

INFLUENCE OF MENTAL STRESS REALTED ON CORTISOL LEVEL SECRETION RELATED TO PARACHUTE JUMPING

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Previous studies have demonstrated that free fall parachuting offers to study development of the human performance under stress situation. Free-fall parachuting conducted from high altitudes usually above ten thousand feet above ground level. Hormonal response system in stress the hypothalamus pituitary adrenal (HPA) axis may be involved in this process by releasing stress hormone known as cortisol. Therefore this study purpose was to find influence of mental stress related on cortisol level secretion related to parachute jumps among soldiers in Sri Lankan army parachute team. To achieve purpose of this study was selected sixteen soldiers (N=40) by using opportunity sampling method. They were divided into four groups referring knowledge and experience performing in parachuting. One blood sample per day from each participant was collected between 6 to 10 am for three days on the normal working day, on the jumping day, and 24 hours after the jumped. In addition estimate the level of emotional tension by using personal questionnaire based on STAI psychological test. In this study was to found the significant difference between groups of parachutist was analysed by using Kruskal Wallis test, the significant difference between gender performances was compared by using Mann Whitney U test and relationship between cortisol and emotional tension was analysed by using Pearson correlation test. The data of the study showed there was a significant ($P < 0.05$) difference between groups of parachutists on the jumping day. There were no significant difference ($P < 0.05$) on the normal working day and 24 hours after the jumped. The results of the gender performance revealed there were no significant differences ($P < 0.05$) on the normal working day and 24h after the jumped. There was a significance difference on the jumping day ($P < 0.05$). Furthermore there were correlations between cortisol and emotional tension in every stage of the study. The results concluded the cortisol secretions in study groups depending on experience of parachuting with relatively high cortisol level from less experience and low cortisol level from greater experience during stressful situation. Furthermore were found high stress reactivity in the experienced and its low reactivity in the beginning of parachutists.

Keywords: *Cortisol, HALO training, Military Parachuting, Skydiving, Stress*