

## Oxidative Stress Indicators in Long-Lived Individuals Belonging to The Municipality of Santa Clara

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**Introduction:** There are many oxidative stress indicators in long-lived individuals.

**Objective:** To determine oxidative stress indicators in long-lived individuals.

**Materials and methods:** 120 subjects were studied and two groups were formed: 50 individuals older than 85 years from nuclear families belonging to the municipality of Santa Clara and 70 adults under 50 years belonging to the same area taken as a control group. Were determined the antioxidant activity of the enzyme Superoxide Dismutase (SOD) and Catalase (CAT) as well as the serum concentrations of Reduced Glutathione (GSH) and Malonildialdehyde (MDA), as indicators of the state of the antioxidant defense and the existence of oxidative damage to lipids. Determinations were made with the use of spectrophotometric techniques establishing comparisons between groups through the statistical program SPSS for a level of significance of 95%.

**Results:** The activity of the antioxidant enzyme SOD and the serum levels of MDA showed significant differences when comparing both study groups. In case of the SOD enzyme, the group of long-lived individuals showed a significant reduction in their activity when compared to the controls, while the serum levels of MDA were higher. The enzymatic activity CAT and the serum levels of GSH did not show significant differences between both groups of study.

**Conclusions:** The decrease in the activity of the main antioxidant enzyme SOD accompanied by an increase in MDA levels may constitute evidence of an oxidative imbalance in individuals older than 85 years accompanied by an increase in damage to lipids.

**Keywords:** oxidative stress, long-lived individuals, lipids.