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## The effects of upper extremities massage on information processing speed and anticipatory skills in female overhead athletes

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**Background:** Neurocognitive system has a crucial role in planning physical behavior and coordination, sports performance. Neurocognitive tasks such as measuring the reaction time and anticipation skills have been used in various studies. Therefore, in every sport and activity that the athlete needs accurate and rapid action used to make decision, boosting anticipation skills and reaction time can be effective in the improvement of motor control and central information processing. In addition, according to the effects of massage on the neurocognitive functions the effects of massage on reaction time and anticipation skills were studied.

**Method:** 30 women athletes participated in this study. According to the selection criteria, the participants were randomly divided to 2 experimental and control groups of fifteen members with the experimental group being given a massage. The participants' reaction time of auditory choice, complex choice reaction times and visual choice, complex choice and high and low speed anticipation were checked with speed anticipation reaction computer tests.

**Findings:** This study showed that there were significant differences between two groups in the mean difference of auditory choice reaction times and visual choice, complex choice reaction times and high and low speed anticipation ( $p < 0.05$ ). No significant differences between two the groups in auditory complex choice reaction times were observed ( $P > 0.05$ ).

**Conclusion:** The massage therapy program used in this study helped the experimental group athletes have better and shorter time reaction compared to the control group. This study showed that applying massage techniques has positive effects on boosting and more proper function of cognitive nervous system. The above mentioned techniques can be used as valuable tools in physiotherapy in order to foster athletes' physical functions.

### Biography

Mohammadreza Kasnavi has completed his MSc in Physical Therapy from Shahid Beheshti University of Tehran, Iran.

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