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**Association between behavior patterns and mortality among US adults:
National Health and Nutrition Examination Survey, 2007–2014**

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Objectives:

Few large-scale studies have been conducted to show a direct correlation between mortality and physical activity and sedentarism previously. In this study, we examined the correlation between all-cause mortality and physical activity among the US adults.

Methods:

Data of 17,730 non-institutionalized US civilians aged ≥ 20 years were extracted from the 2007–2014 National Health and Nutrition Examination Survey (NHANES). We used metabolic equivalents (METs) as standardized indicators of physical activity and sedentary time (ST), following the World Health Organization guidelines (600) and the median (300) NHANES distribution, respectively.

Behavioral patterns were categorized into four groups: MET < 600 and ST ≥ 300 min/day (reference) (type 1), MET < 600 and ST < 300 min/day (type 2), MET ≥ 600 and ST ≥ 300 min/day (type 3), MET ≥ 600 , and ST < 300 min/day (type 4).

The Cox proportional hazards model was adjusted for demographic and lifestyle characteristics.

Results:

During the 58.54 ± 28.18 months' follow-up, 4% all-cause mortality, and 1% heart and cancer mortality occurred. Those who belonged to high MET and low ST group had a lower risk associated with all-cause (hazard ratio [HR] = 0.41, 95% confidence interval [CI] = 0.34–0.50), heart (HR=0.36; 95% CI=0.23–0.55), and cancer (HR=0.55; 95% CI=0.37–0.83) compared to those who with low MET and high ST.

The survival probability of all-cause mortality was significantly lower among physically inactive participants relative to physically active individuals.

The survival probability of those with high ST and low MET were the highest for all-cause and cause-specific mortality among all four behavioral pattern types (Figure 1).

The effects of behavioral pattern on all-cause, disease-specific mortality stratified by age showed higher mortality risks in more sedentary groups (Figure 2).

Conclusions: Physical activity and less sedentary behavior reduce all-cause and cause-specific mortality in US adults, especially cardiovascular mortality among elders. Nationwide policies to improve behavioral patterns among adults need to be implemented in the US

Figure 1. Weighted Kaplan-Meier curve of behavioral pattern (type 1, type 2, type 3, and type 4): For all-cause (a), cardiovascular disease (b), and cancer (c) mortality

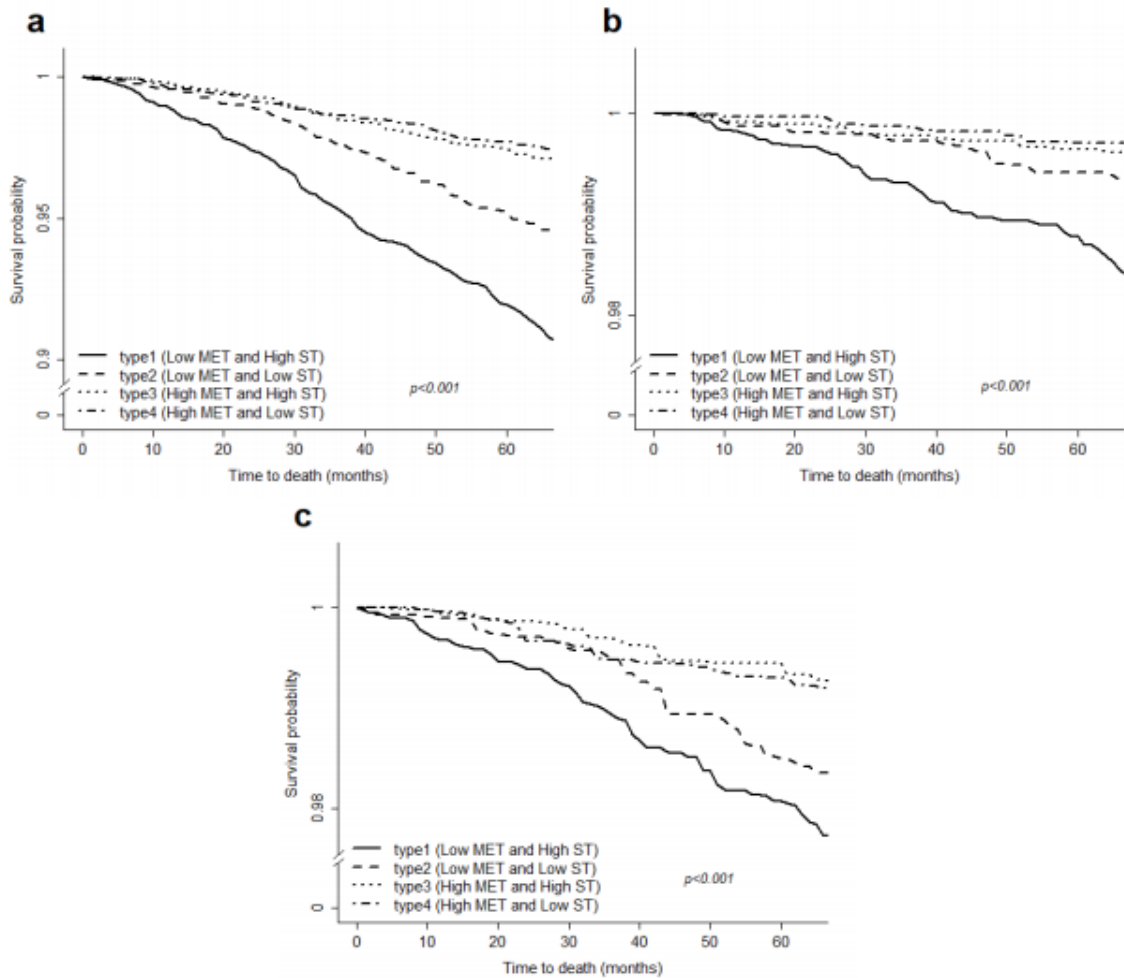


Figure 2. The effects of behavioral pattern on: All-cause (a), cardiovascular (b), and cancer (c) mortality stratified by age

KSN²⁰²¹

FULLY VIRTUAL MEETING

September 02 (Thu) - 05 (Sun)

