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Special exercises for developing arms and their effect on performing a side throw in football

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Abstract:

Often times soccer players focus on training major muscle groups such as the legs, back and chest, and an area that is often overlooked is arm strength. An athlete's hand strength and grip can greatly impact their overall performance in a variety of sports and activities. Developed arm muscles are also important in preparing football players, as they participate in the playing process, for example, in the case of performing a side throw. Hence, the research gains its importance in developing the arms to be able to achieve the best distance in the side throw.

Keywords: side throw, arm strength training, football player training, young football players.

تمرينات خاصة لتطوير الذراعين وأثرها في أداء الرمية الجانبية بكرة القدم

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ملخص:

في كثير من الأحيان يركز لاعبو كرة القدم على تدريب مجموعات العضلات الرئيسية مثل الساقين والظهر والصدر، والمنطقة التي غالبًا ما يتم تجاهلها هي قوة الذراع. يمكن أن تؤثر قوة يد الرياضي وقبضتها بشكل كبير على أدائه العام في مجموعة متنوعة من الألعاب الرياضية والأنشطة. كما أن عضلات الذراع المتطورة مهمة أيضاً في إعداد لاعبي كرة القدم، حيث يشاركون في عملية اللعب، على سبيل المثال، في حالة أداء رمية جانبية. ومن هنا يكتسب البحث أهميته في تطوير الذراعين ليتمكنا من تحقيق أفضل مسافة في الرمية الجانبية.

الكلمات المفتاحية: الرمية الجانبية، تدريب قوة الذراع، تدريب لاعبي كرة القدم، لاعبي كرة القدم الشباب.

Introduction :

Physical fitness plays a crucial role in determining a player's performance on the football field, as it enables him to advance to achieve the best achievement and excellence in performance.

Arm strength training is an important aspect of athletic performance that often goes unnoticed. The direct development of strength and power in the hands allows not only to increase the effectiveness of training, but also ensures a minimum of possible injuries in various sports. To achieve maximum results, it makes sense for athletes to pay special attention to strength exercises on the arm muscles, combining them with proper nutrition and proper rest. This will allow the athlete to fully unleash his potential and ensure success in his field of activity.

1- Purpose of the study

As part of this study, the development of training using arm strength exercises in its training program was carried out. Trainings were held 2 times a week. Each session took about 15-20 minutes, with an emphasis on various exercises aimed at developing different arm muscles.

2- Method and Procedure:

The experimental method was used

2-1 Research Sample:

To evaluate the influence of the developed arm training system on the performance of a lateral throw, an experimental study was conducted. Pupils of the Diwaniya football club aged 17-19 years took part in the study. The experimental and control groups each included 10 football players from this club.

Control tests were carried out before and after the pedagogical experiment in order to obtain quantitative information about the technical readiness of athletes. Before implementing the training program, control tests were conducted to determine the initial level of ability to perform lateral throws. After the pedagogical experiment was carried out, control tests revealed the presence or absence of positive dynamics.

Control tests. To evaluate the effectiveness of the proposed training program, control tests were conducted in the experimental and control groups. Testing was carried out according to the following indicator - Throwing the ball into range, 3 attempts (m).

Throwing the ball into range. The starting position for the throw-in is with the legs apart or with the right (left) leg apart. Preparatory phase - swing. To do this, you need to raise your arms with the ball and move them up and back, tilt your torso slightly back, transferring your body weight to the leg standing behind you. The main (working) phase is throwing the ball, which is performed by vigorously straightening the legs, torso and arms towards the throw-in. The rules of the game stipulate that at the moment of a throw from behind the side line, the football player must stand with both feet on the ground, and in the final phase, that is, after the player releases the ball from his hands, he can even fall.

2-2 Tools and equipment used in the research:

- football stadium

- Footballs

-Metric tape measure

- Signs

- Colored adhesive tape

- A football- football stadium

- Photography cameras

- gym- Medicine ball weighing 5 kg

2-3 main experiment

2.3-1 Pretest:

With the help of the work team, members of the two study groups were tested on Friday and Sunday at 4 pm at the Diwaniyah Club Stadium and were tested on the two variables of the study (Neck exercises).

2-3-2 Training Curriculum:

After completing baseline testing, participants in the experimental group participated in a six-week neck strengthening program (three times per week).

The following exercises were used as part of the preparation:

1. Ball push-ups. One of the effective workouts that helps develop the pectoral, triceps and anterior deltoid muscles is an exercise with a soccer ball in one hand and an emphasis on the floor. This exercise not only trains muscles perfectly, but also develops coordination, as it requires additional effort to maintain balance. It is recommended to perform the maximum number of repetitions of this exercise for each arm, performing one set at a time.

If the muscles of both arms are developed evenly, then it does not matter which arm you start with. However, if you notice a difference in strength or mass development between your arms, it is recommended that you begin the exercise with your weaker arm.

In addition to the initial exercise with a soccer ball and support on the floor, there are also alternative training options. One of them is regular push-ups. You can also perform push-ups with your feet on a hill or push-ups from special supports [1].

2. Dumbbell chest press on an incline bench (dumbbell press “in plus”). A standard exercise involves lifting dumbbells vertically, with the possibility of using supination. It is necessary to select a weight to perform 15-25 repetitions. For this exercise, you can do a warm-up set using dumbbells that are half your working weight, and then do two main sets. During this exercise, the pectoral muscles, triceps and the anterior part of the deltoid muscle are actively involved [3].

As alternative exercises, you can use dumbbell presses on a straight bench or on an incline bench upside down.

3. Pullover with a dumbbell. The athlete lies down on the bench lengthwise or only with the upper back across, placing his feet on the floor. Next, he takes a dumbbell (or other weight) by the head with straight arms and returns it to a vertical position with straight arms. Exercises start with a light weight to find your safe limit: lifting

your arms with a weight behind your head loads the shoulder joints, so it is important to monitor this [2].

During this exercise, the pectoralis major, teres, latissimus, serratus anterior and triceps are actively worked.

4. Dumbbell row to the chin. Straight and unbending back. We pull ourselves up, extending our elbows above the floor level. It is recommended to maintain tension in the press. The main impact is on the middle delta. The general rule for training deltas: in a specific exercise, the beam that is located above is actively activated.

2-3-2 Post-test:

After completing the application of the training curriculum components, the researcher conducted the post-test for the experimental and control groups, in addition to taking performance data under the same conditions as the pre-test.

2-4 Statistical means:

In the statistical analysis, the researcher relied on the spss statistical package.

3- Presentation, analysis and discussion of the results:

3-1 Introduction and discussion of the pre- and post-test results of relevant proficiency tests.

Participants completed the number of repetitions and sets presented in Table 1 for each of the highlighted exercises.

(Table 1)

Dynamics of side throw testing indicators

Test	Group	**pre-test**	**post-test**
Side throw range, m	experimental	7,2	8,8
	control	7,3	7,5

At the initial stage of the research, it was found that the indicators in the experimental and control groups did not have significant differences. At the same time, repeated diagnostics showed that the control group did not reveal any

significant dynamics of improvement in indicators. In the experimental group, one can note the presence of positive dynamics after the implementation of the training program. The throwing range increased by 1.6 m ± 0.3%, which was revealed during control tests at the final stage. To identify the significance of differences, the Wilcoxon T-test was used, which showed the presence of statistical significance in the experimental group (Temp =10.4** at $P \leq 0.05$). However, no significant differences were found in the control group.

4.1 Conclusions

1- The results of control tests showed the presence of statistically significant differences in test performance among football players who participated in the implementation of the program.

2- At the same time, in the control group, which was trained according to the standard program, no significant dynamics were identified. The data obtained allow us to draw a conclusion about the effectiveness of the developed training program for young football players.

3- The use of special training for the arm muscles has a positive effect on the execution of a side throw in football. In this regard, it is recommended to introduce these exercises into the training process of football players.

4.2 Recommendations

1- conduct classes at least 2-3 times a week.

2- devote 15-200 minutes of training to exercises, the purpose of which is to develop the muscles of the arms.

3- use various exercise options, among which are: bending and extending the arms at different supports; medicine ball power throws; throwing a medicine ball from one hand to another, ball push-ups, dumbbell presses, etc.

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