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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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**Publication Types, MeSH Terms, Grant Support**

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