

SUMMARY

Handball is considered one of the sports that need more effort on interrupted periods and handball matches consist of two games each lasts (25) played minutes for youngsters 12-16 years old so it is obvious the contribution of aerobic system in supplying energy. Also it needs skills like jump, shooting, fast attack and defensive movements and return to defense in scoring a goal or not scoring according to law change and these are skills of high intensity performed intermittently during the match in a period last only few seconds so they are skills that need anaerobic work and this prove that handball need both systems aerobic and anaerobic.

The purpose of the aerobic and anaerobic training is delaying fatigue to lead to the continuity of the player in exerting effort in the same level of physical and skillful performance they the start the game with.

Research aims :

- 1- Knowing the effect of aerobic and anaerobic exercises on some special physical qualities.
- 2- Knowing the effect of aerobic and anaerobic exercises on some handball skills.
- 3- Knowing the effect of aerobic and anaerobic exercises on respiratory efficiency.

Research hypotheses :

- 1- There are statistically significant differences between the pre- and post-measurements of the control group in some physical

qualities and some skills and the respiratory efficiency in favor of the post-measurement.

- 2- There are statistically significant differences between the pre- and post-measurements of the experimental group in some physical qualities and some skills and the respiratory efficiency in favor of the post-measurement.
- 3- There are statistically significant differences between the control and experimental groups in some physical qualities and some skills and the respiratory efficiency in favor of the experimental group.

Research procedures :

- The research used the experimental approach.
- The essential study was carried out on a sample from Port-Said sports club and was 24 youngsters.
- The essential study sample was divided to 2 groups, one experimental (12) youngsters and the other control (12) youngsters.
- The experimental group performed the aerobic and anaerobic exercises to improve the skillful, physical variables and respiratory efficiency under investigation while the control group performed the sample program except the aerobic and anaerobic exercises.
- Both groups experimental and control performed the following variables before and after test :
 - Physical tests to measure the physical variables : power - movement speed - agility - flexibility.

- Skillful tests to measure the following skills : dribbling, passing and receive - shooting.
- Respiratory efficiency : Pony spirometer - aerobic work - anaerobic work.

Statistical analysis :

The researcher used the following statistics :

- Man Whitney test to compare differences between groups pre and post.
- Wilcoxon rank test to compare differences between the pre- and post-measurements of the same group.

Research Results :

- 1- The designed program affected the control group by the same parts of the program for both groups on some essential skills, physical qualities and respiratory efficiency of handball youngsters and there is statistically significant differences between the pre- and post-measurements of the control group in favour of the post-measurement in all variables.
- 2- The training program that include aerobic and anaerobic exercises showed marked improvement on some essential skills, physical qualities and respiratory efficiency of handball youngsters and there is statistically significant differences between the pre- and post-measurements of the experimental group in favour of the post-measurement in all variables.
- 3- The experimental group that perform the aerobic and anaerobic exercises in addition to the same units in the program of both groups showed improvement over the control

group and the results showed statistically significant differences between both groups in favor of the experimental group in the post-measurement in some essential skills, physical qualities and respiratory efficiency under investigation.

- 4- The percentage of improvement of the experimental group is higher than that of control group in some essential skills, physical qualities and respiratory efficiency under investigation.

Recommendations :

- 1- Care for aerobic and anaerobic exercises inside the training units for handball youngsters due to their positive effect on functional abilities of the body that is considered the base in improvement of aerobic and anaerobic work.
- 2- Work to direct this study and the training program and its steps to workers in the field of handball youngsters training.
- 3- Concentrating on performance of aerobic and anaerobic exercises in preparatory stage.
- 4- The training of youngsters need scientifically qualified trainers.
- 5- Using the aerobic and anaerobic tests to select youngsters in handball.
- 6- Carrying out more researches and studies that deal with handball youngsters training to solve the different problems that face the trainers.

ABSTRACT

The Effect of Aerobic and Anaerobic Training On Some Special Physical Qualities , Skill Performance and The Respiratory Efficiency for Handball Beginner

This research aims to :

- 1- Knowing the effect of aerobic and anaerobic exercises on some special physical qualities.
- 2- Knowing the effect of aerobic and anaerobic exercises on some handball skills.
- 3- Knowing the effect of aerobic and anaerobic exercises on respiratory efficiency.

The researcher used the experimental group by designing both groups one is experimental and the other control. The sample size is 24 youngsters, 12 for control and 12 for experimental groups and the study was carried out in Port-Said sports club.

The most important results is the marked improvement in both experimental and control groups in physical and skillful variables and in respiratory efficiency but the improvement in the experimental group is more obvious in comparison to control group due to aerobic and anaerobic exercises used for experimental groups.

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