

SUMMARY

Effect of Training Program for Developing Some Special Physical Qualities and Physiological Variables on The Accuracy of Some Basic Skills for youngsters in Tennis

tennis is considered one of the individual games that need special physical qualities due to its performance nature that is presented in the basic strokes and these strokes are performed in short time within seconds like the forehand and backhand strokes and the serve and the need anaerobic work while the match time last for about two hours and so depend on the aerobic system, from this it is apparent that tennis is dependent on both aerobic and anaerobic systems and the nature of performance of basic strokes limited to the small court size so need accuracy in their performance.

From the statistics of the Egyptian tennis federation for youngsters order under 14 years, The researcher noticed that there is no youngsters from Port-Said in the first positions in all Egyptian championships for tennis (24) event and from observation of the matches of Port-Said area there is deficiency in the performance of the basic strokes which show the lack of attention for these strokes in this age group which is the start of the real championship in tennis and also the lack of scientific training programs that include special physical qualities and physiological variables with care for aerobic and anaerobic system for energy to rise the accuracy of basic skills

performance hoping to reach the highest level for tennis in this age group under 14 years.

Research aims :

This research aims to know the effect of training program for development of some special physical qualities and physiological variables on the accuracy of some basic skills for tennis youngsters under 14 years.

Research hypothesis :

- 1- There are statistical significant difference between the pre- and post- measurements for the control group in some special physical qualities, physiological variables and the accuracy of some basic skills in favour of the post-measurement.
- 2- There are statistical significant difference between the pre- and post- measurements for the experimental group in some special physical qualities, physiological variables and the accuracy of some basic skills in favour of the post-measurement.
- 3- There are statistical significant difference between the control and experimental group in the post-measurement of some special physical qualities, physiological variables and the accuracy of some basic skills in favour of the experimental group.

Research procedures :

Research method :

The researcher used the experimental method.

Research sample :

The essential study on a sample from El-Said El-Masry club (Port-Said branch) and El-Bahary club in Port-Fouad and was 20 players divided to two groups, one experimental (10 youngsters) and the other control (10) youngsters..

The experimental group underwent the suggested training program to develop special physical qualities and physiological variables (aerobic, anaerobic) while the control group underwent the traditional program applied by Port-Said tennis area.

The following tests were applied pre- and post on both groups:

1- Special physical tests :

- Medical ball 2kg throw with one hand for distance.
- Vertical jump for Sargeant.
- Shoulder rise flexibility.
- Trunk bent back from supination.
- Run 22 meter dash.
- Run 800m.
- Passing tennis ball on a wall for 25 seconds.

2- Physiological tests :

- Vertical jump as a measure for the short anaerobic power.
- Step test as a measure for long anaerobic power.
- Vital capacity.
- Maximal oxygen consumption as a measure for aerobic power.

3- Basic skills accuracy tests :

- Accuracy of forehand straight stroke test.
- Accuracy of backhand straight stroke test.
- Accuracy of straight serve test.

Statistical analysis :

- Mean - Standard deviation - mean - skewness coefficient
- t-test for both groups - Eta^2 - correlation coefficient
- Man Whitney test to know the significance of differences between both groups.
- Wilcoxon rank test to know the significance of differences between the pre- and post measurements of one group.
- Percentage of improvement.

Research results :

- 1- The suggested training program affected positively the special physical qualities (explosive power, flexibility, speed, cardiorespiratory endurance, coordination).

- 2- The suggested training program affected positively the physiological variables (anaerobic capacity and power, vital capacity, maximal oxygen consumption).
- 3- The suggested training program affected positively the accuracy of basic skills performance (accuracy of forehand and backhand straight strokes and straight serve).
- 4- The traditional program has positive effect on some special physical qualities and physiological variables and accuracy of basic skills performance.
- 5- There are statistically significant differences between the experimental and control groups in special physical qualities, physiological variables and accuracy of basic skill performance in favor of the experimental group.

Recommendations :

- 1- The researcher recommends the use of the training program applied on the experimental group during special physical preparation for tennis youngsters.
- 2- The researcher recommends developing the special physical qualities for tennis youngsters for their effect in improvement of physical and physiological aspects and accuracy of basic skills.

- 3- The researcher recommends concentration on anaerobic and aerobic exercises in the period of special physical preparation.
- 4- The researcher recommends designing training programs to develop special physical qualities for youngsters in different age group in tennis.
- 5- Youngsters training is given to qualified coaches with experience and knowledge of physical, physiological and skillful aspects and methods of their measurements.

ABSTRACT

Effect of Training Program for Developing Some Special Physical Qualities and Physiological Variables on The Accuracy of Some Basic Skills for youngsters in Tennis

This research aims to know the effect of the training program to develop some special physical qualities and physiological variables on the accuracy of some basic skills for youngsters in tennis under 14 years. The researcher used the experimental method with two group design one experimental and the other control, the sample size was 20 youngsters, 10 players in each group. The results are marked improvements in both groups in special physical qualities and physiological variables (aerobic- anaerobic) and accuracy of some basic skills under investigation but improvement was more marked in the experimental group than control. This progress is attributed to the scientific training program on scientific basis for the experimental group.

Suez Canal University

Faculty of Physical Education

Port - Said

Sports Training Dep.

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Physical Qualities and Physiological Variables on The
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By

Mohamed Eissa Ahmed El-Shenawy

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Supervisors

Prof. Dr.

Saied Abd El-Gawad El-Saied

Professor and Head of Health Science and Health
Education Dep. and Dean of Port-Said Faculty of
Physical Education,
Suez Canal University



Prof. Dr.

Mohamed El-Saied Rohaiem

Professor of Swimming in Physical Education Dep. in
Faculty of Specific Education, and Dean of
Port-Said Faculty of Specific Education
Suez Canal University

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