



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (R,JIF): 5.38
IJPESH 2023; 10(3): 312-315
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www.kheljournal.com
Received: 07-02-2023
Accepted: 10-03-2023

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Effect of selected yogic intervention on vital capacity and respiratory rate among female students

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Abstract

Yoga is the process for developing physical and mental abilities. *Kapalbhati Kriya* is a part of Shatkarma and which helps in improving the vital capacity and respiratory rate. *Kapalbhati Kriya* practice helps in glowing the face. This practice not only helps in reducing weight but also brings perfect balance in the entire system into a perfect balance which means it is technique for purifying the frontal region of the brain. The main objective of this study was to improve vital capacity and respiratory rate among the student after practicing *Kapalbhati Kriya* for six weeks. Data were collected from female students aged 20-25 years from Banasthali Vidyapith University, Tonk Rajasthan. The study was conducted in two groups, experimental group and control group. Data were obtained by testing before and after *Kapalbhati Kriya* practice in above group. The result show that the vital capacity and respiratory rate among female students was improved after practicing *Kapalbhati Kriya*. It was concluded that "Regular practice of *Kapalbhati Kriya* can improve vital capacity and respiratory rate.

Keywords: *Kapalbhati Kriya* can improve vital capacity and respiratory rate, yoga.

Introduction

Yoga is a process for developing physical and mental abilities. *Kapalbhati* is a one of the part of Shatkarma which is also known as Shatkriya. *Kapalbhati Kriya* helps to improving the vital capacity and respiratory rate. *Kapalbhati Kriya* practice helps in glowing the face. This practice not only helps in reducing weight but also brings perfect balance in the entire system into a perfect balance which means it is technique for purifying the frontal region of the brain. Regular movement in stomach is beneficial for the muscles around it, including that of the liver and pancreas. *Kapalbhati Kriya* is helpful in digestion and removal of acidity and gas related problems. It also helps in reducing the belly fat. This technique involves forceful breathing which strengthens lungs and increases its capacity. *Kapalbhati Kriya* also helps in increasing blood supply to various parts of the body.

Definition of yoga

Gita defines Yoga as Yogah Karmasu kaushlam. (II/48) "Yoga is skillful action" Yoga is art of all dedicated and focused work

Sri Aurobindo defines yoga mean a methodological effort towards self-perfection by the development of potentialities latent in the individual.

Yoga Yajnavalky define yoga is union of individual psyche (Jivatman) with the transcendental self (Paramatman).

Kapalbhati: *Kapalbhati* has come from the word 'Kapal' which means 'Forehead' 'Bhati' means 'to shine'.

Kriya (Shatkaram): Shatkarma, where Shat means 'six' and Karma means 'Kriya', consists of purification methods of six groups. 'Kriya' means to 'process' the body.

Respiratory rate: Respiration rate means the number of breathe taken by any individuals in per minutes. Respiration rate is the rate at which breathing usually measured in breath per minutes.

Vital capacity: Vital capacity is the maximum amount of air that can be inhaled after exhalations by any individuals. Vital capacity is the maximum amount of air a person can expel from lungs after maximum inhalations.

Statement of the Problem

Effect of selected yogic intervention on vital capacity and respiratory rate among female students.

Purpose

The purpose of the study was to examine the impact of *Kapalbhati Kriya* on female students. A secondary purpose of this study was to determine *Kapalbhati Kriya* practice to improve vital capacity and respiratory system of students. The study is to determine the effective use of *Kapalbhati Kriya* would help students to remove problems which they would face during their daily life.

Significance of the Study

The study is examine to vital capacity and respiratory rate of students after providing *Kapalbhati Kriya* practice and the study is helpful to the teachers and parents to understand the role and emphasis.

Kapalbhati Kriya practice to improve their vital capacity and respiratory rate.

Hypothesis

It is hypothesized that there will be no significant difference between experimental group and control group.

Delimitation of the study

The study was delimited to 40 female students of Banasthali Vidyapith University Tonk, Rajasthan.

The participants were an age group of 20-25 years divided into two groups.

The study was further delimited to assessment of vital capacity and respiratory rate only Vital capacity is measured through spirometer.

Respiratory rate was checked through number of breathes counts in one minute. The training was delimited to *Kapalbhati Kriya* practice only.

Kapalbhati Kriya practice was given only for 6 weeks.

Research mythology variables of the study

Independent Variable: *Kapalbhati Kriya*.

Dependent Variable: Vital capacity and respiratory rate.

Demographic Variable: Female students of Banasthali Vidyapith University Tonk, Rajasthan.

Sample of the study

A total of 80 female students of Banasthali Vidyapith University Tonk, Rajasthan were selected as the subjects of the study and divided into experimental group and control group, with 40 women in each group.

Control group: 40 women Experimental group: 40 women.

Tools and techniques

The data were obtained with the help of spirometer and number of breaths counts in one minutes before and after *Kapalbhati Kriya* practice upon the above mentioned groups. The students were assembled in a hall and made to sit in rows and then scholar had given instruction to subjects to collection the data. Data were collected before *Kapalbhati Kriya* practice and after six weeks from both the groups experimental and control group.

Design of the Study

To fulfill the aim of the study a methodology had been designed. This study consists of comparing different groups between two different sets of conditions. The process of the design is illustrated by the following table.

Table 1: Design of the study

S.no.	Group	Data	Intervention	Data
1	Experimental	Pre	<i>Kapalbhati Kriya</i>	Post
2	Control	Pre	Non	Post

For present study experimental and control group data design had been used. This study involves data collection from both the groups at pre and post basis of *Kapalbhati Kriya* practice.

Schedule for yoga practice

Table 2: Progressive chart of training schedule

S. No	Practice	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
1	Suksha Vayama	5 min	5 min	5 min	5 min	5 min	5 min
2	Asana	10 min	10 min	10 min	10 min	10 min	10 min
3	Relaxation	10 min	9 min	8 min	7 min	6 min	5 min
4	<i>Kapalbhati Kriya</i>	5 min	6 min	7 min	8 min	9 min	10 min
5	Total time	30 min	30 min	30 min	30 min	30 min	30 min

Note: Number of stoke and round of *Kapalbhati Kriya* will be increased in every weeks.

Hypothesis

There is no significant difference of mean scores between experimental group and control group of women.

Table 3: Difference between mean scores of experimental group and control group of vital capacity

Group	Mean		SD	
	Pre	Post	Pre	Post
Experimental Group	1175	3027.5	289.78	857.75
Control Group	1162.5	1212.5	307.75	317.99

Table 3 Revels that mean scores of experimental group and control group pre are (1175 & 1162.5) and post are (3027.5 & 1212.5) respectively and SD score of experimental group and control group pre are (289.78 & 307.75) and post are (857.75 & 317.99) respectively. This shows that there is change in Vital capacity of experimental group after *Kapalbhati Kriya* practice. Thus hypothesis is rejected.

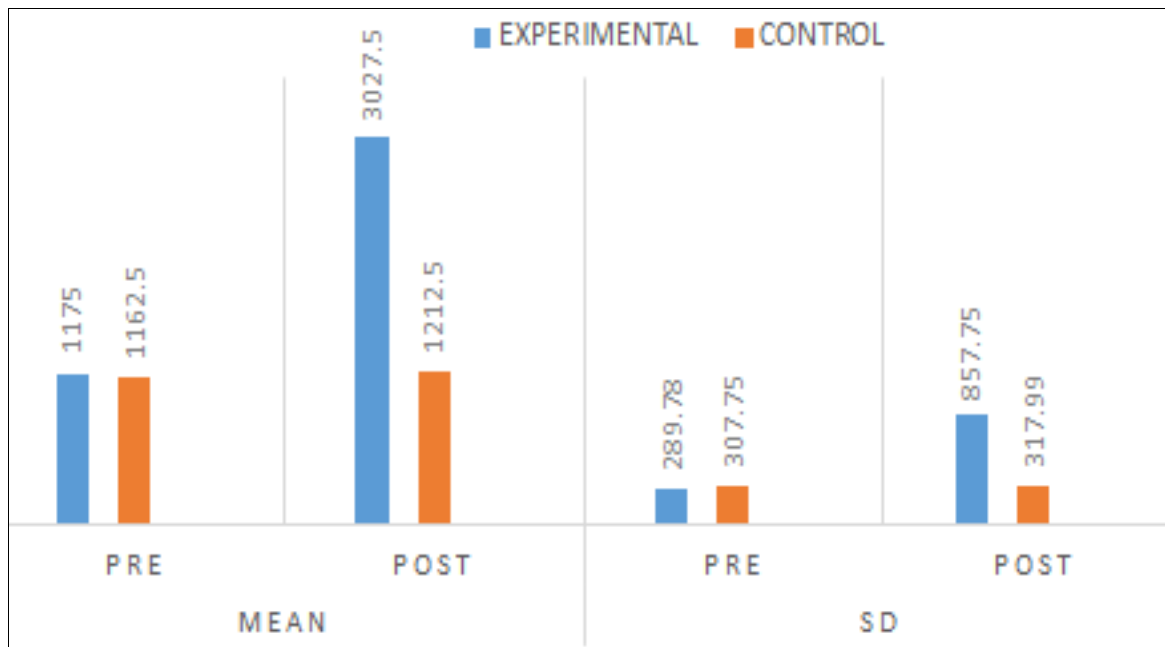


Fig 1: Vital capacity

Table 4: Difference between mean scores of experimental group and control group of respiratory rate

Group	Mean		SD	
	Pre	Post	Pre	Post
Experimental Group	81.05	69.45	5.16	3.20
Control Group	79.82	79.3	4.34	5.24

Table 3 Reveals that mean scores of experimental group and control group pre are (81.05 & 79.82) and post are (69.45 & 79.3) respectively and SD score of experimental group and control group pre are (5.16 & 4.34) and post are (3.20 & 5.24) respectively. This shows that there is change in Respiratory rate of experimental group after *Kapalbhati Kriya* practice. Thus hypothesis is rejected.

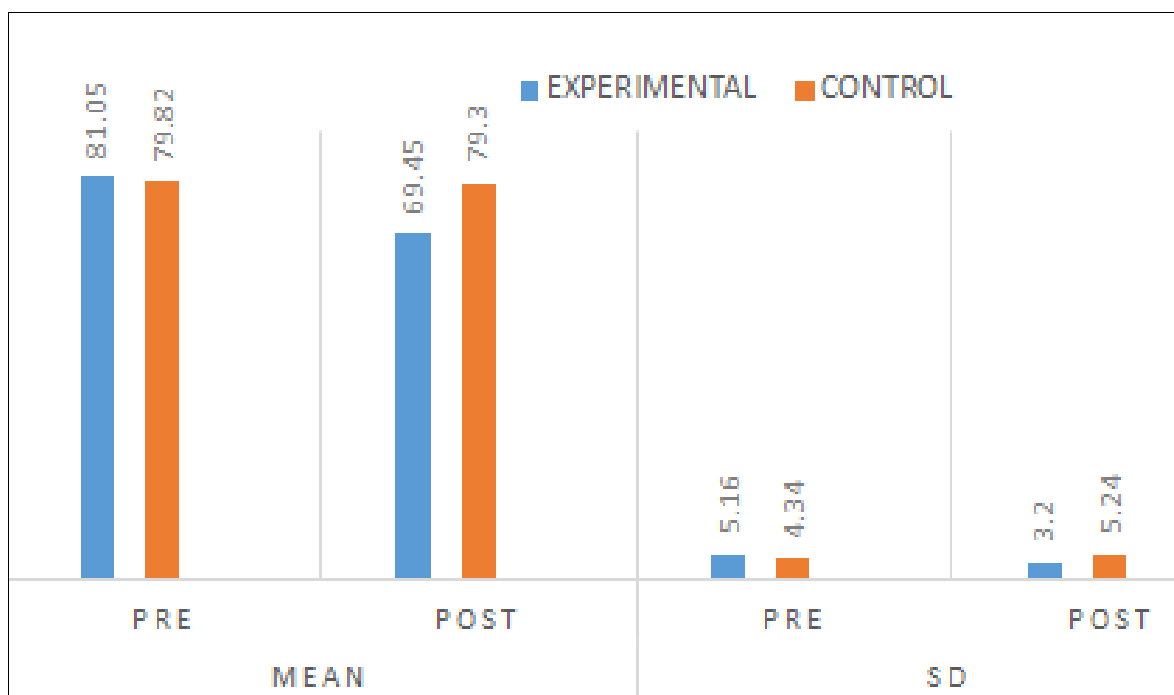


Fig 2: Respiratory Rate

Conclusion

The present study shows that vital capacity of lungs was increased in the experimental group than that with the control group. Mean score of experimental group pre score was 1175 after practicing *Kapalbhati Kriya* it was increased by 3027.5 whereas the SD of pre experimental group was 289.78 and post SD was 857.75 Mean score of control group pre data was 1162.5 and post data was 857.75 whereas the SD of control group Pre data was 307.75 and post data was 317.99

respectively. In present study respiratory rate was decreased in the experimental group than that with the control group as after practicing *Kapalbhati Kriya* lungs capacity is increased subject was able to take less breathe in one breathe than with to the pervious. Mean score of experimental group pre score was 81.05 after practicing *Kapalbhati Kriya* it was decreased by 69.45 whereas the SD of pre experimental group was 5.16 and post SD was 3.20 Mean score of control group pre data was 79.82 and post data was 79.3 which was not much

difference than that of the experimental group on which *Kapalbhati Kriya* practice was performed whereas the SD of control group Pre data was 4.34 and post data was 5.24 respectively.

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