History Research Journal

ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

Effects of Selected Yogic Exercise Program on Explosive Leg Strength among Sportspersons of Haryana State

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Abstract:

The study was undertaken to assess the effect of yogic program on explosive leg strength of sportspersons, for the purpose 150 male sports persons with minimum national level participation were selected from Haryana state. The samples were selected from Maharishi Dayanand University, Rohtak, with age of the subjects ranged between 18 to 25 years. The mean age of the subjects was 21.78±1.12. The subjects were divided into three groups' i.e. Experimental group 1, Experimental Group 2 and Control Group. Pre test of all the groups were taken on the selected variable and the experimental group 1 and 2 were given a yogic training program for 10 weeks and the control group continued with the daily routine activity. The collected pre and post data was analyzed by computing Descriptive analysis and ANCOVA. The results shows that A significant difference is found in the post test values of Explosive Power for Experimental Group I and Control Group (-0.140), a significant difference has been found between the Experimental group II and Control group (-0.059*) and finally a significant difference has been found in the post test values of Experimental Group II and Experimental group I (-0.082*). The results have proven that yogic practices have a significant effect on the physical factors among sports persons. Yogic practices are a better medium for the improvement of various parameters responsible for attainment of peak performance in sports.*

Keywords: *Yoga, Explosive Leg Strength.*

Introduction:

A sport is a natural occurrence, which draws people together and brings them in direct communication, coordination, and cooperation with each other and their environment. It is through this dialogue process that sport is also conventional for a while the nature of sport necessitates a relationship; it is human convention that drives it. Sport also brings with it an intimacy between participants, in which resides a friendly feeling of goodwill[1].

Sport as an activity offers an opportunity for self knowledge, self-expression, and fulfillment; personal achievement, skill acquisition and demonstration of ability; social interaction, enjoyment, good health and well-being. It promotes involvement, integration and responsibility in society and contributes to the development of society, especially when sports activities have been accepted as an integral part of the culture of every society in every nation[2].

Competition is one of the outgrowths of modern society. Every individual or a team, which participates in any sports/game, wants to win as our society attaches a great significance to

[1]Bucher, C. A. (1976). Foundations of Physical Education. Ney York, United States of America: The C. V. Mosby Company

[2]Santhosh Sharma, "Sports, Society and women", Journal of sports and sports Sciences, 27:3 (July, 2004), 37

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ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

"winning". According to a review, "performance is key note of all sports- its basic principle". Since the sports have become prestigious aspect to pursue one's superiority, the philosophy of participation in games and sports has undergone a great change[3].

In the modem time, sports have assumed competitive character and as such call for better and still better performance, every sportsperson strives to shatter the previous records, which are broken more rapidly. Now-a-days, the every form of sport requires a certain amount of fitness, skill level, physique, body composition etc. The competitive sports have gained tremendous importance in almost all countries of the world. Every country is trying to win more medals in international sports competition. Huge amount of money, time and efforts are being spent by the nations of the world to achieve these objectives. Sports coaches, teachers, scientists, organizers and administrators all over the world are in search of better way and means for spotting talent, for training sportsmen and women, for improving organization and planning for sports training and competition[4].

The present age is an age of automation sophistication and technological wonders beyond man's wildest dream a few years ago. The progress mankind has achieved through the last quarter of a century excels that of all the past centuries. Present day has seen many things which were not even dreamt of fifty years ago, for instance supersonic flight, space travel, computer, electronic equipments, television, video etc. are all recent invention unparalleled in human society. This improvement has only been due to the contribution of science and technology[5].

Science and technology also plays an important role in the field of education where most of the research studies are possible only with the help of sophisticated equipments. Now days we cannot think of education without science and technology, Technology has given us all the openings in the field of education. For developing new trends and theories science plays an important role. In a nutshell we can say that education without science and technology in the 21st century is unthinkable and will not be able to make a true impact on man's life[6]

By nature human beings are competitive and ambitious for excellence in all athletic performances. Not only every man but also every nation wants to show his / its supremacy by challenging the other man/nation. This can be made possible through scientific, systematic and planned sports to identity and nature human potentialities. The success or failure of an individual athlete depends upon the blending of physical ability, conditioning, training, mental preparation and the ability to perform well under pressure[7].

In order to give the best possible performance at any of the competitions the assistance of scientific disciplines is sought. Induction of the basic principles of science, physical education and sports has become a subject of scientific research. Now various special branches of science such as kinanthropometric, biomechanics, physiology of exercises, psychology of sports, sociology of sports etc. have been established which are connected with better performance in sports. New techniques have been evolved, based on insight and understanding of the sports researchers. Astounding performance in sports activities after revival of the modern Olympics have witnessed the result of this scientific approach adopted by the physical education and

[3]Renews, J. (1972). Human Performance. California: Balment Books Company

[4]Wear, C.L. and Miller, Kenneth. "Relationship of Physique and Developmental Level to Physical Performance" Research Quarterly 33 (Dec. 1962):615

[5]Clarke, D. H. (1970). Research Process in Physical Education, Recreation and Health. Prentice Hall Inc.

[6]Saha, A. (1996, September). Predicive Variables of Fast Bowling in Cricket. Unpublished Doctorate Thesis , 1. Gwalior, Uttar Pradesh, India: Jiwaji University

[7]K.I. Razeena, "Comparative Relationship of State of Anxiety and Aggression of Defensive and Offensive Women Hockey Players**",** Journal of sports and sports Sciences**,** 27A (October, 2004), 20

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ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

sports. Smt. Indira Gandhi had rightly said that science applied to sports has enabled modern youth to develop physical capacities beyond anything earlier imagined. Sports have become competitive and records are being broken at an increasing rate[8].

The preparation of an athlete today for achievement is a complex dynamic matter, characterized by a high level of physical and physiological efficiency and the degree of perfection of necessary skills, knowledge and proper teaching and tactics. An athlete arrives at this state only as a result of corresponding training sports activity directed at steadily enhancing the preparation of an athlete and grooming him for a higher level achievement. Sport is an important ingredient of physical education and is a worldwide phenomenon today. The unprecedented popularity and better organization of sports activities and competitions would have been impossible without the recognition of the important of sports competitions in the world. The world has realized the importance of sports for the modern civilizations[9].

Yogic techniques are known to improve one's overall performance and work capacity. Sharma et al conducted prospective controlled study to explore the short-term impact of a comprehensive but brief lifestyle intervention based on yoga, on subjective well being in normal and diseased subjects. Normal healthy individuals and subjects having hypertension, coronary artery disease, diabetes mellitus or a variety of other illnesses were included in the study. They reported significant improvement in the subjective well being scores of 77 subjects within a period of 10 days as compared to controls. Therefore, even brief intervention can make an appreciable contribution to primary prevention as well as management of lifestyle diseases. This is vital in the elderly and Hatha yoga practices for 6 months by seniors [65-85years] has shown significant improvement in quality of life and physical measures compared to walking exercise and wait-list control groups[10].

In 21st century sports play an important role in bringing about physical, social and mental growth of the citizens of nations? The past few decades have witnessed many innovations in these areas; Sports are becoming increasingly sophisticated, technical and are gaining in popularity as a separate profession. Career in sport is short lived if not groomed with high level of skill mastery to the level of perfection. Perfection in sports is only achieved when mastery is achieved in every stage of learning. In this process the identification of various Psychological, Physiological, physical and Anthropometrical measurements are required to provide a good baseline and reference for coaches, sports scientists, and physiotherapists as well as the future researchers. Therefore the scholar initiated to study the effect of yogic practices on Physical factors of sportspersons. Hence, the present study was undertaken.

Objectives and Hypothesis:

For the purpose of the study following objectives were set:

- To find out the effect of Yogic Exercises on Physical factors of different groups.
- To compare the effect of yogic exercises on Explosive Leg Strength of different groups

Based on the objectives of the study following hypotheses were framed for the study:

[8]Gopinathan, P., and Helina, G. (2009) Correlation of selected Anthropometric and Physical Fitness Variables to Handball performance, Journal of sports and sports sciences, Vol. 32(1): pp. 25-30

[9]Harrison H. Clarke (1976), Application of Measurement to Health and Physical Education, Englewood cliffs, N.J. Prentice Hall Inc., P.169

[10]Hall, P. (1999). The effect of meditation on the academic performance of African American college students, Journal of Black Studies, 29, 408-415

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ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

- There would be no significant difference of Yogic Exercises on Physical factors of different groups.
- There would be no significant difference of Yogic Exercises on Explosive leg strength of different groups.

Procedure and Methodology:

The study was undertaken to assess the effect of yogic program on explosive leg strength of sportspersons, for the purpose 150 male sports persons with minimum national level participation were selected from Haryana state. The samples were selected from Maharishi Dayanand University, Rohtak, with age of the subjects ranged between 18 to 25 years. The mean age of the subjects was 21.78±1.12. The subjects were divided into three groups' i.e. Experimental group 1, Experimental Group 2 and Control Group. Pre test of all the groups were taken on the selected variable and the experimental group 1 and 2 were given a yogic training program for 10 weeks and the control group continued with the daily routine activity. The collected pre and post data was analyzed by computing Descriptive analysis and ANCOVA.

Results and Discussion:

A. Explosive Power

Table No. 1: Descriptive Analysis of the Explosive Power of the selected Groups

S. No.	Groups	Mean		Standard Deviation		N
		Pre	Post	Pre	Post	
1	Experimental Group I	2.53	2.66	0.22	0.16	50
2	Experimental Group II	2.55	2.59	0.19	0.17	50
3	Control Group	2.56	2.54	0.20	0.21	50

Table No. 4.31 Clearly Depicts the values of Descriptive analysis of the selected groups for the variable Explosive power, which shows that the pre and post values of Experimental Group I, Experimental Group II and Control Group are found to be 2.53±0.22, 2.55±0.19, 2.56±0.20 and 2.66±0.16, 2.59±0.17, 2.54±0.21 respectively. The graphical representation has been shown in fig no. 1.

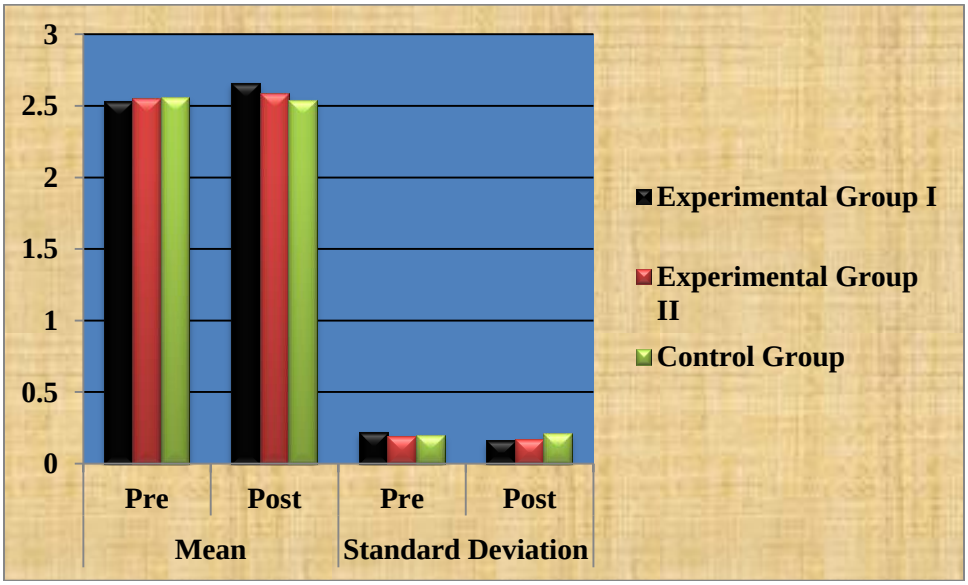

Fig No. 1: Graphical representation of Descriptive Analysis of the Explosive Power

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ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

4.2: Test of Between Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.480[a]	3	1.160	66.681	0.00
Intercept	1.134	1	1.134	65.175	0.00
Explosive Power	3.052	1	3.052	175.431	0.00
Groups	0.594	2	0.297	17.081	0.00
Error	3.062	176	0.017		
Total	1222.979	180			
Corrected Model	6.543	179			

Table no 4.2 clearly depicts the value of test of between subjects effects, which shows that a significant difference has been found in the post test values of the selected groups by keeping pre test values as covariant, as the value is found to be 17.081, which is significant at 0.05 level

Table 4.3: Pair wise Comparison

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference	
					Lower Bound	**Upper Bound**
Experimental Group I	Experimental Group II	0.082*	0.024	0.001	0.034	0.129
	Control Group	0.140*	0.024	0.000	0.093	0.188
Experimental Group II	Experimental Group I	-0.082*	0.024	0.001	-0.129	-0.034
	Control Group	0.059*	0.024	0.016	0.011	0.106
Control Group	Experimental Group I	-0.140*	0.024	0.000	-0.188	-0.093
	Experimental Group II	-0.059*	0.024	0.016	-0.106	-0.011

Table 4.3 clearly depicts the pair-wise comparison values of the selected groups for the variable Explosive Power, which shows that a significant difference is found in the post test values of Experimental Group I and Control Group (-0.140*), a significant difference has been found between the Experimental group II and Control group (-0.059*) and finally a significant difference has been found in the post test values of Experimental Group II and Experimental group I (-0.082*)

Conclusions:

- A significant difference is found in the post test values of Explosive Power for Experimental Group I and Control Group (-0.140*), a significant difference has been found between the Experimental group II and Control group (-0.059*) and finally a significant difference has been found in the post test values of Experimental Group II and Experimental group I (-0.082*)
- The results have proven that yogic practices have a significant effect on the physical factors among sports persons.

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ISSN: 0976-5425
Vol-5-Issue-6-November-December-2019

- Yogic practices are a better medium for the improvement of various parameters responsible for attainment of peak performance in sports.

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