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THE U-SHAPED RELATIONSHIP BETWEEN DAILY ENERGY INTAKE AND ALL-CAUSE MORTALITY IN US ADULTS
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The association between low energy intake and longevity observed in non-human studies has not been confirmed in large-scale human investigations. Therefore, we determined the associations between daily energy intake and all-cause mortality in US adults. We included 33,094 US adults (age≥19 years) from the National Health and Nutrition Examination Survey (2003-2018). Total energy intake was obtained from 24-hour food recalls and mortality was determined through December 2019 using the National Death Index. Survey-weighted multivariable Cox proportional hazard models were used to calculate all-cause hazard ratios (HR) across categories of energy intake. HR models were stratified by age, sex, race, and BMI, while controlling for potential covariates.

During a median follow-up of 96 months, 4,162 participants died. Low energy intake (< 1,000 kcal/day) was associated with higher mortality (HR=1.53 [95% CI 1.26-1.86]) vs. the reference category (2,000-2,500 kcal/d) independent of age, sex, race, BMI, and income. Similarly, low energy intake was associated with higher mortality risk (P< 0.05) in middle-aged (40-64y) and older (≥65y) adults, men, women, and Whites. We observed the same negative associations between energy intake and mortality in normal-weight (18.5-24.9 kg/
Hosung Jinyoung

PRELIMINARY RESULTS

COGNITIVE PERFORMANCE IN SHIFT WORKERS: ASSOCIATIONS OF NIGHT AND DAY SLEEP WITH METABOLIC SYNDROME AMONG OLDER ADULTS

ACTIGRAPHIC MEASURES OF SLEEP AND METABOLIC SYNDROME AMONG OLDER ADULTS

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Eating Behavior, Obesity, and Metabolic Syndrome Among Older Adults: A Longitudinal Analysis of NHATS

Overall, 37 participants had MetS at baseline and 27 participants developed MetS over 2.3±2.2 years of follow-up. Participants completed wrist actigraphy (6.6±1.0 nights) and were classified as having MetS if they had ≥3 of the following: waist circumference ≥102 cm for men, ≥89 cm for women; high-density lipoproteins < 40 mg/dL in men, < 50 mg/dL in women; triglycerides ≥150 mg/dL; fasting glucose ≥100 mg/dL; systolic blood pressure ≥130 mmHg; diastolic blood pressure ≥85 mmHg. Using multiple linear regression models with the same covariates, participants with 6-8 hours TST had lower odds of MetS (OR=0.28, 95%CI 0.13,0.61); higher sleep time (TST) < 6 hours, those with 6-8 hours TST had lower odds of MetS (OR=0.65, 95%CI 0.48,0.89) and longer wake bout length (OR=0.65, 95%CI 0.48,0.99). Findings link intermediate TST and higher SE to lower odds of MetS (OR=1.62, 95% CI 1.07,2.01). Excluding 37 participants with MetS at baseline, TST >8 hours was associated with faster increases in the likelihood of developing MetS (OR=0.75, 95% CI 0.57-0.99). Energy intake was associated with lower mortality (HR=0.75, 95% CI 0.57-0.99). Higher energy intake (≥4,000 kcal/d) was also associated with higher mortality, though HRs were not significant, except in young (20-39y), women, and normal weight adults. Our result showed a U-shaped relationship between total energy intake and mortality, like the observed relationship between BMI and mortality.

m2), over-weight (25.0-29.9), and obese (≥30.0) individuals (P< 0.05). The only exception was in Blacks, where lower energy intake was associated with lower mortality (HR=0.75 [0.57-0.99]). Higher energy intake (≥4,000 kcal/d) was also associated with higher mortality, though HRs were not significant, except in young (20-39y), women, and normal weight adults. Our result showed a U-shaped relationship between total energy intake and mortality, like the observed relationship between BMI and mortality.