THE IMPACTOF A TRAINING CURRICULUM BY ADDITIONAL WEIGHTS IN THE DEVELOPMENT OF BEARING SPEED AND STRENGTH AND SOME KINEMATICAL VARIABLES AND COMPLESION OF 1.500 METERS – YOUTH.

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ABSTRACT

The athletics events have special specifications and requirements. Some of these events are games of track and field, middle distance running like (1500 m running), which plays the private bearing (speed and power bearing) plays a major role in the completion of this event, especially the follow-up of these qualities in each session of the race to get to know the strengths and weaknesses points at each runner.

The importance of research is the design of curriculum for trainings with additional weights codified according to the body weight of the runner to develop speed, power and some of the kinematical variables and achievement of the effectiveness of the 1500 running.

The problem with research is that a lot of coaches neglect the additional training weights (weighting) even if used by some coaches, they are widely used and does not fit with the athletes weights.

The most important results is that the effects of prepared exercises significant and positive effects for some kinematical variables which is represented by the step length and a length of time (50 m) for the members of the research sample. Also non- significant effects appeared for some the kinematical variables which represented with the frequency of each step of each cycle among the members of the research sample.

KEYWORDS: THE IMPACT, WEIGHTS, CARRY, SPEED, STRENGTH.

1. INTRODUCTION

the levels reached by many of the world champions is a fantasy after the progress that has occurred in science-related with sport field, particularly science of sports training and the science of biomechanics' .

Despite the scientific progress in the field of training , there is a need to do more researches and studies to reach many of the scientific facts in order to detect the best methods and techniques to develop each event of the sporting events optimally in the attempt to invest the human energy to its maximum, the track and field games is one of the events which affected by all elements of fitness, as according to these elements ,the level of achievement depends in different competitions as the specialist process leads in events of track and field games to raise the level of physiological aspects (functional) through the development of working of the two systems (circulatory and respiratory systems), as per each event of the events of the power games has specifications and requirements of their own. Among the events of the track and field games ;running the middle distances like (1500 m running),

which the private bearing (speed and power bearing) plays a major role in the completion of this event, especially the follow-up of these qualities in each session of the race to know the points of strengths and weaknesses for each runner and the muscle groups training involved in this event will contribute to the development of physical attributes, especially in ways that weighting to the working muscles and with performance similar to the performance of the race (running with weights and how they affect , the most important kinematical variables in running is a stride length, it's frequency and time of 50 m and the attempt of analyzing it during each session of the race to know the effects of the accumulated fatigue as a result of the length of the race distance and knowing these variables during the race and putting the appropriate solutions.

Here the importance of research lies in the design of a program of exercises with additional weights codified according to the body weight of the runner to develop speed, power and some of the kinematical variables and achievement of the event of the 1500 running.

The problem with research lies in neglecting a lot of additional weights training (weighting) by the coaches and even if has been used by some coaches, they are wildly used and does not fit with weights of the athletes because there is a relationship between the weight of the athlete and the tool of weighting , note that the weights of the athletes are different so the researcher felt to treat this problem by using weighting tools in a scientific manner which commensurate with the relative weight of each part of the body of hostility.

The research aims to:

1. Preparing a training curriculum with additional weights to the develop bearing of speed and power and some of the kinematical variables and achievement of the 1500m youth.
2. Identifying the impact of the training curriculum by running by additional weights on the development of bearing of speed and power and some of the kinematical variables and achievement for young runners 1500 m.
3. Identifying the preference of the two groups experimental and control groups in the development of the variables under study.

2. METHOD OF DETERMINING THE RELATIVE WEIGHT OF THE BODY PARTS

After it was determined the relative weight of the weight of the heavily parts relying on determining the weights which are added to the body as defined ((Rolf Wirh quoting from (Imad Kazem Ahmad 2006) ;choosing weights which are added to the arm and torso and legs according to the relative fixed parts in the sources as the relative weight of the arm reached to(6.5%) and the relative weight of the leg to (18.5%) and the relative weight of the trunk (43%) and then after measuring the total weight (kg) of the body mass , the relative weights of these parts was extracted according to the weight of each member of the sample members by using the following equation: the total weight of the hostility body × percentage of part / 100 = mass segment

The mass of the part × percentage (5% - 7%) = mass resistance of the part 0

3. DETERMINING THE PHYSICAL AND KINEMATICAL TESTS

Through reading a lot of scientific sources, letters and thesis of physical education and consulting experts and the modest experience by the researcher , has been identified the physical tests of the speed bearing and force bearing where the researcher adopted the test of(1000 m) to withstand the speed and the test (squat) until exhaustion effort to withstand the force. After selecting number of the kinematical variables by the researcher and by consulting and relying on the opinions of some experts, and after analysis the questionnaire of experts and specialists, the law (Ca 2) has been used. It is compatible with what (Marwan Abdul Majeed 1999) says.

4. TRIBAL TESTS

The researcher did the tribal tests of the physical variables on 25.8.2013, where he held a test of 1000 meters and squat on the stadium of Al-Diwaniyah club On 27.08.2013, the researcher conducted a test of achievement for the two groups (control and experimental) on the stadium of Physical Education College / University of Qadisiyah. The researcher put cameras (number3) through a distance of 50 m near the end line to portray each session of the race and at altitude of 120 cm and about 17 m from the first area to cover each camera 17 m from the Racecourse distance to ensure coverage of all the distance (50 m). Where the film was analyzed by using program (Dart fish) and the data stored in a program (Excel) and processed statistically by using the program (Spas).

Figure 1 shows the step length and a time of 50 m for some members of the sample during the race

Table (1) Shows equivalent of the two sets of the research (control and experimental)

The variables	Units of measurement	The group	A	SD	The calculated value of (t)	The tabulated value	The statistical significance
Bearing the speed	minute	control	2.53	0.085	0.33	2.571	Not significant
		experimental	2.54	0.053			
Bearing the force	repetition	control	10.30	1.5	1.26	2.571	Not significant
		experimental	11.17	1.72			
The length of the step	Meter	control	1.71	0.45	0.09	2.571	Not significant
		experimental	1.69	0.62			
The step frequency	Repetition/ second	control	3.00	0.34	1.92	2.571	Not significant
		experimental	3.23	0.16			
The achievement	minute	control	4.26	0.03	2	2.571	Not significant
		experimental	4.28	0.1			

The table(1) shows that all values of calculated (t) is smaller than the tabulated value (t) at level of significance 0.05 and degree of freedom (n 1 + n 2-2) (6 + 6-2 = 10) which is (2.571) which means the presence of equation between the two groups (control and experimental groups).

5. TRAINING CURRICULUM

Where the researcher prepared a training curriculum for the experimental group was applied in a manner training interval during the setup for a period (8 weeks) for the development of bearing and strength by weighting and by (3) training units per week and a total of (24) and training unit within days (Saturday and Monday and Wednesday) and in a manner ripple (1 : 3) have ranged between training intensity (50-70%) of the maximum bears hostility (achievement of maximum distance of running), while the control group, they practice on their own curriculum coach and using power train carrying iron.

6. POSTERIORI TESTS

The researcher carried out a posteriori tests of physical variables on 30.10.2013, where the researcher conducted a test of 1000 meters and squatted on the stadium of Al- Diwaniyah club and at 01/11/2013, the researcher did the achievement test for the control and experimental groups on the stadium of Physical Education College / University of Qadisiyah.

7. DISPLAYING, ANALYZING AND DISCUSSING THE RESULTS

Displaying, analyzing and discussing the differences between pretest and posttest for the control group and the experimental group in some elements of the fitness of the event of 1500 m.

Table 2 shows the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the physical variables of the research and achievement of the control and experimental groups.

The rank	The variables	The pretest		The posttest		The value of calculated t	The value of tabulated t	The significance
		A	SD	A	SA			
Control group	Bearing the speed	2.53	0.085	2.50	0.51	0.98	2.57	significant
	Bearing the strength	10.30	1.5	16.50	1.50	2.88		Random
	The achievement	4.26	0.03	4.21	0.33	1.66		significant
The experimental group	Bearing speed	2.54	0.053	2.49	0.057	5.94	2.57	significant
	Bearing strength	11.17	1.72	18.33	1.63	7.05		significant
	The achievement	4.28	0.01	4.21	0.061	6.33		significant

The tabulated value at a level of significance (0.05) and the degree of freedom n-1 (5), amounting to 2.57.

From the above table ; the value of (T) of the correlated samples between pretest and posttest for the achievement variable has been reached (6.33) which is significant which confirms the presence of differences between pre and post tests and in favor of post-test , which means that the trainings prepared by the researcher have a positive impact on achievement and this shows that training programs prepared on the basis of scientific sports in the sporting training raises the physical , skill and tactical possibilities of the athlete especially when the effect and training on general specialist muscles ,there are responses of the body better and faster.

Carrying heavy loads through fixing it on the two legs or hands or trunk like weights on the sides give a possibility to improve the ability of these muscles to work against gravity ,moreover these weights are working to increase

the tensile strength or muscle tension through recruiting kinetics units larger than the working units in the case of the normal potential condition and therefore the method that is being done to recruit the motor units is characterized by the emergence of systolic force with appropriate speed to reach the best results of the muscular ability of these groups and this was confirmed by (Abdul-Hussein Taleb 2003), and this is the fact of working when you add weights to influence on the muscular sufficiency for the working muscle groups on this topic joints which gives significant influence to raise the level of ability of muscle that will affect positively on the level of speed for these parts during jumping . And that the goal of the possibility of adopting the additional weights is that they do not shed effort when you carry them on the small muscle, but also have it's impact on the muscle groups and the extent of their participation in the muscular work, which gives the ability to accomplish physical workout which increases with increasing strength in the muscles and increase their efficiency in producing the necessary energy and with high economic which gives significant influence to raise the level of ability of muscular ability that will impact positively on the level of speed for these parts during running and this is confirmed by(Ahmed Sabah Al-Obeidi, 2005) when the effect and training is on the general specialist muscles , the responses of the body will be better and faster.

This development, which helped to increase the contestants in their ability in endurance (bearing speed and power) and achievement and this what is confirmed by (Kamal Jamal Al-Rabadi 2004) that the tools of weighting and especially during running in the same style of racing helps the development of the complex capacity which represented by strength and speed, and that the primary objective of these methods is to develop your endurance.

Table 3 illustrates the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the kinematical research variables for the control group.

The rank	The variables	pretest		posttest		Value of calculated t	Level of significance	The difference
		A	SD	A	SD			
The control group session 1	The length of the step	1.74	0.08	1.79	0.06	1.47	0.17	random
	Time of the recent 50 meter	8.88	0.09	8.82	0.23	0.80	0.44	random
	Rate of step frequency	0.20	1.37	3.17	0.17	1.37	0.20	random
session 2	Step length	1.75	0.07	1.82	0.05	3.14	0.01	significant
	Time of the recent 50 meter	9.00	0.09	8.65	0.11	9.56	0.00	significant
	Rate of step frequency	3.19	0.16	3.17	0.13	0.39	0.71	random
session 3	The step length	1.72	0.08	1.81	0.01	2.60	0.04	significant
	Time of the recent 50 meter	8.95	0.10	8.69	0.13	3.47	0.01	significant

	Rate of step frequency	3.25	0.17	3.13	0.07	1.22	0.25	random
session 4	The step length	1.71	0.11	1.79	0.02	1.73	0.12	random
	Time of the recent 50 meter	8.99	0.15	8.60	0.11	1.11	0.29	random
	Rate of step frequency	3.27	0.25	3.25	0.06	0.30	0.77	random

Note that the value of (T) at the level of significance (0.05) and the degree of freedom n-1 (5), amounting to 2.57

Seen from the table above that the value of calculated (T) for the correlated samples between pretest and posttest during the first session of the step length variable amounted to (1.47) and time (50 m) (0.80) and step frequency (0.20) (which is smaller than the tabulated value) which indicates the absence of significant differences between the two tests which means that the runners kept the sprinting speed during post-test by level asymptotic to the running speed in the pre-test and there was no differences between these variables between these sessions and this is normal, as the runner maintains the level of speed during his first session to avoid depletion his energy early and this is within the tactical side of the middle distance runners.

While comparison the variables during the second session, the value of calculated (T) of the correlated samples between pretest and posttest of the step length variable has been reached (3.14) and time of (50 m) (9.56) which is greater than the tabulated value, which indicates the presence of significant difference between the two tests and in the favor of post-test, and the impact of the training program prepared by the coach especially the step length, which is the basis of the completion of middle and long distances where the step length plays an important role in achievement especially distances that need to withstand the speed and strength bearing which contributed significantly to the development of strength bearing and thus maintenance the strength and it's development and increasing the step length with maintaining the speed frequency will help greatly in the development of speed and this is what happened with members of the research sample after the application of the curriculum and this was confirmed by (Amer Fakher Shagaty2009) that the success of the running during the stage of speed bearing depends mainly on the development of the length and frequency of the step and the development of one or both of them will lead to the development of running speed during the distance.

While The step frequency; the value of calculated (T) has reached (0.39) during the second session (which is smaller than the tabulated value at a level of significance (0.05), which indicates a lack of significant difference between the two tests depends where the middle distance runners (1500 m) depend mainly on the step length and the prepared curriculum by the coach had no effect on the step frequency.

While comparison the variables during the third session, and the value of calculated (T) for the correlated samples between the pretest and posttest for the variable of step length has reached (2.60) and time (50 m) has reached (3.47) which is greater than the value of (tabulated, which indicates the presence of significant difference between the two tests and in favor of testing, and this development is due to the impact of the training curriculum which is prepared by the trainer in the development of strength bearing especially for the two legs, and which was followed by the development of the speed of the runners.

The step frequency (1.22) (which is smaller than the tabulated value) which indicates a lack of significant differences between the two tests as showed previously that the development of the will be by one of the variables while the length or frequency of the step , the sample members depended on the length of step in the development of speed and the frequency of the step did not make any difference because the length of the race distance

and the central nervous system cannot give any active neurological stimuli for long periods which may take more than (4 minutes).

While comparison of the variables during the fourth session, the value of the calculated(T) of the correlated samples between pretest and posttest for the variable and time (50 m) amounted to (1.11) and step frequency has been reached (0.30) and the step length was reached (1.73) (which is smaller than the tabulated value when at a level of significance (0.05), which indicates a lack of significant difference between the two tests, and this can be explained on the basis that the group did not develop as a result of performing the exercises of the coach and the change did not happen in the variables at the fourth session of the race, despite specializing programs of speed and strength bearing prepared by the coach and this was confirmed by (Imad Elddin Abbas 2005) , the important methods to legalize the work of the coach is the correction tests from time to time to see how the impact of the curricula of the coach.

The impact of the training curriculum which is prepared in the variables especially the step length, which considered the basis in the completion of middle and long distances where the step length plays an important role in consummation achievement especially distances that need to withstand the speed and strength bearing , the exercises prepared by weighting on parts of the body especially the two legs worked to increase the strength bearing and so maintenance the step length and it's development after the curriculum and this was confirmed by scientists of training that the success of the running during the stage of speed bearing depends mainly on the development of the length and frequency of the step and the development of one or both of them will work to develop the speed of running during the distance.

As for recent variable time (50 m), the value of (t) has reached (2,833) which is greater than the tabulated value at a level of significance (0.05), which indicates the presence of significant differences between the two tests and in the favor of post-test, the development of strength bearing and speed bearing that helped in development of step length and thus effective contributing in the development of achievement helped to develop recent time (50 m) from each session.

As for variable of step frequency rate has been reached (-1.15), which is smaller than the tabulated value which indicates a lack of significant differences between the two tests, which means that the prepared exercises did not make any changes in this variable, the researcher shows the cause of random between pretest and posttest that some variables have studied during very short distances and that the rate of their development is very few (when you return to the arithmetic means) and that the differences did not distinguish through statistics so that the differences have emerged as random in addition the prepared exercises have their effect on the step length as they are the most important in the medium-distance run.

Table 4 shows the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the kinematical research variables in the experimental group.

the rank	The variables	pretest		posttest		Value of calculated t	Level of significance	The difference
		A	SD	A	SD			
Experimental group Session 1	The step length	1.74	0.08	1.82	0.05	2.66	0.03	significant
	The time of 50 meter(recent)	8.67	0.13	8.56	0.23	0.33	1.04	random
	The rate of step frequency	3.27	0.15	3.11	0.13	2.28	0.05	random
Session 2	The step length	1.75	0.07	1.82	0.05	3.14	0.01	significant

	The recent time of 50 meter	9.00	0.09	8.65	0.11	9.56	0.00	significant
	Rate of step frequency	3.19	0.16	3.17	0.13	0.39	0.71	random
Session 3	The step length	1.71	0.08	1.78	0.02	1.88	0.09	random
	Time of 50 meter (recent)	8.90	0.06	8.61	0.09	4.42	0.00	significant
	Rate of step frequency	3.15	0.18	3.21	0.06	0.83	0.43	random
Session 4	The step length	1.77	0.04	1.85	0.01	3.60	0.01	significant
	Time of recent 50 meter	8.50	0.33	8.30	0.29	5.41	0.00	significant
	Rate of step frequency	3.47	0.30	3.37	0.11	0.93	0.38	significant

Seen from the table above note that the value of calculated (T) for the correlated samples between pretest and posttest during the first session of the step length variable amounted to (2.66), which shows the role of the training program by weighting on the body parts which help to develop the strength of leg muscles and thus running step length which contributed to the increase the speed of the experimental group. This was confirmed by (Qasim Hassan Hussein, 1998) that the step length is associated with height of the knee and the knee is linked to the muscular force of the leg greatly.

While time of (50 m), the value of calculated (T) has reached (0.33) and step frequency (2.28) (which is smaller than the tabulated value) which indicates a lack of significant differences between the two tests which means that the runners preserved the speed of running during the post-test with a level asymptotic to the speed of running in the pre-test and there was no difference between these variables between these two sessions and this is normal, as the runner maintains a level of speed during his first session to avoid exhaustion of his energy early, and this is a part of the tactical side of the middle distances runners. and this is compatible with (Saad Aldeen Al-Sharnouby 1998) and the runner have to change the method of running and body shape to suit the way of running and conditions of the race.

While comparison of the variables during the second session, the value of calculated (T) of the correlated samples between pretest and posttest for the step length variable has been reached (3.14) and time (50 m) (9.56) which is greater than the tabulated value, which indicates the presence of significant difference between the two tests and in favor of post-test, and the impact of the prepared training program by the researcher, especially the step length , which is the basis of the completion of middle and long distances where the step length plays an important role in consummation achievement the, especially distances that need to withstand the speed and strength, which contributed significantly to the development of strength bearing and thus maintenance the strength and it's development, and increasing the step length with maintaining the speed frequency will help them greatly in the development of speed and this is what happened with members of the research sample after the application of the curriculum and this was confirmed by a lot of coaches that the success of the running during the stage of speed bearing depends mainly on the development of the step length and step frequency and the development of one or both of them will help to develop speed of the running during the distance.

While the step frequency; the value of calculated (T) has reached (0.39) during the second session (which is smaller than the tabulated value at a level of significance (0.05), which indicates a lack of significant difference between

the two tests as the middle distance runners (1500 m) depends mainly on the step length and the prepared curriculum did by the coach did not make any effect on the step frequency.

While comparison of the variables during the third session, and the value of calculated (T) of the correlated samples to compare between the pretest and posttest for the step length variable has been reached (1.88)and the rate of step frequency has been reached (0.83) which is smaller than the tabulated value which indicates a lack of significant difference between the two tests which means that the runners maintained the step length they have and aimed to change the rate of step frequency despite the absence of a statistical difference, but the existence of differences between the means could not the statistics distinguish them and this change contributed to raise the rate of speed. While time of (50 m) has reached (4.42) and (which is the largest of tabulated value which indicates the presence of significant difference between the two tests and in favor of post-test, and this development is due to the impact of the prepared training curriculum by the trainer in the development of strength bearing especially for legs, and which was followed by the development speed of the runners.

While comparison of the variables during the fourth session, the value of calculated(T) of the correlated samples between pretest and posttest for the step length variable has been reached (3.60) and time of (50 m) amounted to (5.41), which is greater than the tabulated value at a level of significance (0.05), indicating the presence of significant difference between the two tests and in favor of post-test and this can be explained on the basis that the experimental group that applied the training curriculum by weighting on parts of the body have developed as a result of performing exercises similar to the competitive exercises and with the same way of performance, which contributed to the development of the specialist muscle and especially during the last courses of the race which be crucial to the outcome of race and we see this on the level of world champions, where the race settled in the final meters of it as a result of the convergence level of the runners so it must be followed by the analysis and study of these distances of the race.

The step frequency; the value of calculated (T) (0.93) as this variable did not develop, because the increase in the step frequency decreases in the runners and especially at the last distances of the race and this is the result of the accumulated fatigue and the central nervous system cannot send stimuli to the muscles by increasing the step frequency and sufficiency with the step length variable to increase the speed in the final meters of the race.

Table (5) Illustrates the arithmetic means and standard deviations and the value of calculated and tabulated(F) to show the difference between kinematical variables during the race courses for the control group.

The variables	Unit of measurement	Source of contrast	Sum of squares	Degrees of freedom	Average of squares	Value of calculated F	Level of significance	The difference
1.The step length	cm	Between the groups	0.005	3	0.002	0.852	0.482	random
		Inside the groups	0.036	20	0.002			
2. Time of 50 meter	sec	Between the groups	0.155	3	0.052	2.143	0.127	random
		Inside the groups	0.483	20	0.024			

| 3. The step frequency | Number/sec | Between the groups | 0.024 | 3 | 0.008 | 0.573 | 0.639 | random |
| | | Inside the groups | 0.278 | 20 | 0.014 | | | |

Seen from the above table the value of calculated (F) to indicate the difference in the variables under the study for the control group during the sessions of the race and for the posttests and the calculated value was smaller than the tabulated value which indicates a lack of significant difference between the variables during the race courses, which means that the runners did not change the rhythm of the race by speed which can be measured during these sessions so the differences appeared random between them.

Table (6) illustrates the arithmetic means and standard deviations and the value of calculated and tabulated(F) to show the difference between kinematical variables during the race courses for the experimental group

The variables	Unit of measurement	Sources of contrast	Sum of squares	Degrees of freedom	Average of squares	Value of calculated F	Level of significance	The difference
1. The step length	cm	Between the groups	0.017	3	0.006	4.387	0.016	significant
		Inside the groups	0.027	20	0.001			
2. Time of 50 meter	sec	Between the groups	0.91	3	0.303	8.953	0.001	significant
		Inside the groups	0.678	20	0.034			
3. The step frequency	Number/sec	Between the groups	0.374	3	0.125	2.967	0.057	random
		Inside the groups	0.841	20	0.042			

Seen from the above table that the value calculated (F) to indicate the difference between the four race courses in the variables under study of the experimental group and for the posttest test where the value of the (F) of the step length variable and time (50 m) bigger than tabulated value, which indicates the presence of significant difference between the courses can be identified in the favor through (LSD) law.

Table 7 shows the values (LSD) for the experimental group during the four sessions of the race (1500 m) in the post-test.

The variables	Unit of measurement	The groups		The differences of means	The Standard error	Level of significance
1. The step length	meter	1	2	00167-	0.02	0.94
			3	04667*	0.02	0.04
			4	02833-	0.02	0.19
		2	3	04833*	0.02	0.22
			4	07500*	0.02	0.00
		3	4	.07500*	0.02	0.00
2. Time of 50 meter	cm	1	2	.08667-	0.11	0.46
			3	.04833-	0.11	0.68
			4	.26000*	0.11	0.04
		2	3	0.04	0.11	0.74
			4	.34667*	0.11	0.01
		3	4	.30833*	0.11	0.01
3. The step frequency	Number/sec	1	2	.06667-	0.07	0.33
			3	.09833-	0.07	0.16
			4	.22500*	0.07	0.00
		2	3	.03167-	0.07	0.64
			4	.15833*	0.07	0.03
		3	4	.12667-	0.07	0.07

Seen from the table above the statement of the difference between the variables under study during the four race courses and illustrated through the level of significance the presence of significant difference in variable of the step length between the first session and the third session and in favor of the first session, and this is explained by the researcher on the basis that the development that happened for the sample members through the training curriculum helped to develop the step length they have during the first session compared with the second session which means that the increase of the step length during this session with level higher than the rate of step length during the first session and this confirms that the runners started with high speed level as a result of the development of the level of speed and it's bearing in general. This is confirmed by (Abdel-Maksoud Al-saeed 1997) that the use of resistors with the maximum speed is the best method for the development of all kinds of speed and speed bearing helps to rally the muscle fibers which are involved in muscular work.

As well as the a difference between the second and third session and in favor of the second session in the same variable, and this is normal where the accumulation of fatigue wastes due to the continuous performance of high intensity created an imbalance in the step length between the second and third sessions

As well as the differences between the third and fourth sessions and in favor of the fourth session, which indicates the importance of the prepared training curriculum by the researcher in creating conditions of endurance and the ability of the athlete on the performance in the last session with level better than the third session and due to the

importance of this session to resolve a result of the race .The development of speed was ordered during the development of one of its elements, and that was agreed with (Sareeh Abdul-Karim al-Fadhli 2007) a law of speed rate = step length × it's frequency, which emphasizes about the importance of increasing the length or the step frequency in increasing the rate of speed.

While comparison to the rate of speed through (50 m) m found that the presence of significant difference between the first session and the fourth one and in favor of the last session (fourth), which confirms the development of runners during this session well enabled him to make a significant change in the rate of speed which enabled him to run at a rate of higher than the rate of the beginning of the race and this is what required to resolve the race and especially the race of (1500 m) which is characterized by the element of speed until the last few meters.

While the difference between the second session and the third one was in the favor of the third session and this showed that the runner runs with level of increasing acceleration by comparing the velocities through sessions and this confirms the role of the curriculum in raising the possibility of the athlete in bearing the speed and strength to meet the requirements of specialist efficiency and this was in conformity with (Mufti Ibrahim Hamada 2001), as the training with additional weights and with certain proportions of the body considered of the training methods that affect the development of working muscle groups in the performance and work to develop the speed and the motor speed, as well as working with additional weights of the body weight aims to develop strength and speed adjectives.

While comparison of the rate of step frequency during the sessions of the race and in the favor of the fourth session which confirms the possibility of the athlete in raising the speed during the final stages of the race through the high speed frequency which is one of the important factors in raising the rate of speed.

As well as appeared a difference between the second session and the fourth one in the same variable and in favor of the fourth session, and this helps the athlete to bear the race and facing fatigue and trying to change the rate of the race during the last session to enable him to decide the outcome of the race, especially in the last meters. Here the role of the prepared training curriculum appeared on the correct scientific basis in making changes in the level of the athlete in addition to changes in his functional systems as confirmed (Adel Abdul Basir, 1999) that the work during training curriculum based on scientific grounds helps to increase the ability to adapt of the physical effort exerted during the race distances.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

1. The prepared exercises by weighting have positive and significant effects on the development of physical variables represented by bearing the speed, the strength and achievement among members of the research sample.
2. The prepared exercises have significant and positive effects for some kinematical variables by the step length and time of the last (50 m) for the members of the research sample.
3. A non - significant effects appeared for some kinematical variables which represented by step frequency of each session among members of the research sample.

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APPENDICES

Attachment (1) Explain the training curriculum for the experimental group

The week	The days	The distances	The intensity	The repetition	The rest	The groups	The rest	Size of the training unit	The total size
1	Saturday	400 m	50%	4	1-2 m	2	3 min	3200 m	10800 m
	Monday	500 m		4	1-2 m	2	3 min	4000 m	
	Wednesday	400 m		3	1-2 m	3	3 min	3600 m	
2	Saturday	500 m	55 %	2	1-2 m	4	4 m	4000 m	10000 m
	Monday	600 m		3	1-2 m	2	4 m	3600 m	10000 m
	Wednesday	800 m		3	1-2	1	4 m	24mm	10000
3	Saturday	500 m	60%	3	1-2 m	2	5 m	3000 m	9400 m
	Monday	800 m		3	1-2 m	1	5 m	2400 m	
	Wednesday	1000 m		2	1-2 m	2	5 m	4000 m	
4	Saturday	500 m	55 %	2	1-2 m	3	4 m	3000 m	9000 m
	Monday	600m		2	1-2 m	3	4 m	3600 m	
	Wednesday	800 m		1	1-2 m	3	4 m	2400 m	
5	Saturday	800 m	60%	2	1-2 m	2	5m	3200 m	8600 m
	Monday	1200 m		1	1-2 m	2	5m	2400 m	
	Wednesday	1000 m		3	1-2 m	1	5m	3000 m	
6	Saturday	1000 m	65%	1	1-2 m	4	5m	4000 m	9600 m
	Monday	1200 m		1	1-2 m	3	5m	3600 m	
	Wednesday	2000 m		1	1-2 m	1	5m	2000 m	
7	Saturday	7400 m	70%	1	1-2 m	2	6 m	2000 m	7400 m
	Monday	1200 m		2	1-2 m	1	6 m	2400 m	
	Wednesday	1500 m		1	1-2 m	1	6 m	3000 m	

8	Saturday	2000 m	65%	1	1-2 m	1	5 m	2000 m	7000m
	Monday	1500 m		1	1-2 m	2	5 m	3000 m	
	Wednesday	1000 m		1	1-2 m	2	5 m	2000 m	

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