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Effect Of Yogasana On Agility and Abdominal Muscle Strength of College Male Students

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Abstract: *Yogic practices, originating from traditional Indian traditions, are widely acknowledged for improving key physical fitness attributes such as agility and abdominal muscle strength in young adults. Present study investigates the impact of a six-week yogic intervention on these variables in college male students, using a pre-post randomized group design. For the study research scholar randomly selected thirty male students aged 18-25 years from a college in Maharashtra, India. Selected thirty subjects were divided into two groups experimental group (N = 15) and control group (N = 15). An experimental group (n=15) undergoing yogic practices (asanas such as Navkasana, Bhujangasana, Surya Namaskar etc.) for 45-60 minutes, five days/week, and a control group (n=15) with no training. Agility was measured with the help of T-Test (time in seconds, lower better), and abdominal muscle strength was measured with bent knee sit ups. Data analysis was done by using descriptive statistics and students t test at 0.05 level of significance. The results of the study show significant improvements in agility and endurance in the experimental group, which are beneficial for sports training in physical education curricula. Future studies should explore larger cohorts, longer interventions, and female participants for broader applicability.*

Keywords: *Yogasana, agility, abdominal muscle strength, T-Test, bent knee sit ups.*

1. INTRODUCTION:

College students frequently lead sedentary lifestyles in today's fast-paced environment, which weakens their core strength, reduces their physical fitness, and impairs their agility. While strong abdominal muscles assist posture, balance, and overall stability, agility the capacity to change direction swiftly and efficiently is essential for everyday activities, sports performance, and injury prevention. Through deliberate movements, breathwork, and mindfulness, traditional yogasanas which have their roots in ancient Indian practices offer a comprehensive method of improving these qualities.

Research on Surya Namaskar and asanas like Navasana demonstrate how yoga enhances neuromuscular coordination, flexibility, and endurance. However, there is still no data on its precise effects on male college students who are not athletes' agility and abdominal strength, especially in Indian academic environments. It is appropriate to investigate accessible solutions as knowledge of the advantages of yoga grows thanks to campaigns like International Yoga Day.

This study examines how a 6-week yogasana program, which includes Sukshma Vyayama, Surya Namaskar, Navasana, and Bhujangasana, affects the agility and abdominal muscle strength in healthy, non-athletic male college students between the ages of 18 and 25. It attempts to offer useful insights for physical education curriculum by filling up the gaps in short-term, institution-specific experiments.

2. Statement of the Problem:

The present study was undertaken to know the effect of yogasanas on the agility and abdominal muscle strength of college male students.

3. Purpose of the study:

The purpose of the study was to find out the effect of effect of yogasanas on the agility and abdominal muscle strength of college male students.

4. Hypothesis:

It is hypothesized that the yogasana intervention will significantly improve agility and abdominal muscle strength of college male students.

5. Objectives:

1. To assess pre-post changes in agility and abdominal muscle strength from six-week yogic intervention.
2. To compare experimental vs. control group improvements using statistical analysis.
3. To evaluate yoga's efficacy for college males' physical fitness.

6. Limitations:

The small group size (just 30 people) means results may not apply widely. People self-reported their habits, which could be inaccurate. No blinding or long-term checks were used. All participants were from one college.

7. Delimitations:

This study focused only on healthy, non-athletic male college students aged 18-25. It lasted just six weeks and used specific yoga poses, like Boat Pose for core strength and dynamic flows for agility.

8. Methodology:

For the present study thirty male college students were randomly selected at the age group of 18-25 years from Maharashtra, India as subjects of the study. Selected thirty subjects were divided into two groups i.e. experimental group (N = 15) and control group (N = 15). The research design is Pre-post randomized control group design. The independent variables in the present investigation were the yogasana and the dependent variable in the present investigation was agility and abdominal muscle strength. The experimental group participated in yogasana for 6 weeks, with 45-minute sessions held daily except on Saturdays and Sundays. Yogic practice sessions lasted 45 minutes each and included Sukshma Vyayama (neck, shoulder, arm, core, and leg exercises), Surya Namaskar, Navasana, and Bhujangasana. Agility was measure with the help of T-Test (5-10-5-yard shuttles) and abdominal muscle strength was measured with bent knee sit ups test. Data was analyzed with the help of descriptive statistics and independent t-tests.

9. Analysis of data and interpretation of the result

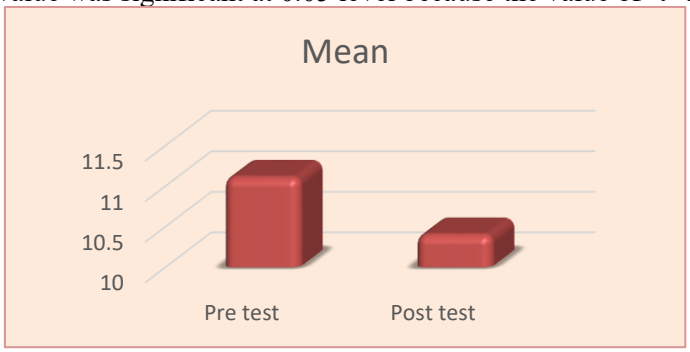
Analysis of data and interpretation of the result was done by using the mean and standard deviation. Comparative analysis was done by using 't' test. The level of significance was kept at 0.05 levels. It was hypothesized that the yogasana will significantly improve agility and abdominal muscle strength of the experimental group compared to controls.

➢ **Table 1. Showing the pre-test and post test score of agility of the Experimental Group.**

Experimental Group Agility (Sec.)	N	Mean	SD	MD	't' test	Table value of 't' test
Pre test	15	11.11	1.20	0.71	3.94	2.14
Post test	15	10.40	1.10			

Significant at level 0.05

The initial mean value of agility was measured with the help of T-Test (5-10-5 yard shuttles) of experimental group of pre test was 11.11. The final mean value of agility of experimental group of post test was 10.40. Thus, the resultant mean difference of pre test and post test were 0.71. Experimental group was found statistically significant. The value of 't' test was 3.94 this value was significant at 0.05 level because the value of 't' test was greater than 2.14.



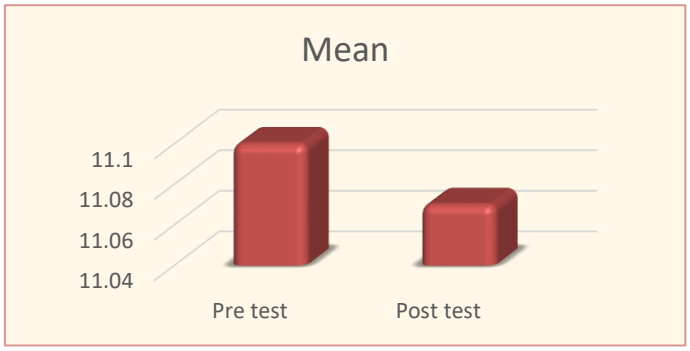
Graph No. 1. Showing the pre-test and post-test mean score of agility of the Experimental Group

➢ **Table 2. Showing the pre-test and post test score of agility of the Control Group.**

Control Group Agility (sec.)	N	Mean	SD	MD	't' test	Table value of 't' test
Pre test	15	11.10	1.20	0.03	0.17	2.14
Post test	15	11.07	1.20			

Significant at level 0.05

The initial mean value of agility was measured with the help of T-Test (5-10-5 yard shuttles) of Control group of pre test was 11.10. The final mean value of agility of Control group of post test was 11.07. Thus, the resultant mean difference of pre test and post test were 0.03. Control group was not found statistically significant. The value of 't' test was 0.17 this value was not significant at 0.05 level because the value of 't' test was smaller than 2.14.



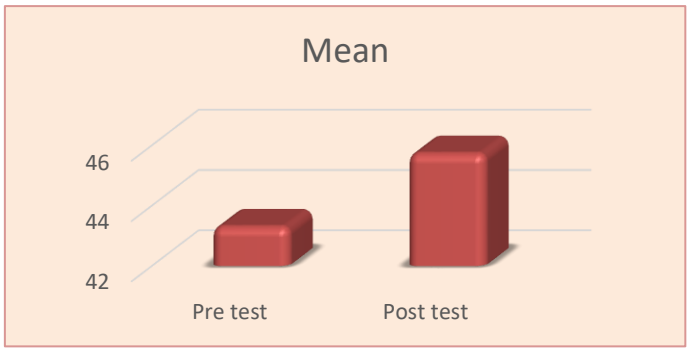
Graph No. 2. Showing the pre-test and post-test mean score of agility of the Control Group.

➢ **Table 3. Showing the pre-test and post test score of abdominal muscle strength of the Experimental Group.**

Experimental Group Abdominal Muscle Strength (reps)	N	Mean	SD	MD	't' test	Table value of 't' test
Pre test	15	43.30	9.75	2.43	2.90	2.14
Post test	15	45.73	9.47			

Significant at level 0.05

The initial mean value of abdominal muscle strength was measured with the help of bent knee sit ups test of experimental group of pre test was 43.30. The final mean value of abdominal muscle strength of experimental group of post test was 45.73. Thus, the resultant mean difference of pre test and post test were 2.43. Experimental group was found statistically significant. The value of 't' test was 2.90 this value was significant at 0.05 level because the value of 't' test was greater than 2.14.



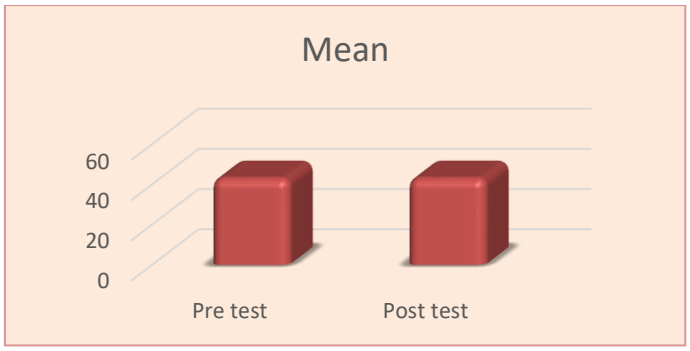
Graph No. 3. Showing the pre-test and post test mean score of abdominal muscle strength of the Experimental Group.

➢ **Table 4. Showing the pre-test and post test score of abdominal muscle strength of the Control Group.**

Control Group Abdominal Muscle Strength (reps)	N	Mean	SD	MD	't' test	Table value of 't' test
Pre test	15	43.00	9.50	0.00	0.00	2.14
Post test	15	43.00	9.50			

Significant at level 0.05

The initial mean value of abdominal muscle strength was measured with the help of bent knee sit ups test of Control group of pre test was 43.00. The final mean value of abdominal muscle strength of Control group of post test was 43.00. Thus, the resultant mean difference of pre test and post test were 0.00. Control group was not found statistically significant. The value of 't' test was 0.00 this value was not significant at 0.05 level because the value of 't' test was smaller than 2.14.



Graph No. 4. Showing the pre-test and post test mean score of abdominal muscle strength of the Control Group.

10. Conclusion:

It was concluded that the current study shows that when used for a total of six weeks, five times per week, yogasanas had a positive impact on agility and abdominal muscle strength of college male students. It was proved that yogasanas were agility and abdominal muscle strength of college male students. The study shows that the statistically significant difference in the mean difference of agility and abdominal muscle strength of college male students of experimental group and there was no statistical difference found in explosive leg power of control group the probable reason may due to no participation in yogasanas.

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