THE EFFECT OF MASSAGE ON PSYCHIC FUNCTIONAL STATE IN FEMALE ATHLETES

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Key words: psychic, pre-event massage, balancing massage, female athletes

At our current level of performance results and increasing competition in the sport, when the technical and physical training of the leading athletes is high enough and approximately equal, the athletes who can accurately and consciously manage their psychic condition before and during the race are the winners.
Indispensable tool for overcoming the adverse conditions is preliminary sports massage. Its aim is to complement the warm up of the body and prepare the athlete for the next physical and psychoemotional loads and save her strength [2]. Properly selected massage techniques helps to regulate emotional states [4].
Balancing massage methods came into practice thanks to the Spa industry. Their beneficial effect is important factor for relaxation and for copying the stress of modern man. In the available literature, we found no studies about balancing massage effect on the functional state of the mind in athletes.
To objectify the effect of the two selected by us massage techniques on psychoemotional status of athletes we have chosen a psychological test SCAM [1].

The **aim** of this work was to examine and compare the effect of two massage techniques - pre-event sports and balancing massage on the psychic functional status of female athletes in mind.

 The **tasks** we set were:
1. To investigate the effect of application of preliminary sports massage on the female athletes.
2. To investigate the effect of application of balancing massage on the female athletes.
3. To compare the effects of THE two massage techniques on the female athletes.

Methods

The object of this study were 44 students of the Sports Faculty of NSA, divided into two groups - experimental and control. The first group had an average age of 22, and sports experience of 11,1 years, while the second one had an average age of 22,25, and 11,25 years of sports experience. Over the experimental group of 20 students balancing massage of back and neck-shoulder region was applied. The control group of 24 students was applied for pre-

event massage to help calm their nerves on the back, neck-shoulder area and the hairy part of head.

The basic massage mode of action in the preliminary methodology is friction massage, which occupies 50% of the total time. In the remaining time dominate soothing techniques, and friction is performed slowly, calmly, without amplification of the pressure (percussion techniques do not apply) [3].

Typical for the balancing massage are massage techniques with a long line, covering more than one zone, slow and rhythmic pace, and techniques in figures like the number eight, in which percussion techniques are not included. After the general preparation of the back, alternately massaged both his halves and neck-shoulder region. The massage ends with a work on the back from the short side of the couch.

Before and after each massage each of the investigated persons had to complete SCAM test for self confidence, activity and mood.

According to the methodology, each of these signs is presented in ten polar statements measured by seven points scale. The average score for each scale range from 1 to 7 and allows to clarify the psychic functional status of the individual at the time of investigation: from 1 to 3 - low score is received, from 3 to 5 - average and over 5 – high score is received. For statistical analysis of the results software SPSS was used . To determine the statistical confidence of the differences in the results Wilcoxon and Mann-Whitney ratios with level of significance $\alpha = 0,05$ was used. Descriptives analysis was made of the research data.

Results and analysis

The average values of the three investigated indicator of the control group at the beginning of the experiment show a high initial level of self confidence, activity and mood, as opposed to the same parameters in the experimental group which has average scores (Table 1). The highest average value is of the "self confidence" in the control group ($\bar{x} = 5,34$) and the lowest one - that of "activity" in the experimental group ($\bar{x} = 4,14$). The indicators discussed in both groups are with an average dispersion of the sign, except the "mood" in the experimental group where it is within the lower limit of highly heterogeneous.

Statistically significant difference in the initial state of the three indices between the two groups was observed only in the scale "activity" in the control group. It is significantly higher ($\bar{x} = 5,21$) compared with the experimental group ($\bar{x} = 4,14$).

The mean values of the three indicators measured at the end of the experiment in both groups are highly scored. The highest level in the indicatior "mood" ($\bar{x} = 5,98$) is established in the control group and the relatively lowest - that of "mood" ($\bar{x} = 5,09$) in the experimental one.

The individual values of the three indicators evaluated in both groups at the end of the experiment were approximately uniform. Statistically significant difference in the three indices between the two groups at the end of the experiment was not observed.

In both groups at the end of the experiment the assessment scores in the three observed indicators are increased. The results are illustrated in Fig. 1.

In the control group a statistically significant difference between the initial and final scores is found only in the index "mood" in which the increase is big (d = 0,53) and also statistically significant. In the other two scales improvement is as follows: "self confidence" - moderate (d = 0,19) and "activity" - a significant (d = 0,23). Both results are statistically unreliable.

In the experimental group a statistically significant difference between the initial and final assessment scores in the three studied indicators is found. Large and statistically significant growth is found in "activity" (d = 0,95) and "mood" (d = 0,54). The index "self confidence" is increased enough (d = 0,28), but is not statistically significant.

The Comparison of the growth rate in the three indicators in both groups showed a statistically significant difference only in the scale "activity" which is greater in the experimental group. Concerning the other two indicators - "self confidence" and "mood", the improvement in both groups did not differ statistically.

Conclusion and Recommendations

In the both types of the applied massages, a significant increase in the scores for confidence, activity and mood was established at the end of the experiment. It should be mentioned that after the experiment in both groups – experimental and control – the psychic functional status of the athletes is balanced according to the three indicators, which is a prerequisite for optimal expression of their sports skills and abilities.

Unlike the control group, where at the beginning and end of the experiment the assessment scores of the three indicators were moderately higher in the experimental group they vary from moderate to moderately high. We believe this results are due to the balancing nature of the applied massage.

For further investigation we recommend more than one procedure to be done and its effect to be monitored not only immediately after the massage but a few hours after it.

References

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Table 1

SCAM test results of both groups at the beginning and the end of the experiment

|		At the beginning					At the end				
		X min	X max	$\overline{X}$	S	V	X min	X max	$\overline{X}$	S	V
Experimental group	Self condit.	2,70	6,30	4,88	1,20	24,66	3,70	6,70	5,16	1,20	23,17
	Activity	2,80	6,10	4,14	1,05	25,37	3,60	6,60	5,09	1,07	21,05
	Mood	2,30	6,60	4,98	1,56	31,27	2,80	7,00	5,52	1,36	24,73
Control group	Self condit.	4,50	6,30	5,34	0,61	11,42	4,00	7,00	5,53	0,83	15,01
	Activity	3,70	6,60	5,21	0,70	13,44	2,80	6,90	5,43	1,20	22,10
	Mood	3,40	7,00	5,46	0,85	15,57	4,60	7,00	5,98	0,72	12,04
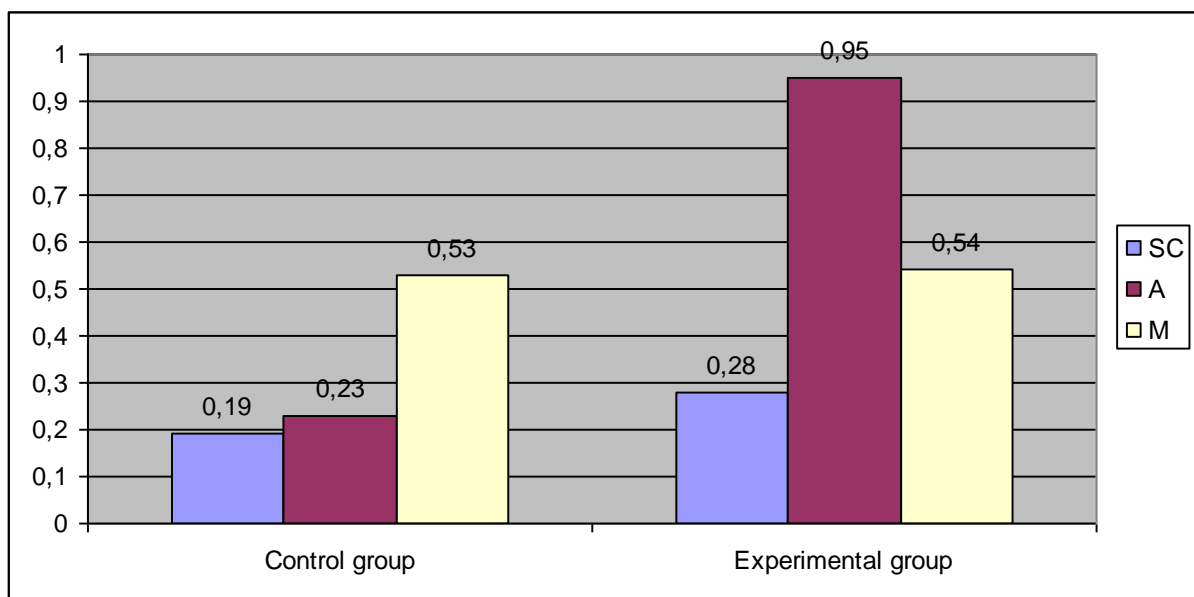
Fig. 1. Growth in SCAM performance test in both groups