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Effect of SAQ training on selected physical fitness variables of hockey players

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Abstract

The purpose of the study was to find out the effect of SAQ training on selected physical fitness variables of hockey players. To achieve the purpose of the study, thirty subject were selected randomly from chitraduraga hockey club players form Bangalore. The subjects aged from 20 to 25 years. The selected subjects were divided into two equal groups namely experimental and control groups of 15 subjects each. The training period was limited to twelve weeks and for six days per week. The regimen of SAQ training was selected as independent variables and speed and agility were selected as dependent variables and it was measured by 50 meters' dash and Shuttle run (4 x 10). All the subjects were tested two days before and immediately after the experimental period on the selected dependent variables. The obtained data from the experimental group and control group before and after the experimental period were statistically analyzed with dependent 't'-test to find out significant improvements. The level of significance was fixed at 0.05 level confidence for all the cases. Significant improvement was found on speed and agility of experimental group due to the effect of regimen SAQ training when compared to the control group.

Keywords: Speed and agility

Introduction

Physical fitness is a systematic process extending over a long period. For best results the system of training has to be based and conducted on scientific facts and lines where it is not possible to do that, the training has to be based on the results of successful practice which has withstood the test of time sport.

The physical fitness on condition is the namely, speed, strength, agility, explosive power, flexibility, cardio respiratory endurance and coordinate abilities. These all-motor abilities and their complex forms are the basic requirement for human motor actions. Therefore, the sports performance in all sports depends to a great extent on these abilities. The improvement and maintenance of physical fitness of condition is perhaps the most important aim of physical training.

Saq training

Speed, Agility, and Quickness (SAQ) training is a structured method designed to enhance an athlete's ability to accelerate, decelerate, and change direction rapidly while maintaining control. It is widely used in various sports, including soccer, basketball, football, and tennis, as it helps improve overall athletic performance. SAQ training is not only beneficial for professional athletes but also for fitness enthusiasts and individuals aiming to improve coordination, reaction time, and movement efficiency (Brown & Ferrigno). SAQ training consists of three primary components: speed, agility, and quickness. Speed refers to the ability to move in one direction as fast as possible. It is influenced by stride length, stride frequency, and force application to the ground. Agility, on the other hand, is the ability to change direction swiftly and efficiently without losing balance. It requires a combination of strength, coordination, and flexibility. Quickness involves reaction time and the ability to execute movements in the shortest possible time (Clark & Lucett).

The importance of SAQ training extends beyond athletics. According to Gambetta (2007) [6], it enhances neuromuscular control, proprioception, and overall movement mechanics, reducing the risk of injuries. By improving movement efficiency, SAQ training helps athletes perform at

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higher intensities while minimizing fatigue. Additionally, it is widely incorporated into rehabilitation programs to help individuals recover from injuries and regain optimal movement patterns. SAQ training employs various drills and techniques, such as ladder drills, cone drills, plyometrics, and reaction drills. These exercises aim to enhance foot speed, coordination, and reaction time. For instance, ladder drills are designed to improve footwork and coordination by requiring participants to perform quick and precise movements through an agility ladder. Similarly, cone drills develop an athlete's ability to change direction efficiently, while plyometric exercises enhance explosive power and reaction drills train the nervous system to respond swiftly to external stimuli (Sheppard & Young, 2006) [37].

Methodology

For the purpose of this study, altogether thirty subject were chosen on random basis from chitraduraga hockey club players form Bangalore. Their age group ranges from 20 to 25 years. They were divided into two groups of 15. The Experimental group I would undergo regimen of SAQ training. The second group Control group II. Pre-test and post –test would be conducted. Treatment would be given for twelve weeks. It would be find out finally the effect of SAQ training on selected physical fitness variables of hockey players in scientific methods.

The selected tests were measured by following units for testing:

Criterion variables	Test items	Unit measurements
Speed	50 meters dash	Seconds
Agility	Shuttle run(4X10)	Seconds

Training programme

Table 2: Mean and dependant ‘t’ - test for the pre and post tests on speed, and agility of experimental groups

S. No.	Variables	Pre-test mean± SD	Post-test mean± SD	Diff	SE	‘t’ - ratio
1.	Speed	08.20±2.16	07.76±1.88	0.44	0.61	4.86*
2.	Agility	8.07±1.04	7.12±1.12	.95	.05	19.0*

*Significance at 0.05 level of confidence

Table 3: Mean and dependant ‘t’ - test for the pre and post tests on speed, and agility of control groups

S. No.	Variables	Pre-test mean± SD	Post-test mean± SD	Diff	SE	‘t’-ratio
1.	Speed	08.26±2.16	08.24±1.88	0.02	0.61	1.16
2.	Agility	8.90±1.114	8.73±1.107	.17	.18	.920

*Significance at 0.05 level of confidence

The table 1 and 2, shows that, the obtained ‘t’ - ratio between the pre and post-test means of experimental group were 4.86 and 19.00 and control group were 1.16 and 0.920 respectively. The table values required for significant difference with df 14 at 0.05 level of confidence. Since the obtained ‘t’ - ratio value of experimental and control group on speed, strength, agility, explosive power, and cardio

The following schedule of training was given for the regimen of physical training with obstacle course training group.

Group	Design of the training
Experimental Group I	SAQ training
Control Group II	Did not do any Specific Training
Training Duration	60 Minutes
Training Session	6 Days a week
Total Length of Training	Twelve weeks

Experimental design

The experimental group was given regimen of SAQ training exercises after taking an initial test. After the initial test selected physical training with obstacle course training exercises were given for twelve weeks in all days except Sunday. The time of practice was from 6.00 AM to 7.00 AM. The control group were not participating in any of the special training programme. However they were allowed to participate in their regular education classes in the college as per their curriculum.

Statistical technique

The achieved data since the experimental group and control group previously and subsequently the experimental dated were statistically evaluated with dependent t-test to discovery obtainable significant development. The level of significance was secure at 0.05 level of confidence for all the cases.

Results and Discussions

The effect of independent variables on each criterion variables was considered by dependent ‘t’ - test on the data achieved for speed and agility. The pretest and post- test means of experimental group and control group have been analyzed and existing in Table 1&2.

respiratory endurance were greater than the table value 2.063, it was concluded that the regimen of physical training followed by obstacle course training had significantly improved speed and agility of experimental group.

The pre and post- test mean value of experimental and control group on speed and agility were graphically represented in the figure 1.

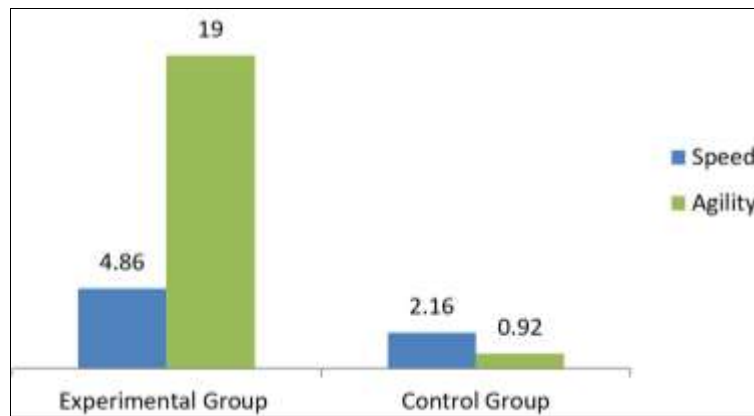


Fig I: The pre and post- test mean value of experimental and control group on speed and agility were graphically represented

Discussion on findings

The finding of the study reveals that the regimen physical fitness followed by SAQ training group cause significant improvement in their physical fitness components. In the view of control group there was no significant improvement in their physical variables. The findings of the study Fang, F., & Xue, B. (2024) ^[1]. An Experimental Study of SAQ Training on the Agility and Quality of Young Wushu Students. *Studies in Sports Science and Physical Education*, 3(2), 15-23.

Conclusions

Improvement of on speed and agility was found significantly on experimental group due to the effect of regimen physical fitness followed by SAQ training when compared to the control group.

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