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The influence of cold acclimatization training on plasma NO and NOS contents in recruits

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Objective To observe the influence of cold acclimatization training on plasma NO and NOS contents in recruits, so as to provide basis for further study of cold acclimatization mechanism and training methods.

Methods 50 new recruits in cold regions were chosen as study objects, were divided randomly into two groups. Control group did normal exercise, the experimental group was trained according to the cold acclimatization training plan. The content of NO and NOS in the blood plasma were detected respectively before training and 30 days after training.

Results Comparison between after training and before training, the content of plasma NO in experimental group increased very significantly ($P < 0.01$), and the content of plasma NOS decreased very significantly ($P < 0.01$) after training. The content of plasma NO in the control group was significantly higher than that before training ($P < 0.05$), and the content of plasma NOS was significantly lower than that before training ($P < 0.05$). Comparison of two groups after training, the plasma NO content of the experimental group was higher than that of the control group, and the plasma NOS content was significantly lower than that of the control group ($P < 0.05$).

Conclusions The local cold stimulation combined with the extension of outdoor exercise time can promote the changes in the content of NO and NOS, so as to adjust the vasoconstriction and make the body adaptable to the cold.