

## Investigating the Effects of Two Functional and Extra-Functional Stretching Methods of the Leg Muscles on a Selection of Kinematical and Kinetic Indicators in Women with Ankle Instability

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**Abstract :** The purpose of the present study was to investigate the effects of two functional and functional stretching methods of the leg muscles on a selection of kinematical and kinetic indicators among women with ankle instability. Twenty-four persons were targeted and randomly divided into the functional exercise (8 persons), extra-functional exercise (8 persons) and control (8 persons) groups on the basis of inclusion and exclusion criteria. The experimental groups received stretching for eight weeks, 3 sessions each week, and the control group merely performed its daily activities. Then, in order to measure the pre -test and post -test variables, the dorsi flexion, Plantar flexion and ground reaction force were investigated and measured. Data were analyzed using paired T-test and independent T-tests at a significant level of 0.05. All statistical analyses were conducted using SPSS 25 software. The results of the T-test showed the significant effect of eight weeks of functional and Extra functional exercises on dorsi Flexion, Plantar Flexion and ground reaction force. ( $P \leq 0/001$ ). The results of this study showed that the implementation of the functional and Extra-functional exercise protocol had an impact on the amount of Ankle dorsi Flexion and the Plantar felxion of women with an ankle instability. It was also found that muscle flexibility following the stretch ability of the gastrocnemius muscles facilitates the walking of the wrist installation by affecting the amount of wrist flexion, so these people are recommended to use the functional and extra-functional exercise protocol.

**Keywords :** functional stretching, extra functional stretching, dorsi flexion, plantar flexion

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