Design for Scientific RENAISSANCE

ASSR

Some of Physical Fitness Elements and Relationship to Cardiorespiratory System in Fencing Game

Article Info

Received: March 24, 2014
Accepted: April 24, 2014
Published online: December 01, 2014

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Abstract
The aim of this study was to investigatesome of physical fitness elements and relationship to cardiorespiratory system in fencing game.Twelvefemalefencing players from al fatat club in Baghdad province were selected intentionally aged (18-23) years were assigned into one group (n=12). A descriptive research design was used because it is suitable to the nature of the study. The descriptive group was subjected to 2 testing periods (physical fitnesstests andcardiorespiratory tests) divided into two days. Physical fitness comprised: Agility, speed, and accuracy. Cardiorespiratory tests included heart rate, breath holding, and anaerobic ability. Physical fitnesstestswere conducted on October 2, 2013 and cardiorespiratory tests were run on October3, 2013. Data was analyzed by using SPSS. A significant correlation between some of physical fitness characters (agility, speed, and accuracy) and some of the cardiorespiratory system (pulse, breath holding, and anaerobic capacity) was showed for girl players in Baghdad Al fatal Club in fencing.

Keywords: Physical fitness, cardiorespiratory system, fencing game, anaerobic capacity.

1. Introduction

Physical activity known to man since his existence on this earth, and physical activity was an important part of a dynamic and educational concept during his career across historical eras with different tribes and developed based on their experiences of self and logical interpretations based on observation and experiment, and comparison between different styles. In this time the physical activity consider part of general education it based on psychology, Sociology, medicine, chemistry, statistics and science training, kinesiology and other modern sports science education to develop community.

Fencing is one of oldest physical game in the world it is improved step by step, the fencing is oldest game which still practiced by knights in battle, festivals and lowered between them and some tribes and also it's a game of intelligence and conflict between competitors is trying to make each touch low as possible to ensure victory in lowereddue to the requirements of the game in question was necessary to research and scrutiny and

investigation in the development of curricula for these aspects of the game as functional and physical variables. The facing as other physical game depends on many variablessuch as functional variable and the other kineticvariablesin which physical activity links with internal devices. Therefore, we believe that the individual athlete strives to reach his internal device adaptable high as this reflects positively on his fitness in general, leading to accommodate the modules properly continue training with vigor and high vitality and thus access to the high levels.

There are general physical characters that facing need to speed, accuracy, coordination, endurance, strength, there are personality traits such as intelligence and speed of response and quick decision-making and the power of observation and control, design and strength of purpose and courage. In addition, there areother special physical characterssuch as agility, speed, reaction speed, coordination and accuracy,we conclude improvement physical ability which considersnecessary basic condition for fencing in high level. So we have to work hardlyand continually to search for the diagnosis of right and wrong to upgrade to international standards and high by modern programming for access to higher achievement in the game of fencing, the fencing considers physical game need to special training for win as soon as possible and these trainings constitute the cornerstone of which is on the way to grow and develop characters and functional, physical and kinetic variables. However, the aim of this study was to investigate some of physical fitness elements and relationship to cardiorespiratory system in fencing game.

2. Methodology

The suitable methodology is the most important steps that result in the success of the search as it depends on the nature of the problem and the objective to be achieved.there for the researcher used describe methodology with correlational study that aims to select the degree relation between two variables or more.

2.1 Participates

Twelve female fencing players from al fatat club in Baghdad province were selected intentionally aged (18-23) years were assigned into one group (n=12). A descriptive research design was used because it is suitable to the nature of the study.

2.2 Identify kinetic characteristics and Cardiorespiratory variables

Researchers prepared two forms to determine the kinetic characteristics and cardiorespiratory variables and then were showed to set of specialists and experts. Finally we identified the variables of the study physical fitness such asagility, speed, and accuracy, whereas, cardiorespiratory tests included heart rate, breathe holding, and anaerobic ability.

2.2.1 Cardiorespiratory tests

2.2.1.1 Heart rate test

The examiner places the headset on the chest of player in the top of the heart for a period of one minute and then be registered as a result of this measure in the form of each set of research group (Ishraq., 2005).

2.2.1.2 Breathe holding test

Player takes a deep breath after she sit down on a chair and put a mask on her noise and close the mouth in this time the researcher switches on the clock time, however, player is continuous to hold her breath until she stops (Kamal., 1998).

2.2.1.3 Anaerobic ability test

The main aim of present test is to measure legs muscle power (vertical jump), the methodology of test is duringplacing a blackboard or a piece of wood on the wall where the bottom edge of its height allows for shorter playerto perform the test takes into account that the painting is installed away from the wall a distance of not less than 15 cm so there is no friction against the wall during a jump. However, to perform the test the player holds a piece of chalk its length of at least 1m and 2 cm then you stand facing the plate and extend the arms aloft to the maximum possible and determine the chalk mark on the board with a note feet adjacent land. After that, the player stands move his arms to the bottom and back with bend the torso forward and down and then bend your knees to put right angle. Finally, the player extendshis knees and lifting feet together to bounce with the highest weighted arms strongly forward and to gain access to their maximum height, and put a sign in chalk that up to the point it. The score of test is the cm between line which player touches it from the standing position and marks it up as a result of the jump up to the nearest 1 cm.

2.2.2 Physical Fitness tests

2.2.2.1 Agility test

The player stands on the starting line, when the start signal is heard the stopwatch is starting to work, whereupon the player progress normally from point A to point (C) and then retreat normally from (C) to (B) then provides plain (B) to (H) then retreat from (H) to (C) and then progress normallyfrom (C) to (G) after that retreat from the ordinary (G) to (A) finally stop the stopwatch and record attempt per second (Abidul-Hadi, 2004).

2.2.2.2 Speed test

Run 30 m from the movement starting (Mohamad, 1996).

2.2.2.3 Accuracy test

The aim of present test is to measure accuracy of appeal movement, the pillar puts on the court then electricity will be delivered to it, draws a line awaysuitably with the length of player's stab to start the player performs stab, the player stands in front of pillar preparedness and hands epee which electrically conductive behind the line mentioned above, the player starts performs straight stab directly in the direction of the target (circles in thoracic) the player gives ten attempts within fifteen seconds (Bayan, 1997).

2.3 Statistical analysis

Researchers used SPSS to analysis data of present study and we used following statistical. Mean, standard deviation, skewness coefficient, simple correlation coefficient, and percentage (Wadeea & Hassan., 1999).

3. Results and Discussion

Table (1)
Shows mean and SD of function variables

Functional variation	Mean	SD
Pulse	75,6	3,1
Breath holding	27,2	1,6
Anaerobic capacity	7,78	0,9

This table showed the mean of pulse which was (75.6) with standard deviation of (3.1) while mean of breath holding was (27.2) and standard deviation was (1.6) while themeanof anaerobic capacity was (7.78) and stander deviation was (0.9).

Table (2)
Shows mean and SD of physical fitness variations

physical fitness variations	Mean	SD
Speed	2,55	0,7
Accuracy	23,6	2,6
Agility	17,9	1,3

This table showed the mean of speed which was (2.55) with standard deviation of (0.7) while the mean of accuracywas(23.6) and standard deviation was (2.6) while the mean ofagilitywas(17.9) and standard deviation was (1.3).

Table (3)
Shows the value of the correlation coefficient between some of the characters of the physical fitness variationsand efficiency of the cardiorespiratory tests

Correlation coefficient	Pulse		Breath holding	Anaerobic capacity
Speed	0,95		0,91	0,94
Accuracy	0,99		0,98	0,95
Agility	0,96		0,97	0,91

This table showed the value of correlation coefficient between speed and pulse which was (0.95), while the value of correlation coefficient between speed and anaerobic capacity was (0.94) but correlation coefficient between accuracy and pulse was (0.99),breath holding and accuracy testswas (0.98),anaerobic capacity andaccuracy was (0.95), while the value of correlation coefficient ofagility with pulse was (0.96), breath holding and agilitywas (0.97),anaerobic capacity and agilitywas (0.91) at the level of significant (0.01).

The researchers confirm that the change in pulse correlates in training level,if the pulse was low down the training level will be high, thereforethe level of the pulse is going down continually for athletes who are well-trained compared with non-athletes. Carbovetishindicated that members of sports teams and trainees who trained highly would reduce pulse rate for them to be (20-30) P/Mcompared with people non-trained and pulse rate among females higher than males due to the small size of a woman's heart, researchers attribute the result to continuous of sports training and that creates adaptations in a woman's heart, which decreases the level of the pulse rate to them.

The variable of breath holdingis correlated with development of respiratory system and relation with training case of fencing, Larsonindicatedthat breath holding is a test to measure an individual's ability to steadfast in the case of a lack of oxygen in the sponge and this is found in athletes trainees highly trained and continuing. The training of anaerobic capacity increase Kinetic performance in practice activity type that result from increase muscles ability to contraction at a faster rate when performing consecutive movements, this power is including the strength blended with speed. Mohamed., (1979) and Naji., (1991) indicatedthatanaerobic capacity is required by most of the skills of the Fencing game,so the correlation for this ability is high compare with the level of completion of the girl players.

The agility is important in most of sport activity generally and fencing specially, the researchers attribute that fencing is one of the games that require the ability to change the position of the body as a whole or some of it may change the direction the body to achieve a touch the fencing needs to lightness and streamlined, high capacity performance in all this is achieved in the case develop of agility characteristic to win and reach the level of required achievement.Mohamed., (1979) said thatagility is an important factor in the performance of all sport activity itable to change position of the body either in the ground or on the air to win.

The researchers see the speed characteristic gives the player an ability to increase speed of get a touch, this is most important physical characteristicsthat must be provided to the fencing player in addition to the physical characteristics of accuracy, balance and reaction, and other physical characteristics as fencer is controlling of his body parts with the ability to maintain of the player to start the attack.

The researchers see the high achievement and development not only through the basic physical characteristics and advanced integrated since accuracy is one of these qualities the development and evolution is necessary to get the higher achievement. The fencer needs during each movement to coordination and accuracy especially in attack movement and defense, this coordinate may be it‘s muscles or nervous such as in lunge movement and subtle between the upper torso including (arms, head, and torso) and bottom torso including legs and nervous, the instructions come from brain to the body to go ahead, defense, attack during the subtle coordination to get player many collect movement with each other.

4. Conclusion

A significant correlation between some of physical fitness characters (agility, speed, and accuracy) and some of the cardiorespiratory system (pulse, breath holding, and anaerobic capacity) was showed for girl players in Baghdad Al fatal Club in fencing.

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