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Study of variables in the ratio of creatine in the blood of short, medium and long distance for runners

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Abstract

The study of the effect of training on jogging on serum creatine levels is important to identify the level of developmental and functional development, as well as understanding the process of developing appropriate training programs for short, medium- and long-term effectiveness. Creatine is an important indicator in the human body by calculating the blood quantities in the day following the race or training in order to know the work of the kidneys or any damage in them, and to establish a sound path and right to our coaches and our players relying on the analysis that helps them in the development of their achievement. The aim of the study was to study the variables in the ratio of creatine in the blood of short, medium and long distances of 10 players. The experimental approach - equal groups due to its relevance to the subject of the research. The researchers concluded: The presence of effects of significant significance for the athletes in the various energy systems in the ratio of creatine in the blood of the players and according to the high intensity and effort in the functional work of the two kidneys. Short-range athletes were more susceptible to high blood creatinine, as they needed higher voltage than medium and short hips.

.**Keywords**: Creatine, blood and distance

Introduction

The study of the effect of training on different types of jogging on the blood creatine ratio is important and necessary to know the level of development and functional as well as the understanding of the development of training programs suitable for the events of short, medium and long, which has received great attention by researchers and trainers in the world, where the largest number of The medals in the games because the awards are characterized by individuality in addition to attracting large numbers of athletes and the public because of the skill, excitement and suspense. Laboratory analysis has been used to determine changes in creatine levels of short-, medium- and long-term athletes due to the effect of exercise with different training doses on them. It is therefore necessary to identify the physiological and chemical laws on which functional changes occur during sporting events and which help to improve the body's response when controlling and working on them.

In view of the specificity of jogging by regulating the production of different energy and the development of the physical and functional capabilities of the players in order to achieve advanced achievements, the importance of research in the study of the impact of jogging the various energy production systems in the proportion of creatine in the blood according to modern scientific bases in order to raise the level of players to reach them achievements to reach the level of players in developed countries in this important and vital.

Creatine is an important indicator of the metabolism of proteins in the human body. This is done by calculating its quantity and its value in the blood because it is one of the energy-rich chemical compounds to measure the metabolic remains that indicate tiredness and recovery. However, some trainers did not give enough importance to this vital and influential aspect The development of training curricula that are affected by the type of effort given to the short, medium and long distance runners who need proper nutrition, especially the quality of the meat and the quantity of power generation according to the type of intensity and training load of each and the impact of this on the proportion of creatine ratio in the blood in order to develop a sound track and true in front of our coaches and players by relying on sound scientific results that are useful in the development of their achievement.

Research aims:

1. Knowledge of the effects of energy systems at different levels of creatine blood in the players.
2. Knowledge of the differences in the ratio of creatine blood runners according to the energy systems used in each of the variables investigated.

Research hypotheses:

1. The short, medium and long circuits of different energy systems have a real effect on the blood creatine ratio of the players.
2. There are differences in the proportion of creatine blood between the groups of the research sample in the variables investigated.

Research methodology and procedures:

Research Methodology:

The experimental method is used as an equal group due to its relevance to this research. Experimental approaches examine the problems and phenomena based on the experimental method or the scientific research method based on observations, hypotheses and precise experiments to verify hypotheses (Mahmoud Al-Rubaie et al.

2018, p. 30)

The research sample:

The research sample consisted of 10 (10) advanced runners in the field and the field were chosen by random method and those who practice activities ran (100 m and 3-1500m and the number of (4 – 5000 m and the number 3) distributed to three groups and depending on the type of game.

In order to identify the characteristics of the sample members and the extent of their representation in the research community, the researcher found some variables as shown in Table (1).

Table (1). Represents the computational circles, standard deviations and percentages of the distribution of the members of the research sample according to the type of effectiveness in some variables

Activity	Number of Players	percentage	Variables	Units	Mean	SD
100 meter	3	%30	Age	Year	26.58	3.34
			Training age	Year	5	2.47
			Weight	Kg	70.25	2.66

			Length	cm	170.75	4.9
1500 meter	4	%40	Age	Year	25.13	3.54
			Training age	Year	4	2.51
			Weight	Kg	67.80	4.51
			Length	cm	170.90	4.01
5000 meter	3	%30	Age	Year	23.73	3.24
			Training age	Year	5	2.31
			Weight	Kg	61.67	5.22
			Length	cm	172.67	5.11

Pilot study:

For the purpose of adjusting variables for the main experiment, the researcher conducted a reconnaissance experiment on 15/2/2018, the purpose of which was to:

1. Ensure that the task force can apply duties.
2. Identify the time of the experiment to benefit from the main experiment.
3. Identify the requirements of conducting the main experiment in terms of materials used and others.

Field research procedures

Measurements and tests:

1. Anthropometric measurements (length, weight, age, training age)
2. Measurement of some biochemical variables (measuring the concentration of urea in the blood)

Method of testing:

The assistant team drew blood samples from the eye in order to conduct tests on them and to identify some biochemical variables (serum creatin concentration). The blood was withdrawn after the athlete had been out of food for at least six hours. The laboratory temperature (37 degrees).

The main experience:

The assistant team drew blood samples from the resting position, six minutes before the race and for all the sample of the research during the first day of the official championship period corresponding to 18/2/2023. On 20/2/2023, another sample was drawn from the blood of runners running 100 m After the official race for them, and draw the blood for the contestants 1500 m, 5000 m on 21/2/2023 also after the completion of the race immediately after the transfer of a special portfolio to the laboratory where the measurements there until 3/3/2023 were processed statistically, as stated in the door the fourth.

Results:

Table (2). Show pretests for the three groups in creatine test, (t) value and significance level

Groups	Pretest		Posttest		(t) value		Type of significance
	Mean	SD	Mean	SD	Calculated	Tabulated	
100 meter (short)	125.33	45.74	136	45.177	32	4.352	Sig.
1500 meter (Medium)	98.650	17.05	109.175	18.821	3.985	3.182	Sig.
5000 meters (long)	92.766	18.917	94.000	20.952	0.196	4.352	Non sig.

The first group (ran 100 m) shows that (2) for the creatinine test, Phosphokinase, the mean (125.333) and the standard deviation (45.742) in the pretest, the mean (136) and the standard deviation (45.177),(2), which indicates that the difference is significant between the pre and post tests and for the benefit of the post-test

The mean of the calculation of creatine phospho-kinase was (98.650) with a standard deviation (17.051) in the pretest. In the post-test, the mean (109.175) and the standard deviation (18.821), the calculated value (t) (3.985), which is the largest of the value of the table (3.182) by line (0,05) and the

degree of freedom (3), indicating that the difference is significant between the pre-test and the post-test and for the post-test

(5000) meter Table (2) shows that the computation of the test creatine phosphokinase (92.766) and the standard deviation (20.952) in the post-test. The calculated value (t) is 0.196, which is smaller than the total value of (4.352) and a score of error (0.05) and degree of freedom (2), which indicates that the difference is not significant between the tests pre and post. Knowledge and the difference between the groups in the post tests the researcher sought to test the analysis of variance as in the following table?

Table (3). Shows the results of variance of the three groups in the post-test creatine test

Source of variation	Total squares deviations	df	Average square deviations	(f) value calculated	(f) value Tabulated	Indication of difference
Between groups	2727.433	2	1363.717	1.585	4.74	Non sig.
Within groups	26022.768	7	860.395			
Total	8750.201	9	2224.112			

Table (3) shows that the calculated value of (f) is (1.585), which is smaller than the (f) tabular value of (4.74) and by mistake (0.05) and freedom degree (7.2). This indicates that the differences between the averages Groups are not significant.

Discussion of results:

Creatine is an important indicator of the metabolism of proteins in the human body. This is done by calculating the quantity and value of blood in the day following the race or training to measure the residual metabolism following the race or training, which indicates tiredness, recovery and removal of metabolic residues.

In the three groups (short-, medium- and long-term), the ratio of creatine in the blood was normal, where it was limited to (1-2-6), as shown in Table 2. Although the ratio increases during short- May lead to a relative increase even though they are within the normal range. In our observation of Table (2) we find that after the effort there is an increase in the ratio of creatine in the blood for the spindles (100) m, which can be explained by the high effort in this sport and reliance on the phosphate creatinine stored muscle in burning energy, which leads to increase the proportion of blood availability and delay The rate of removal by the kidneys due to the relative discontinuation of kidney function, as is the case in runners (1500 and 5000), since the dependence on phosphogensic storage is not the burning of energy (Divix-1988- p. 59)

Table (2) shows that the results are significant for the three groups in the post tests in the pre. The researcher attributed this to the fact that the rider of these events controlled the rate of effort through the appropriate speed, which makes the creatine phosphate and the metabolism is not exhausted before the time, indicating that it allows the most efficient use of phosphate metabolism and creatine during the full competition.

On this basis, we did not see any significant differences between the three tests of the three groups as shown in Table (2). The reason is that the metabolic process is responsible for the energy used during these activities, but it is emptied less quickly than the phosphate creatine during these activities and during the physical effort, Because the metabolic process is done by other devices, so the impact of the exercise of sporting events will be delivered on all the organs of the body, which shows us that the body and its functional mechanism works as a unit.

Conclusions:

1. The long range (5000 m) group was less affected by the high blood creatinine ratio because it required more long-term training than short and medium training.

2. Effect of kidney function towards elimination of excess creatinine due to delay in removal rate by kidneys in running (100 m)
3. There is an increase in creatine in the blood for spasticity (100 m) due to high stress and dependence on muscle creatine phosphate in the muscle to burn energy
4. Do not rely on the reservoirs in the burning energy (1500 m) and (5000 m), which leads to removal by the kidneys
5. Control the runners in the rate of effort through the appropriate speed makes phosphate creatine and the metabolism is not exhausted before the ozone
6. No significant differences of the three groups because the metabolism is responsible for the energy used during the pharmacology, to be discharged less quickly than phosphate creatine.

References:

1. Lehmann M, Dickhuth HH, Gendrisch G, Lazar W, Thum M, Kaminski R, Aramendi JF, Peterke E, Wieland W, Keul J. Training-overtraining. A prospective, experimental study with experienced middle-and long-distance runners. International journal of sports medicine. 1991 Oct;12(05):444-52.
2. Billat LV. Use of blood lactate measurements for prediction of exercise performance and for control of training. Sports medicine. 1996 Sep 1;22(3):157-75.
3. Dill DB, Costill DL. Calculation of percentage changes in volumes of blood, plasma, and red cells in dehydration. Journal of applied physiology. 1974 Aug;37(2):247-8.
4. Bassini-Cameron A, Monteiro A, Gomes A, Werneck-de-Castro JP, Cameron L. Glutamine protects against increases in blood ammonia in football players in an exercise intensity-dependent way. British journal of sports medicine. 2008 Apr 1;42(4):260-6.
5. Alsayigh HA, Athab NA, Firas M. Journal of Global Pharma Technology The Study of Electrical Activity of the Triceps Brachia Muscle according to the Chemical Changes of Water Loss during Spike in Volleyball. 2017;57–62.
6. Al-Mashhad RAA. The Impact of the Plan and PDEODE Strategies in Developing Awareness of Cognitive Processes and Reducing Psychological Pollution Among Students of the Faculty of Physical Education and Sports Sciences. 2018;928–35.
7. Alsayigh HA, Athab NA. The Study of Rectus Femoris Activity after Knee Joint Rehabilitation. 2016;9(9):360–5.
8. Jumaah H, Ktaiman A, Abdul N, Athab K, Mohammed A. The Effect of Using Pain Management Techniques in the Rehabilitation of Chronic Lower Back Injury in Athletes and Non- Athletes. :108–12.
9. Athab NA, Hussein WR, Ali AA. A Comparative Study for Movement of Sword Fencing Stabbed According to the Technical Programming in the Game of Fencing Wheelchairs Class B. Indian Journal of Public Health Research & Development. 2019;10(5):1344-7.
10. Athab NA. An Analytical Study of Cervical Spine Pain According to the Mechanical Indicators of the Administrative Work Staff. Indian Journal of Public Health Research & Development. 2019;10(5):1348-54.
11. Niemelä KO, Palatsi IJ, Ikäheimo MJ, Takkunen JT, Vuori JJ. Evidence of impaired left ventricular performance after an uninterrupted competitive 24 hour run. Circulation. 1984 Sep;70(3):350-6.
12. Brock-Utne JG, Gaffin SL, Wells MT, Gathiram P, Sohar E, James MF, Morrell DF, Norman RJ. Endotoxaemia in exhausted runners after a long-distance race. South African Medical Journal/Suid-Afrikaanse Mediese Tydskrift. 1988 May 7;73(9):533-6.