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## Study of the C-reactive protein and tumor necrosis factor- $\alpha$ levels in the elderly before and after resistance exercise training

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Aging results in chronic low grade inflammation that is associated with an increased risk disease, poor physical functioning and mortality. The biomarkers that are mostly related to inflammation such as tumor necrosis factor- $\alpha$  (TNF  $\alpha$ ) C-reactive protein (CRP) are created to stimulate and activate the immune system in response to inflammation. Strategies that reduce age-related inflammation may improve the quality of life in older adults. The benefits of regular exercise for the elderly are well established, whereas less is known on the impact of low-intensity resistance exercise on chronic low-grade inflammation in elderly. The aim of this work was to study the level of TNF  $\alpha$  and CRP before and after programmed resistance exercise in elderly individuals. This study was done on thirty healthy elderly individuals aged 60 years or older of both sexes, participated in four weeks of resistance training (RET). Circulating levels of TNF  $\alpha$  and CRP were measured before and after exercise training. Results of this study that both inflammatory markers TNF  $\alpha$  and CRP, were statistically significantly decreased ( $P=0.036$ ,  $0.009$ ) respectively, in comparison with the previous starting level measured before the exercise in the same individuals. There was negative correlation between both TNF  $\alpha$  and CRP levels and RET, which indicated that RET represents a low-cost strategy that may reduce age-related inflammation and may thus improve the quality of life in older adults.

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