



Physical inactivity and headache disorders: cross-sectional analysis in the Brazilian longitudinal study of adult health (ELSA-Brasil)

Arao Oliveira, Juliane Mercante, Mario Peres, Maria Molina, Paulo Lotufo, Isabela Benseñor, Alessandra Goulart
Universidade de São Paulo

Background

Physical inactivity has been linked to headache disorders, but data regarding the current recommended leisure-time (LTPA) and commuting physical activity (CPA) levels is unknown.

Objective

To test the associations between headache disorders (definite and probable migraine tension type headache-TTH) and physical inactivity in these domains (LTPA and CPA) in the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil).

Methods

In a cross-sectional analysis, logistic regression models computed the odds ratio (OR) for the relationship between headache disorders and physical activity (LTPA and CPA) in the following levels: “active” (Reference), “insufficiently active”, and “inactive”. The full models were controlled for the effects of sociodemographic data, cardiovascular risk profile, and use of headache medication (migraine prophylaxis).

Results

Of 15,0105 participants, 14,847 (45.6 % of men and 54.4 % women) responded the baseline interviews regarding physical activity levels and headache disorders. Overall, most significant physical inactivity was observed in LTPA domain for definite migraine [OR: 1.32 (1.10-1.57)] and probable migraine [OR: 1.33 (1.17-1.50)]. Similar findings were replicated by sex. Physical inactivity (LTPA) was positively associated with definite migraine in women [OR: 1.29 (1.04-1.59)], probable migraine in both men [OR: 1.40 (1.15-1.69)] and women [OR: 1.29 (1.04-1.59)]. Physical inactivity in CPA domain was associated to increased OR for probable TTH in men [OR: 1.33 (1.01-1.75)], while CPA was inversely associated to definite migraine [OR: 0.79 (0.64-0.98)] and probable migraine [OR: 0.80 (0.67-0.96)] in women. Considering all headaches, unmet vigorous physical activity levels were associated to increased OR for definite migraine [OR: 1.36 (1.13-1.65)] and probable migraine [OR: 1.37 (1.20-1.57)]. Finally, we found higher odds for daily headaches among LTPA-inactive [OR: 1.73 (1.20-2.49)] and CPA-insufficiently active [OR: 1.36 (1.04-1.79)] participants.

Conclusion

Physical inactivity is associated with headache disorders in the ELSA-Brasil study, with distinct associations regarding headache subtype, sex, physical activity domain and intensity, and headache frequency.