The Effect of Training with Addition Weights, on Some Bio Kinematic Variables for Half Rotate Stalder on Chin Device for Beginners.

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Abstract: The Aim of the search is to prepare exercises with addition weights to improve kinematic variables and to identity the effect of training by weights on these variables for the half turn stalder skill on chin device for juniors. The two hypothesis were exist positive effect on some kinematic variables of the benefit of post-test. The researcher used experimental design with video, the subjects were (6) gymnastic players chosen internationally from Baghdad distict. The chapter four included the display analysis and discussion. The researcher concluded that the exercises with addition weights contributed to improve some kinematic variables for the half turn stalder skill on chin device for beginner. Finally the researcher recommended doing exercises with addition weights on other gymnastic skills and kinematic variables values, when training half turn of stalder on chin device for beginners.

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The Identity of research

1.1 Introduction and the importance of the research

As a result of scientific development that occurs in athletic activities in most world countries by the hard work to understand deeply training process in order to prepare a good athletic, then to reach high performance. So most advance countries use the best methods to prepare training programs for each specific sport as a goal for the recent ten years. The training method in addition weights have been improvement strength and to face athletic body weight, but not allowed to the young athletics, whereas the last researches has been proved that training with resistance are more active to increase strength for children, juniors, beginners and teenagers. (7: 532).

Malina (2008) has been emphasis on training with resistance for all ages are benefit to improve strength and overcome body weight (9: 487) In addition the training with weights reduce injuries and develop skill movements and make easy control on body weight. Also improve the Explosive power and athletic reaction time, this is very important for gymnastic players. (8: 143-147).

Through those improvement, the bio kinematic movements line will improve also in half turn of stalder on chin.

1.2 The research problem

Through Arabic sources and gymnastic training, the researchers found all training method in gymnastic perform with different resistances and specific gymnastic tools. Thus those methods need good plan to prepare weight training programs to train different muscles of the body, because the player use his, her legs and arms to weight during gymnastic performance.

For those reasons the researcher try to prepare Physical dexterity exercises to develop the half turn of stalder. The most of training programs are not suitable with player abilities, then there will be failure in performing, withdrawal of sport activities and early sustain injury. All those reasons push the researchers to study skill feature through motor analysis to recognize the mechanical characteristic, quantity and quality, and study kinematic features for performance, in order to rise motor skills, thus researcher try to use exercises with addition weights in some kinematic variables for the half turn of stalder on chin.

1.3 The Aims of the research are:

1. Prepare exercises with addition weights to improve subjects kinematic variables.
2. Identifying the kinematic variables for the half turn of stalder on chin.
3. Identifying the effect of exercises with addition weights on some kinematic variables for the half turn of stalder on chin.

1.4 The two Hypothesis of the study are:

1. There is positive effect for the training program kinematic variables for the half turn of stalder on chin.
2. There were significant differences between the pre and posttests in kinematic variables for the benefit of post- test.
3.

1.5 The fields of the study

1. Subjects: national elector of juniors beginners in chin skill.

2. Duration: From 4. 4. 2017 till 21. 6. 2017.

3. Place: Gym of martyrdom Mustafa AL-Atari for youth sport in Iskan – Baghdad district.

1.6 Term definitions:

Stalder skill: the skill perform standing on chin by hand stand or with free hip rotate and open or bend, to perform front free turn and do hand stand. (2: 164).

2. The Procedures:

2.1 research procedures:

The nature of the problem limit ate the research program, so the researchers use the experimental design of one group with Pre-and Post- tests because it is suited to nature of research.

The experimental design is the best because it is more suited observation and most steps to reach knowledge, (6: 79), because its exact and clear variable with explanation (3: 95), the researcher used also video to analysis the half turn of stalder on chin for beginners.

2.2 The subject:

The subject choose by intentionally method, nation elector beginners (6) players, ages 10 – 13 years old which represented one hundred percent (100%) of all players.

Table (1) Presented the homogeneous of objects in mean and standard deviation in altitude, weight, and ages

test	Measurement Unit	mean	S.t Deviation	Middle	Twisted
Weight	Kg	41.666	5.316	41.000	0.530
Ages	Year	12.333	0.816	12.500	0.857
altitude	M.	146.00	7.321	146.50	0.385

The distribution of the subject is normal because the value because between 1 +.

2.3 Tools and the collecting of information of the research.

2.3.1 collecting of information:

- Arabic and foreign sources.
- Internet.
- Observation.
- Test and measurements.

3.2.2. Apparatus and tools use in the research.

- Camera No (2) with (120 frequencies in second).
- Camera (Nikon) numeral.
- Computer (Dell) American, and (Lenovo) chines origin.
- laser disc (DVD) total (15).
- chin device for male.
- Low chin device for learning to beginners.
- Magnesium.
- Several platforms.
- Tape for measurement.
- Discs of weight lifting suited to each part of the body.
- **Medical scale.**
- **Clock (Diamond) No (3).**

4.2 The Procedures:

4.2.1. Estimate the research variables:

1. Time: The measurement of the time by time keeper include analysis program in (Kinovea V.0 8: 25)

2. Angular velocity (11: 343)

It's the change in Angular through the time duration.

$$\text{Change in angular} = \frac{\text{Ang.}}{\text{Time}}$$

3. The shoulder joint angular:

It's the angular between arm times (from the point of shoulder joint to elbow point) with trunk line. (In Shoulder Joint to hip joint) the measurement of angular by analysis program (Kinovea V0. 8.25).

4. Angular of knee joint:

It's the angular between thigh and leg line (from the knee point to foot joint point).

5. Estimate the addition weights:

The weights are bags of sandy put on different parts of the body without any effect on body movements during exercises. The addition weights distribution on each part of the body regard to (Fisher) distribution.

The measurement of body relative with weights addition for legs, arms and trunk estimated by (Burn, Shtin, fisher) (5: 198).

Then the addition weights by (2%, 3%, 5%) for each player.

For example: player with 40 Kg weight, the addition weights will be as follow:

For Arm = $6 \times \frac{40}{100}$ = 2.4 Kg the weight percent of Arm.

3.6 The first exploration experiment:

The experiment done on gymnastic players in 15. 4. 2017 to ensure all research process, such as photo places, angular, altitudes, time of workout the intensity of exercises and weights, to ensure also tools goodness, the clear of pictures in analysis, and the sufficient of assistant group.

3.7 The main experiment

Pre-test:

The pre-test has been done on 16.4. 2017 in the same time and place with attend of the coach and

assistant group. The use of video photo on floor with altitude (2.80m) and frequency speed (120 frame in second). There were two attempts and the choice for the best one.

- The training program with addition weights:
- After see scientific source and more training programs, the researchers prepare training exercises then presented to specialists in training and teaching methods of gymnastic.
- The researchers prepare a sample of (24) exercises.

The program take (9) weeks from 18. 4. 2017, till 21. 6. 2017, three times in a week (Sunday, Tuesday and Thursday), the total are (27) workouts. The research use internal training method with both high and low intercity to do the exercises with weights regarded to the muscles skill in this research.

The intensity was between (80% - 90%) percent.

- Post – test: The post – test has done on 12. 6. 2017 in the same place at (4 clock) PM, with help of assistance group, and post-tests has done by the same circumstance of Pre-tests.

3.8 The statistic instrument:

- The statistic data has been done by statistic bag SPSS.
- % percent
- Twisted
- Mean
- Standard deviation

4. Presented the results with discussion and analysis:

3.1 present the variables values in half turn stalder on chin of beginners:

Table (2) describe the means, standard deviations, differences of the mean, deviations, T-test, level of the error between Pre and post-test for the half turn stalder

Variables	Pre-test		Post- test		Diff.	Diff. De	T-test calculated	Level of error	Sig.
	mean	St. Dev.	mean	St. Dev.	Diff.	Diff. De			
Time of turn (Se)	0.845	0.042	0.735	0.045	0.110	0.033	8.051	0.000	Sig.
Angular speed	744.8	0.366	8.573	0.531	1.125	0.390	7.049	0.001	Sig.
Shoulder Ang.	160.00	4.560	173.00	2.280	13.00	6.066	5.249	0.003	Sig.
Trunk Ang.	174.16	1.471	177.66	1.751	3.751	3.500	2.907	0.034	Sig.
Knee Ang.	159.33	6.153	176.66	2.943	17.33	7.685	5.524	0.003	Sig.
Degree Freedom (5), with the level (0.05)									

In Table (2) the mean of turn time in middle test is (0.845) and standard deviation is (0.042). Whereas the mean in Post-test is (0.735) the different between the two means is (0.110) and standard deviation (0.033) with T-test (8.05), level of error (0.000) in the (0.05) level and degrees freedom 6-1=5, that mean, there are significant differences between middle test and post –test. The mean of angular velocity in middle test is (0.845). with standard deviation (0.042).

Whereas the mean of post –test (0.735) with standard deviation (0.045), the different between two means, the middle mean and Post-mean (0.110) with standard deviation (0.033), the calculated T-test (8.051) with error level (0.001) with Significance (0.05) and degrees freedom 6-1=5, That mean there are Significance differences between the two tests Pre and post.

The mean of Shoulder angular in middle test is (160.00) with standard deviation (4.560) whereas the mean of post- test (173.00) and standard deviation (2.280) The differences between the two means is (13.00) and standard deviation (6.066), the calculated (t) is (5.249) with the level of error (0.003) and Significance of (0.05) with 6-1 = 5 degrees of freedom. The result is significantly differences between the two test, pre and post.

The mean of trunk angular of middle test is (174.16) with standard deviation (1.471) whereas the mean of post –test (176.66) and standard deviation (1.751) the difference between the two means the middle and the Post. Tests is (3.500) with standard deviation (2.949) and (t) calculated (2.907) with error level (0.034) under Significance level (0.05) and degrees freedom 6-1=5, and that mean there are Significant differences between the two tests Pre. And post.

The mean of knee angular in middle test is (159.33) with standard deviation (6.153) whereas the mean for post- test (176.66) and standard deviation (2.943) with differences between the means the middle and the post (17.33) and standard deviation (7.685) with (t) calculated (5.524) and error level of (0.003) under Significant level (0.05) and degrees freedom 6-1 = 5, that mean the Significant differences between the two tests Pre. and post.

Through the results from table (2) we can see the Significant differences in turn time and angular velocity for rotate and body angular before the turn (the angular of shoulder, trunk and knee) of stalder between the two tests Pre-and post for the benefit of post-test. The reasons for that from view point of the researcher of the differences in angular (Shoulder,

trunk and knee) because of the tie on the bar by large angular with the extended of player body.

The proficiency to learn the skill and repatriated by the samples help to reduce the rotate time which lead to the right current motion of the body with approach the arms during rotation on bar, than return to handle it, and this will help to increase angular velocity for turn.

The improvement of research variables related to stalder skill in turn proved the activity of exercises to develop muscles group, keep the angular velocity advantage and other angular in the research with reduce times suited to a good perform in turn at last part of the skill. The researchers confirm the coordination during exercises to develop strength of arm, legs and trunk. The subjects have all those benefits. The importance of strength for all parts of body (arms, legs and trunk) by using additions weight or by other resistances get high performance and should coach confirm on the value of bioclimatic variables to make link between all terms with the find part of the skill. The subject should feel and control the system between mind and body. (10: 89).

The exercises has been improve the harmony, also develop motor sensitive and nervous efficiency the main factor to control range motion during the last part of performance, and high relationship with muscular nervous systems through different part of sensation (1: 175) and because of that exist the significant differences "The using of resistances develop the torque strength for subject and produce muscle strength because of those resistances" the muscle become more strength to perform such movements. (4: 86).

4. The conclusions and recommendations:

4.1 The researchers concluded the following:

- The exercises with addition weights make positive effect on some kinematic variables in turn for stalder on chin.
- The results proved the improvement in some kinematic variables for the half turn because of addition weights.

4.2 In the light of research result, the researchers recommended the following:

- Using the exercises with addition weights on other skills and tools in gymnastic.
- The trainers should use these bioclimatic variables when they train half turn of stalder on chin.
- Doing analytic studies for new skills to increase technical and mechanical knowledge for player and coaches.
- Dependence on motor analytical in order to know the strong and weak points of gymnastic players in order to r se performance similar to other countries of the world.
- Emphasis on training volume and repeatedly for the skills with high difficult, to ensure fine quality and streamline performance in gymnastic movements.

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