REVIEW OF RESEARCH

EFFECT OF DYNAMIC SURYANAMASKAR ON STRENGTH OF SEDENTARY COLLEGE STUDENTS

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ABSTRACT:

Background: Sedentary lifestyle of college students is one of the leading causes of lifestyle disability worldwide. With all Nowadays pollution, heating and various environmental problems have covered us, the importance of health and fitness has increased to a great extent. India has a rich tradition of yogic practices. Another practice of yoga that is being practiced with tradition is that of Suryanamsakar. It gives physical, mental and spiritual benefits and is a practical, lively approach to life. Objectives of the study: the objectives of the study was to characterize, effect of Dynamic Suryanamaskar, comparison between Conventional and Dynamic Suryanamaskar and determine the significant difference of adjusted post-test means among three groups of sedentary college students in relation to Muscular Strength. Materials and Methods:To achieve these purpose Ninety (90) male sedentary college students from Jawaharlal Nehru Boys Hostel, Takshshila Campus, Devi Ahilya Vishva Vidhyalaya, Indore, in age group 18-28 were selected randomly as subjects. Further they were divided into three groups, with 30 subjects in each group such as Conventional Suryanamaskar, Dynamic Suryanamaskar and control group. Data was analyzed by using 't'test and analysis of covariance (ANCOVA) Results:Conventional and dynamic Suryanamaskar groups improved significantly having't' values -4.66 and -6.86 respectively. Control group also significant having't' value 3.26 but performance was not improved.

KEYWORDS: *dynamic Suryanamaskar, strength, sedentary collegestudents*

INTRODUCTION

The evolution of technology has reached a point where pretty much anything is available at the touch of a button. Shopping, learning, working and entertainment can all be accessed from the comfort of our own homes, on a train or sat in a cafe.The word "Sedentary" is derived from the Latin word "Seder" which means "to sit" hence Sedentary behavior is a term used to characterize those behaviors that are associated with low energy expenditure. This includes home, business centers, long screen time, prolonged sitting at work, and leisure time. Sedentary lifestyle is one of the major causes of life style disease disability around the world. The transition from secondary school to university is often accompanied by unhealthy behavior changes such as decreasing physical activity and increasing sedentary behavior in college going students.India has a rich tradition of yogic practices. Another practice of yoga that is being practiced with tradition is that of Suryanamsakar .it is considered the best in yoga, it is also known as Sarva-anga (whole body) Exercise. Only regular practice of Suryanamaskar, person is able to benefit the whole yogic exercise.In the dynamic Suryanamaskar the routine differs greatly with regards to the recommended pace of movement, number of repetitions and emotional approach. I as A researcher want to know thateffect of Dynamic Suryanamaskar onMuscular

Strength of sedentary college students.

OBJECTIVES OF THE STUDY

- The first objective of the study was to characterize Muscular Strength of sedentary college students.
- The second objective of the study was to find out the effect of Dynamic Suryanamaskar onMuscular Strength of Sedentary College students.
- The third objective of the study was to find out the comparison between Conventional Suryanamaskar and Dynamic Suryanamaskar in relation to muscular strength.
- The fourth objective of the study was to determine the significant difference of adjusted post-test means among three groups (Two Experimental and one control group) of sedentary college students in relation to Muscular Strength.

MATERIAL AND METHODS

Subjects

The study has made on Ninety (N=90) male sedentary college students from Jawaharlal Nehru Boys Hostel (J.N.B.H.),Takshshila Campus, Devi Ahilya Vishva Vidhyalaya (D.A.V.V.), Indore were selected as subject for this study at random and their age were ranged between 18-28 years.

Variables and tests

Strength was measured through standing broad jump. As far as experimental treatments are concern twelve weeks of conventional and dynamic Suryanamaskar training were conducted in aplanned manner.

Procedure

As the subjects were sedentary they were not able to cope up in the early weeks of programme. So the subjects were allowed to take rest in between the Suryanamaskar sets as and when they required. After the 2nd and 3 week the subjects were able to perform the Suryanamaskar properly. When they were able to perform the Suryanamaskar properly they were allowed to take rest after 6 sets in conventional Suryanamaskar group and after 3 sets in dynamic Suryanamaskar.All the subjects performed theconventional Suryanamaskar after proper warming upThe experimental groups were given respective training to the subjects six days a week Monday to Saturday except Sundays from 7.00 to 8.00 a.m. Exercises were introduced in progressive manner. Simple to complex procedure was adopted.

Statistical analysis

To find out the significance difference between the pre and post test dataof each grouppaired 't'test was applied and to find out between groupsignificance of the difference analysis of covariance (ANCOVA)was applied .whenever the F ratio for adjusted post mean was found significant,the turkey L.S.D.test was applied to determine the paired mean differences. For the analysis was fixed at 0.05.

RESULTS, DISCUSSION AND CONCLUSIONS

Table – 1

PAIRED'T' RATIO of strength for all the three groups

groups	mean		md	se_{dm}	Cal't'
	pre	post			
control	1.93	1.91	0.02	0.0065	3.26*
conventional suryanamskar	1.89	1.94	-0.05	0.0113	-4.66*
dynamic suryanamskar	1.93	2.05	-0.12	0.0175	-6.86*
* Significant at 0.05 level for one tailed test Tab t.05(29) = 1.699 N=30 df=29					

The table-1clearly reveals that conventional and dynamic Suryanamaskar groups improved significantly having**'t'** values **-4.66** and **-6.86** respectively. Control group also significant having't' value **3.26** but performance was not improved. The needed't'value for significance at **.05** level with **(29)** df were **1.699**.

For finding the significance of difference between the means of two experimental and one control group analysis of covariance was applied. The value of F and means of two experimental and one control group are presented in table -2.

Table – 2
analysis of variance and covariance of all three groups for strength

Source of Variance	Group means			Sum of squares	Df	Mean Sum of square	'F' Ratio
	Control	Conventional	Dynamic				
Pre Test Means	1.93	1.89	1.93	B=0.03 W=1.90	2 87	B=0.01 W=0.02	0.68
Post Test Means	1.91	1.94	2.05	B=0.32 W=1.79	2 87	B=0.16 W=0.02	7.88*
Adjusted Post Test Means	1.89	1.96	2.04	B=0.30 W=0.37	2 86	B=0.15 W=0.004	34.07*
*Significant at 0.05 level 'F' Ratio needed for significant At 0 .05 (2, 90) =3.10 B = Between Group Variance N = 90 W= Within Group Variance							

The table-2 indicates that 'F'value for adjusted post test means **(F=34.07)** for two experimental and one control group was significant. The 'F value needed for significant at .05 level with **(2, 90)** df was **3.10.**

To find which of the differences between adjusted group means were statistically significant, the post hoc **'t'** test was applied as an extension of analysis of covariance. The data related to this is presented in table-3.

TABLE-3
Paired Adjusted Final Means And Difference Between Means Of All Three Groups For Strength

Control	Conventional Suryanamaskar	Dynamic Suryanamaskar	Mean Difference	Critical Difference
1.89	1.96		-0.06*	**0.02**
1.89		2.04	-0.14*	
	1.96	2.04	-0.07*	
***Significant at 0.05 level**				

Table-3 clearly reveals that conventional and dynamic Suryanamaskar group were statistically superior to the control group (**MD=-.006** and **-0.14**respectively).It was also found that dynamic Suryanamaskar group was statistically superior to conventional Suryanamaskar group **(MD=-0.07).**The graphic representation of the adjusted final means of all the three groups are presented in figure-1

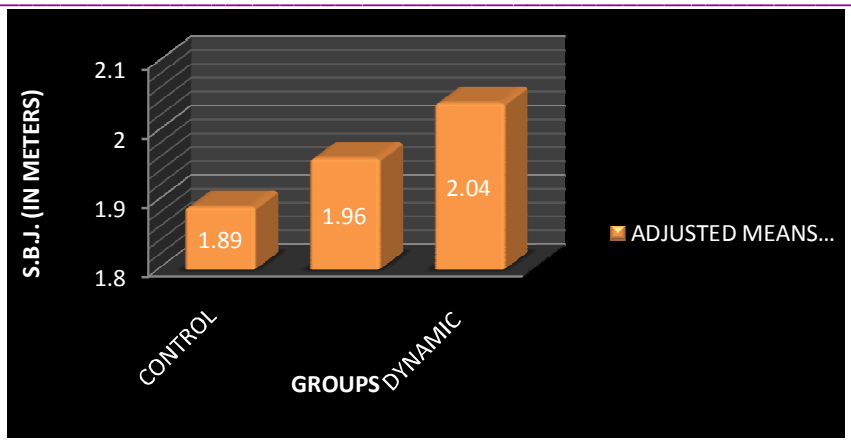

Figure 1: comparison of paired adjusted final means of the two experimental and one control group for strength

DISCUSSION

For Strength conventional and dynamic Suryanamaskar group were statistically superior to the control group. It was also found that dynamic Suryanamaskar group was statistically superior to conventional Suryanamaskar group. The reason for such findings might be found because during sun salutation muscles of the entire body experience stretch and pressure alternately and therefore it was said to give more benefits in short duration of time Many of its poses build strength because they require sustained contractions of many muscle groups of the entire body, which is comparable to resistance training. The reason for such findings might be due to rapid movement of limbs this causes increase in size of muscle fiber. This result supported by the study conducted by **Milind V. Bhutkar** et al., "How Effective Is Sun Salutation in Improving Muscle Strength, General Body Endurance and Body Composition".

CONCLUSION

Thefindings of the study showthat the conventionalSuryanamaskar training programme was found to be effective in relation to strength.And the dynamic Suryanamaskar training was also found to be effective in relation to strength.As far as group analysis was concern the findings concluded that dynamic Suryanamaskar group was statistically superior to conventional Suryanamaskar group and control group in relation to strength.

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