International Research Journal Of Ayurveda & Yoga
Vol. 6 (6),21-26, June, 2023
ISSN: 2581-785X: https://irjay.com/
DOI: 10.47223/IRJAY.2023.6603

Effect of Six Week Yogic Exercise on Physical Fitness of Standard-V Students.

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Article Info

Article history:
Received on: 13-04-2023
Accepted on: 12-06-2023
Available online: 30-06-2023

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ABSTRACT:

Yoga is a multifaceted spiritual tool with enhanced health and well-being as one of its positive effects. Physical fitness is not only of the most important keys to healthy body, it is the basis of dynamic and creative intellectual activity. Promoting physical fitness of young and older adults is essential in reducing healthcare expenditures which would occur in the future for those with chronic health problems. The relationship between soundness of the body and the activities of the mind is subtle and complex. Yoga is a discipline to improve or develop one's inherent power in a balanced manner. It offers the means to attain complete self realization. Yoga and Physical fitness are two keys for good performance in day-to-day life.

Aim: To find out the effect of yogic exercise on physical fitness of class-V students.

Variables: Height, Weight, Body Mass Index (BMI), Speed, Physical Fitness Index (PFI), Blood Pressure (BP) were measured to find out the correlation among pre and post situation.

Results: Height, PFI and Systolic blood pressure were found positively significant in 0.05 level after six-week yogic training

Conclusions: short term of yogic training may reduce disease risk factor and may improve the lifestyle.

Keywords: Yogic exercise, physical fitness, health status.

INTRODUCTION

The most precious possession of a person is Health. One who enjoys the advantages of good health can enjoy life in the real sense. Health is the key to success in life and a source of true enjoyment. A man should be capable of doing physical as well as mental work. Without health, one can neither do great acts nor think great thoughts.[1] The student life is said to be the seedling time of life. During this stage the mind lies in a fluid condition, thereby it can be molded into any shape one desires. Hence, some awareness measures were taken about providing proper education to students regarding the beneficial effects of good health. In this stage yoga, sports and games are absolutely necessary for health. In the advanced countries, yoga, sports and games contribute a vital aspect of school and college curricula. Unfortunately, however, in our country so long they did not get much importance. Recently greater attention is being paid to them by the educational authorities.[2] Yoga is necessary for the mind as for the body. It keep us physically fit and in good health. As healthy brain can reside only in a healthy body, yoga, sports and games are also necessary for intellectual progress. They also help the formation of character by teaching the virtue of discipline. Yoga is now viewed as instruments for building up a strong healthy and active

future generation.[3]

As per the report of Secondary Education Commission: "every student in the school requires to be trained in sound health, habits both at school and home. The instruction should be practical so that he/she may not only appreciate the value of health education but also learn the ways in which he can effectively maintain and improve his/her health".[4]

Yoga is a discipline to improve or develop one's inherent power in a balanced manner. It offers the means to attain complete self realization. Yoga can therefore be defined as a means of uniting the individual spirit with the universal spirit of god. According to maharishi Patanjali yoga is the suppression of modifications of the mind.[5]

Schools have an important role in the development of children by identifying those with low physical fitness and by promoting health behaviors such as encouraging children to be active.[6] The most obvious benefits of physical exercise in children are improvements in physical fitness, which was shown in a study on 57 children.[7] Following seven weeks of exercise there were improvements in a fitness test, agility, counter movement jump test, sprint, systolic blood pressure, the fitness test, and fat percentage reduction.

AIM

To find out the effect of yogic exercise on physical fitness and health status parameter of class-V students.

METHODS

Population And Sample

Sixty numbers of class V students were randomly selected as the population of the present study. Among sixty, forty were finally evaluated, because the others were not participated the training programme regularly.

Tools:- In this study observation schedule were used for the collection of research data, the description of the observation schedule and the time frame are give below in details :-

a) Health and Physical fitness test.

b) Yogic exercise.

Health And Physical Fitness Parameters:

There are various components of physical fitness some of are selected for present study which are following–

A) Height

B) Weight

C) Body Mass Index (BMI)

D) Speed – 50 yard dash test

E) Physical Fitness Index (PFI)

F)Blood Pressure (BP)

A. Standing Height :

The subjects were asked to stand without shoes with the back against a support helps of a wall. The chin is raise in slightly and the head is held erect. The scale used to form a right angle to the wall is pressed firmly on to the subject head. Care should be taken so that the upper surface is horizontal and not tilted or alter his/her position. Finally, the subject bend knees slightly when steps away, so as not to disturb the angle before the height is recorded from the measuring tape which was pasted by cello tape previously with the wall. The reading from the measuring tape was taken in centimeters.

Instruction :- 1. The subject were asked to stand erectly touching the wall.

2. The scale should be making a right angle with the wall when placed on head.

Scoring :- Average of three trails was the final score in centimeters.

Testing Personal :- For conducting this test one measurer and an assistant was appointed for recording the score.

b) Body weight:-

The subject wearing minimum cloths and giving both feet (bare) on the weighing machine and stand erect, without any jerk. The digital score which shown on the machine was recorded in Kg.

Instructions :- 1.Weighing machine should be placed on a non slippery floor.

2-Before the measurement check the machine has shown zero or not.

Scoring :- Average of three trails were recorded as the final score in kilogram.

Testing Personal:- One measure and one recorder were involved for conducting the measurement.

C) BMI:-

The Body Mass Index is a value derived from the Mass(weight) and height of an Individual. The BMI is defined as the Body Mass divided by the square of the body height and is universally expressed in units of kg/meter, resulting from the mass(weight) in kilograms and height in meters.

BMI= weight/(height)[8]

The BMI is an attempt to qualify the amount of tissue mass(muscle, fat and bone) in an Individual and then categorize that person as underweight, normal weight and overweight. BMI is simple tool that is generally used to estimate the total amount of body fat.

D) Speed (50 Meter Dash):-

Speed test were performed by 50 meter sprint. The test involves running a single maximum sprint over 50 meters, with time recorded. After a thorough warm up including some practice starts and accelerations, start from standing position (Hands cannot touch ground) with one foot in front of the other. The front foot must be behind the starting line. Once the subject become ready and motionless, the starter gives the instruction "Set", then "go". The tester should provide hints for maximizing speed and the participant should be encouraged not to slow down before crossing the Finish line.

Equipment Required:- Measuring tape or marked track, stopwatch, and clear surface at least 70 meters.
Two trials ware allowed and the best of the 02(two) trials was accepted as the Final Score.

E) Physical Fitness Index (Pfi) :-
Physical Fitness Index is mostly measured by "Harvard Step Test". It is a good measurement of fitness and a person's ability to recover after a strenuous exercise. The more quickly the heart rate returns to resting the better shape the person is in. The person who is taking the test steps up & down on a platform in a cycle once step per two second. The platform is a height of about 50 centimeters or 20 inches. The rate of 30 steps per minutes must be held up for 05 minutes or until exhaustion. The subject immediately sits down on completion of the test and the heart beat are counted for 1-1.5 min. 2-2.5 min. 3-3.5 min.
The results are written down time until exhaustion in seconds (Te) and the total heart beat(hb) counted

PFI= (100 x test duration in seconds) divided by (2 x sum of heart beats in the recovery periods)
Physical Fitness Index was measured before the sample group has undergone yogic Exercise and after they have done the yogic Training.

F) Blood Pressure (Bp) :-
B.P. was measured three (03) times & average of the three readings recorded on the basis of these readings. The measurement was taken by automatic blood pressure monitor where systolic and diastolic pressure shows separately.

Yoga Practice Schedule:-
The detailed description of the YOGIC exercise is given below –
The subjects were trained 06 weeks yoga training programme consisted of daily sessions. Each yoga session consisted of 10 min of *Pranayamas*, 15minutes of warm up exercises, 40 minutes of *Asanas* (Yoga postures) and 05 minutes of relaxation by *Savasana.* The five days in a week was practiced in training and Saturday – Sunday was considered as a rest days. The *Pranayamas* consisted of alternative nostril breathing while maintaining *Vajrasana / Ardha Padmasana* position. The warm up programme focused on slow dynamic, muscular movements, which consisted of dynamic lunges, shoulder and arm circles, neck rolls, standing forward bend and two or three cycles of the *Surya Namaskar. The Asanas* introduced in this study included *padmasana, bajrasana, paschimuttasana, ustrasana, halasana* etc. focused on the quality and easy of breath, isometric contraction, flexibility, balance and concentration. Each yoga session ended with 10 min. of Savasana and cool down. After completion 06(six) weeks continuous training, physical fitness components were measured for post test data.

Research Procedure:
After selection of the subject, the subjects were informed about the aim and objectives of the study. In first day, the Height, Weight, PEI, Blood pressure were measured. From the next day training was started. After completion of the training the variables were again measured and the statistical interfaces were done.

Statical Procedure:
For analysis of the data collected from class -V students, Mean and SD was computed. To find out the effect of yoga on selected health and physical variables of students T-test was applied for testing the hypothesis the level of significance was set at .05 levels.
.

RESULT AND DISCUSSION

This first purpose of this study was to determine the effects of yoga training on components of health and physical fitness which included: body height, weight, BMI, Heart rate PFI. Data examined by paired samples t-test to test for statistical significance with 0.05 level using the SPSS package 16.
Mean, SD, and t test values Pre Test and Post Test. Data of the group.
The table 1 show that the pre and post test mean values of health and physical fitness variables. The pre and post test recorded score were in height 1.36 & 1.37mts, weight 32.26 & 32.66kg, BMI 17.25 & 17.22, PFI 105.65 & 103.01, Blood pressure(S&D) 118.3 & 114.56, 71.46 & 70.8 mm/hg respectively, and speed 9.01 & 8.9 /sec .
Weight, PFI and systolic Blood pressure were found significantly changed among pre and post test data in 0.05 level. Systolic blood pressure reduced markable but it was not significant in 0.05 level.
Within six week of training the reaction time also develop which reflected by the speed, but in this short time it was not shown a significant differences.
Body mass index also reduced towards the normal value.
The beauty of yoga is that its benefits are available to students

of every school-age group," according to Henningsen.[9] yoga can be a comprehensive approach to stress, something which is needed in the often tension-filled lives of children today.[10] Yoga has also been shown to help children with attention problems,[11] Yoga has been found to have physiological benefits for children through rehabilitation processes.[12] Clinical studies also indicate that yoga improves academic performance and emotional balance.[13] This article claims that yoga can be a valuable tool for children to become healthy and lead disease free life. We believe that the following statement also applies for children and young people: "If you practice yoga every day with perseverance, you will be able to face the turmoil of life with steadiness and maturity"[14] Today's children require a creative, interactive syllabus, and participatory method in the teaching–learning process. This approach is applicable for learning yoga too.[15] Thus, if we can communicate with children effectively, they can adopt yoga as a powerful tool for themselves to minimize stress, as well as develop healthy lifestyle with it. We believe in the need to focus on research to understand the ways children and young people can enjoy learning yoga, sustain it in practice, and use it in daily life. They may use yoga in any kind of emotional and social stress situations. Our study also influence the same result and it may infer that the *yogasana* practice brought significant improvement in physical fitness of school students who were actively participated the six-week training.

CONCLUSIONS

The preponderance of the research evidence shows that the *yogasana* practices on selected physical variables. In the light to the limitations and experimental conditions of this study, the following conclusions were drawn from the results presented in the previous chapter. Six weeks Yoga training is beneficial for controlling of body weight of the class V students. Regular practice of yoga is beneficial in improving Physical efficiency of an individuals.

Acknowledgment- Nil

Conflicts Of Interest- Nil

Source of finance & support – Nil

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REFERENCES

1. Buchan DS, Ollis S, Thomas NE, Buchanan N, Cooper SM, Malina RM, Baker JS: Physical activity interventions: effects of duration and intensity. Scand J Med Sci Sports. 2011, 21: e341-e350. 10.1111/j.1600-0838.2011.01303.x.
2. Buck SM, Hillman CH, Castelli DM: The relation of aerobic fitness to Stroop task performance in preadolescent children. Med Sci Sports Exerc. 2008, 40: 166-172. 10.1249/mss.0b013e318159b035.
3. Chen TL, Mao HC, Lai CH, Li CY, Kuo CH: The effect of yoga exercise intervention on health related physical fitness in school-age asthmatic children. Hu Li Za Zhi. 2009, 56: 42-52
4. Christodoulos AD, Flouris AD, Tokmakidis SP: Obesity and physical fitness of pre-adolescent children during the academic year and the summer period: effects of organized physical activity. J Child Health Care. 2006, 10: 199-212. 10.1177/1367493506066481.
5. Clay, C.C., Lloyd, L.K., Walker, J.L., Sharp, K.R., & Pankey, R.B. (2005). The metabolic cost of Hatha yoga. Journal of Strength and Conditioning Research, 19(3), 604-610.
6. Ortega FB, Ruiz JR, Castillo MJ, Sjöström M: Physical fitness in childhood and adolescence: a powerful marker of health. Int J Obes (Lond). 2008, 32: 1-11. 10.1038/sj.ijo.0803774.
7. Ploughman M: Exercise is brain food: the effects of physical activity on cognitive function. Dev Neurorehabil. 2008, 11: 236-240. 10.1080/17518420801997007.
8. Sibley BA, Etnier JL: The relationship between physical activity and cognition in children: a meta-analysis. Pediatr Exerc Sci. 2003, 15: 243-256.
9. Slawta J, Bentley J, Smith J, Kelly J, Syman-Degler L: Promoting healthy lifestyles in children: a pilot program of Be a Fit Kid. Health Promot Pract. 2008, 9: 305-312.
10. Iyengar BKS. Yoga: The Path to Holistic Health. London: Dorling Kindersley Limited; (2008).
11. Henningsen K. The Benefits of Yoga for Children. Kaplan University; (2013). Available from: http://healthandwellness.kaplan.edu/articles/yoga/The%20Benefits%20of%20Yoga%20for%20Children.html
12. Wenig M. Yoga for Kids. (2013). Available at: http://www.yogajournal.com/lifestyle/210
13. Rabiner D. Does yoga help children with attention problems? Internet4Classrooms (2013). Available from: https://www.internet4classrooms.com/exceptional_children/ADHD_attention_deficit_disorder_does_yoga_help_children_with_attention_problems.htm
14. Galantino ML, Galbavy R, Quinn L. Therapeutic effects of yoga for children: a systematic review of the literature. Pediatr Phys Ther (2008) 20(1):66–8010.1097/PEP.0b013e31815f1208
15. Van Pelt J. Yoga and children's mental health. Soc Work Today (2011) 11(6):8.

How to cite this article: Mondal T, Biswas M "Effect of Six Week Yogic Exercise on Physical Fitness of Standard-V Students" IRJAY. [online] 2023;6(6);21-26.
Available from: https://irjay.com.
DOI link- https://doi.org/**10.47223/IRJAY.2023.6603**

Table- 1:
Mean, SD, and t test values Pre Test and Post Test. Data of the group.

VERIABLES	PRE TEST	POST TEST	T VALUE
a)Height(mts)	**1.36** ±07	**1.37** ±078	**.08**
b)Weight(Kg)	**32.26** ±6.36	**32.66** ±6.40	**.001**
c)Body Mass Index (BMI)	**17.25** ±2.74	**17.22** ±2.90	**.81**
d)Speed – 50 yard dash test	**9.01** ±.79	**8.90** ±.63	**.75**
e)Physical Fitness Index (PFI)	**105.65** ±20.33	**103** ±20.34	**.001**
f)Blood Pressure (SYS)	**118.3** ±16.23	**114.56** ±12.49	**.009**
g) Blood Pressure (DYS)	**71.46** ±13.18	**72.8** ±13.18	**.077**

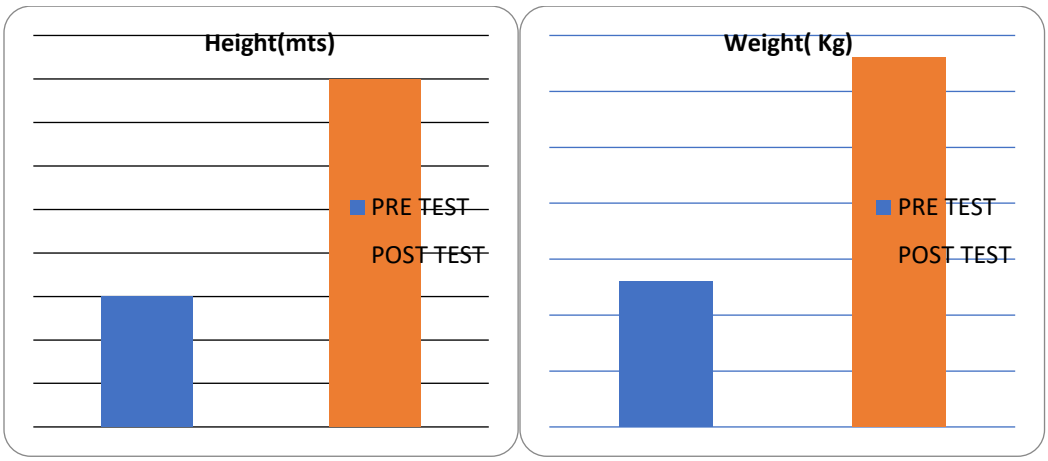

Figure-1 Pre and post training data of height and weight

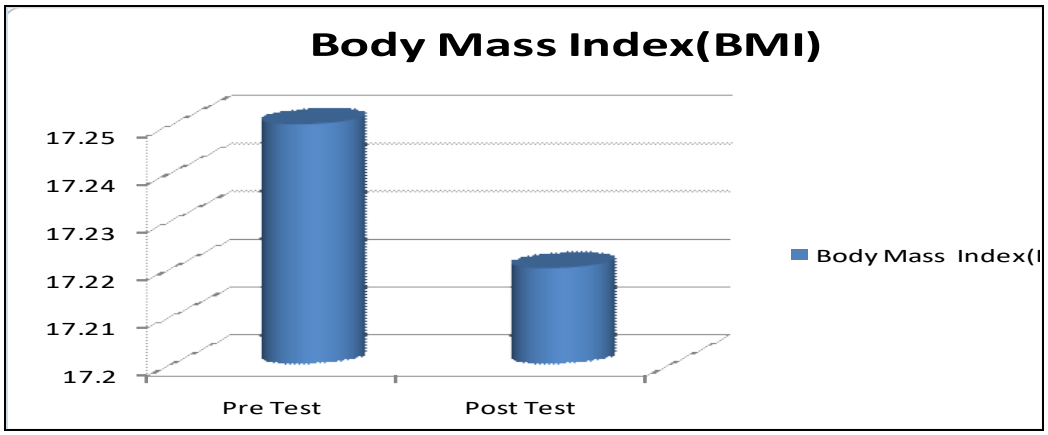

Figure-2 Pre and post training data of BMI

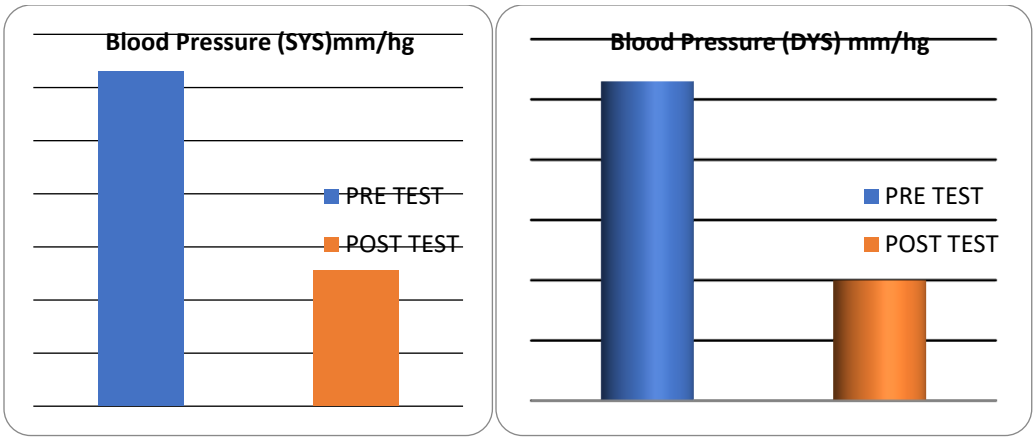

Figure-3 Pre and post training data of blood pressure

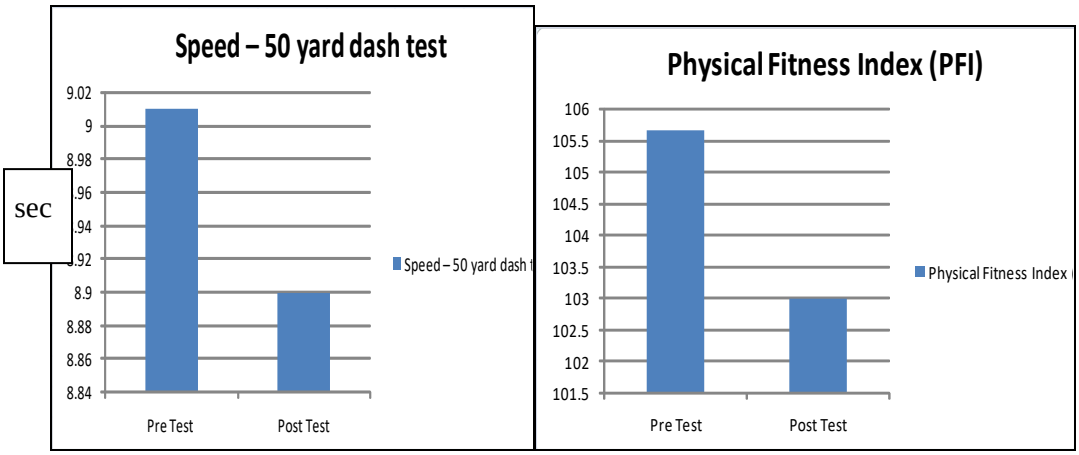

Figure-4 Pre and post training data of speed and PFI