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The Effect of Yogic and Non Yogic Exercise on the Respiratory System

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Abstract
A study attempts to investigate the physiological variations between vital capacity of BPEd students. A sample comprised of 60 BPEd students vital capacity through yogic and non yogic exercises from physical education college gadoora, ganderbal, Jammu and Kashmir by using simple random sampling technique. In which 30 students yogic exercises and 30 students non yogic BPEd students. The age of players ranging from 22 to 25 years. The yogic exercise anloum vilom , sheetali, sheetkari and non yogic exercises one step jump, skipping rope were used for measuring the vital capacity. To compare the impact of yogic and non yogic exercise on the respiratory system BPEd students t-test was applied. The result of the study showed that there was a significant difference was found between before yogic and non yogic exercise on the respiratory system of BPEd students in their vital capacity. Significant was observed between after yogic and non yogic exercise on the respiratory system BPEd students in their vital capacity.

Keywords: Yogic and Non Yogic Exercise, Vital Capacity, BPED students

1. INTRODUCTION

Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. Now-a-days yoga, the ancient practice of postures, breathing and meditation is gaining a lot of attention from healthcare professionals. In recent times, medical fraternity is much attracted towards beneficial effects of Yoga. It is claimed that yoga practices improve various cardio-respiratory fitness parameters. Physical fitness depends mainly on cardio-respiratory endurance of an individual.

One form of physical activity to be potentially used is yoga, a system of physical practices and breathing techniques aimed at achieving better health and inner balance. The beneficial effect of regular yoga exercises on human health.

Tran, et al. (2001). Yoga is considered to be a very good exercise for maintaining proper health. It produces consistent physiological changes and have sound scientific basis. It is claimed that yoga practices improve various cardio respiratory fitness parameters. Aim to find the effect of short term Yoga practice on aerobic capacity (VO2 max.) To measure aerobic capacity (VO2 max.) before and after Yoga practice. The present study was conducted on 160 M.B.B.S. students (140 males and 120 females) within the age group of 18-20 years. VO2 max was measured using bicycle Ergo meter in our

'Exercise & Sports Physiology' laboratory. It was recorded at start of study (baseline) and then after 12 weeks of yoga therapy. For both the genders VO2 max was found to be increased after yoga therapy for 12 weeks. The present study concludes that yoga practice can be used to perk up cardio-respiratory fitness.

Objectives of the study

1. To assess and compare the vital capacity before yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.
2. To assess and compare the vital capacity after yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.

Hypotheses of the study

1. There is no significant difference between before yogic and non yogic exercise group BPEd students of physical education college gadoora, ganderbal, J&K. regarding their vital capacity.
2. There is no significant difference between after yogic and non yogic exercise group BPEd students of physical education college gadoora, ganderbal, J&K. regarding their vital capacity.

Methodology

For the purpose of this study two sample groups were formed. 1st group comprises of 30 BPEd students and 2rd group comprises of 30 BPEd students were selected from the physical education college gadoora, ganderbal, J&K with the age group of 22 to 25 years.

TOOLS

The detail of the psychological instruments used in the study is as below.

1. Yogic Exercises:

Anloum vilom
Sheetali Procedure
Sheetkari Procedure

2. Non Yogic Exercises:

One step jump
Skipping rope

PHYSIOLOGICAL VARIABLES:

Vital Capacity:

Preparation: Ensure the spirometer is properly calibrated and ready for use. Have the individual sit in an upright position with no restrictions around their chest or abdomen.

Explain the Procedure: Inform the person about the test and what they need to do. Emphasize that they should take a deep breath and exhale forcefully during the test.

Proper Sealing: Make sure the person's lips create a tight seal around the mouthpiece of the spirometer to prevent air from escaping.

Initial Volume: Start with the spirometer at the "zero" or initial volume. This ensures that you are measuring the change in volume from their normal resting state.

Inhale Deeply: Ask the individual to inhale as deeply as possible. This is done to maximize the amount of air in their lungs.

Exhale Forcefully: Instruct them to exhale forcefully and completely into the spirometer as quickly as they can. This should be done until they can't exhale

Design of the Study

Design of the study was random group design, as the yogic and non yogic exercise group BPEd students were randomly selected from these who were talking part in the physical education college gadoora, ganderbal, J&K and comparison of vital capacity between yogic and non yogic exercise group BPEd students was done.

STATISTICAL PROCEDURE

Reiterating the objectives of the study researcher intended to investigate the differences in physiological parameters of BPEd students of physical education college J&K. Pre and Post T-Test was used to test the hypotheses.

Analysis of data

A statistical analysis was carried out and the result obtained is given below.

Objective 1. To assess and compare the vital capacity before yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.

Null Hypothesis 1. There is no significant difference between before yogic and non yogic exercise group BPEd students of physical education college gadoora, ganderbal, J&K. regarding their vital capacity.

Table: 4.1 Comparison of vital capacity before yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.

Variable	Group	N	Mean	Std. Deviation	t-Value	Df	Sig.
Vital Capacity Before	Yogic Exercise	30	4.54	.605	-2.45	58	.017
	Non Yogic Exercise	30	4.15	.617			

Significant at 0.05level

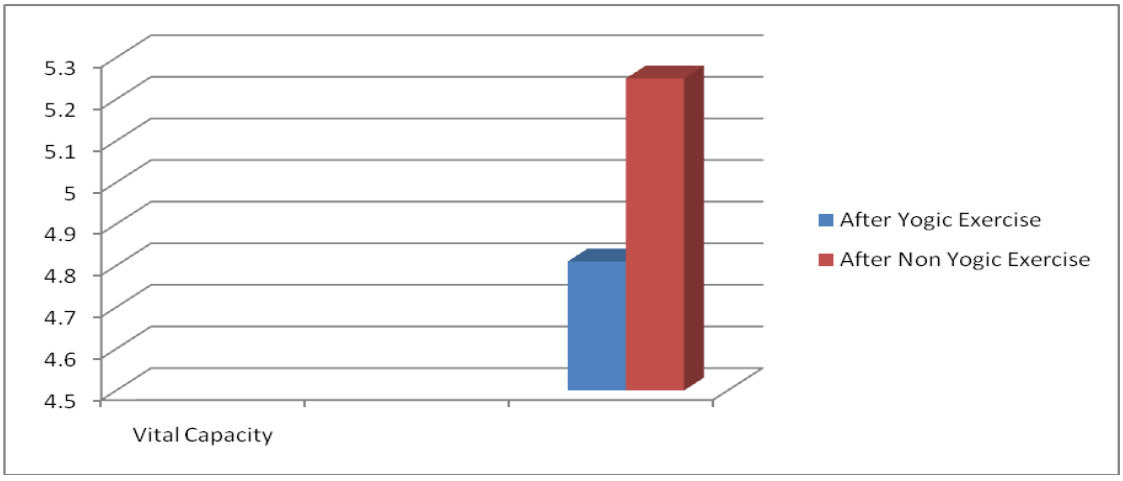

Figure 4.1: Comparison of Means & SD of vital capacity before yogic and non yogic exercise BPEd students group of physical education college gadoora, ganderbal, J&K.

The above table 4.1 indicates that the independent sample t-test is associated with a statistically significant difference t (58) =-2.45, p =.017, i.e. statistically significant at the level of 0.05 significance. The result shows that before yogic (M =4.54, SD =.605) and non yogic exercise group (M =4.15, SD =.617) of J&K physical education colleges are found to have different vital capacity. So, the null hypothesis (1), "There is no significant difference in the yogic and non yogic exercise of J&K physical education colleges regarding their vital capacity" is **rejected.**

Objective 2. To assess and compare the vital capacity after yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.

Null Hypothesis 2. There is no significant difference between after yogic and non yogic exercise group BPEd students of physical education college gadoora, ganderbal, J&K. regarding their vital capacity.

Table: 4.2 Comparison of vital capacity after yogic and non yogic exercise of BPEd students group physical education college gadoora, ganderbal, J&K.

Variable	Group	N	Mean	Std. Deviation	t-Value	Df	Sig.
Vital Capacity After Exercise	Yogic Exercise	30	4.81	.631	-2.97	58	.004
	Non Yogic Exercise	30	5.25	.507			

Significant at 0.01level

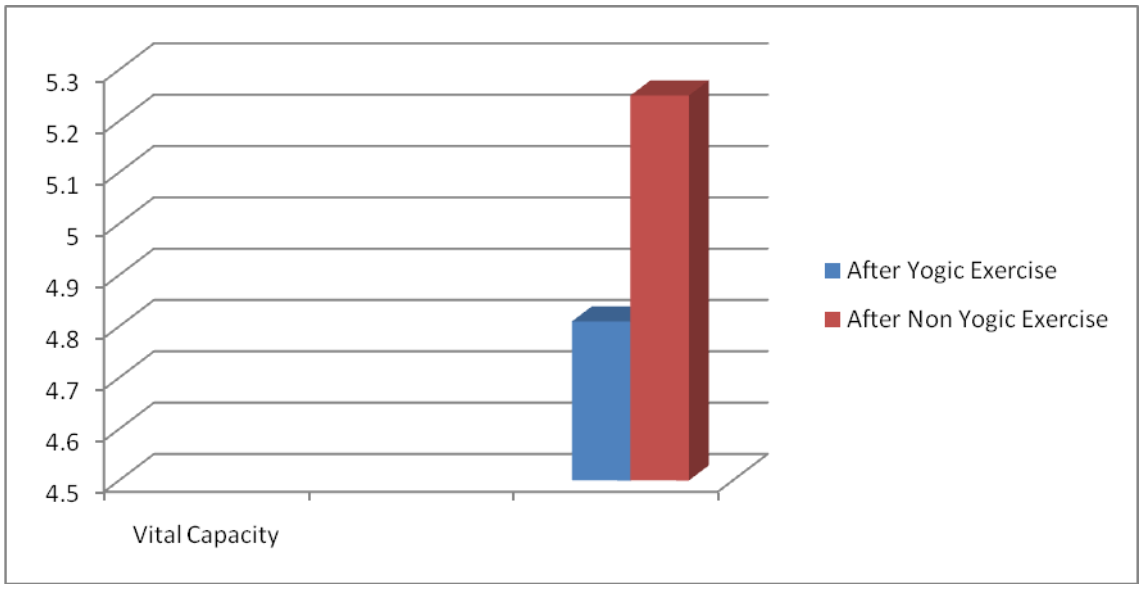

Figure 4.2: Comparison of Means & SD of vital capacity after yogic and non yogic exercise BPEd students group of physical education college gadoora, ganderbal, J&K.

The above table 4.2 indicates that the independent sample t-test is associated with a statistically significant difference t (58) =-2.97, p =.004, i.e. statistically significant at the level of 0.01 significance. The result shows that after yogic (M =4.81, SD =.631) and non yogic exercise group (M =5.25, SD =.507) of J&K physical education colleges are found to have different vital capacity. So, the null

hypothesis (1), "There is no significant difference in the after yogic and non yogic exercise of J&K physical education colleges regarding their vital capacity" is **rejected.**

However, Bhutkar, et al. (2008) also found a contradictory result, who showed that who studied that a significant difference was found the present study was conducted on 78 subjects, (48 males and 30 females). It was observed that 6 months of suryanamaskar practice decreases resting pulse rate and blood pressure. At the same time it increases cardio-respiratory efficiency and respiratory capacity as evaluated by bicycle ergometry and various lung functions tests, in both male and female subjects. From this study we conclude that suryanamaskar practice can be advocated to improve cardio-respiratory efficiency for patients as well as healthy individuals.

Discussion

As in the present finding, significant difference was found between before and after yogic exercise and non-yogic exercise of physical education college J&K BPEd students group in their vital capacity. The present result is supported by the findings of Tran, et al. (2001). also found a contradictory result, who showed that who studied that a significant difference was found this study 140 males and 120 females M.B.B.S. students were selected as a subject. Age group of 18-20 years. To measure aerobic capacity (VO2 max) before and after Yoga practice. The present study concludes that yoga practice can be used to perk up cardio-respiratory fitness.

Findings of the study

After analysis of data the fallowing conclusions are drawn:

1. A significant difference was observed in vital capacity of BPEd students of J&K physical education college before yogic and non yogic exercise. The mean value of before yogic exercise of physical education college BPEd students was non yogic exercise was lesser than their counterparts, i.e. physical education college BPEd students.
2. A significant difference was observed in vital capacity of BPEd students of J&K Physical Education College after yogic and non yogic exercise. The mean value of after yogic exercise of physical education college BPEd students was non yogic exercise was more than their counterparts, i.e. physical education college BPEd students.

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