PHYSICAL EDUCATION AND SPORTS


Bucătaru Răzvan Marian
PhD student, Teaching Assistant, Faculty of Physical Education and Sport, “Dunărea de Jos” University of Galați, Romania

Moisescu Petronel Cristian
Doctor of Physical Education and Sport, Professor, Faculty of Physical Education and Sport, “Dunărea de Jos” University of Galați, Romania

STUDY ON THE LEVEL OF PHYSICAL TRAINING OF TENNIS PLAYERS AGED 8-10

Abstract. Tennis has become an increasingly physical sport due to the equipment and the technology used in playing it. The rackets and the strings currently used favor a very fast game. If in the beginnings of the white sport, the main motor quality was coordination, I tend to believe that nowadays the percentage of other motor qualities has risen. Expressions such as the ball spins (R.P.M), the speed of the winning blow or the extremely short time of a game are increasingly used by sports commentators. In this paper I wish to point out the difference between the standard physical training and the modern "tennis 10" training method in athletes aged 8-10.

Keywords: tennis 10, tenins methodology, physical training, adapted court, adapted net

Introduction

Physical training is extremely important in the tennis game. One must act on the motor qualities of an athlete from the first training sessions, in order to prepare the athlete for a highly professional level. The general physical training can be developed in tennis training sessions through games and relay races thus reducing the risk to bore children or to create a noticeable discomfort. This method of improving physical performance is recommended and used in the Tennis 10 concept. The standard method of learning tennis does not largely focus on physical training in young beginners. Thus, at the age of 10 when tournaments with green balls start,
players on the court who have a very good technique fail to achieve very good results. This is the starting point of the problems for coaches trying to prepare physically the athletes who have not been able to build a serious basis where to start work from. I mention that the subjects in the control group and the experimental group benefited from a specific program each. Athletes in the control group were prepared through the standard training method and those in the experimental group through the Tennis 10 method.

The hypothesis of this research starts from the premise that athletes with a history of using Tennis 10 have a better physical training than the athletes that are trained by standard methods.

The newly introduced Tennis 10 method in preparing children in tennis is meant for children aged 7 to 10, being particularly designed for their needs and abilities. Everything seems so hard for a 7-year-old child on a usual tennis court, the racket is so long and heavy, the ball seems to "go" too fast. That is why this system has been created to allow children to be able to learn and play in an appropriate environment. This method allows children to be able to serve from the first lesson, to do rallies and get points, tennis becoming more attractive and interesting in this way. With every training session, children go one step forward and thus everything becomes more enjoyable and fun. The key to this system lies in the fact that tennis is a simple and fun sport, and the more skillful a player gets, the more enthusiastic and eager to continue he will be. The reduced size of the racket allows small players a better maneuverability, which leads to a faster learning of the correct technique and the development of a higher execution speed.

Children are also advised to use rackets with a larger hitting surface (racket head) to help them solve the control problems more easily when hitting the ball. Adapting equipment to children's needs and requirements (rackets, balls, net, court, etc.) is a necessary measure for the development of the game. The study was based on an initial set of tests whose results were compared. We have physically tested 2 beginner groups of 20 subjects aged from 8 to 10 and having a tennis practising experience tennis of 1-2 years. In order to achieve comparable results, 6 tests that include the essence of physical preparation in tennis have been applied. These are
the following: speed run over a distance of 18.285m, standing long jump, T-reaction, hex jump, small fan sprint and throwing the medicinal ball from the right, the left and overhead. The results obtained by the two groups are shown in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>No.</th>
<th>Test name</th>
<th>Control group (n=20)</th>
<th>Experimental group (n=20)</th>
<th>Statistical indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Speed run</td>
<td>4.23±0.40</td>
<td>4.33±0.33</td>
<td>0.74 &lt;0.05</td>
</tr>
<tr>
<td>2</td>
<td>Standing long jump</td>
<td>138.05±3.95</td>
<td>136.35±4.05</td>
<td>1.24 &lt;0.05</td>
</tr>
<tr>
<td>3</td>
<td>T-reaction</td>
<td>24.85±4.33</td>
<td>22.40±4.06</td>
<td>1.73 &lt;0.05</td>
</tr>
<tr>
<td>4</td>
<td>Hex jump</td>
<td>12.40±0.67</td>
<td>12.45±0.67</td>
<td>0.18 &lt;0.05</td>
</tr>
<tr>
<td>5</td>
<td>Small fan sprint</td>
<td>22.20±1.19</td>
<td>22.30±0.85</td>
<td>0.25 &lt;0.05</td>
</tr>
<tr>
<td>6</td>
<td>Throwing medicine ball</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>426.95±15.64</td>
<td>432.80±22.76</td>
<td>&lt;0.05 &lt;0.05</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>419.30±23.40</td>
<td>407.30±14.40</td>
<td>&lt;0.05 &lt;0.05</td>
</tr>
<tr>
<td></td>
<td>Overhead</td>
<td>355.60±15.82</td>
<td>356.90±16.40</td>
<td>&lt;0.05 &lt;0.05</td>
</tr>
</tbody>
</table>

In speed run on 18.285 m the control group obtained a 0.10 seconds better average than the experimental group. By comparing the statistical parameters we notice a remarkable homogeneity of the results in this test. Values of t highlighting an insignificant difference between averages (t <0.05% threshold). We can also start specialized studies using these two groups without any doubts about the homogeneity of the subjects’ training.
In the second test (standing long jump) the difference between results was in favor of the control group by 1.7 cm. This shows that the preparation of the subjects in the control group is better. The statistical parameters also show that there are no major differences between the averages of the two groups. ($t < P$ on the 0.05% threshold). Thus we have a green light to start studies on the physical preparation of tennis players, without risking to get erroneous data.

In the 3rd test, the response time has been tested and it seems to have better parameters in the experimental group. The difference between the two groups is 2.45 cm. The results show a clear homogeneity of the groups in this test, too ($t < P$ at the 0.05% threshold. With respect to this test, considering that the athletes are very young, I would have expected greater differences as the explanation of the task itself requires a detailed understanding. However, subjects have obtained similar results with small differences.
In the 4th test the difference of the obtained average results was only 0.05 seconds, the control group being faster in this respect. The groups were homogeneous in this test, too (t <P at a threshold of 0.05%). This tennis-specific test compares the speed of execution of each athlete to the coordination specific to the two-legged jumps to different directions. Due to the beginner level of the subjects, the results were not remarkable, but we noted that there is homogeneity between groups and among athletes in the same group.

In the test of coordination and tennis-specific movement, the average of the results was by 0.1 s. better in the control group. The results show obvious homogeneity of the groups (t <P at a threshold of 0.05%). One tenth of a second lacked to have a perfect equality of the results obtained by the subjects in each group. Although this tennis-specific test and particularly tennis-specific movement has a high degree of difficulty. The athletes have achieved similar results that can guarantee the beginning of a specialized study.
In the last test, we considered the strength parameters that athletes can develop in this stage of preparation. This test was developed in 3 parts directly proportional to the basic tennis shots. Thus, for the right backhand shot the ball was thrown from the right side and from the left side with 2 hands and for the serve shot the ball was thrown over the head with 2 hands.

![Graphical representation of „Throwing the 2kg medicine ball”](image)

On the right side, the experimental group obtained 5.85 cm more in the average of throws. On the left side, the control group obtained 12 cm more in the average of throws. When throwing overhead, the experimental group obtained a small difference of 1.3 cm compared to the average of the results. The statistical parameters in this test also show that there are no major differences between the averages of the two groups. (t <P on the of 0.05% threshold).

**Conclusions**

After analyzing the results, we can say the following: in the first test (speed run on a distance of 18.285 m) that involved the reaction speed and the travel speed, the control group had 0.10 better average than the experimental group and thus a very small difference could be recorded between the groups. In the 2nd test (standing long jump (cm.), where the lower limb strength was tested, it seems that the control group had an extra 1.30 cm in the averages of the results. In the 3rd test (T-reaction) where the response time was the main motor quality tested, the experimental group had an extra 2.45 cm compared to the control group. In the tests that aimed at obtaining information in connection with the tennis-specific skills and qualities (hex...
jump and small fan sprint) both groups had an almost equal average with extremely low differences of 0.05 and 0.10 seconds between groups. The last test was addressed to the strength of the upper limbs on both sides (left and right as well as above the head). General strength and explosive strength were monitored. If on the right side the experimental group obtained an average of 5.85 cm more than the other group, on the left side, the control group managed to raise their average by 12 cm. As to the overhead throws there were very small differences in favor of the experimental group of only 1.30 cm. After the analysis of all results, we conclude that age plays a very important role in developing specific and non-specific motor qualities. We note that in a short span of time of approximately 1 year the results obtained in physical tests are similar, which again demonstrate the homogeneity we are facing this category of age.

Reference: