



XXXV SALÃO de INICIAÇÃO CIENTÍFICA

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Local	Campus Centro - UFRGS
Título	Influence of body composition and cardiorespiratory fitness on plasma HSP72, norepinephrine, insulin, and glucose responses to an acute aerobic exercise bout performed in the fed state
Autor	ADOLFO MORAES DE SOUZA
Orientador	MAURÍCIO DA SILVA KRAUSE

Justification: Being overweight is already considered a metabolic risk factor, which can be overcome by increasing cardiorespiratory fitness (CRF). Acute exercise is known to induce changes in plasma hormones and heat shock proteins release. However, there is a lack of studies investigating the impact of body composition and CRF on these variables following acute aerobic exercise. **Objective:** To assess the influence of body composition and cardiorespiratory fitness on plasma heat shock protein 72 kDa (HSP72), norepinephrine (NE), insulin, and glucose responses to an acute aerobic exercise bout in the fed state. **Methodology:** Twenty-four healthy male adults were recruited and allocated into three groups: overweight sedentary (n=8), normal weight sedentary (n=8), and normal weight active (n=8). The volunteers performed an acute moderate exercise session on a treadmill at 70% of VO₂ peak. Blood samples were drawn at baseline, immediately post-exercise, and at 1-h post-exercise. **Results:** The exercise session did not induce changes in HSP72 nor NE but changes in glucose and insulin were affected by body mass index. Also, subjects with elevated CRF maintain reduced NE through exercise. At baseline, the overweight sedentary group showed elevated NE, insulin, and glucose; these last two impacting the HOMA-IR index. Thirty minutes of aerobic exercise at 70% VO₂ peak, in the fed state, did not change the levels of plasma NE and HSP72. Elevated body composition seems to impact metabolic profile and increase sympathetic activity. Conversely, subjects with increased cardiorespiratory fitness seem to have attenuated sympathetic activity