

Twelve weeks study of body composition and trunk flexibility between football and squash players from pre to post test

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Abstract

Sports training aims at achieving greater performance in the sport competitions. Sports training emphasize on the facts and principles, and executed in a systematic manner. Physical fitness is a limited phase of motor ability emphasizing capacity for vigorous work (Mathews, 1979). The sports person planned his training schedule every day with proper execution under the able guidance of a coach. Training is a pedagogical process, based on scientific principles, aiming at preparing sportsmen for higher performance in sports competitions (Singh, 1991). The purpose of this study was to compare the body composition and flexibility performance of the football and squash players from pre to post test. A group of 100 subjects under going physical education course were considered for this study, football players N=50, squash players N=50 were selected randomly, the age of the participants were between 18 to 22 years. Football and squash training was employed on the participants for 45 minutes per session, twice a week, for 12 weeks respectively. The test which was considered for the subjects was body composition (body mass index), flexibility (sit and reach test). The data was analyzed by the help of mean, standard deviation, and t-test by the help of statistica software. The analysis of the data shows significant performance with regard to body composition and flexibility among both the groups from pre to post test. Further more the data reveals that both the groups differ significantly with regard to body composition and flexibility performances. It is concluded that both the groups with regard to body composition and flexibility had shows significant performance from pre to post test.

Key words: Flexibility, Training, body mass index, sports

Introduction

Human beings are very active, creative by the nature and physical activity is part of their life since the evolution. Fitness is a product of exercise and training. The exercise and training have been shown through research to possess important applications in the general health of individuals. Because of the bridge between health and fitness, there has been a renewed interest in fitness and a resurgence of effort towards attaining and maintaining it. Body composition and flexibility is the important part of the fitness regime for various sports men and women. Physical fitness is a limited phase of motor ability emphasizing capacity for vigorous work (Mathews, 1979).

A sportsman aims at achieving greater performance in the sport competitions. Sports training emphasize on the facts and principles, and executed in a systematic manner. The sports person planned his training schedule every day with proper execution under the able guidance of a coach. The training program should focus on improving the performance of the athletes and at the same time should prevent from the sports injuries (Fox, 1984). Training is a program of exercise designed to improve the skills and to increase the energy capacity of an athlete for a particular event. Therefore training is essential for the development of physical fitness components (William & Sperry, 1976).

The most successful athletes are those who know the best training techniques, where to train under the best coaching guidance, how to keep their bodies free from injury, what to eat and drink (and when), the most powerful workouts and how to never stop improving

In physical fitness, body composition is used to describe the percentages of fat, bone, and muscles of the human body. Because muscular tissue takes up less space in our body then fat tissue, our body composition, as well as our weight, determines leanness. Two individuals at same height and with same body weight may looks differently from one another due to different body composition. A person's total body weight may not change over time. But the weighting machine does not assess how much of that body weight is fat and much is lean mass, body composition is important to consider for health and managing (Johnson and Nelson 1998). Body composition can be measured in a several ways. The most common method to measure the body composition is with help of body mass index (BMI). The body mass index (BMI) is a simple statistical measurement which compares a person's weight and height by $BMI = \text{weight in kgs} \div (\text{height in meters})^2$. A regular stretching

exercise during training sessions will ensure that your joints and muscles to their fullest and hence, it will increase the flexibility of the joints and overall body. Flexibility is the range of motion available in a joint (Charles B. Corbin and Ruth Lindsey, 1978). The sit and reach test is a common measure of flexibility, and specifically measures the flexibility of the lower back and hamstring muscles. This test is important as because tightness in this area is implicated in lumbar lordosis, forward pelvic tilt, and lower back pain. This test was first described by Wells and Dillon (1952).

The purpose of this study was to compare the body composition and flexibility performance of the football and squash players from pre to post test

Method

A group of 100 subjects under going physical education course from the king Fahd University of Petroleum & Minerals, Saudi Arabia were considered for this study, football players N=50, squash players N=50 were selected randomly, the age of the participants were between 18 to 22 years. Football and squash training was employed on the participants for 45 minutes per session, twice a week, for 12 weeks respectively. The test which was considered for the subjects was body composition (body mass index), flexibility (sit and reach test). Pre and post test were conducted on the participants before and after the sports training program. The data was analyzed by the help of mean, standard deviation, and t-test by the help of statistica software.

Table I

Sl.no	Test items	purpose
1	Body composition	To find out Body mass index (BMI)
2	Sit and reach test	To find out flexibility (hip and trunk)

Results

The analysis of data shows the effect of sports training on the body composition of both the groups from pre to post test.

Table II

Body composition (BMI)	Pre-test N= 50		Post-test N=50		't'-value	P-value
	Mean	S.D	Mean	S.D		
Football players	27.50	5.53	26.18	5.12	6.26	0.0000
Squash players	25.00	5.54	24.08	5.62	5.70	0.0000

The mean and standard deviation with regard to body mass index of the foot ball players from pre to post test were (27.50, 5.53) and (26.18, 5.12) respectively. The mean and standard deviation with regard to body mass index of the squash players from pre to post test were (25.00, 5.54) and (24.08, 5.62) respectively

The analysis of data shows the effect of sports training on the flexibility of both the groups from pre to post test

Table III

Sit & reach test	Pre-test N= 50		Post-test N=50		't'-value	P-value
	Mean	S.D	Mean	S.D		
Football players	26.94	9.09	29.90	7.99	4.54	0.0000
Squash players	24.73	9.47	26.70	8.27	2.79	0.0000

The mean and standard deviation with regard to flexibility (sit and reach test) of the football players from pre to post test were (26.94, 9.09) and (29.90, 7.99) respectively. The mean and standard deviation with regard to flexibility (sit and reach test) of the squash players from pre to post test were (24.73, 9.47) and (26.70, 2.70) respectively.

Discussion

The analysis of data reveals that the body composition of both the groups differs significantly. Furthermore both the groups had shown encouraging result by reducing their body weight from pre to post test. This is evident that the effect of sports training on the participants body mass index had shows significant changes from pre to post test.. The ideal BMI range is 19.6 to 24.9, under weight is up to 19.5, over weight is 25 -29.9, and lastly obese is consider above the BMI of 30+. To maintain quality of life one has to maintain his BMI in the normal range. The fitness performance is also directly related to the body mass index of the athletes. The above result presented in the table-3 reveals that there was a significant differences on flexibility (hip & trunk) between the two groups i.e. football and squash players. With regard to the flexibility which is a very important for the football players as well as squash players. This is due to the identical nature of both the players as well as flexibility is concerned. The athletes require high performances like agility and flexibility apart from speed, strength, muscular endurance, and cardio-vascular endurance. Furthermore both the groups had improved and show greater performance from pre to post test significantly.

Conclusion

It is concluded that the effect of sports training on football and squash players reduces body weight from pre to post test significantly. It is concluded that the effect of sports training had shows greater performance on both the groups pertaining to the flexibility from pre to post test. Further more it is concluded that the both the groups differ significantly with regard to their body composition and flexibility performance. Football player's body composition is higher than the squash players and football players had shown better performance with regard to the flexibility compared with their counterpart.

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