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Comparative study on selected physical fitness characteristics between power lifters and weightlifters

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Abstract

The present study was focused to assess the level of Physical Fitness Characteristics between Power Lifters and Weightlifters. For the purpose of the present study, forty (N=40) male inter-college Power Lifters and Weightlifters from D.A.V College, Amritsar between the age group of 18-25 years were selected as subjects. The subjects were purposively assigned into two groups: Group-A: Power Lifters (N₁=20) and Group-B: Weightlifters (N₂=20). All the subjects were informed about the objective and protocol of the study. Student's t-test for independent data was used to determine the significant differences between Power Lifters and Weightlifters; unpaired t-test was employed for data analyses. To test the hypothesis, the level of significance was set at 0.05. It is concluded from the above findings that significant differences were found between Power Lifters and Weightlifters with regard to the variable Anthropometric Characteristics. It is concluded from the above findings that significant differences were found between Power Lifters and Weightlifters with regard to the variable Physical Fitness Characteristics. It has been observed from the above results that statistically significant differences ($P < 0.05$) were found between Power Lifters and Weightlifters. The Power Lifters have demonstrated significantly better on the sub-variables; ($P > 0.05$) were found with regard to the sub-variables; Endurance and Flexibility.

Keywords: Physical fitness characteristics, power lifters and weightlifters

Introduction

Physical fitness is the fundamental necessity for any sporting activity. Motor qualities such as speed, strength, endurance, and flexibility along with physical fitness are essential for excellence in sports. Sports trainers and coaches are emphasizing on improving the physical fitness and motor qualities of the players, which is also known as conditioning. A good conditioning program is the backbone of the over-all training of the sportsperson. Physical fitness is categorized into general and specific fitness. General fitness refers to the motor qualities required in any sportsperson irrespective of the sports discipline, such as speed, strength, flexibility, endurance and co-ordination. Each and every sport demands certain motor qualities above the ordinary. Specific fitness is the intensified level of motor qualities achieved by the sportsperson that is required by the specific sport. Mayur (2014) [5]. Physical fitness is a general state of health and well-being and, more specifically, the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics seen in people and which relate to the ability to perform a given set of physical activities. Sumanta *et al.* (2016) [7]. The physical characteristics of the sports persons is one of the determining factor on which the performance depends, be it individual sport or team games. Puhl *et al.* (1982); It has been well established that specific physical characteristics indicate whether the player would be suitable for the competition at the highest level in a specific sport (Ackland, 2000) [1]. Ackland (2000) [1] have studied the relationship between human structure and performance and they concluded that height, weight, body composition such as lean body mass, fat percentage affects physical performance. It is a common observation that regular physical activity or the lack of activity can alter body composition. There are various studies (Katch, 2003; Blake *et al.* 2000; Slobodan, 2002) [3, 2] which have demonstrated that fat free body weight to fat weight ratio increases during periods of physical training.

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Also, results of several researchers (Liszka, 2005) ^[4] on the body composition changes during various types of physical training programs, have shown the shift in the fat free weight and fat weight ratio that tends to increase as the activity level increases.

Material and Methods

Participants

For the purpose of the present study, forty (N=40) male inter-college Power Lifters and Weightlifters from D.A.V College, Amritsar between the age group of 18-25 years were selected as subjects. The subjects were purposively assigned into two groups: Group-A: Power Lifters (N₁=20) and Group-B: Weightlifters (N₂=20). All the subjects were informed about the objective and protocol of the study.

Selection of Tools

A feasibility analysis as to which of the variables could be taken up for the investigation, keeping in view the availability of tools, adequacy to the subjects and the legitimate time that could be devoted for tests and to keep the entire study unitary and integrated was made in consultation with experts. With the above criteria's in mind, the following variables were selected for the present study:

Physical fitness Characteristics

- Explosive Power
- Speed
- Endurance
- Agility
- Flexibility

Table 1: Significant differences in the Mean scores of Power Lifters and Weightlifters on the variable Physical Fitness Characteristics

Variables	Power Lifters =20		Weightlifters =20		t-value	Sig.
	Mean	SD	Mean	SD		
Explosive Power	248.15	20.52	227.90	21.55	0.02	0.02
Speed	7.56	0.31	4.57	0.20	0.121	0.01
Endurance	3.44	0.38	2.47	0.49	0.189	0.97
Agility	11.41	0.94	9.52	0.82	0.561	0.03
Flexibility	12.98	3.43	9.50	3.28	0.891	0.36

*Significant at 0.05 level Degree of freedom= 38

A glance at table-2 shows the results of Power Lifters and Weightlifters with regard to the variable Physical Fitness Characteristics. It has been observed from the above results that statistically significant differences ($P < 0.05$) were found between Power Lifters and Weightlifters. The Power Lifters have demonstrated significantly better on the sub-variables; Explosive Power, Speed and Agility than the Weightlifters. However, insignificant differences ($P > 0.05$) were found with regard to the sub-variables; Endurance and Flexibility.

Conclusion

It is concluded from the above findings that significant differences were found between Power Lifters and Weightlifters with regard to the variable Physical Fitness Characteristics. It has been observed from the above results that statistically significant differences ($P < 0.05$) were found between Power Lifters and Weightlifters. The Power Lifters have demonstrated significantly better on the sub-variables; ($P > 0.05$) were found with regard to the sub-variables; Endurance and Flexibility.

Practical Application

The study will be considerably helpful to comprehend the Physical Fitness Characteristics in Power Lifters and Weightlifters Performance. The coaches working with these areas will drive benefit from the findings of the present research and they can integrate the Physical Fitness Characteristics variables in their training schedule from the very initial stages.

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