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Television viewing and risk of type 2 diabetes, cardiovascular disease, and all-cause mortality: a meta-analysis.

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Abstract

CONTEXT: Prolonged television (TV) viewing is the most prevalent and pervasive sedentary behavior in industrialized countries and has been associated with morbidity and mortality. However, a systematic and quantitative assessment of published studies is not available.

OBJECTIVE: To perform a meta-analysis of all prospective cohort studies to determine the association between TV viewing and risk of type 2 diabetes, fatal or nonfatal cardiovascular disease, and all-cause mortality.

DATA SOURCES AND STUDY SELECTION: Relevant studies were identified by searches of the MEDLINE database from 1970 to March 2011 and the EMBASE database from 1974 to March 2011 without restrictions and by reviewing reference lists from retrieved articles. Cohort studies that reported relative risk estimates with 95% confidence intervals (CIs) for the associations of interest were included.

DATA EXTRACTION: Data were extracted independently by each author and summary estimates of association were obtained using a random-effects model.

DATA SYNTHESIS: Of the 8 studies included, 4 reported results on type 2 diabetes (175,938 individuals; 6428 incident cases during 1.1 million person-years of follow-up), 4 reported on fatal or nonfatal cardiovascular disease (34,253 individuals; 1052 incident cases), and 3 reported on all-cause mortality (26,509 individuals; 1879 deaths during 202,353 person-years of follow-up). The pooled relative risks per 2 hours of TV viewing per day were 1.20 (95% CI, 1.14-1.27) for type 2 diabetes, 1.15 (95% CI, 1.06-1.23) for fatal or nonfatal cardiovascular disease, and 1.13 (95% CI, 1.07-1.18) for all-cause mortality. While the associations between time spent viewing TV and risk of type 2 diabetes and cardiovascular disease were linear, the risk of all-cause mortality appeared to increase with TV viewing duration of greater than 3 hours per day. The estimated absolute risk differences per every 2 hours of TV viewing per day were 176 cases of type 2 diabetes per 100,000 individuals per year, 38 cases of fatal cardiovascular disease per 100,000 individuals per year, and 104 deaths for all-cause mortality per 100,000 individuals per year.

CONCLUSION: Prolonged TV viewing was associated with increased risk of type 2 diabetes, cardiovascular disease, and all-cause mortality.

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