

Optimal number of steps per day to prevent all-cause mortality in people with pre-diabetes and diabetes

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SUPPLEMENTAL MATERIALS

Table S1. Baseline characteristics of the participants in the study (n=1194 participants with pre-diabetes; n=493 participants with diabetes)

Figure S1. Dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and all-cause mortality in participants with pre-diabetes or diabetes (n=1687; events=338).

Figure S2. Dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and all-cause mortality in participants with pre-diabetes (n=1102; events=183) and diabetes (n=454; events=122) and with 3 or more days of valid accelerometry.

Figure S3. Dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and CVD mortality in participants with pre-diabetes (n=1194; events=49) and diabetes (n=493; events=36).

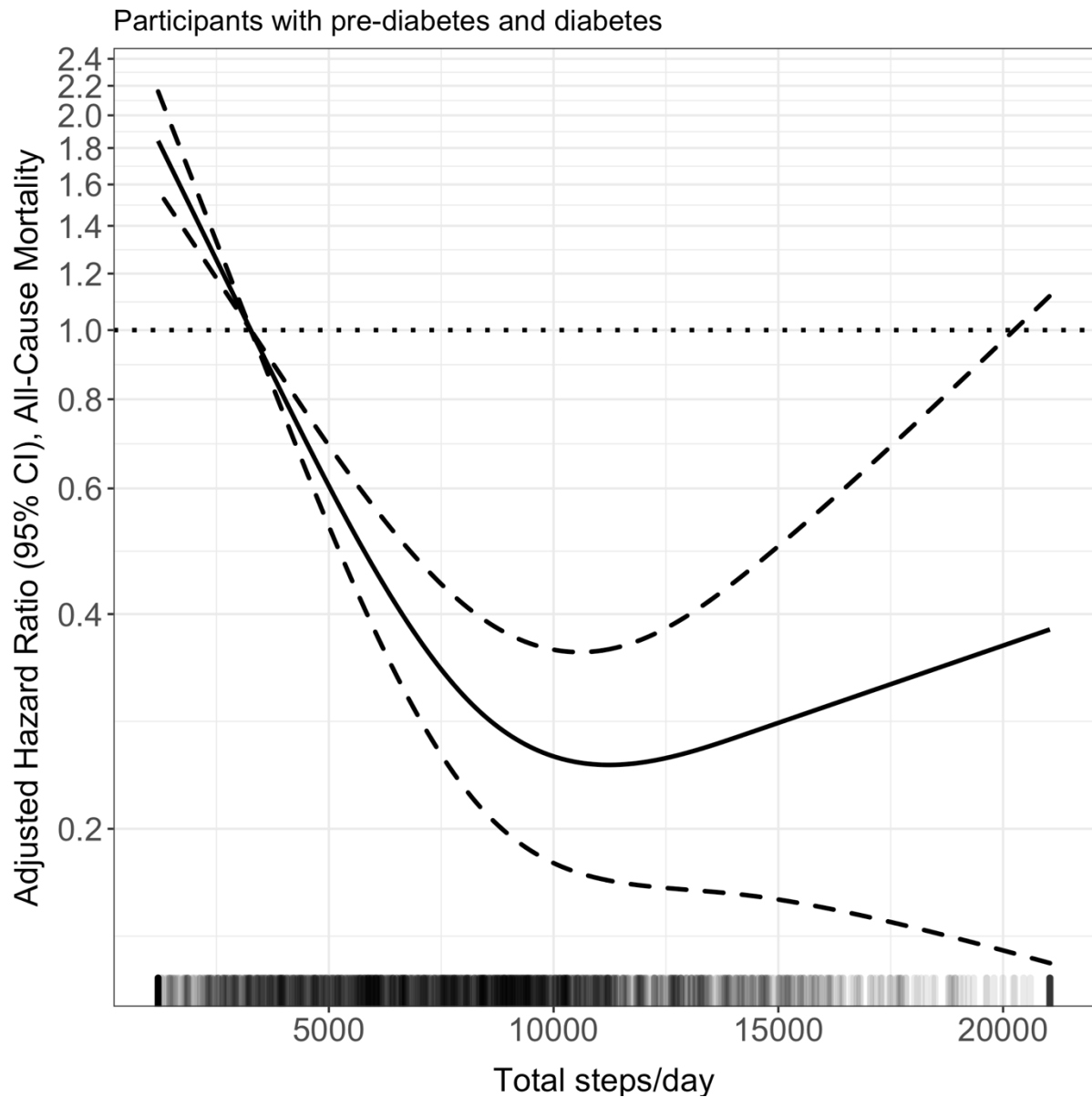
Table S1. Baseline characteristics of the participants in the study (n=1194 participants with pre-diabetes; n=493 participants with diabetes)

| | Pre-diabetes (n=1194) | Diabetes (n=493) |
|---|-----------------------|------------------|
| Age (years) | 54.7 (17.9) | 61.6 (13.8) |
| Sex, female (%) | 528 (44.2) | 243 (49.3) |
| Ethnicity (%) | | |
| Mexican American | 253 (21.2) | 120 (24.3) |
| Other Hispanic | 33 (2.8) | 12 (2.4) |
| Non-hispanic, white | 549 (46.0) | 183 (37.1) |
| Non-hispanic, black | 303 (25.4) | 164 (33.3) |
| Other | 56 (4.7) | 14 (2.8) |
| Education (%) | | |
| Less Than 9th Grade | 159 (13.9) | 102 (20.8) |
| 9-11th Grade | 179 (15.6) | 86 (17.5) |
| High School Grad/GED or Equivalent | 291 (25.3) | 138 (28.1) |
| Some College or Associated Arts Degree | 334 (29.1) | 112 (22.8) |
| College Graduate or above | 185 (16.1) | 53 (10.8) |
| Body Mass Index (Kg/m ²) | 30.2 (7.3) | 32.3 (7.7) |
| Alcohol (grams) | 9.59 (24.69) | 5.62 (18.58) |
| Cotinine (ng/mL) | 5.71 (0.52) | 7.36 (1.81) |
| Diet quality, HEI score (1-100) | 52.0 (13.6) | 55.0 (13.1) |
| Glycohemoglobin (%) | 5.71 (0.52) | 7.36 (1.81) |
| Diabetes medication (%) | 0.08 (0.27) | 0.57 (0.50) |
| Major chronic conditions, <i>no</i> (%) | 566 (49.0) | 166 (33.8) |
| Accelerometer variables | | |
| Steps per day (n) | 8949.6 (4171.8) | 7151.2 (3930.6) |
| Valid daily wear time (min) | 873.7 (147.5) | 850.8 (142.1) |
| Valid wear days (n) | 5.5 (1.7) | 5.6 (1.7) |

Values are shown as mean (SD) unless otherwise specified.

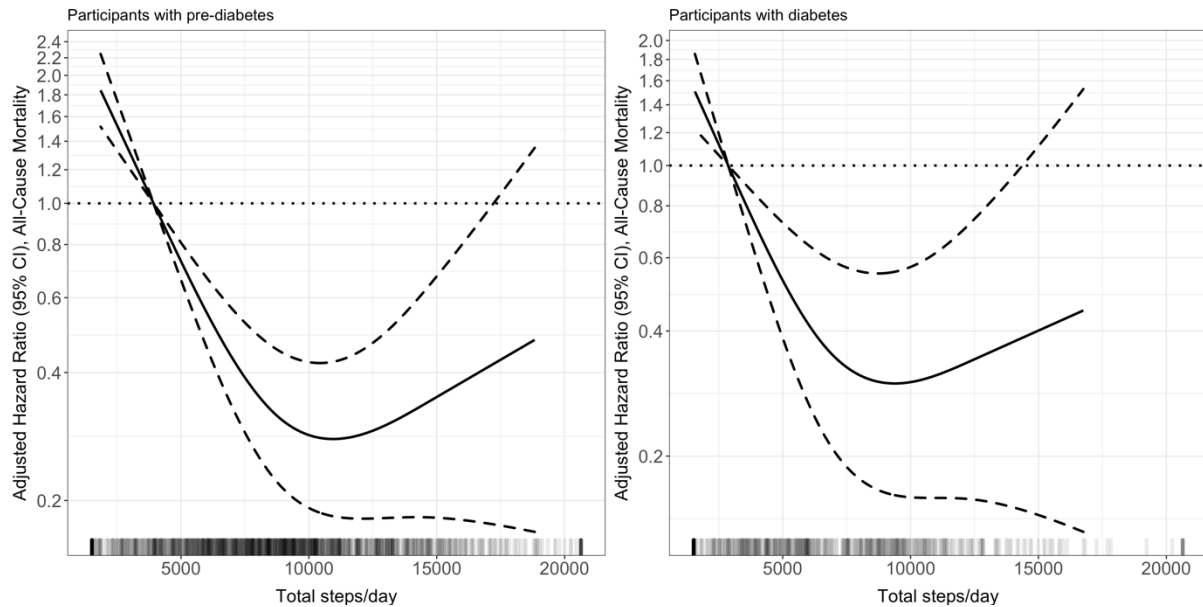
HEI, Healthy Eating Index. Lower scores represent lower diet quality

Figure S1. Dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and all-cause mortality in participants with pre-diabetes or diabetes (n=1687; events=338).



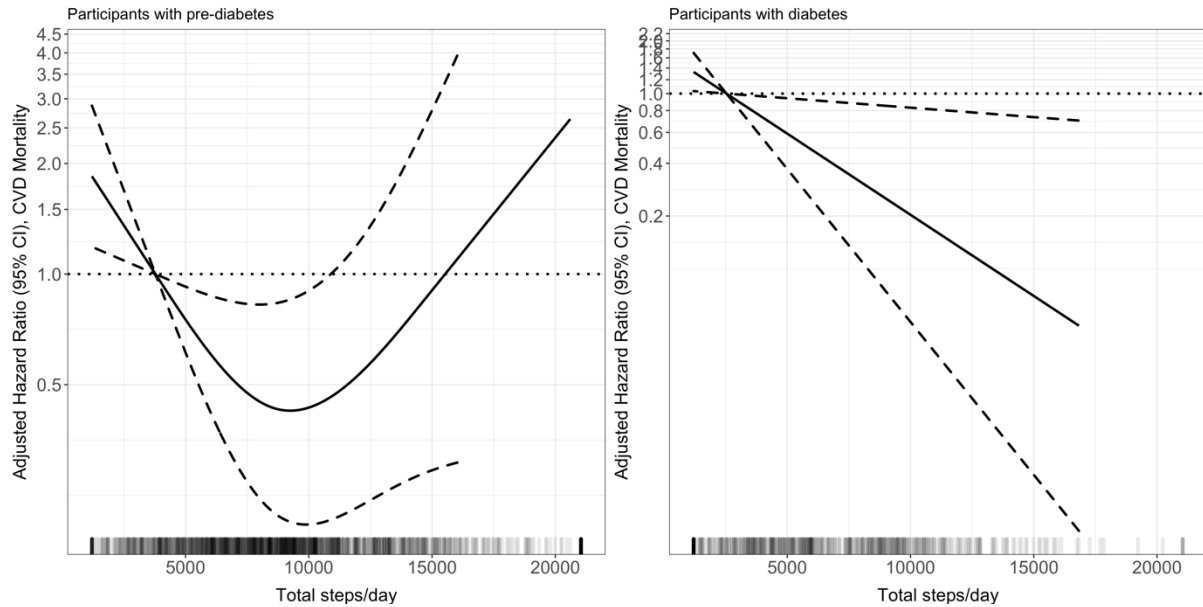
^aAdjusted for age, sex, ethnicity, education, smoking, alcohol, diet, diabetes medication, and valid daily wear time. To prevent over-influential outliers from affecting the analyses, values in all step-based metrics that were greater than the 99th percentile of the variable distribution were top-coded (i.e., they were substituted with the value of the 99th percentile) and values that were below the 1st percentile of the variable distribution were bottom-coded (i.e., they were replaced with the value of the 1st percentile). Darker colors in the lower bars represent a higher sample clustering. Dose-response associations were assessed with restricted cubic splines with knots at 10th (reference), 50th, and 90th centiles of the distribution of the exposure of interest. Hazard ratios are in logarithmic scale.

Figure S2. Dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and all-cause mortality in participants with pre-diabetes (n=1102; events=183) and diabetes (n=454; events=122) and with 3 or more days of valid accelerometry.



^aAdjusted for age, sex, ethnicity, education, smoking, alcohol, diet, diabetes medication, and valid daily wear time. To prevent over-influential outliers from affecting the analyses, values in all step-based metrics that were greater than the 99th percentile of the variable distribution were top-coded (i.e., they were substituted with the value of the 99th percentile) and values that were below the 1st percentile of the variable distribution were bottom-coded (i.e., they were replaced with the value of the 1st percentile). Darker colors in the lower bars represent a higher sample clustering. Dose-response associations were assessed with restricted cubic splines with knots at 10th (reference), 50th, and 90th centiles of the distribution of the exposure of interest. Hazard ratios are in logarithmic scale.

Figure S3. Exploratory dose–response association (Adjusted^a hazard ratios—solid lines and associated 95% confidence interval band—dashed lines) between accelerometer-derived steps per day and CVD mortality in participants with pre-diabetes (n=1194; events=49) and diabetes (n=493; events=36).



The associations between between accelerometer-derived steps per day and CVD mortality was conducted as an exploratory analysis. Fine and Gray models were used to account for competing risks with other causes of mortality. ^aAdjusted for age, sex, ethnicity, education, smoking, alcohol, diet, diabetes medication, and valid daily wear time. To prevent over-influential outliers from affecting the analyses, values in all step-based metrics that were greater than the 99th percentile of the variable distribution were top-coded (i.e., they were substituted with the value of the 99th percentile) and values that were below the 1st percentile of the variable distribution were bottom-coded (i.e., they were replaced with the value of the 1st percentile). Darker colors in the lower bars represent a higher sample clustering. Dose-response associations were assessed with restricted cubic splines with knots at 10th (reference), 50th, and 90th centiles of the distribution of the exposure of interest. Hazard ratios are in logarithmic scale.