This study investigates whether the incidence of metabolic syndrome (MetS), and its components, differs by occupational group among older workers (45-65 years) and whether health behaviors (smoking, leisure-time physical activity, diet quality) can explain these differences. We analyzed data from older workers (N=23,051) from two comprehensive measurement waves of the Lifelines Cohort Study and Biobank. MetS components were determined by physical measurements, blood markers, medication use, and self-reports. Occupational group and health behaviors were assessed by questionnaires. The association between occupational groups and MetS incidence was examined using Cox regression analysis. Health behaviors were subsequently added to the model to examine whether they can explain differences in MetS incidence between occupational groups. Low skilled white-collar (HR: 1.25, 95% CI: 1.13, 1.39) and low skilled blue-collar (HR: 1.45, 95% CI: 1.25, 1.69) workers had a significantly higher MetS incidence risk during 3.65 years follow-up than high skilled white-collar workers. Health behaviors reduced the strength of the association between occupational group and MetS incidence most among low skilled blue-collar workers (i.e. 10.3% reduction) as unhealthy behaviors were more prevalent in this occupational group. Similar occupational differences were observed on MetS component level. To conclude, MetS incidence in older workers differs between occupational groups and health behaviors only explain a small part of these differences. Health promotion tailored to occupational groups may be beneficial specifically among older low skilled blue-collar workers. Research into other factors that contribute to occupational differences is needed, as well as studies spanning the entire working life course.

REMOTE MONITORING ACTIVITY TRAJECTORY-ASSOCIATED WEIGHT LOSS AND FUNCTIONAL ABILITY IN OBESE OLDER ADULTS

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Functional decline in older adults can often be mitigated by physical activity. As older adults increasing adopt wearable technology, an understanding of how remotely monitored activity is associated with clinical outcomes is needed. Data was analyzed from two cohorts of older adults with obesity (≥65 years, BMI (≥30kg/m2)) who completed weekly dietary and exercise-based weight loss interventions (n=93). Follow-up time varied between cohorts (n=37: 12-weeks; n=56: 16 weeks). All participants were provided a Fitbit to monitor physical activity. Baseline and follow up weight, 6-minute walk distance, grip strength, and Late Life Function and Disability Instrument (LLFDI) were collected. We used k-means clustering for longitudinal data to identify physical activity trajectories from Fitbit steps at the daily level. Linear regression models tested for differences in each outcome between trajectories, adjusting for age and sex. Baseline characteristics did not vary across cohorts: mean age 72.7±4.5 years, 76.5% were female, and mean BMI was 36.4±5.1 kg/m2. Two physical activity trajectories were identified, termed high and low activity based on differences in mean daily steps (7,476±4,117 vs. 2,960±2,453, p <0.001). Participants in the high activity group experienced a 2.4% reduction in weight (p <0.001) and a 4.74% increase in LLFDI score (p=0.007) relative to the low activity cluster. Other outcomes were not significantly different between trajectories. These results demonstrate the potential for remote monitoring data to elucidate longitudinal trends in weight and functional ability. As such, older adults’ use of wearable technology may facilitate improvements in weight and functional ability in the community.

THE ASSOCIATION OF MEAL TIMING WITH BODY COMPOSITION AND CARDIOMETABOLIC HEALTH IN OBESE OLDER ADULTS

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Objectives: To determine the association between eating window and time of last calorie intake with body composition and cardiometabolic health in obese older adults. Methods: We performed a cross-sectional analysis on 36 community-dwelling, overweight-to-obese (BMI 28.0-39.9 kg/m2) older adults, recruited to participate in a weight loss and exercise trial. Time of food intake were extracted from three 24-hour food recalls. Eating window was calculated as the time elapsed between the first and last food intake. We recorded the time of last calorie intake either from food or drink. Blood glucose, triglycerides, high-density (HDL) & low-density (LDL) lipoprotein cholesterols were measured as markers of cardiometabolic health. Total fat and lean mass were assessed by DXA. Partial correlation was used to determine the relationships between eating window and last calorie intake with body composition and cardiometabolic markers, while controlling for sex, age, and total calorie intake. Results: On average, participants’ eating window was 12.0±1.1 hours. Time of last calorie intake in 86% of participants was between 6:00-8:00 PM. After controlling for potential confounders, longer eating windows were associated with higher triglyceride levels (P=0.032) and lower HDL (P=0.035), while no association was observed with the other cardiometabolic markers. We observed negative trends, though not statistically significant, between longer eating windows and greater weight, BMI, and fat mass. No association was observed between time of last calorie intake, body composition and cardiometabolic markers. Conclusions: Our results suggest that timing of food intake may influence cardiometabolic risk and obesity in older adults.

TRAJECTORIES OF BODY MASS INDEX AND MULTIMORBIDITY IN OLD AGE: 12-YEAR RESULTS FROM A POPULATION-BASED STUDY

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We aimed to study the association of long-terms trajectories of body mass index (BMI) with contemporaneous