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Association Between Muscle Strength And Non-neoplastic Digestive System Diseases In Middle-aged And Older Adults

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(No relevant relationships reported)

PURPOSE: Non-neoplastic digestive system diseases (NNDSD), including gastroesophageal reflux disease and inflammatory bowel diseases, represent a significant global public health challenge. This study examined the association between muscle strength and NNDSD in middle-aged and older adults. **METHODS:** This cross-sectional study analyzed data from China Health and Retirement Longitudinal Study (CHARLS), a nationally representative survey. We included 4,950 participants aged ≥ 45 years (55% female, mean age 59 years) without a history of cancer. NNDSD was identified through self-reported physician diagnosis from the medical history questionnaire "Have you been diagnosed with a stomach or digestive disease (excluding tumors or cancer) by a doctor?". Muscle strength (MS) was assessed using handgrip strength measured with a standardized dynamometer in kilograms (kg), calculated as the mean of maximum contraction from both hands. Participants were categorized into sex- and age-specific tertiles of MS. Multivariable logistic regression was used to estimate the odds ratios (ORs) and 95% confidence intervals (CIs) of NNDSD across the tertiles of MS after adjusting for age, sex, education (lower secondary or below, upper secondary, tertiary or above), marital status (never married or not), body mass index, sleep duration (< 7 h, 7-9 h, or > 9 h), smoking status (never, previous, or current), heavy alcohol drinking (> 7 drinks/week for women or > 14 drinks/week for men), physical activity (≥ 600 MET-min/week or not), and presence of cardiovascular diseases (heart attack, coronary heart disease, angina, congestive heart failure, stroke, or dyslipidemia). **RESULTS:** A total of 1,146 (23.2%) participants had NNDSD. Compared with the lowest MS tertile, ORs (95% CIs) of having NNDSD were 0.81 (0.69, 0.95) and 0.75 (0.63, 0.88) for the middle and highest tertiles after adjusting for age and sex, respectively. After further adjustment for other confounders, the corresponding ORs were 0.85 (0.72, 1.00) and 0.82 (0.69, 0.97). **CONCLUSION:** This study suggested that higher muscle strength is associated with lower prevalence of NNDSD in middle-aged and older adults without a history of cancer. However, prospective studies are warranted.

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A Marginal Underestimation Of Bodyweight Is Unrelated To Sex, Age, Aerobic Fitness, And Body Composition

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Previous studies indicate the majority of Americans underreport bodyweight, and lack of awareness is greater among women, older adults, and less fit individuals. **PURPOSE:** To evaluate relationships between objective body composition and subjective weight reporting in men and women across the lifespan. **METHODS:** We assessed body composition and VO₂ max in 68 men and 18 women. Body composition was captured using dual-energy X-ray absorptiometry (DEXA); we exported total body mass, lean body mass, body fat percentage (BF%), fat-free mass index (FFMI), and visceral fat content. VO₂ max was captured using the Medgraphics Ultima CPX Metabolic Stress Testing System. As part of the health intake, subjects also reported their height and weight. A paired-samples t-test compared subjective bodyweight to DEXA-calculated body mass. Chi-squared tests and independent-samples t-tests compared qualities of subjects who underestimated their weight to those who did not. Logistic regression evaluated whether body composition and fitness parameters influenced the odds of underestimating weight. All analyses were conducted using SPSS version 29.0. **RESULTS:** Subjects were 43.0 ± 9.1 years of age, subjective weight was 193.3 ± 37.7 lbs, and objective body mass was 194.3 ± 38.0 lbs; the paired-samples difference was significant ($p = 0.004$). VO₂ max was 36.9 ± 8.1 mL/kg/min, lean body mass was 134.0 ± 23.8 lbs, BF% was $26.8 \pm 8.8\%$, FFMI was 20.1 ± 2.3 kg/m², and visceral fat was 1.8 ± 1.8 lbs. Bodyweight was underreported by 57% of subjects, 20.9% reported accurately, and 22.1% overestimated their weight. There were no categorical differences between sexes ($p = 0.987$). Subjects who underreported weight exhibited no differences in age ($p = 0.828$), total body mass ($p = 0.710$), lean body mass ($p = 0.514$), BF% ($p = 0.743$), FFMI ($p = 0.345$), visceral fat content ($p = 0.551$), or VO₂ max ($p = 0.163$). In logistic regression models, the odds of underreporting bodyweight were unaffected by sex ($p = 0.891$), age ($p = 0.995$), total body mass ($p = 0.702$), lean body mass ($p = 0.510$), BF% ($p = 0.740$), FFMI ($p = 0.342$), visceral fat content ($p = 0.546$), or VO₂ max ($p = 0.164$). **CONCLUSIONS:** We found a significant but marginal underreporting of bodyweight in men and women across the lifespan; it was unrelated to sex, age, aerobic fitness, and all assessments of body composition.

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Light-intensity Physical Activity And Metabolic Syndrome Risk Factors In Apparently Healthy Young Adults

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Cardiovascular disease is the leading cause of death in the United States, and physical activity is a leading modifiable risk factor for cardiovascular disease; however, the impact of light-intensity physical activity (LIPA) on apparently healthy young adults, while controlling for moderate physical activity levels, has not been thoroughly studied. **PURPOSE:** To determine the impact of LIPA while controlling for moderate physical activity on metabolic risk factors. **METHODS:** A total of 29 participants (65.5% females; 93.1% White; mean age = 18.97 ± 0.82 years; body mass index = 24.88 ± 3.36 kg·m⁻²) were asked to wear the ActiGraph Device on their non-dominant wrist for 7 consecutive days. After the 7 days of wearing the device, participants returned to the laboratory for a finger-prick assessment (minimum 8 hours fasted) to measure fasting glucose (FG), high-density lipoprotein (HDL), and low-density lipoprotein (LDL). Waist circumference (WC), blood pressure (BP), height, and weight were also measured. Regression analysis was employed to examine the impact of LIPA on each of the metabolic risk factors, while controlling for moderate-intensity physical activity (MIPA). **RESULTS:** Average moderate-intensity physical activity was 154.33 ± 86.27 minutes per day and light-intensity physical activity was 150.67 ± 79.55 minutes per day. Results of the regression analysis revealed that LIPA was a significant predictor of LDL, while controlling for MIPA ($p = .007$). The greater the LIPA, the lower the LDL. LIPA was not a significant predictor for FG, HDL, WC, and BP. **CONCLUSIONS:** It appears that an increase in LIPA has favorable outcomes for at least 1 metabolic risk factor, LDL.

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Association Between Adolescent Sports Participation And Meeting Physical Activity And Sleep Guidelines