

The effect of compound exercises for the arm least used in developing the accuracy of the passing skill of the handball for ages (15-17) years

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ABSTRACT

The purpose of this paper is to prepare compound exercises for the least used arm in developing the accuracy of the passing skill of the handball for ages (15-17) years, and identify the effect of the combined exercises for the least used arm in developing the accuracy of the passing skill of the handball for ages (15-17) years. The researchers used the experimental method (designing one experimental group with two tests, pre and post-tests, to suit the nature of the problem). The two researchers deliberately selected the research sample represented by the players of the Karkh education team in the first / preparatory stage for ages (15-17) years and their number is (17) players. One of the most important results reached by the researcher is that: The combined exercises for the arm least used have positively affected the development of the accuracy of the passing handball skill for ages (15-17) years and caused a relative development in their skill performance. One of the most important recommendations recommended by the researchers is that : Allocate time to exercises the arm that is least used in the game of handball, the use of compound exercises for the arm least used by stakeholders and trainers to develop the accuracy of the passing skill of handball for ages (15-17) years , and the use of compound exercises for the arm less used on other skills, for females instead of males, and for advanced ages instead of juniors.

Keywords: arm least used.

Introduction

The handball game is one of the team games that is witnessing a great development in international, continental, Arab and a little local championships, since the performance of basic defensive and offensive skills requires harnessing all the training capabilities of the coach to develop aspects (physical - skill - kinetic - tactical - functional - psychological) For players by special exercises and according to the specifics of each of the playing centers, the front line (the two corners and the pivot) and the back line (the forearms and the middle).

As mastering the accuracy of the skill of passing the ball in the attack (collective, building and penetration) contributes greatly to investing all the available experiences of the handball player for the aiming arm in particular (the arm most used) in terms of strength, speed and accuracy of the passing skill in order to exploit the team's defensive gaps. The competitor in the direction of exploiting it in the attack, all of this imposes on the player in special cases to use the unfavorable and less used arm in order to benefit from it and create an individual superiority factor for the attacking player (skillful superiority) represented by preferring the performance of that arm, which adds a factor of suspense and ingenuity to performance. Here, the importance of the research, which is represented by paying attention to the arm least used in handball by setting standardized compound exercises to develop the accuracy of the passing skill of handball for ages (15-17) years, which contributes even in a relative way to the events of skill excellence in offensive performance, which constitutes a factor of superiority and creativity player skill.

Research problem:

Through numerous observations based on numerical statistics and the investment of the researchers' field experience, was identified for the skill performance of handball players in international, continental and Arab championships with the lack of participation of the less-used (unfavorable) arm, which constitutes a problem that has not been shed light on training that may be in the eyes of the coaches. The players and the audience are not important, but at some time they constitute an important factor for creativity and obtaining the benefit in the skillful performance of the player on the one hand, and a factor of suspense and excitement for the viewer on the other hand, due to the difficulty of performing with that arm and the risk of using it in cases that are very close to the goal area and in which the player uses his skills offensive, which constitutes a positive motivator and a self-confidence factor when performing it.

Research objective:

- Prepare compound exercises for the least used arm in developing the accuracy of the passing skill of the handball for ages (15-17) years,

- Identify the effect of the combined exercises for the least used arm in developing the accuracy of the passing skill of the handball for ages (15-17) years

Research hypotheses:

- There is a positive effect of the combined exercises of the least used arm in developing the accuracy of the passing skill of hand reel for ages (15-17) years

Research fields:

- Human field: players of the Karkh first education team / for the preparatory stage
- Time field: (15/2/2022) to (15/6/2022)
- Spatial field: the researchers chose the Mansour closed hall for sports/ Department of sports and school activities in Baghdad.

Research methodology and field procedures:

Research Methodology:

The researchers used the experimental method (designing one experimental group with two tests, pre and post-tests, to suit the nature of the problem).

Research community and sample:

The two researchers deliberately selected the research sample represented by the players of the Karkh education team in the first / preparatory stage for ages (15-17) years and their number is (17) players. Then they collected data and it was statistically processed using the (spss) program.

Devices, tools and means used in the research:

Data collection methods:

- Arabic and foreign sources and references.
- Observation and experimentation.
- Tests and measurements used in the research.
- The statistical program (spss).

Tools and devices used:

- A legal handball court.
- Papers and pens.
- A circle with a diameter of (70) cm.
- An electronic device for measuring height and weight (BMI) of Chinese origin.
- Hand balls (20).
- One (1) American-made HP laptop.
- Whistle type (Fox) number (2).
- One (1) stopwatch.
- The requirement to measure in centimeters.

Field research procedures:

Tests and measurements used in the research:

Test passing the whip (from the level of the shoulder) (Al-Khayat and Al-Hayali. 2001).

- **The objective of the test:** To measure the compatibility, speed and accuracy of passing the whippet on the wall.
- **Tools:** (A legal handball number (1), a flat wall with a circle drawn on it, with a diameter (70 cm) rising from the ground (160 cm), a stopwatch. Measuring tape, tape measure.
- **Description of performance:** The tester stands at a distance of (3 m) from the wall, and passes the ball to the wall within the boundaries of the circle, and the passing continues for the most number of times in a time (30 seconds).
- **Performance conditions:** Passing within the limits of the drawn circle and behind the line that is 3m away from the level of the shoulder, and receiving the ball also from behind the line specified for receiving.
- **Direction and recording:** The number of correct passes is calculated during the specified time (the number of times the ball is received while it is rebounding from the circle). The ball falling on the ground or outside the circle is not counted.

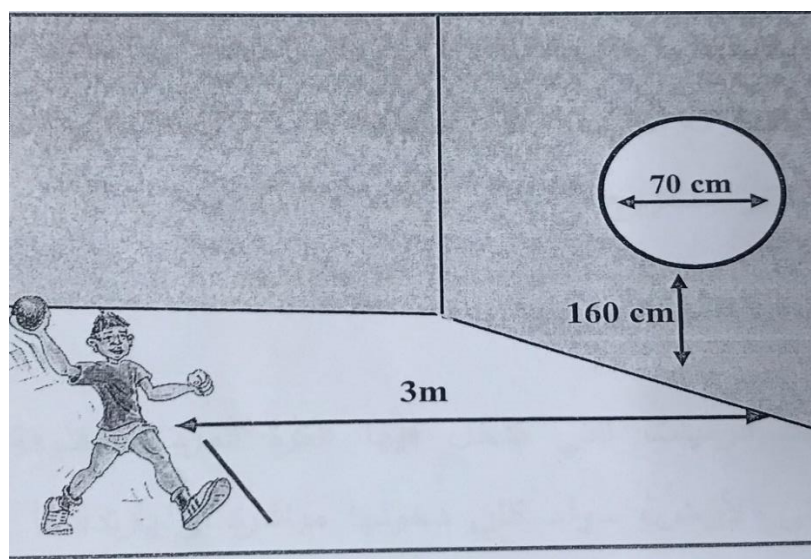


Figure (1) shows the passing test of whip (shoulder level).

Throwing a handball at the wall for (30 seconds) (Al-Khayat and Al-Hayali. 2001).

- **Objective of the test:** to measure the speed of the player's repetition of the ball.
- **Tools:** indoor handball court, handball, stopwatch.
- **Description of the performance:** The player stands at a distance of 3 m from the wall and holds a handball in his hand. When he hears the signal, he throws the ball at the wall and then receives it again, and continues throwing the ball at the wall until the end of the specified time, which is (30 seconds).
- **Direction and recording:** The player records the number of times the ball touches the wall during the specified time. The player is given only one attempt.

The exploratory experience of the tests used in the research:

The two researchers conducted three exploratory experiments for the tests used in the research on the Al-Mansour indoor gymnasium, on a sample of (4) players aged (15-17) years old in handball at (1:30) in the afternoon. The first reconnaissance experiment was on 18/1/2022 at (1:30) in the afternoon, and its objective was to conduct how to implement the exercises and make adjustments to the exercises if necessary, knowing the possibility of carrying out the exercises, knowing the efficiency of the assistant work team, and making sure of the training methods and tools and the duration of time. The time taken to perform each test and divide the tests for the research variables and achieve the scientific conditions for the tests, while the second reconnaissance experiment was on 20/1/2022 at (1:30) in the afternoon, and it aimed to determine the components of the external load of the exercises and extract the maximum pulse of the sample, The researcher conducted a test run (100m) for the sample and extracted the maximum pulse of the sample, while the third reconnaissance experiment was on 23/1/2022 at (1:30) in the afternoon and the aim of it was for the purpose of knowing the scientific bases of the tests and the researcher repeated the tests for the sample. Selected at random and extract honesty, stability and objectivity.

After completing the pilot experiment, the objectives that were set were achieved, as follows:-

- Achieving the scientific bases of the tests used.
- Clarity of the tests and their instructions.
- The assistant work team enjoyed high potential and accuracy during the procedures for executing the tests.
- Appropriateness of the exercises to the individuals of the research sample.

Main Experiment Procedures:

Pre-tests:

The two researchers conducted pre- tests on the research sample for the passing accuracy tests. The 17 pre- tests for the passing skill of the player took place on Sunday, 13/2/2022 in Al-Mansour Hall at (1:30) afternoon.

The main experiment (combined exercises for the arm least used):

the exercises started on Tuesday 15/2/2022 at three in the afternoon and lasted for (8) weeks and included (24) training units for the research sample, and by (3) training units per week in On days (Sunday, Tuesday and Thursday), the compound exercises were applied at the beginning of the main section of the training unit. The training unit begins using warm-up exercises commensurate with the goal of the unit. The two types of interval training method were used (low-intensity interval - high-intensity interval) and the load intensity ranges between (65- 75%) for low interval training and (75-85%) of the player's maximum level for high interval training, the beginning of the load ripples (1:3) in one training unit and the repetition of exercises between (1:3) repetition, and between (1: 2) Groups and performance time ranged between (20-35) minutes, and between periods of rest (60: 180) s positive rest.

Post-tests:

After completing the compound exercises for the least used arm developed by the researchers, they, through the assistant work team, conducted the post tests for the passing skill of the research sample, which numbered (17) players, on Tuesday, 19/4/2022 in Al-Mansour Hall, and the researchers were keen to adhere to And creating all the conditions and capabilities in which the pre-tests were conducted, and the complex exercises and post-tests were applied in terms of time, place, and the necessary tools and equipment.

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Presentation and discussion of the results:**Presenting the results of the pre and post-tests for the accuracy of the passing skill for the least used arm of the research sample:**

Table (1) shows the statistical parameters, the calculated T-value and the level of significance for the pre and post-tests for the accuracy of the passing skill for the least used arm of the research sample.

Variables	Pre-test		Post-test		Sum square arithmetic mean of difference	Sum arithmetic mean of difference	T value calculated	Level Sig	Type Sig
	Mean	standard deviation	Mean	standard deviation					
Test passing the whip (from the level of the shoulder)	13.058	2.192	17.823	1.286	-4.764	0.559	8.520	0.00	Sig
Throwing a handball at the wall for (30 seconds)	14.235	1.888	21.176	1.333	-6.941	0.558	12.421	0.00	Sig

Table (2) shows the progression rate of a skill's accuracy

Variables	Pre	Post	Evolution rate
	Mean	Mean	
Test passing the whip (from the level of the shoulder)	13.058	17.823	26.73%
Throwing a handball at the wall for (30 seconds)	14.235	21.176	32.77%

Discussing the results: Through Table (1) which shows the results of the research sample in the pre- and post-tests, as there was a clear development in the post tests at the expense of the pre-tests in the passing skill accuracy tests,

and the researchers attribute this development to the effectiveness of the compound exercises used by the researchers. Within the approach applied to the research sample, where the two researchers used the compound exercises for the less used arm in developing the accuracy of the passing skill because of its importance. And boredom as new exercises for the player and the arm, and these exercises for the less used arm are a very important way to develop skills, as “mentions that “combined exercises are one of the most important exercises in the game that works to develop the skill side of handball players, being The similarity of the duty required of the player in the conditions of competitions, and combines more than one skill in one exercise and performs as well in the different stages of preparation, as well as its diversity, which helps to increase Express desire and excitement when exercising it.”(Shalash and Sobhi. 2000). “The use of various exercises with a direction similar to the effectiveness has a great impact on the process of progress in its performance and mastery, as passing is the mainstay of any team sports activity practiced with the ball as it is the fastest way to deliver the ball to the opponent’s goal or to overcome any defensive formation and is one of the most important features Collective events such as football, basketball, and others, and mastering all kinds of passing with both arms compensates for some shortages in other skills and increases the opportunity to reach the opponent’s goal and create an appropriate opportunity to score a goal “ (Al-Saadi. 1998). In addition, the exercises are characterized by diversity, composition and continuous change in movements and skills, as “ the diversity in the tools and their exercises, all of this would excite the players and increase their motivation towards progress and elevation in the athletic level“ (Fawzy. 2008). And since the party that is least used (not preferred) is often neglected and not invested to some extent by the players, so the accuracy of playing in it is weak when it is activated in the skill performance and seizing its development by means of training and the required repetition and learning, the improvement and development in this party in a gradual way is easy This is what the researchers intended, as the use of the compound exercises for the least used arm was gradual from easy to difficult. It had a great role in the development of the research sample in the post tests of the passing skill, i.e. observing the principle of gradualness in the exercises and the transition from easy to difficult and from simple to complex. From the skill performance of the players and the speed of decision-making to implement the skill accurately, states that “the amount of training and the increase in repetitions in response to a specific stimulus work to speed up decision-making”(Schmidt 2000).

The compound exercises included linking more than one skill with different conditions during performance, which had an impact on the development of the players in the performance of this skill, and the exercises were suitable for the players in terms of repetitions and the degree of difficulty and appropriate comfort in proportion to the players abilities This was confirmed “as it is necessary for the player to reach the performance of the skill in an automatic way through the constant repetition of performance and the use of various exercises, which we distinguish by changing the requirements and external factors during the exercise” (Ibrahim. 1994).

Conclusions and Recommendations:

Conclusions:

Within the limits of the research results and the statistical treatments carried out by the researchers, and in justification for these results, the researchers reached a set of conclusions, which are:

- The combined exercises for the arm least used have positively affected the development of the accuracy of the passing handball skill for ages (15-17) years and caused a relative development in their skill performance.

Recommendations:

According to the conclusions reached by the researchers recommend the following:

- Allocate time to exercises the arm that is least used in the game of handball.
- The use of compound exercises for the arm least used by stakeholders and trainers to develop the accuracy of the passing skill of handball for ages (15-17) years.
- The use of compound exercises for the arm less used on other skills, for females instead of males, and for advanced ages instead of juniors.

References:

1. Ahmed Amin Fawzy. 2008. The Psychology of Sports Training for Juniors, 2nd Edition, (Cairo, Arab Thought House), p. 20.
2. Daa Al-Khayat and Nofal Muhammad Al-Hayali. 2001. Handball, Dar Al-Kutub for Printing, Mosul, pp. 495-496.
3. Mufti Ibrahim. 1994. New in the Skilled and Tactical Preparation of the Football Player, (Cairo, Dar Al-Fikr Al-Arabi), p. 23.
4. Najah Mahdi Shalash and Akram Muhammad Sobhi. 2000. Kinetic Learning, 1st Edition, (Mosul, Dar Al-Kutub for Printing), p. 117.

5. Schmidt and wrisberg. 2000. Op.Cit. P.P.63-64.
6. Sunan Hanoon Ali Al-Saadi. 1998. The effect of diversified exercise using assistive devices in learning some offensive skills in basketball, Master's thesis, University of Baghdad, College of Physical Education and Sports Sciences, pg.39