogic training to collect the data by using Stopwatch. The collected raw data was analysed by computing descriptive statistics followed by paired sample t-test to find out the significant differences between the pre-test data and the post-test data. The t-value is found to be -9.056 for Maximum Breath Holding Time, which is significant at 0.05 level of confidence ($P < 0.05$). Results of the study revealed that the significant effect was shown which increase the Maximum Breath Holding Time of Asthmatic Patients.

KEYWORDS: Yoga, Asana, Pranayama, Maximum Breath Holding Time, Asthma.

INTRODUCTION

Modern life is become easier and more comfortable due to development in science and technology but also it is become more complicated. New and dangerous diseases have complicated the modern life because day by day peoples moving away from nature and natural ways. Now a day's physical inactivity is a way of life. Man has become "Robots". And today man faces many new diseases. Cancer, diabetes, high blood pressure, heart diseases, respiratory problems etc. are increasing very fast in our society and Asthma is one of them. It is a serious health problem. Asthma is a disease that affects the lungs and the airways that cause air to the lungs. It causes periodic attacks of wheezing and difficult breathing. An asthma attack occurs when the airways become inflamed in response to a trigger, such as dust, pets, exercise, cold water etc. During an asthma attack, the walls of the airways become inflamed, and the mucous membrane covering the walls becomes swollen with fluid. Sticky mucus fills the remaining space, making it difficult to breathe. Because air cannot flow in and out of the lungs freely, a whistling or wheezing sound may be heard. Asthma attacks can be mild, moderate or severe and can last for a few minutes, a few hours or several days. Mostly it occurs at night.

Peoples are tired and frustrated and searching for a healthy and disease-free life. In this direction yoga will be beneficial for the peoples. Because many experiments have done on yoga and result of these experiment revealed that people got cured of diseases with regular practice of yoga. We all know that prevention is better than cure. And yoga also prevents the diseases if healthy people do regular practice of yoga.

Yogic practices are very ancient and provide the practitioner with control over certain functions of the body. The practice of yoga became less popular during middle ages but the present yoga revolution is like reviving the past, as millions of people are again practicing and getting its benefits.

Yoga is a complete science of life that originated in India many thousands of years ago. The backbone of Yoga is furnished by Patanjala's Yoga Sutras. Yoga was conceived by the ancient Indian Rishis as a practical method for the complete physical, mental and spiritual transformation of an individual. The Ancient Yogis had a profound understanding of man's essential nature and of what he needs to live in harmony with himself and his environment. As a well cut diamond has many facets, each reflecting a different colour of light, so does the word Yoga, each facet reflecting a different shade of meaning and revealing different aspects of the entire range of human endeavour to win inner peace and happiness.

Yoga has eight elements and asana is a third element of yoga. Asana means holding the body in a particular posture to bring stability to the body and poise to the mind. Asanas activate the functions of various organs. Asanas are performed to keep the body flexible, agile and young. The Yoga Postures or Asanas exercise every part of the body, stretching and toning the muscles and joints, the spine and the entire skeletal system. Asanas work not only on the body's frame but on the internal organs, glands and nerves as well, keeping all systems in radiant health. Pranayama is a fourth element of yoga. It is composed from two Sanskrit words: Pranameans 'vital force' and Yama means 'to control'. Pranayama helps in controlling all the functions of breathing. Pranayama is the art of breath manipulation and energy balance. Thus pranayama is a series of techniques that aim at stimulating and increasing the vital energy in the body. Thus yoga can be used to bring about a state of relaxation of body and mind from the unwanted problems.

STATEMENT OF THE PROBLEM

The purpose of the present study was to investigate the Effect of Selected Yogic Asanas and Pranayamas on Maximum Breath Holding Time of Asthmatic Patients

METHODOLOGY

Total 30 (Thirty) asthmatic patients from Sardar Vallabh Bhai Patel Hospital, East Patel Nagar New Delhi-110008, India were randomly selected as subjects and the age of the subjects was ranged between 35 to 45 years. The subjects were randomly divided into two groups i.e. experimental group consisted of 15 subjects and control group also consisted of 15 subjects. The yogic training was executed only to Experimental Group and Control Group did not participate in any yogic training during the experimental period. Maximum Breath Holding Time selected as variable for the study. The data was collected prior to start of yogic training (i.e. Pre-test) and at the end of the yogic training (i.e. post-test) from the both groups by using stop watch. The collected raw data was analysed by computing descriptive statistics followed by paired sample t-test.

TRAINING PROTOCOL

The yogic training was executed only for Experimental Group for two months, five days in a week for 1 hour daily in the evening at front of registration desk of Sardar Vallabh Bhai Patel Hospital, East Patel Nagar, New Delhi, India and Control Group did not participate in any yogic training during the experimental period

but continued with their daily schedule. There was no change in the routine medical treatment of patients. The control group was take its own routine medical treatment and Experimental group was also take routine medical treatment along with yogic training of selected Asanas (Tadasana (kriya), TriyakTadansa, Ardhchakrasana, Katichakrasana, Uttan Mandukasana, Shalabhasana, Bhujangasana, Shavasana), AUM (ॐ) pronounced and Pranayamas (Nadishodhana Pranayama, Bhramari Pranayama). All subjects were take part in pre-test and post-tests.

Tool Used

Maximum breath holding time was recorded to nearest second by using stopwatch.

RESULTS

Table 1 Descriptive Statistics of Pre-phase of Control Group & Experimental Group

GROUP	Phase	VARIABLE	N	MEAN	SD
Control	Pre-test	M.B.H.T	15	13.26	5.02
Experimental	Pre-test	M.B.H.T	15	13.13	5.09

(M.B.H.T= Maximum Breath Holding Time)

Table no 1 explore the descriptive statistics of the pre-phase of control and experimental group. It was observed that the arithmetic mean and standard deviation of control group was 13.26±5.02 and experimental group was 13.13±5.09 respectively.

Fig. 1 Mean and SD of Control and Experimental Group before the Training

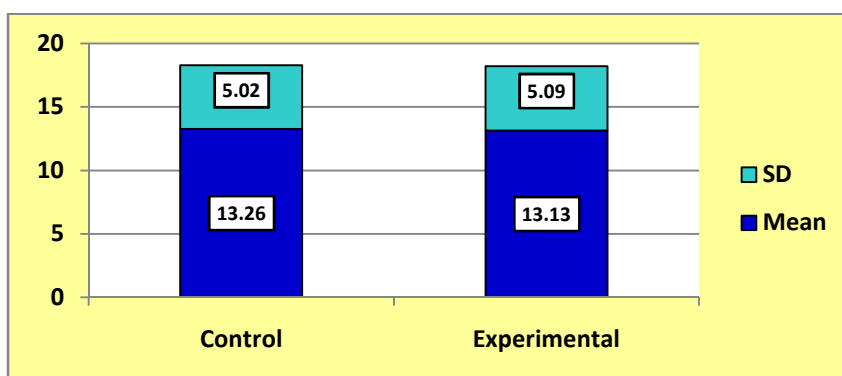


Table 2 Comparison between the Score of Pre-phase of Control and Experimental Group

GROUP	Phase	VARIABLE	N	(df)	(t)	Sig. (Two-tailed)
Control	Pre-test	M.B.H.T	15	14	.101	.921
Experimental	Pre-test	M.B.H.T	15			

(M.B.H.T= Maximum Breath Holding Time)

Table no 2 shows the comparative statistics of between control group and experimental group and it was evident that no statistically significance difference was observed between control group and experimental group in their pre phase which

justify that both groups have equal characteristics in their maximum breath holding time before the yogic practice. The value of t was .101 which was not significant at 0.05 level of confidence ($P > 0.05$) respectively.

Table 3 Descriptive Statistics of Experimental Group

GROUP	Phase	VARIABLE	N	MEAN	SD
Experimental	Pre-test	M.B.H.T	15	13.13	5.09
	Post-test	M.B.H.T	15	16.53	5.06

(M.B.H.T= Maximum Breath Holding Time)

Table no 3 explore the descriptive statistics of the pre-phase and post-phase of experimental group. It was observed that the arithmetic mean and standard deviation of pre-phase of experimental group was 13.13 ± 5.06 and the score of post-phase was 16.53 ± 5.06 respectively.

Fig. 2 Mean and SD of Experimental Group before and after the Yogic Training

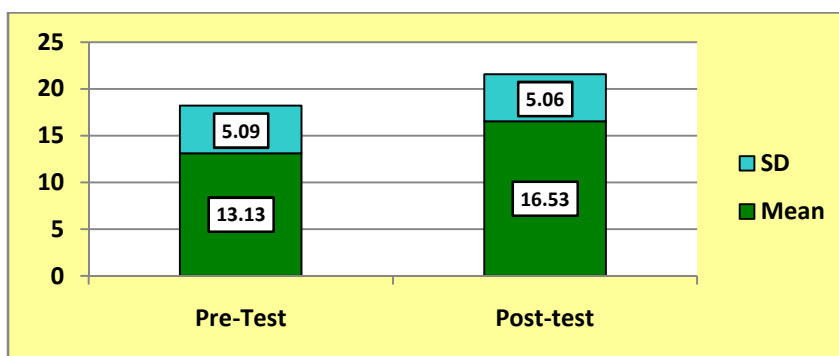


Table 4 Comparison between the Score of Pre-phase and Post-phase of Experimental Group

GROUP	Phase	VARIABLE	N	(df)	(t)	Sig. (Two-tailed)
Experimental	Pre-test	M.B.H.T	15	14	-9.056	.000
	Post-test	M.B.H.T	15			

(M.B.H.T= Maximum Breath Holding Time)

Table no 4 evident the comparative statistics between pre-phase and post-phase of treatment of experimental group in their maximum breath holding time of asthmatic patients. The value of 't' was -9.056 respectively which was statistically significant at 0.05 level of confidence ($P < 0.05$). On the basis of the results it was concluded that the selected Yogic Asanas and Pranayam significantly increase the maximum breath holding time of asthmatic patients.

Table 5 Comparison between Post-test of Control Group and Experimental Group

GROUP	Phase	VARIABLE	N	MEAN	SD	t	Sig.
Control	Post-test	M.B.H.T	15	13.46	5.06	-2.289	.038
Experimental	Post-test	M.B.H.T	15	16.53	5.06		

(M.B.H.T= Maximum Breath Holding Time)

Table no 5 shows the comparative statistics between post phase of control group and experimental group which also rectify the previous results in the table no 1. The mean and SD of control group was 13.46 ± 5.06 and the experimental group was 16.53 ± 5.06 respectively. The value of 't' was -2.289 which was significantly differentiate as per the sig. two tailed from 0.05.

DISCUSSION OF FINDINGS

The result helps to interpret that the Asanas activate the functions of various organs. It exercise the respiratory system, stretching and toning the muscles and pranayamas also helped to train the respiratory muscles and might have improved the functional ability of inter-costal muscles. Thus, in turn it helped to improve breathing rate and pulse rate of experimental group of asthmatic patients. Thus, asanas and pranayamas have shown significant effects of improving maximum breath holding time.

Although breathing is an autonomic activity controlled by autonomic nervous system and no voluntarily control over one's respiratory system is possible, however Pranayama can do this deliberately. Thus, yogic training has significant effect in increasing maximum breath holding time of experimental group.

Overall the present study has given us evident that if the asthmatic patients actively involved in the yogic practice then they can overcome on the respiratory difficulties as well as yogic practice more resilient to increases maximum breath holding time. The result indicated that there is a significant effect of selected yogic asanas and pranayamas on maximum breath holding time of asthmatic patients as the t- value is found to be -9.056 respectively which is statistically significant at 0.05 level of confidence ($P < 0.05$).

CONCLUSION

Improvement in Maximum Breath Holding Time has been achieved among the asthmatic patients due to the continuous practice of Asanas and Pranayamas. Asthmatic patients can improve their vitals and pulmonary function by adding asanas and pranayamas as an important aspect of their daily routine life. Observation and result make it evident that yogic practices like asanas and pranayamas can be used along with medical treatment in decreasing the intensity of asthma and people with asthma can live their normal and productive lives.

Within the limits and limitations of the study it was concluded that both asanas & pranayamas have substantially and significantly increase the maximum breath holding time of asthmatic patients. And on the basis of result we can't denied the benefits of yoga and also we can say that yoga is may be a new basis for hope, faith and energies in life and peoples can take to yoga for regaining health.

REFERENCES

- Bere T.K (1993), *Muscular activity in yoga and physical exercise*. Research Bi-annual for movement, vol.10.
- Biju, B., &Geetha, N. (2012). Yoga Training with Meditation Ameliorates The Asthmatic Attack by Improving Pulmonary Functions: a Pilot Study. *National Journal of Medical Research*, 2(2), 182-187.
- Sodhi, C., Singh, S., &Bery, A. (2014). Assessment of the quality of life in patients with bronchial asthma, before and after yoga: a randomised trial. *Iranian Journal of Allergy, Asthma and Immunology*, 13(1), 55-60.
- Bhatt, A., &Rampallivar, S. (2016). Effect of Pranayam on ventilatory functions in patients of bronchial asthma. *JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS*, 5(28), 1453-1455.
- <http://en.wikipedia.org/wiki/Asana>
- <http://www.swamij.com/history-yoga.htm>
- <http://www.yogapranayama.net/what-is-pranayama.html>