

## Association of Depression with Physical Inactivity and Time Watching Television: A Cross-Sectional Study with the Brazilian Population PNS, 2013

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**Abstract :** The relationship between physical activity (PA) and depression has been investigated, in both, observational and clinical studies: PA can integrate the treatments for depression; the physical inactivity (PI) may contribute to increase depression symptoms; and on the other hand, emotional problems can decrease PA. The main of this study was analyze the association among leisure and transportation PI and time watching television (TV) according to depression (minor and major), evaluated with the Patient Health Questionnaire (PHQ-9). The association was also analyzed by gender. This is a cross-sectional study. Data were obtained from the National Health Survey 2013 (PNS), performed with representative sample of the Brazilian adult population, in 2013. The PNS collected information from 60,202 individuals, aged 18 years or more. The independent variable were: leisure time physical inactivity (LTPI), considering inactive or insufficiently actives (categories were linked for analyzes), those who do not performed a minimum of 150 or 74 minutes of moderate or vigorous LTPA, respectively, by week; transportation physical inactivity (TPI), individuals who did not reached 150 minutes, by week, travelling by bicycle or on foot to work or other activities; daily time watching TV > 5 hours. The principal independent variable was depression, identified by PHQ-9. Individuals were classified with major depression, with > 5 symptoms, more than seven days, but one of the symptoms was "depressive mood" or "lack of interest or pleasure". The others had minor depression. The variables used to adjustment were gender, age, schooling and chronic disease. The prevalence of LTPI, TPI and TV time were estimated according to depression, and differences were tested with Chi-Square test. Adjusted prevalence ratios were estimated using multiple Poisson regression models. The analyzes also had stratification by gender. Mean age of the studied population was 42.9 years old (CI95%:42.6-43.2) and 52.9% were women. 77.5% and 68.1% were inactive or insufficiently active in leisure and transportation, respectively and 13.3% spent time watching TV 5 > hours. 6% and 4.1% of the Brazilian population were diagnosed with minor or major depression. LTPI prevalence was 5% and 9% higher among individuals with minor and major depression, respectively, comparing with no depression. The prevalence of TPI was 7% higher in those with major depression. Considering larger time watching TV, the prevalence was 45% and 74% higher among those with minor and major depression, respectively. Analyzing by gender, the associations were greater in men than women and TPI was not be associated, in women. The study detected the higher prevalence of leisure time physical inactivity and, especially, time spent watching TV, among individuals with major and minor depression, after to adjust for a number of potential confounding factors. TPI was only associated with major disorders and among men. Considering the cross-sectional design of the research, these associations can point out the importance of the mental problems control of the population to increase PA and decrease the sedentary lifestyle; on the other hand, the study highlight the need of interventions by encouraging people with depression, to practice PA, even to transportation.

**Keywords :** depression, physical activity, PHQ-9, sedentary lifestyle

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