

## EFFECT OF PSYCHOLOGICAL AND PHYSICAL STRESS ON SALIVARY ALPHA-AMYLASE ACTIVITY AND TOTAL PROTEIN CONCENTRATION.

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Changes in human salivary alpha-amylase (HSA) levels indicate autonomic activity since its secretion occurs in response to sympathetic and parasympathetic stimulations. The present study observed the relationship of physical and psychological stress situations through the variation of the HSA activity and salivary total protein concentration. Fourteen subjects (6 men and 7 women) were submitted to a progressive exercise test until exhaustion, saliva samples were collected in rest, middle and last stage, and ten minutes after the exercise. The psychological stress protocol used was Stroop Color Word Test adapted. Saliva samples were collected in rest, in three test phases, and ten minutes after the end of the test. HSA was measured by a quantitative enzyme kinetic method and protein concentration by a Bradford microplate assay. Significant differences in the physical and psychological stress induced protocols were observed to HSA activity measured during the peak of stress moment and ten minutes later. However, concerning salivary total protein concentration no differences were observed between the two stress induced protocols. Therefore, analysis of the salivary biomarkers indicates that physical stress affects HSA activity more than mental stress while the levels of total protein changes more during mental stress situations.

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