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Effectiveness of the Competition Loud Training for Some Blood Variables and Achievement for the 800-meter Runners

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Abstract: The purpose of this study was to identify concentration level of some blood variables (red blood cells, haemoglobin, Sodium, Potassium, Iron, Zinc and Copper) and achievement level for 800 m runners through competition loud training, The researcher utilized the experimental approach, the pre and post design for one group, with (10) men middle distance runners from Zagazig University team for academic year 2009-2010, who were selected by deliberate way. Results revealed that Proposed Training program using a competition loud have a positive impact in some variants of blood serum (RBCs - haemoglobin - Sodium - Potassium - Iron - Zinc - Copper) for 800 meter runners. Proposed Training program using a competition loud have a positive impact in level of 800 meter run.

Key words: Competition Loud · Blood Variables · 800-Meter Runners

INTRODUCTION

The training process earn its meaning by competition through player preparation o to achieve best possible competitions level, it is distinct from the sports training that forces players to exert all energy in order to be able to adapt with playing conditions as its high loud intensity in competition [1].

Some biochemical changes occurs in body of players during physical activity performance depending on different loads training, this requires an understanding of natural foundations and biochemical underlying these changes. Thus, can be used to control and increase the effectiveness of training programs for athletes [2].

Middle-distance races considered link between the sprint races and the long-distance, middle-distance players combine between the characteristics of speed players and endurance players, which is not available in many of athletes, a lot of 800 m runners can run 400 m with high achievement. [3].

Procedures

The Research Sample: The researcher utilized the experimental approach, the pre and post design for one group, with 10 men middle distance runners from Zagazig University team for academic year 2007-2008, who were selected by deliberate way, Their age, height, weight, training age and level of 800 m run were 20.70 ± 1.03 years, 175.95 ± 4.78 cm, 66 ± 2.95 kg, 5.80 ± 0.91 years and 2.79 ± 0.33 minutes, respectively (Mean ± SD) and blood variables, RBCs, haemoglobin, Sodium, Potassium, Iron, Zinc and Copper were 5.29 ± 0.27 Million \cm3, 12.47 ± 2.36 g\dl, 141.32 ± 5.57 mg\dl, 7.29 ± 1.41 mg\dl, 115.71 ± 5.23 mg\dl, 84.97 ± 7.02 mg\dl, 139.51 ± 5.84 mg\dl, respectively (Mean ± SD).

Tools and Equipment of Collecting Data: Dismissal central with 3000 rpm\min to separate serum plasma, use of microscopy of blood slides with stained for Leishman to determine number of specific blood cells. Haemocytometer device to determine the total number of blood cells in a cubic millimetre, Emission Spectrometer (Plasma 400 Perkinelmer) to measure the level of serum Mineral and Heparin to prevent blood clots.

The researcher performed the pre-measures on 2/10/2010 up to 4/10/2010 taking blood samples by specialist and test of 800 m run in the stadium of Zagazig University. Started 7/10/2010 by applying the specific training program for a period of 10 week at the rate of 3 sessions per week and for 110 minutes per session. Thus, the training program totalled (55 hours) after ten weeks and until 15/12/2010. 16/12/2010 up to 18/12/2010 the researcher performed the post measures.

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Statistical Methods: The researcher used the SPSS 15.0, statistical program for data processing.

RESULTS AND DISCUSSION

Table 1 shows significant statistical differences of blood variables concentration (red blood cells - haemoglobin - Potassium - Iron - Zinc - Copper) in favour of the post measuring to the pre measuring, while no significant statistical differences of sodium concentration.

Improvement in the (red blood cells - haemoglobin - Potassium - Iron - Zinc - copper) effected by competition loud training program which led to increase of blood components as an indication of external impact on circulatory system, which is change in the components of blood, that where effected by training program. Regular sport training and systematized scientific work are increasing the proportion of red blood cells and the percentage of haemoglobin in athletes [4 - 6].

Use of aerobic training loads lead to an increase in the number of RBCs and haemoglobin concentration for personnel trained and untrained [7]. High physical exertion of leads to an increase in blood components [8].

Improve the level of concentration of serum mineral because of development of functional status of the body. High intensity physical exertion decrease concentration of sodium and increase the concentration of potassium in the blood serum [9, 10].

Serum zinc concentration did not change post-measure in our runners, although significant decreases following a 10 mile run has been described [11,12].

Copper concentration increased in the blood. Physical exertion leads to increased proportion of concentration of serum mineral (iron - copper) [9, 10].

We observed significantly increased serum iron concentration in runners. This observation has not been described previously, to our knowledge. Previous study has indicated hemoconcentration following run like activity exerts only a minimal effect on measured iron concentrations [13].

Table 2 shows Rate of Improvement for blood variables confined between (1.27: 7.57%) for post measurement.

The researcher attributes this result to the training program using a competition loud training of the research sample. Change in the level of blood serum when athletes occur after submission and continue to inhaler regular exercise for a long time up to years [14].

Table 3 shows significant statistical differences at 0.05 among pre and post test of the sample in the level of achievement 800 meters run for the post measurement.

improvement in 800 meters run effected by the training program using a competition loud training included a group of exercises similar to a great extent of competition loud, which reflected positively on the improvement of functional and body's ability to get rid of waste energy production, affecting improvement in the level of 800 meters run.

Table 1: Difference Significance of biochemical variables (pre and post measurements) N =10

		Pre test		Post test		
Variables	UM	Mean	Variance	Mean	Variance	t-stat
RBCs	Million \cm3	5.29	0.27	5.67	0.21	*3.52
haemoglobin	g\dl	12.47	2.36	13.26	1.87	*2.47
Sodium	mg\dl	141.32	5.57	143.11	3.31	1.89
Potassium	mg\dl	7.29	1.41	6.78	1.63	*2.57
Iron	mg\dl	115.71	5.23	122.16	4.76	*3.13
Zinc	mg\dl	84.97	7.02	78.99	6.10	*2.71
Copper	mg\dl	139.51	5.84	145.87	4.65	*2.90

* Significantly different at p<.05 =2.262

Table 2: Rate of Improvement of Post Measures for biochemical variables

		N=10		
Variables	UM	Pre	Post	Rate of Improvement %
RBCs	Million \cm^3	5.29	5.67	7.18%
haemoglobin	gm\dl	12.47	13.26	5.96%
Sodium	mg\dl	141.32	143.11	1.27%
Potassium	mg\dl	7.29	6.78	7.52%
Iron	mg\dl	115.71	122.16	5.57%
Zinc	mg\dl	84.97	78.99	7.57%
Copper	mg\dl	139.51	145.87	4.65 %

Table 3: Difference Significance of level 0f 800 m run (pre and post measurements) N =10

		Pre test		Post test		
Variable	UM	Mean	Variance	Mean	Variance	t-stat
Improvement of 800 m run	min	2.79	0.33	2.61	0.24	*2.42

* Significantly different at p<.05 =2.262

Table 4: Rate of Improvement of Post Measures for Both Groups in 800 Meter Run

		N=10		
Variable	UM	Pre	Post	Rate of Improvement %
Improvement of 800 m run	min	2.79	2.61	6.89%

Training program using a competition loud training is the most important type of training that improves the level of efficiency of the integrated functioning of the player and lead to the excellent training situation [15].

Table 4 shows Rate of Improvement for 800 meters run of total (6.89%) for post measurement.

Training program using a competition loud training is working on upgrading speed of run in middle distance competitions [16].

CONCLUSION

Proposed Training program using a competition loud have a positive impact in some variants of blood serum (RBCs - haemoglobin - Sodium - Potassium - Iron - Zinc - Copper) for 800 meter runners.

Proposed Training program using a competition loud have a positive impact in level of 800 meter run.

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