

The Effect Of Using Rehabilitative Exercises In A Preventive Manner To Reduce Shoulder Rotation For People With Special Needs (Wheelchairs)

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Abstract :The current study aimed to prepare preventive exercises to reduce shoulder rotation for people with special needs in wheelchairs, by applying to a sample of (8) for players with wheelchair needs. To achieve the goal of the study, the training program was built, consisting of (36) sessions distributed over (12) weeks, and the training program was divided into (3) phases, where new exercises were used in each phase to bring about the greatest improvement on the sample members, with the aim of revealing the impact of the program. A pre-measurement was performed for the front and back shoulder area, and the same measurement was performed after the completion of the training program, and the results showed a clear effect of the program in reducing the roundness of the shoulders, as the program contributed to an increase in the width of the front shoulder area, while the distance related to both sides of the shoulder decreased. the background. In light of this result, the researchers recommended the necessity of adopting the proposed program in this study to correct the rotation of the shoulders, and the need to raise awareness of peaceful orthopedic habits, whether in sitting or working, to reduce the phenomenon of shoulder rotation.

1. INTRODUCTION

God created man in the best form and correctness, and favored him over all beings, and bestowed upon him countless blessings. The general appearance of the human body is one of the most prominent elements of a healthy personality, as the individual's possession of a healthy and harmonious body reflects the healthy appearance of him, and many diseases have become a great danger to our lives imposed by the conditions of modern life and the psychological pressures that many people are exposed to, and this basically requires the individual to be free from postural defects and deformities. And enable him to practice his life properly in order to continue maintaining his strength. (Lee, Nam, Sung, Kyoung, Hae Yong, 2017) indicate that the changes in contemporary life and the prevalence of negative habits in terms of wrong sitting movement for a long time or practicing some Professions force individuals to adhere to a fixed position for a long time, which leads to continuous contractions in the muscles of the head, neck and shoulders, especially those with special needs who use wheelchairs because it has become a part of their lives as a result of disability, and that physical education is closely related to other sciences such as physiotherapy, biomechanics, anatomy, psychology and medicine. The athlete has a close relationship in the training process and how injuries occur. Sports medicine has made a significant contribution to the safety of players and their protection from exposure to no Injuries and you by using

exercises and standing to reduce the rotation of the shoulder for people with special needs, and that the effort exerted by people with wheelchairs to move and exercise has an anatomical effect that varies according to the different activities in general and sports in particular, its intensity and the intensity of training performed by the disabled person. The anatomical effect that results from the violent daily training carried out by athletes with needs results in the deformation of the rotation of the shoulders mainly from sitting positions for a long time, especially if the work of the individual requires bending for a long time as this results in an increase in the posterior shoulder angles on one side and a decrease in the distance between the shoulder bones The front, which necessarily leads to a noticeable increase in the rotation of the shoulders, and here lies the importance of research in knowing the effect of preventive exercises to reduce the rotation of the shoulders for people with special needs (wheelchairs) because practicing physical exercises on a regular basis can contribute to reducing the rotation of the shoulders and reducing the pain resulting from The shoulders are rotated as an abnormal position where the front muscles are shortened and strengthened, and in turn the posterior muscles of the shoulder are lengthened and weakened, and thus the grip and extension ligaments lose their effectiveness and become weak and relaxed.

Research problem:

Exercising sports has an effective effect on correcting the human body in general and with special needs, as posture deformities cause pain for people with wheelchairs and wrong sitting has negative consequences, which leads to rounded shoulders and concavity of the nape and causes health problems and forms a physical and psychological barrier, as it becomes an obstacle to achieving achievement and reaching To the higher levels, due to the frequent use of wheelchairs and the wrong sitting for long periods, it deforms the rotation of the shoulders, and the greater the width of the front shoulder area, the lower the level of the back convexity of the shoulders, which causes pain and an increase in the rotation of the shoulders.

research aims :

- 1- Preparing preventive exercises for people with special needs to reduce shoulder rotation for the research sample.
- 2- Knowing the effect of preventive exercises to reduce shoulder rotation for people with wheelchairs

Research hypotheses

- 1- There are hypotheses of statistical significance between the pre and post tests of the research sample.

Research areas:

The human field: wheelchair paralympics in Diyala Governorate.

Time domain: the period from 1/10/2019 to 1/1/2020

Spatial domain: the cateon forum in Diyala governorate.

2. RESEARCH METHODOLOGY:

The two researchers used the experimental method and design the one group of news before and after its suitability to the nature of the research, and it is one of the approaches through which accurate results can be reached, and it is the only approach that can truly test the hypotheses of relationships of cause or effect., 1999, 217)

The research sample: -

“The goals that the researchers set for their research and the procedures they use determine the nature of the sample that he chooses” (Raysan Majid Khuraibet., 1988, 41.) for his research. Therefore, the sample was chosen by the intended sampling method, as this method ensures that the researchers achieve the goal of his study. The sample included a number of players with special needs on wheelchairs in the Paralympics in Diyala governorate, their number was (5) players chosen from the research community of (25) injured, representing (20%) of the original research community

The homogeneity and equivalence of the sample: -

Sample homogeneity: -

In order for the sample under study to be homogeneous, which has a direct impact on the validity and accuracy of the results, the researchers extracted the torsion coefficient in some anthropometric variables that are related to measuring the research under study.

Research tools and devices used: -

Research tools are “the means by which the researcher can collect data and solve the problem to achieve the research objectives, whatever those tools are data, samples, devices... etc.” ((1) Muhammad Ziyad Hamdan, 1988, p. 121)

The following has been used: Arab and foreign sources and references, technical note and experimentation, personal interviews, data recording forms, international information network, - tape measure, laser discs, Pentium electronic computer (4), tablets of different weights with dumbbells, scale Medicine Ball, weighing (0.5) kg, modified dynamometer.

-Measurements used in the research:

- Body mass measurement
- Arm length measurement
- Upper arm length measurement
- Measurement of the posterior segment of the deltoid muscle

Preventive program:

The preventive program was designed as the program included exercises to develop strength aspects of the back muscles, stretching and flexibility of the chest muscles for a period of (12) weeks, at a rate of (36) training units (three training units per week) of each week (Saturday, Monday and Wednesday), noting that the time of the training unit The first training unit for each program is (35 minutes), and the time for the second training unit for each program is (38 minutes), and the time for the third training unit for each program is (48 minutes) (Al-Ta'i, Muneeb Abdullah, 2000, 102).

Pre-test and measurements:

The pre-test was performed on the members of the research sample before starting to implement the preventive program in order to determine the degree of rotation of the shoulders for people with special needs (wheelchairs) and the spine curvature of the research sample before training. This test was conducted on 9/29/2019.

post- test and measurements:

The post-test was performed on the research sample after the completion of the preventive program, in order to determine the effect of the preventive program on the study variables. This test was conducted on 01/2/2020.

Statistical means:

For the purpose of analyzing the data statistically, the statistical program (SPSS) was used, using statistical methods.

2. PRESENTATION AND DISCUSSION OF RESULTS:

Table No. (1) The difference between the pre and post measurements for the front and back shoulder area						
Variables	measuring unit	measuring	Pre-test	The middle test	Post-test	Evolution rate
1	cm	The front	31	29	31	%3
	cm	Back	26	27	28	
2	cm	The front	39	36	38	%3
	cm	Back	35	37	39	
3	cm	The front	45	47	48	2%
	cm	Back	44	46	48	
4	cm	The front	33	31	32	2%
	cm	Back	28	30	31	
5	cm	The front	40	38	39	2%
	cm	Back	36	37	38	

3. DISCUSS THE RESULTS

Through the previous presentation of the table, it was proved for us that influential differences occurred in the results of the pre and post tests in favor of the post test for the research sample, as there was a clear improvement in the degree of rotation of the shoulders. The researchers attribute this improvement to the fact that the members of the research sample adhered to the application of the vocabulary of the program for a period of three months, which in turn led to the evaluation of the rotation of the shoulders through the practice of preventive exercises, which was based on the method of gradually increasing repetition of these exercises as a result of stretching exercises.

This is consistent with what was indicated by (Nilson & Jenson, 1972) that "Exercise improves muscle strength and tone (which is to maintain a slight muscle contraction) and at the same time partially adjusts the deflections and distortions of posture, especially when strength exercises are accompanied by exercises for flexibility. In the opposite muscles "(Nilson & Jenson, 1972, 101), and also agrees with what was indicated by (Thulin, 1981)," that exercises to develop strength and flexibility in particular work to modify and correct the abnormalities and distortions of posture "(Thulin, 1981, 24).

The two researchers agree with the results of a study (Ruivo, Pezarat-Correia and Carita, 2017), as these studies showed that the use of regular exercise in terms of time, duration and number of sessions contributes to reducing the phenomenon of shoulder rotation.

Some of the test results are in agreement with what was reached by (Abu Auf, 1976), "in terms of improvement in the legal status of the members of the research sample, which consisted of female middle school students, by using therapeutic exercises" (Abu Auf, 1979). Likewise, the findings of (Abd al-Rahim, 1986) that "the proposed program that I used to treat deviations and postural deformities improved lateral curvature, cervical concavity, dorsal curvature and lumbar concavity of the research sample that consisted of middle school students" (Abu Al-Raz, 1989, 136).

Summary of results:

Recommendations:

In light of the study and its results, the following was concluded:

1. The practice of the proposed preventive program reduces the degree of shoulder rotation for the subjects of the research sample
2. The adoption of the training program proposed in this study as a basis for treating shoulder rotation due to the positive results that occurred on the sample members, especially for those with wheelchairs.

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