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Self-perceived anxiety and depression is associated to physical aspects among university students

Ansiedade e depressão autopercebidas estão associadas a aspectos físicos entre universitários

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DEAR EDITOR,

University students have a higher risk of developing mental disorders, since they are in academic-professional transition, under constant stress, and fall into the age group with the highest incidence of the first episode¹. Anxiety and depression are concerns among college students, with a prevalence of 51% and 41%, respectively². The prevalence of mental disorders has been increased due to outbreaks of pandemics³. Therefore, it is pertinent to investigate aspects directly or indirectly associated with the physical and psychological health of university students.

This letter brings an investigation carried out during the second wave of COVID-19 pandemic. Data herein shown are part of two other projects approved by the Research Ethics Committee of the State University of Montes Claros (Appendix A1).

Six hundred seventy-eight (75% women) university students aged over 18 years participated in this study. They were approached on social media and by instant messaging applications on the researchers' contact list. A self-reported structured questionnaire was created and sent to potential participants (Appendix A2).

Descriptive statistics were used as frequency distribution and central tendency (and dispersion) to binary and continuous variables, respectively. Logistic regression was carried out (using age and sex as confounding factors) to test the association between mental health (perceived anxiety and depressive symptoms) and physical aspects (exercise practice, and overweight/obesity). This analysis was also used to test the association between exercise and overweight/obesity. Analyses were carried out through JASP Computer Software (version 0.13.1).

The average age was 25 ± 7 years with no difference between women (25 ± 8 y) and men (24 ± 7) ($p = 0.23$). Age was associated with self-perceived anxiety ($p = 0.03$) and depression ($p < 0.01$). Young persons presented less perceived anxiety ($\beta = -0.05$, OR = 0.95, CI 95% = 0.90-1.00) and depression ($\beta = -0.05$, OR = 0.95, CI 95% = 0.93-0.98). Overweight/obesity was highly associated to self-perceived anxiety ($\beta = 2.19$, OR = 8.92, CI 95% = 1.12-70.69) and depression ($\beta = 0.82$, OR = 2.28, CI 95% = 1.08-4.82). Sex was not associated with self-perceived anxiety ($p = 0.33$). However, males presented lower risk (-81%) to self-perceived depression ($\beta = -1.67$, OR = 0.19, CI 95% = 0.11-0.33). Exercise was not significantly associated to self-perceived anxiety ($\beta = -0.52$, OR = 0.60, CI 95% = 0.22-1.58) and depression ($\beta = -0.32$, OR = 0.73, CI 95% = 0.41-1.28). However, those who performed exercise presented lower risk (-43%) to be associated with overweight/obesity ($\beta = -0.57$, OR = 0.57, CI 95% = 0.40-0.79).

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Our findings showed that overweight/obesity was highly associated with self-perceived anxiety and depression during the period of pandemic. This data is consistent with the meta-analysis of Amiri and Behnezhad⁴, which shows a high frequency of anxiety among persons with overweight/obesity when compared with normal weight individuals. In another meta-analysis⁵, obesity was found to increase the risk of depression. We also showed that those who perform exercise presented a lower risk (-43%) to be associated with overweight/obesity. Therefore, exercise could be an indirect (at least in this study) protective factor for feeling anxious or depressed among university students, as excessive weight was almost nine (OR = 8.92) and two (OR = 2.28) fold associated with these mental issues. However, other lifestyle-related factors should be emphasized to manage health. Diet, sleep, stress management are other variables associated to weight gain and deserve attention.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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APPENDIX

A1 – Projects which data were acquired and Ethics Protocol Approval

Projects: “Analysis of anxiety levels in adults during the COVID-19 pandemic” and “Therapeutic Effects of Aerobic Exercise and Mindfulness in Depressive and Anxiety Disorders”. Ethics approval numbers (4,186,052/2020 and 4,031,670/2020, respectively).

A2 – Questionnaire items and other details

Items of questionnaire: i) depressive and anxiety symptoms; ii) diagnosed mental disorders; iii) habits related to exercise; iv) excess body weight (overweight or obesity); v) food; vi) sleep; and vii) social life. All questions referred to pre-pandemic periods and during the COVID-19 pandemic. The form also included sociodemographic data (gender, age, higher education institution, and current course) and a Consent Form, and was created on the Google Forms online platform, available to volunteers on April 18, 2021.