

TITLE: ASSOCIATION BETWEEN ANTIDEPRESSANT USE AND OXIDATIVE STRESS BIOMARKERS IN UNIVERSITY STUDENTS

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INTRODUCTION: Oxidative stress, characterized by an imbalance between reactive oxygen species and antioxidant defenses, is implicated in various neuropsychiatric conditions. Antidepressant use, particularly long-term, may influence oxidative stress levels. Assessing this impact in populations such as university students is essential. **OBJECTIVE:** To investigate the association between the use of antidepressants and the levels of biomarkers of oxidative stress and antioxidants in students at a university on the western border of Rio Grande do Sul/Brazil. **MATERIALS AND METHODS:** A cross-sectional study was conducted with 244 university students aged 18 to 55 years, divided into two groups: regular users of antidepressants (n = 36) and a control group (n = 208) without medication use. Blood samples were collected to analyze the levels of malondialdehyde (MDA), superoxide dismutase (SOD), glutathione peroxidase (GPx), nitrite/nitrate (NOx), total antioxidant status (TAS), catalase (CAT), protein carbonylation, picogreen, dichloride and markers of renal and hepatic function. Sociodemographic and clinical data were obtained through a standardized questionnaire. Data were analyzed by Student's t-test and p<0.05 was considered significant. **RESULTS AND CONCLUSION:** Students using antidepressants had significantly higher levels of MDA (p=0.015), NOx (p=0.010) and reduced levels of picogreen (p=0.006), possibly indicating increased oxidative stress. There was no statistically significant difference in the other biomarkers between the groups. There were no differences in age and sex of the participants between the groups. These results suggest that antidepressant use among college students is associated with increased biomarkers of oxidative stress, highlighting the need for clinical monitoring and mental health promotion measures, especially in young populations.

Keywords: oxidative stress; antidepressants; university students; clinical toxicology.