

Biomechanical response of the upper body during prostration in salat and the child's pose: a preliminary study

ABSTRACT

[Purpose] Salat is the prayer practiced by Muslims and it involves several physical motions, namely standing, bowing and prostrating, which can be considered as a form of slow moderate exercise. The purpose of this research was to investigate the activities of the upper body muscles and the body composition during Salat's prostration and the child's pose. [Subjects] Eight healthy male and female university students were recruited for this study. [Methods] The body composition of each subject was first measured. The subjects were then asked to perform Salat's prostration motion followed by the child's pose posture. Electromyographic (EMG) signals were recorded from the biceps brachii, triceps brachii, scapula muscle, and pectoralis major muscles. The signals were converted to root mean square values. The Mann-Whitney U non-parametric test was conducted to investigate the significance of differences in EMG mean values and body composition in both postures. [Results] The findings show that all the muscles were activated in both postures with the triceps brachii recording the highest value. For the triceps brachii, the prostration posture gave higher values. However, no significant difference was found in the body composition. [Conclusion] The prostration posture produces musculoskeletal effects similar to the child's pose.

Keyword: Salat; Prostration; Child's pose