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Effects of a Qualitative Training Program on Some Biodynamic Variables of the Skill of Arm Drag Go Behined to a Backcast in Wrestling Sport

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Abstract: The aim of the study was to identifying the impact of qualitative trainings and some biodynamic variables and the level of performing arm drag go behined to a backcast in wrestling sport. The researcher used the experimental method using the pre and post measurements for a single group as it is suitable for this study,implementing the suggested program in improving the skill performance and biodynamic variables.

Key words: Qualitative training · Biodynamic variables · Wrestling sport

INTRODUCTION

The massive development in sports training is a result of contribution of all sciences related to practicing sport activities to make the reach the level of technical performance to the stages of creativity. The qualitative training program is considered to be one of the special applications in the training process for improving the physical capabilities and skill performance, as this type of training is considered is the most specialized type in improving skill performance; quantitatively, qualitatively and the timing by the instantaneous usage of the muscles and groups in the skill performance. It is also considered a critical element in the success of recruitment the work of neuromuscular process for the performance [1].

Darwesh *et al*. mentioned that when the trainer designs training programs he must take in consideration that these programs must contain the qualitative and specialized training which is similar to the special motional performance by using the same muscles groups in the general direction of performing the same sport either the physical, skill or plan [2]. Abd El-Rahman *et al*. asserted that one of the most important elements of the motional skill is the mechanical basis which the trainer should take in his consideration in the context of the process of planning a comprehensive system which gives more effectiveness to the program and more success. The athletic performance is the core of the training process and the re-formation of athletic performance is the vital element which reveals the value of the training. It is clear that understanding and applying the principles of biomechanics on the athletic performance and being aware of it, is an important part of the technical papers of the trainer [3].

No doubt that the difficultness in performing the skill the shape the body takes while the performance, as the tactical information about any skill means understanding the way of the performance in the light of a group of biomechanical information which helps in determining the required motional procedures to achieve the performance with the highest possible efficiency which the lowest effort [4]. Barkee and El-Badawy refer that training is the most important pillars the adoption of the wrestler with the requirements of the fulfilling wrestling, where the muscles of the body must be built according to the different renderings. The availability of training programs based on scientific foundation is a key factor for the development of specialized skills of the wrestlers [5].

The arm drag go behind to a back caft in wrestling is one of efficient attacking and defending moves which the wrestler finishes the game with by touching the shoulders at performing it technically correct and extremely fast. It is hard for the competitor to defend himself against it if he is lifted from the matter that him loss his balance and it has highly technical performance [6]. Regarding the experience of the researcher and the survey in the wrestling field, the researcher noticed the reduction of the contribution of biomechanics in wrestling field. Such studies tends to specification the quantitative and qualitative of the motional performance without the combination between improving the physical side and its affect on the biomechanical side rather than its concentration on the training program of improving the physical elements generally or the specific physical

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elements without combining it with the stages of motional performance; quality and quantity and timing through the motional pass of these skills.

Arm drag go behind to a back caft from the back is specialized with pulling the arm and wrapping behind the competitor which changes the levels and positions of the wrestlers body and thus the consequent variation in effective curve properties of the organs of the body's center of gravity through the stages of skill performance. Hence, the importance of scientific research and application appears in terms of knowing the impact of qualitative training on some biodynamic variables and improving the level of skill performance. This prompted the researcher to conduct the study.

The Research Importance: From the researcher point of view it is important of the implementation of this study through:

- Developing more than a physical component using qualitative training and its affect on improving on some biodynamic variables and the studied skill performance**.**
- Subjective evaluation through using motional analysis program to reach to the accurate quantitative measurements of the changes in the biomechanical quantities.

The Aim of the Study: Identifying the impact of qualitative trainings and some biodynamic variables and the level of performing arm drag go behind to a back caft in wrestling sport.

The Study Impose: There are statistical significant differences between the pre and post measurements for the study group in variables of physical abilities and some biodynamic variables and the level of skill performance and it is in advantage to the post measurements for the studied skill.

Related Studies: Hossam El-Dien [1] identified the biomechanical properties of studied skill performance. The researcher used the descriptive method and applied his research on the world champion for the beginners using motion analysis system with the help of video cameras and calibration cub. The most important results is that the time of pre-trial phase was 28.57% and the main phase 48.05% and the final-trial was 23.38% from the total time of the skill performance. The need to rehabilitate of the trainers and studying the biomechanical and other means to improve the motional skills are recommended.

Pucsok [8] analyzed and compared between the motional properties for the technology of throwing in Harai-Goshi in Judo using the quantitative and qualitative analysis. The researcher used the descriptive method and the sample was 28 judo players. The most important results is that there was a changes in the strength of fulfillment of the move by changing the competitor and the importance of the reaction in performing the move and the strength of the leg plays a vital role in the fulfillment of the move. Gharba [9] observed some ketamatic characteristics for the arm motion and nick and some working muscles in performing the skill. The researcher used the descriptive then the experimental method by designing one group. The sample consisted of 10 wrestlers who are younger than 16 years. The most important results were that applying the qualitative training program leaded to improving physical properties (flexibility – strength – endurance – fitness – capability) in addition to the vital condition of the player.

MATERIALS AND METHODS

The Study Method: the researcher used the experimental method using the pre and post measurements for a single group as it is suitable for this study.

The Study Sample: the sample was selected using the deliberate method from the wrestlers who are listed in wrestling union from El-Salam Youth Center at Port Said. The study sample was 4 wrestlers then the researcher used other 6 wrestlers to carry out the scientific factors for the research and the exploratory study.

Table 1 shows that the age bracket of the sample is 18.6 to 20.4 years and the training age is between 4 to 8 years and the height from 1.66 to 1.88 m and the weight prom65 to 86 kg.

Tools of Data Collection:

- Referees
- Tests
- Tools and measuring devices

Referees: The researcher used the method of the referees to determine the level of skill performance. Referees were used from the Port Said Wrestling Zone (Attachment 1).

The level of skill performance of each wrestler in the sample was determined by playing by video tabs recoded from parts of skill performance, (pre – main – final) stages.

Table 1: The characteristics of the sample

Information	The age in years	The training age	The height in (m)	The weight in (Kg)
Wrestler one	20.2	7	1.80	86
Wrestler two	18.6	4	1.74	85
Wrestler three	19.3	5	1.78	80
Wrestler four	20.4	8	1.66	65
Mean	19.6	6	1.7	79

Table 2: Determining the level of performance of each player in the sample using the video recorded tabs from performing the skill (pre-main-final) stages

	Ref 1			Ref 2			Ref 3			
Ref Evaluation	Pre	Main	Post	Pre	Main	Post	Pre	Main	Post	mean
Wrestler 1	2	4	2	6	2	4	4	3	3	30
Wrestler 2	5	2	3	5	4	2	3	3	4	31
Wrestler 3	3	4	4	4	5	7	5	6	6	44
Wrestler 4	4	4	3	5	3	4	3	5	3	34
Total	14	14	12	20	14	17	15	17	16	139
@@	3.5	3.5	3	5	3.5	4.25	3.75	4.25	4	34.75

Table 3: shows the arithmetic mean, standard deviation, calculated t and the sincerity degree for the physical tests used in the study $N_1=N_2=4$

		Units	Distinct group		Indistinct group					
Statistical Data	Tests	X	± Y	X	± Y		Differen-ce of means	Calculated (t)	ETA^2 Factor	Believe differentiation factor ETA
Balance	Waking on the beam	Sec	6.5	1.1	2.3	2.6		5.9	0.84	0.93
Flexibly	Horizontal distance of the bridge	Cm	64	2.3	77	5.4		3.7	0.70	0.81
Fitness	Zigzag running	Sec	8.6	2.9	10.1	2.5		3.5	0.85	0.87
Speed	Running in place	counts	6.7	3.3	3.9	2.2		5.4	0.88	0.91
Power	Italic bending	counts	8.6	6.4	4.1	2.7		3.6	0.78	0.86
Endurance	Running and walking 600 yards	Min	4.1	1.9	5.4	2.6	1.3	3.9	0.75	0.87

Value of the tabled (t) at 0.05 = 2.18

Table 4: The Reliability factor for the studied tests

			1st Test		2nd Test		
Statistical Data	Tests	Units	X	± Y	X	± Y	Reliability factor
Balance	Waking on the beam	Sec	6.6	4.5	6.5	1.1	0.88
Flexibly	Horizontal distance of the bridge	Cm	65	3.1	64	2.3	0.93
Fitness	Zigzag running	Sec	7.9	2.7	8.6	2.9	0.89
Speed	Running in place	No	6.4	3.8	6.7	3.3	0.91
Power	Italic bending	No	8.5	1.5	8.6	6.4	0.84
Endurance	Running and walking 600 yards	Min	4.3	5.6	4.1	1.9	0.92

Value of the tabled (r) at 0.05 = 0.834.

Tests: The researcher has applied the tests on the period of 3-4/4/2009 for the sincerity calculating through true differentiation,

Table 3 shows that there is a highly statistical significance in the sincerity factor between the distinct group and the non- distinct group as the degree of sincerity is between 0.81 – 0.93 which refers to the sincerity of the tests. The reliability factor was calculated for the studied tests using test – retest method. The first test was carried out on 13-14/4/2009 and the retest was on carried out 20-21/4/2009. Table 4 shows the reliability factor for the studied physical tests.

Table 4 shows that there is a highly statistical significant in the person's correlation coefficient between applying the first test and the retest, the value of the correlation was between 0.84 – 0.93 which refers to the reliability of the tests.

Tools and Measuring Devices

- Balance beam device
- Dummy
- Stopwatch (for measuring the time)
- An electronic balance; to measure weight to the nearest gram
- Restameter; to measure the total length of body to the nearest cm
- Win analysis (for video recording and analysis)

Video Recording and Motion Analysis: In order to get the biodynamical measurements, the researcher used motional analysis using video recording system programs at the computer lab at Faculty of Physical Education – Port Said University. According to Hall [10], in terms of procedures of the video recording process; including devices and

tools and player preparation for recording and preparation the field of recording, the process was carried out using 2 digital cameras which uses a source of electric current at the same time, frequency of 50 field per second and movies raw and calibration box and preparing the place of the recording and determining the video recording field and making sure that there is no deviation in the place of the recording. Each cadre was analyzed from the moment of the impact of the wrestlers and to the moment of the throwing and taking control on the attacker's competition in the fall position for analyzing each cadre. The fixed points of the body were analyzed. They were a total of 15 points according to *Hanavan* model for determining CG.

The researcher extracted the biodynamical measurements according to the following analyzing model:

	Arm Drag Go Behined to a Backcast				
Preparation stage		Main stage		Final stage	
Displacement	S_{R1}	displacement	S_{R2}	Displacement	S_{R3}
Velocity	V_{R1}	Velocity	V_{R2}	Velocity	V_{R3}
Acceleration	A_{R1}	acceleration	A_{R2}	Acceleration	A_{R3}
Influential force	F_{R1}	Influential force	F_{R2}	Influential force	F_{R3}
Impingement	IMP_{R1}	Impingement	IMP_{R2}	Impingement	IMP_{R3}
Moment	T_{R1}	Moment	T_{R2}	Moment	T_{R3}

Training Program

The Aim of the Program: The training program, using the qualitative trainings, aims to improve some biodynamic variables and level of skill performance arm drag goes behind to a back cast in wrestling sport.

Basis of Program Preparation:

- Taking into account the objective of the program.
- Fitting the content of the program to the level of the players' capabilities of the sample.
- Taking into account the appropriate formation for holding in terms of size and intensity and density.
- The Ripple of the training burden.
- The diversity of the used exercises.
- periods of rest between exercises within the unit should be enough to reach sample members to the Natural State.

Steps of Setting the Program: The researcher determined the steps needed for setting a program according to review of literature [2, 8, 9, 11-13].

Determining the Training Methods Used in the Program:

- High Intensive Interval Training Method.
- Low Intensive Interval Training Method.
- Frequent Training Method.

The researcher has identified training session load using the formation (1:2) and he used the maximum pulse rate equation to legalize the training load, the period of time of the program was specified; 3 weeks for the first stage, 5 weeks for the second stage, 4 weeks for the third stage, using 4 training units weekly.

The Scientific Aspects of the Program: The researcher exposures it in (attachment 4)

- The period of training unit is 120 minutes and the period of training weekly is 480 minutes and the total period of program is 5760 minutes.
- The percentage of distributing the training load on the stages and weeks of the program: the first stage; the physical preparation 70% and the skill preparation 30%, the second stage; the physical preparation 40% and the skill preparation 60%, the third stage; the physical preparation 30% and the skill preparation 70%.
- The percentage of distributing the training load according to the physical preparation the general and specific through the stages and weeks of the program:
- The first stage: physical general preparation 70% and specific preparation 30%
- The second stage: physical general preparation 30% and specific preparation 70%
- The third stage: physical general preparation 20% and specific preparation 80%

12 qualitative exercise were chosen; 4 of them are concerned with the legs muscles package and 4 exercises for the arms and stem muscles package.

Exploratory Experiment: The researcher carried out an exploratory experiment on the studied sample on 10-11/4/2009 to ration the training load and to make sure that the wrestlers' understanding and their responds to the used exercise and explaining the test and making sure of the validity of the tools and equipment.

The Main Experiment: After the implement of the exploratory study and finishing the pre-measurements and video recording, the main study started by implementing the training program in the period of 25/4/2009 to 14/7/2009.

The Post Measurements: After finishing the program, the post-measurements and video recording were carried out on 15-16/7/2009.

Statistical Processing: The researcher used SPSS statistics package program because it is most appropriate for this study:

- Arithmetic Mean
- Standard Deviation
- Spearman SRHO
- Wile Oxon signed Ranks Test

$$\text{Percentage of improvement} = \frac{\text{Mean of post-measurements - Mean of pre-measurements *100}}{\text{Mean of pre-measurements}}$$

Attachment 1: Determining the skill performance level and the names of the referees Determining the skill performance level of each player in the sample using the video recording (Preparation Stage – Main Stage – Final Stage)

Skill stages	Referees										
	Ref 1			Ref 2			Ref 3				
Wrestlers	Pre	Main	Final	Pre	Main	Final	Pre	Main	Final	Total	Mean
Wrestler 1											
Wrestler 2											
Wrestler 3											
Wrestler 4											

All the referees are from Post Said Wrestling Zone
1. Gamal Abdel-Azim international referee
2. Mohamed Etman international referee
3. Dr. Mohamed Mounir first degree referee
All the referees have experience at least five years

The tests used in the research
Balance Test: Waking on the beam (sec)

Aim of the Test: Measuring the motional balance

Tools: Stopwatch, Beam

Test Performance: The tester stands on the beginning of the balance beam, when hearing the starting signal, the tester walks on the beam as fast as possible and returns back to where he started, walking 6 meters. If the tester fall any time or anywhere on the beam, he climb it again from where he failed and continues the rest of the beam without stopping the watch.
Flexibility Test: Horizontal distance of the bridge.

Aim of the Test: Measuring the flexibility of the wrestler's body.

Tools: Degreed ruler.

Test Performance: The tester takes the position of the bridge and starts moving the hands and legs anchoring on the forehead and the sole to reach to the shortest distance between the back of the head and feet.

Fitness Test: Zigzag running

Aim of the Test: Measuring the fitness

Tools: A running field, set on hard land with the length of 9 m and width of 2 m. a starting line is drawn with a length of 180 cm. 4 barriers are set in front of the starting line in case that the first barrier of them is at 3.6 m from this line and the distance between each line and the other is 1.80 m.

Test Performance: The tester stands in the get set position behind the starting line at the A point and when hearing the starting signal, he starts running between the barriers in the formation of 8 then he circles around the last barrier and he returns in the same way to the first barrier to launch from it to cut the starting line and the ending line at the point B and the time is recorded.

Speed Test: Running in place.

Aim of the Test: Measuring the speed.

Tools: Stopwatch, high jumping list, rubber ribbon.

Test Performance: The player stands in front of the rubber ribbon which is tied in the high jump bases and the height of string of the ground equals the raise of the player knee when taking the half standing position. When the player hears the starting signal, he starts running in place very fast, so that his knee touches in every stage of the running. The trainer counts every step the player takes in 15 Sec. The count is taken on the right leg.

Running and walking 600 yards

Aim of the Test: Measuring the periodical respiratory fatigue.

Tools: Stopwatch, a 600 yards road.

Test Performance: The player stands behind the starting line and when hearing the starting signal, he starts running the whole distance and the time is recorded.

Exercises Used In the Training ProgramWarming up

NO.	Exercises	Tools and devices
1)	(Standing. Download the ball with both hands, medical) and extending their high.	
2)	(Standing) for the shuttle running and a distance of 20 meters	
3)	(Standing) Running on the rug and takes all when referring to the situation in which player chooses.	
4)	(Prostration. Forearms, high) Raise the chest and legs together to the highest possible and steadiness.	
5)	(Sitting in length) seconded the trunk Amama down until the chest touches the thighs	
6)	(Standing on one foot) To raise the other side.	Balance beam
7)	(Standing) Loss of the head imam and replace with closed eyes	
8)	(Standing) 6 balls, walking on the medical	Medical balls
9)	(Standing. Forearms by) The reduction of arms are down by high Verwahma Khvdahma then set aside.	
10)	(Standing) walking distance of 100 meters and then running and then rolling a distance of 100 a distance of 50 meters on the carpet and then walking fast.	

Suggested Qualitative Training

NO.	Exercises	Tools and devices
11)	(Standing ahead – holding a rubber ribbon) performing the preparation stage of arm drag goes behind to a back caft.	
12)	(Standing ahead – holding a rubber ribbon) performing the preparation and main stages before the arm drag goes behind to a back caft.	
13)	(Player A standing opening – the arms to the front) (Player B standing on four in front of player A) Passing between the legs of player A and performing the entrance stage for the skill of the arm drag goes behind to a back caft.	
14)	Five players stand on the edge of the carpet The player No.6 performs the arm drag goes behind to a back caft for each player of them as fast as possible.	
15)	(Standing –facing partner) player A is in the in docking with player B and he dives and penetration from the side and takes control on Player B from the back and lefts him from the carpet trying to curving him.	
16)	(Standing –facing partner) player A is in the in docking and performing the skill with its all stages with the range in the resistance.	
17)	(kinking and switching between the holds of the skill between player A and B) entering the move for the preparation and main move and performing the complete skill according to the followed repetition.	

Physical preparation exercises:

NO.	Exercises	Tools and devices
18)	(Standing) forearms, high jump up with the work of a full roll in the air and then landing and rolling work background.	
19)	(Jethou. Arms high. Support the hands on the seat) and pressure shoulders down.	
20)	(Standing) Raise the arms aside on a CD-base balance	Base equilibrium
21)	(Standing opened. Aldhiran aside) by wrapping the trunk exchange	
22)	(Standing) Carrying pillar performance and skill under investigation and then running and a distance of 10 meters in less time	Constructive mode of wrestling
23)	(Standing opposite the breakthrough. Miles. Interlace your hands around the center of our colleague) to try to raise our colleague from the center.	
24)	(Jethou horizontal) aspect of the right arm with his left foot raised high to build on the other arm and made the other guy interchangeably.	
25)	(Asleep) 180 degree rotation of the body to reach for a lie down.	
26)	(Jethou. Arms high. Support the hands on the seat) and pressure shoulders down	
27)	(Standing) walk on the balance beam and jump over the specific signs on the display.	Balance beam

Timing distributing for physical and skill preparation on the training program stages

	First stage						Second stage										Third stage								Total	
Stage	----------						----------										----------								----------	
Week info	1		2		3		4		5		6		7		8		9		10		11		12		12 weeks	
Time of a unit (min)	120		120		120		120		120		120		120		120		120		120		120		120		48 unit	
No. of units	4		4		4		4		4		4		4		4		4		4		4		4		5760	
Total time (min)	480		480		480		480		480		480		480		480		480		480		480		480		3216	
Time of skill preparation	144		144		144		288		288		288		288		288		336		336		336		336		2544	
	336		336		336		192		192		192		192		192		144		144		144		144			
Physical preparation	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special	General	Special
	235.2	100.8	235.2	100.8	235.2	100.8	57.6	134.4	57.6	134.4	57.6	134.4	57.6	134.4	57.6	134.4	28.8	115.2	28.8	115.2	28.8	115.2	28.8	115.2	1108.8	
Stability (min)	58.8	25.2	58.8	25.2	58.8	25.2	14.4	33.6	14.4	33.6	14.4	33.6	14.4	33.6	14.4	33.6	7.2	28.8	7.2	28.8	7.2	28.8	7.2	28.8	277.2	1435.2
Flexibility (min)	58.8	25.2	58.8	25.2	58.8	25.2	14.4	33.6	14.4	33.6	14.4	33.6	14.4	33.6	14.4	33.6	7.2	28.8	7.2	28.8	7.2	28.8	7.2	28.8	277.2	358.8
Fitness (min)	29.4	12.6	29.4	12.6	29.4	12.6	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	3.6	14.4	3.6	14.4	3.6	14.4	3.6	14.4	138.6	358.8
Force (min)	29.4	12.6	29.4	12.6	29.4	12.6	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	3.6	14.4	3.6	14.4	3.6	14.4	3.6	14.4	138.6	179.4
Speed (min)	29.4	12.6	29.4	12.6	29.4	12.6	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	3.6	14.4	3.6	14.4	3.6	14.4	3.6	14.4	138.6	179.4
Endurance (min)	29.4	12.6	29.4	12.6	29.4	12.6	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	7.2	16.8	3.6	14.4	3.6	14.4	3.6	14.4	3.6	14.4	138.6	179.4
Total		2544																								

Training program

Training unit (1-12) — Week (one – three) Stage (one)

Timing of unit (120 mins) — Training method: periodical very high and very low

Program content	Program parts	Time (min)	aim of training	Content	Intensity	Time of performance	Repetition	Rest period: Between exercises	Rest period: Between groups	No. of groups	Time of performance	Evaluation method
Preparation stage	Warming up	15	Body preparation	Exercise No. (2, 4, 6, 8, 10)	Medial	3 min				1	Regular	Free spread out
	General physical preparation	59	Improving fitness elements	Exercise No. (18, 19, 21, 24, 26, 27)	High and medial	60 Sec 5 min		60 sec	3 min 2 min	3 2	Fast	Circular organization
	Special physical preparation	25	Improving the Physical components	Exercise No. (11, 12, 14, 15, 17)	Medial	45 Sec		15 sec	1 min	5	fast	Circular organization
Main stage	Training on the skill	20	Illustrating the skill and its steps	Clarifying the technical points for performing right Doing a model of the skill	High and medial	4 min 3 min 3 min			1 min 1 min	2 2	Regular Regular	1/2 circle
	Competition wrestling	16	Mastering the studied skill	The wrestler competes with his partner and trying to gather all players getting prepared for the skill performance	High	90 sec		30 sec	2 min	2	Fast	Free spread out
	Relaxing	5	Getting back to the normal status	Relaxing exercises-swinging and exercises to prepare the respiration process	simple	5 min	1			1	Slow	Free spread out

Time of each of the warm and calm outside the time of the module

Training program

Training unit (13 - 32) — Week (four - Eighth) Stage (two)

Timing of unit (120 mins) — Training method: periodical very high and very low

Program content	Program parts	Time (min)	aim of training	Content	Intensity	Time of performance	Repetition	Rest period: Between exercises	Rest period: Between groups	No. of groups	Time of performance	Evaluation method
Preparation stage	Warming up	15	Body preparation	Exercise No. (1, 3, 5, 7, 9)	Medial	3 min				1	Regular	Free spread out
	General physical preparation	14	Improving fitness elements	Exercise No. (20, 21, 22, 23, 24, 25)	High and medial	30 Sec 4 min		15 sec	30 sec	2 1	Slow Fast	Circular organization
	Special physical preparation	34	Improving the Muscle power	Exercise No. (12, 13, 14, 15, 16)	Medial	90 Sec		30 sec	80 sec	3	Fast	Circular organization
Main stage	Training on the skill	40	Illustrating the skill and its steps	Training with dummy Training with the help of a partner Training with the resistance of a partner	High and medial	4 min 4 min			1 min 1 min	4 4	Regular Regular	Free spread out
	Competition wrestling	32	Mastering the studied skill	Competition rounds Trying to feint with another skill then returning to the main skill	High	90 sec		30 sec	2 min	4	Fast	Free spread out
	Relaxing	5	Getting back to the normal status	Relaxing exercises-swinging and exercises to prepare the respiration process	simple	5 min	1			1	Slow	Free spread out

Time of each of the warm and calm outside the time of the module

Training program

Training unit (33-48) — Week (Ninth- twelve Stage (three)

Timing of unit (120 mins) — Training method: repetition and periodic very high and very low

Program content	Program parts	Time (min)	aim of training	Content	Intensity	Time of performance	Repetition	Rest period Between exercises	Between groups	No. of groups	Time of performance	Evaluation method
Preparation stage	Warming up	15	Body preparation	Exercise No. (2, 4, 6, 8, 10)	Medial	3 min				1	Regular	Free spread out
	General physical preparation	7	Reserving the highest level of fitness elements	Exercise No. (20, 21, 22, 23, 24)	High and medial	1 min		12 sec	1 min	1	Fast	Circular organization
	Special physical preparation	29	Improving the Muscle power	Exercise No. (13, 14, 15, 16, 17)	High	90 Sec		15 sec	15 sec	4	Fast	Circular organization
Main stage	Training on the skill	50	Illustrating the skill and its steps	Training with dummy Training with the help of a partner Training with the resistance of a partner	High	4 min 4 min			1 min 1 min	5 5	Regular Regular	Free spread out
	Competition wrestling	34	Mastering the studied skill	Competition rounds Increasing the time of wrestling than the fixed time	High	90 sec		30 sec	2.30 min	4	Fast	Free spread out
	Relaxing	5	Getting back to the normal status	Relaxing exercises-swinging and exercises to prepare the respiration process	simple	5 min	1			1	Slow	Free spread out

Time of each of the warm and calm outside the time of the module

RESULTS AND DISCUSSION

The Researcher Presents the Following:

- The consecutive photos and carves of Displacement, Velocity, Acceleration, Force, Impingement affecting the Center of Gravity of Body Mass (Attachment 4).
- The results of both measurements the pre and post and the percentage of physical variables improving for the studied skill.
- The results of both measurements the pre and post and the percentage of variables improving in biodynamic variables for the body mass center of gravity and the degree of the skill performance level for the studied skill.

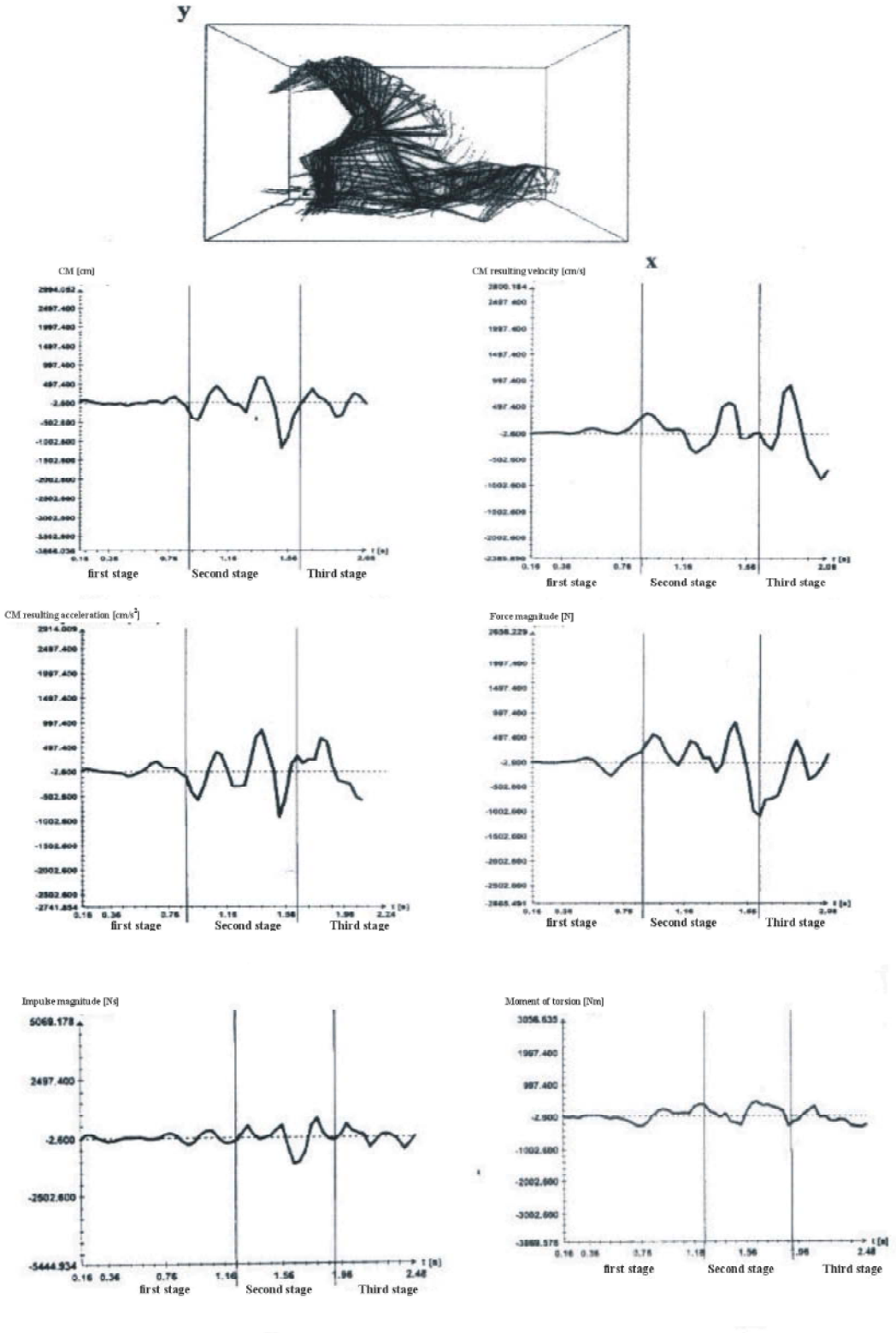
Table 5 shows that the calculated t, from Welkson ranks test for the significance differences between the pre and post measurements in measuring the physical variables, is statistically significant at the significance level 0.05 and in advantage to the post measurements and this proves that the there are improvements in these measurements and the percentage of improvement is between 3%: 43%.

Table 6 shows that the value of calculated (t) from the significant differences between the pre and post measurements and the percent of improvement for the biodynamic variables and the level of skill performance is statistically significant at 0.05 and in advantage to the post measurement the percentage of improvement is between 16.7%:45.5% in the preparation stage, 13.6%:35.3% in the main stage, 14.3%:55.6% in the final stage and the total degree of the studied skill performance was 62.3%.

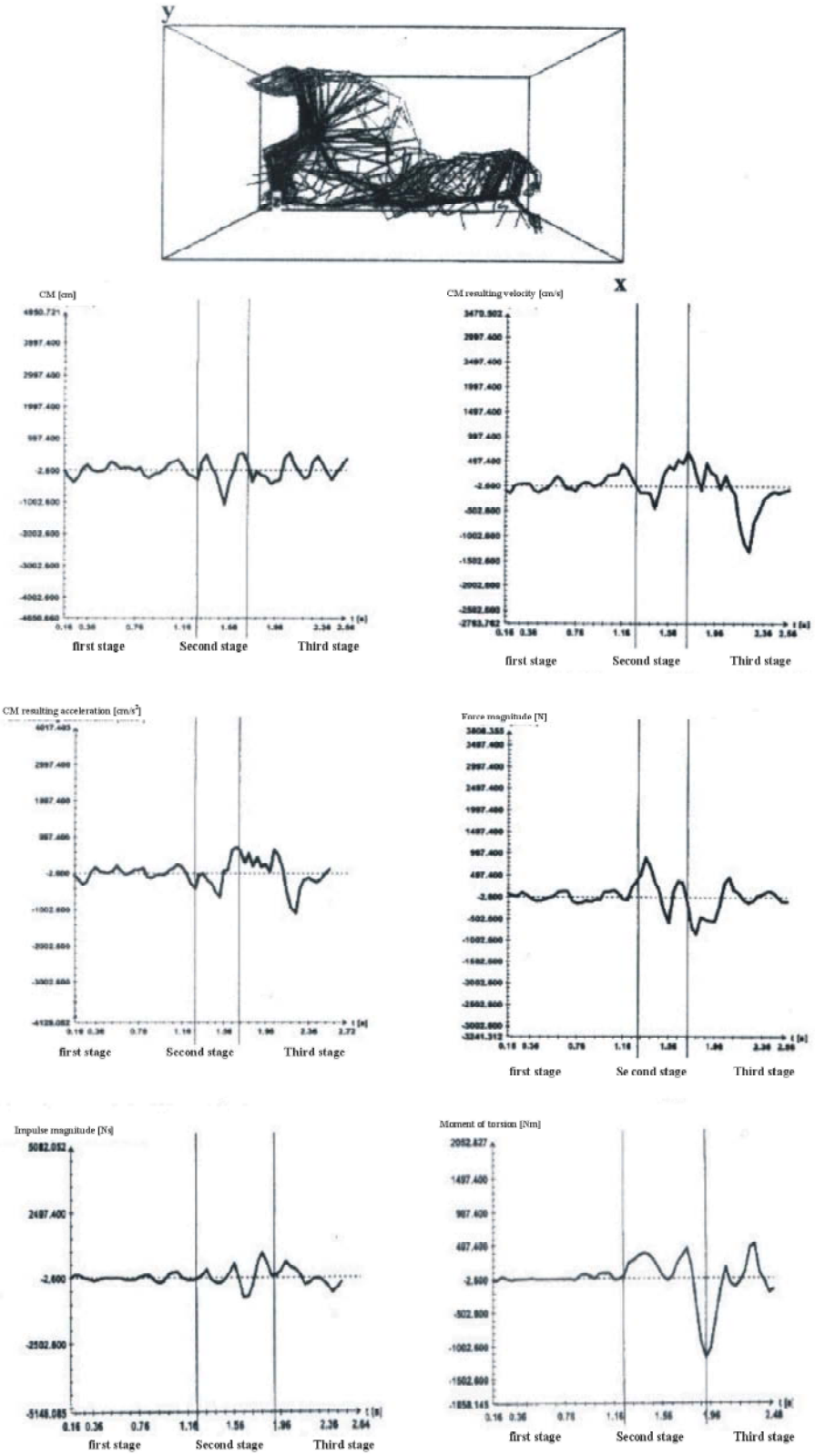
Table 5 shows that the value of calculated (t) from the significant differences between the pre and post measurements for the sample is statistically significant in the variables of physical measurements for the studied skill. The percentage of improvement in these variables is between 3%:43%.

Table 6 shows the results of the pre and post measurements of the biodynamic variables and the level of skill performance shows that there is an improvement in these variables and the percentages of the improvement was is between 16.7%:45.5% in the preparation stage, 13.6%:35.3% in the main stage, 14.3%:55.6% in the final stage and the total degree of the studied skill performance was 62.3%.In the researcher mentioned that the Tables 5, 6 and the related studied clarified that this improvement in both the physical measurements and the biodynamic variables and the level of skill performance is due to the implementation of the training program and the qualitative trainings similar to the strength and the formation of the motional performance. Sabry [14] ensures that the improvement in the physical abilities and the raise of its level is due to legalize the training units and following the scientific methods and the training program needed to make this improvement should last not less than three months.

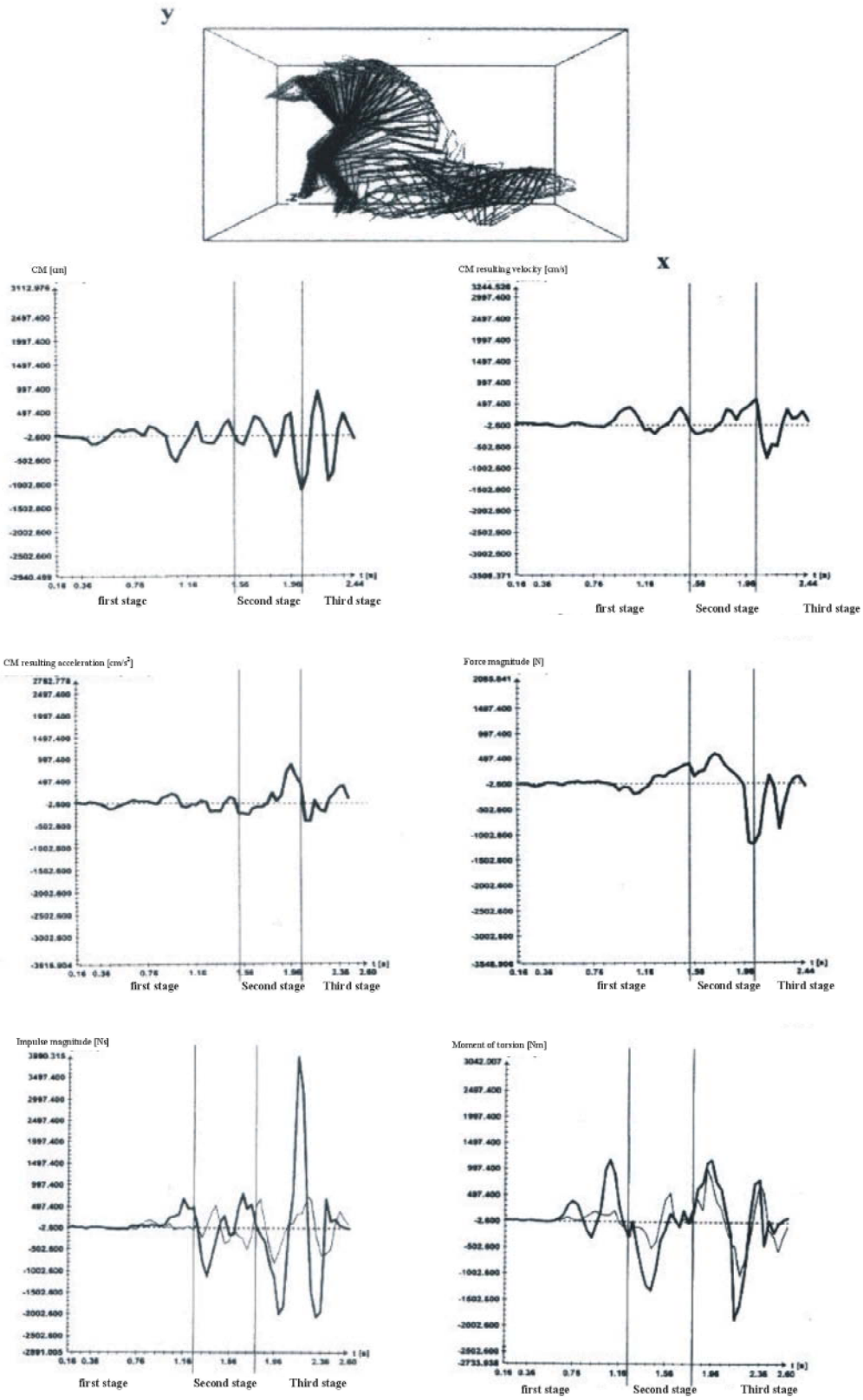
Attachment (4) Successive images and curves of displacement, velocity acceleration, impulse and Moment of torsion



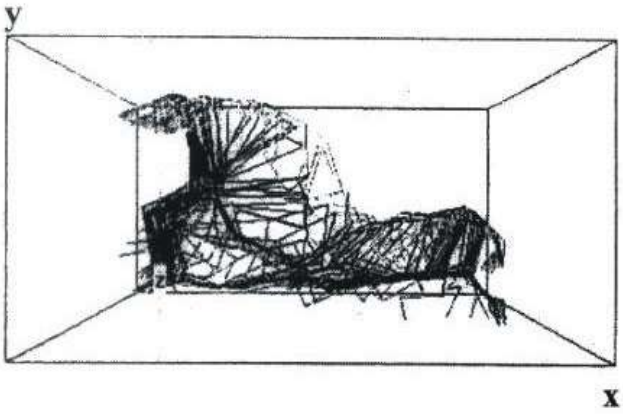
First player

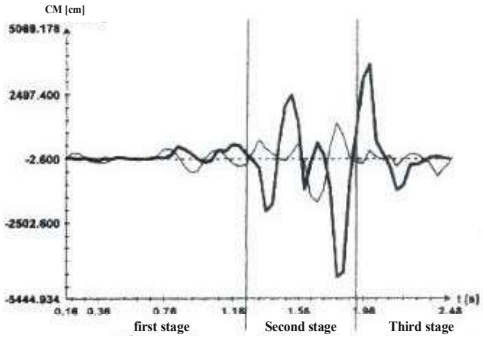


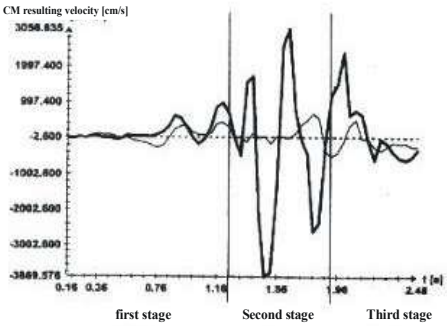
Second player

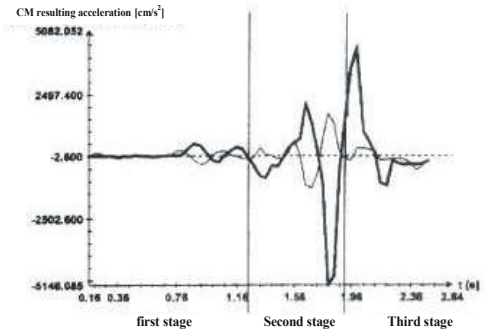


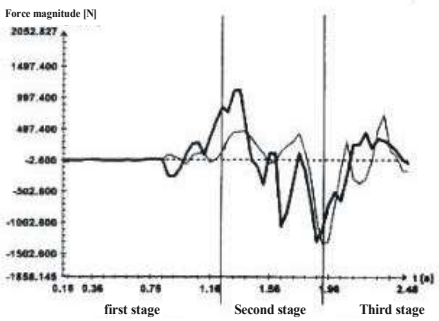
Third player

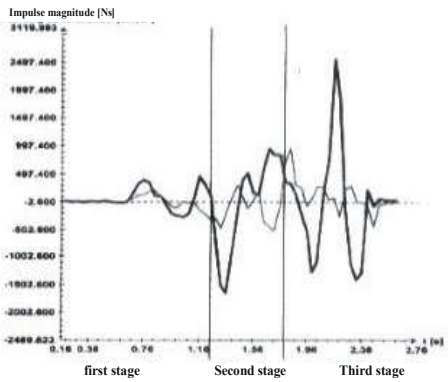


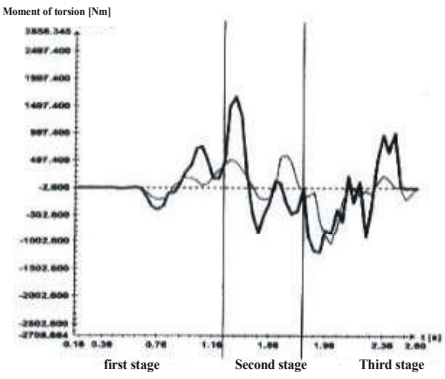












Fourth player

Table 5: Statistical significant differences between the pre and post measurements and the percent of improvement for the studied sample's physical variables measurements

Statistical Data	Tests	Units	Pre measurements X	± Y	Post measurements X	± Y	Mf	No. of Symmetrical pairs	Value of calculated (t) welkson	significance	% of improvement
Balance	Waking on the beam	Sec	6.5	1.1	7.8	3.5	1.3	4	0	Sig	20%
Flexibly	Horizontal distance of the bridge	Cm	74	2.3	62	7.1	2	4	0	Sig	3%
Fitness	Zigzag running	Sec	8.6	2.9	7.1	2.7	1.5	4	0	Sig	17%
Speed	Running in place	counts	6.7	3.3	9.2	3.4	2.5	4	0	Sig	37%
Power	Italic bending	counts	8.6	6.4	12.3	1.2	3.7	4	0	Sig	43%
Endurance	Running and walking 600 yards	Min	4.1	1.9	3.6	3.3	0.5	4	0	Sig	12.2%

Value of tabled (t) at 0.05= 1.72

Table 6: Statistical significant differences between the pre and post measurements and the percent of improvement for the biodynamic variables and the level of skill performance

Statistical Data	Biodynamic variables	Pre measurements X	± Y	post measurements X	± Y	Mf	No. of Symmetrical pairs	Value of calculated (t) welkson	Significance	% of improvement
Preparation stage	Displacement	0.42	3.7	0.53	3.5	0.11	4	0	Sig	26.2
	Velocity	0.84	2.6	0.98	2.3	0.14	4	0	Sig	16.7
	Acceleration	1.1	3.2	1.6	4.8	0.5	4	0	Sig	45.5
	Influential force	3.2	4.3	4.1	6.2	0.9	4	0	Sig	28.1
	Impingement	3.6	5.7	4.7	3.2	1.1	4	0	Sig	30.6
	Moments	4.5	3.8	5.4	5.7	0.9	4	0	Sig	20
Main stage	Displacement	0.55	4.5	0.64	6.1	0.09	4	0	Sig	16.4
	Velocity	1.6	5.3	2.1	4.6	0.5	4	0	Sig	31.3
	Acceleration	1.7	2.8	2.3	3.2	0.6	4	0	Sig	35.3
	Influential force	3.9	4.4	4.6	5.1	1.2	4	0	Sig	30.8
	Impingement	3.8	5.2	4.3	3.2	0.5	4	0	Sig	13.6
	Moments	4.2	3.8	4.9	4.9	0.7	4	0	Sig	16.7
Final stage	Displacement	0.34	4.6	0.45	3.8	0.11	4	0	Sig	32.4
	Velocity	0.73	5.1	0.89	6.1	0.16	4	0	Sig	21.9
	Acceleration	0.9	6.2	1.4	4.9	0.5	4	0	Sig	55.6
	Influential force	2.8	5.4	3.2	5.4	0.4	4	0	Sig	14.3
	Impingement	2.6	1.1	3.2	6.2	0.6	4	0	Sig	23.1
	Moments	3.4	1.4	4.1	5.8	0.7	4	0	Sig	20.6
Total degree of the studied skill performance		34.75	4.6	56.4	3.5	21.65	4	0	Sig	62.3

This is in same line with what was mentioned, it was noticed that the level of the player increased in the performing the movements that requires the physical elements such as strength, speed and Compatible that it after the regularity in the training program contains similar exercises to the skill performance.

The researcher is in agreement with researchers who mentioned that the skill in wrestling depends on the extend of development for the physical element and the motional linking between training and technical performance method and the contributing of the biomechanical factors in creating such link which helps in learning faster and improving the content of skill performance using the qualitative training within different training programs [6, 12, 15, 16]. So, the impose of the study is achieved which is: "There are statistical significant differences between the pre and post measurements for the study group in variables of physical abilities and some biodynamic variables and the level of skill performance and it is in advantage to the post measurements for the studied skill."

CONCLUSION

Within the studied sample and its results and interpretation the researcher conducted the following conclusions:

- The studied sample showed an improvement in the physical and biodynamic variables measurements and the level of studied skill performance as there were statistically significant differences between the pre and the post measurements.
- The use of qualitative training leaded to improvement in biodynamic variables and the level of studied skill performance as the percentages of the improvement was is between (16.7%:45.5%) in the preparation stage, (13.6%:35.3%) in the main stage, (14.3%:55.6%) in the final stage and the total degree of the studied skill performance was (62.3%).
- The biodynamic measurements showed its highest rates in the final stages for the skill performance. It must be emphasized on this stage in controlling firmly on the competitor to gather the most possible technical points and putting him in a direct dangerous position on the carpet.

RECOMMENDATIONS

- Implementing the suggested program in improving the skill performance and biodynamic variables
- Concertinaing on the specialty of the practice and the qualitative training which is similar to the performance quantity and quality and timely for its positive impact in improving the biodynamic and performance of the studied skill.
- Searching for a training field for the beginners in Wrestling with is best suitable for the qualitative training which supports the physical and skill aspects.
- The importance of unifying the definitions and terminology as there is a disparity in the definitions of qualitative training for a lot of people. This is done in the light of a general vision from the technical committee of the unions and the contribution of the professors of the faculty of physical education.

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