

SELECT AND APPLY PROFESSIONAL PHYSICAL DEVELOPMENT EXERCISES FOR MALE ATHLETES OF TABLE TENNIS TEAM AT HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Nguyen Trong Tai⁽¹⁾

Abstract:

Through the use of regular scientific research in the physical education and sports field, the topic has selected 19 exercises to develop professional physical fitness and 9 tests to evaluate the reliability and informativeness of the professional physical fitness of athletes in Table Tennis team, Hanoi University of Science and Technology. Through experiments, the exercises selected by the topic have confirmed the effectiveness in practical training.

Keywords: Exercises, professional physical fitness, Table tennis, Hanoi University of Science and Technology.

INTRODUCTION

The development of professional physical fitness is the basis and foundation for acquiring and mastering Table Tennis techniques, thereby applying the Table Tennis strategy in a flexible and creative way in competition. In other words, the effective acquisition and application of table tennis tactics can only be performed on the basis of general physical fitness and solid professional physical fitness.

The research on professional physical fitness of athletes of the table tennis team has been interested in and researched by many authors such as : Bui Huy Quang (1996), Vu Thai Hong (2002), Nguyen Hong Minh (2004), Ha Son Tung (2009) ... However, after researching the documents, there hasn't been any project that has researched further, selected a system of exercises to develop professional physical fitness for male athletes of team table tennis at Hanoi University of Science and Technology - which have already been limited in professional physical fitness.

Starting from the above issues, in order to contribute to improving the quality of Table tennis training and teaching courses for athletes of the team, step by step improve the

effectiveness of teaching in the university, selecting and applying exercises to develop professional physical fitness for male athletes of the table tennis team at Hanoi University of Science and Technology is extremely necessary.

RESEARCH METHODS

The research process uses the following research methods: Methods of analyzing and synthesizing documents; Method of interview and discussion; Pedagogical observation method ; Method of pedagogical examination; method of pedagogical experiment and method of mathematical statistics.

RESULTS AND DISCUSSION

The selection of exercises to develop professional physical fitness for athletes of Table Tennis team, Hanoi University of Science and Technology is carried out through the following steps: Selection through reference materials, pedagogical observation ; Choose through direct interviews with experts, teachers and coaches ; Choose through extensive interviews with questionnaires. Based on that, the topic has selected 19 exercises to develop professional physical fitness for the study subjects, including 19 exercises divided into 2 groups in sequence: Group of physical fitness

(1) Master, Hanoi University of Science and Technology; Email: Tai.nguyentrong@hust.edu.vn



**Instructor-available extracurricular physical training
in the form of a club is a form of training which has high efficiency
(Photo: Football Club in Bac Ninh Sports University, photo by: upes1)**

development exercises (06 exercises); group of techniques development exercises (13 exercises).

Next, the topic conducted a test to assess the professional physical fitness level for male athletes of the table tennis team at Hanoi University of Technology through the following steps: Selection through reference materials, pedagogical observation ; Choose through direct interviews with experts, teachers and coaches ; Choose through extensive interviews with questionnaires ; Determine the informativeness of the test ; Determine the reliability of the test. The results selected 9 tests to assess the level of professional physical fitness for the study subjects, which are: 1) 30m Running standing start (s) ; 2) Long jump on the spot (cm) ; 3) 1 minute rope skipping (l) ; 4) Throw badminton shuttlecock far away (m) ; 5) Move horizontally 4m – 21 times (s) ; 6) Simulate move and forehand drive with iron racket in 30s (times) ; 7) Fast forehand flick, move from 2 points to 1 point in 1 minute (number of good times); 8) Move horizontally, forehand and backhand

drive in 3 minutes (times) ; 9) Drive ball on left table corner in 3 minutes (times) .

With the aim of testing the effectiveness of the exercises selected, the subject conducted experiments on 12 male athletes of table tennis team at Hanoi University of Science and Technology in the form of parallel comparison, the experimental group and the control group - Each group of 6 athletes is randomly assigned. New experimental factor was the 19 exercises that the new topic selected for the experimental group, while the control group practice under the old exercises, according to the built old program, curriculum.

The experimental process is conducted for 3 months with 1 semester, 2 sessions per week during the training time of the team (from 17.30 to 19.00 on Tuesdays and Thursdays of the week), time for each training session is 20 to 25 minutes at the end.

Content and experimental process is presented as follows:

- Exercise 1: Lying on stomach, fast push-up (10 times x 3 sets, rest for 1 minute between the

sets, rest actively) - Weeks: 1, 2, 4-6, 8-10, 12.

- Exercise 2: Jump and move quickly (horizontal, vertical) (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 1, 3, 5, 7, 9, 11.

- Exercise 3: Bend elbows quickly with ante barbell (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 2, 4-6, 8, 10, 12.

- Exercise 4: 10 kg Weightlifting, quick heels (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 1, 2, 4-6, 8-10, 12.

- Exercise 5: Bend elbows pull spring in front of chest at a fast speed (10 times x 3 sets, rest for 1 minute between the sets, rest actively)- Weeks: 1, 3, 5-7, 9, 11.

- Exercise 6: Single or double rope skipping at a fast speed (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 2, 4-6, 8, 10, 12.

- Exercise 7: Wear sandbags on legs, move to 2 sides, do fast drive technique (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 1, 2, 5, 7, 8-10, 12.

- Exercise 8: Wear sandbags on legs, jump and hit the ball continuously (10 times x 3 sets, rest for 1 minute between the sets, rest actively) - Weeks: 1, 3, 5, 7, 9, 11 .

- Exercise 9: Wear sandbags on legs, move to 2 sides, do forehand and backhand drive techniques (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 2, 4 -6, 8,

10, 12.

- Exercise 10: Hold ante dumbbell or iron racket 0.5 kg move to 2 sides, do drive technique (2 times x 3 sets, rest for 1 minute between sets, rest actively) - Episode of weeks: 1, 2, 5, 7, 8-10, 12.

- Exercise 11: Hold ante dumbbell or iron racket 0.5 kg do push flick loop continuously at a fast speed (30s x 3 sets, rest for 1 minute between sets) - Weeks: 1, 3, 6-8, 9, 11.

- Exercise 12: Hold ante dumbbell or iron racket 0.5 kg continuously jump and hit the ball (30s x 3 sets, rest for 1 minute between sets) - Weeks: 2, 4-6, 8, 10, 12 .

- Exercise 13: Hold ante dumbbell or iron racket 0.5 kg loop ball in far attack, fast attack (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 1, 2, 4, 6, 8-10, 12.

- Exercise 14: Hold ante dumbbell or iron racket 0.5 kg left push, right block, tilt forehand and backhand attack (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 1, 3, 5, 7, 9, 11.

- Exercise 15: Hold ante dumbbell or iron racket 0.5 kg serve then move to two sides, forehand and backhand short flick (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks : 1, 2, 4, 6, 8-10, 12.

- Exercise 16: Hold ante dumbbell or iron racket 0.5 kg, forehand attack continuously (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 1, 3, 5-8, 10, 11.

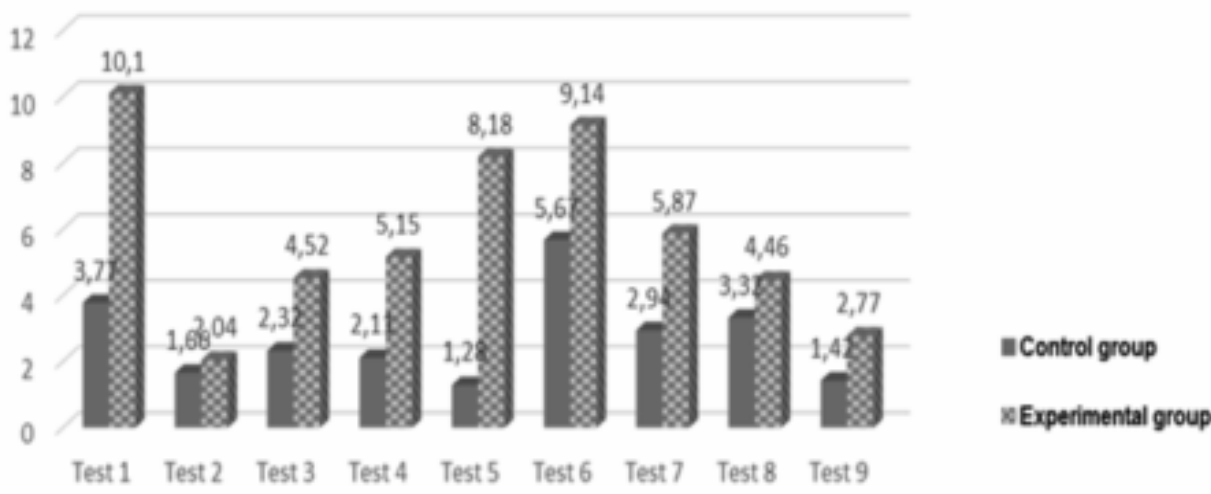


Chart 1. Growth rate of professional physical fitness of the control and experimental groups after 3 months of experiment

- Exercise 17: Hold ante dumbbell or iron racket 0.5 kg loop ball continuously (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 2, 4-6, 8,10, 12.

- Exercise 18: Hold ante dumbbell or iron racket 0.5 kg, left push and right drive 2 points or 3 points (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 1, 2, 4, 6, 8-10, 12.

- Exercise 19: Hold ante dumbbell or iron racket 0.5 kg shake wrist from bottom up at a fast speed, keep the arm straight, tilted to the left or right (30s x 3 sets, rest for 1 minute between sets, rest actively) - Weeks: 1, 3, 5,7, 9,11.

Before the experiment, the topic used 9 tests that were selected to check and compare the difference in physical fitness of the experimental and control groups. Results showed that, before the experiment, the professional physical fitness of the experimental and control groups did not have any statistically significant differences, with $p > 0.05$. In other words, before the experiment, the physical fitness level of the experimental and control groups was similar.

After 3 months of experiment, the subject continued to examine the professional physical fitness of the experimental and control groups and compared the differences in the test results. Results showed that, after 3 months of experiment, the test results of the experimental group and the control group had a significant difference, the experimental group had test results better than that of the control group (with $p < 0, 05$). This showed, the exercises that the topic selected initially were effective in developing professional physical fitness for male athletes of table tennis team at Hanoi University of Science and Technology better than old, commonly used exercises.

In order to clearly see the difference in the growth of test results of the control group and experimental group after 3 months of applying the exercises according to the developed process of the topic, the subject conducts a comparison of the achievement growth rate of the control and experimental groups through chart 1.

Chart 1 shows, after 3 months of experiment, the growth rate of the test results of the experimental group was better than the control group in all tests. This proves that, the application of exercises to develop professional physical fitness is a perfect fit and is able to raise professional physical fitness for male athletes of the table tennis team at Hanoi University of Science and Technology. After 12 weeks with a total of 24 sessions applying 19 selected exercises, it is entirely capable of developing professional physical fitness for male athletes of table tennis team at Hanoi University of Science and Technology .

CONCLUSION

The research process has selected 19 professional physical fitness development exercises for male athletes of the table tennis team at Hanoi University of Science and Technology, and the experiment have shown that these exercises will be effective after 12 weeks of training in developing physical fitness for the study subjects, with reliability at the threshold of needed statistical probability.

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