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**JOINT EFFECT OF SELF-REPORTED SLEEP IMPAIRMENT AND PHYSICAL ACTIVITY ON THE RISK OF LOW MUSCLE MASS IN OLDER ADULTS**

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**Objectives:** The purpose of the present study was to examine the joint effect of self-reported sleep impairment and physical activity simultaneity on low skeletal muscle in older adults.

**Methods:** A community-based cross-sectional survey of elders was conducted in Jan, 2009 in Taichung, Taiwan. In total, 851 older adults aged 65 years or over participated in the study. Skeletal muscle mass was measured by dual-energy X-ray absorptiometry (DXA). The skeletal muscle mass index was calculated as dividing appendicular muscle mass by height squared. Older adults with the index lower than 2 standard deviations from the gender-specific means of 506 healthy young adults were defined as low muscle mass. The joint effect of sleep status and physical activity on low skeletal muscle mass were examined by using univariate and multivariate logistic regression analysis.

**Results:** After multivariate adjustment, the odds ratios of low muscle mass for sleep well but no exercise, and sleep impairment and no exercise compared with sleep well and exercise were statistically significant (2.70 (95% CI: 1.22-5.95) and 3.24 (1.40-7.50), respectively). When intensity of exercise was further considered, the effect of sleep impairment and no exercise became stronger. The ORs of low muscle mass for sleep well and low intensity of exercise, sleep well but no exercise, as well as sleep impairment and no exercise compared to sleep well and high intensity of exercise were 3.90 (95% CI: 1.23-12.39), 6.09 (1.91-19.46), 6.42 (1.97-20.97) and 7.68 (2.27-26.06), respectively.

**Conclusion:** Our study demonstrates that sleep impairment combined with no exercise had higher risk of low muscle mass than sleep well after adjusted sex, smoking and hypertension, in elders. Screening program for low muscle mass can target at elders with sleep impairment and no exercise.

**Key words:** sleep impairment, physical activity, muscle mass

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**OVERWEIGHT IS A PROTECTIVE FACTOR FOR FRAILTY AMONG ELDER CHINESE**

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**Introduction:** To investigate the associations between body mass index category and the prevalence of prefrailty and frailty among elder Chinese

**Methods:** A total of 1,038 subjects who completed the contents of fried frailty index were selected. BMI was defined into four category by Taiwan's Department of Health. Statistics analysis of Student's T, and Chi square were used. Linear logistic regression was utilized to estimate the odds ratio of prefrailty and frailty for four BMI category.

**Results:** After adjustment for age, gender, cigarette smoking, alcohol drinking, physical activity, numbers of chronic disease, mean arterial pressure, serum glutamic pyruvic transaminase, serum creatinine, serum fasting glucose, total cholesterol, triglyceride, high density lipoprotein cholesterol, albumin, the adjusted odds ratios (95% confidence interval) of having frailty were 14.56(2.49-85.20) among subjects with underweight, 2.35(1.03-5.40) among those with normal weight, and 1.45(0.53-4.00) among those with obesity, respectively, compared to those with overweight. In addition, the adjusted odds ratios (95% confidence interval) of having prefrailty were 3.48(1.24-9.75) among subjects with underweight, 1.47(1.01-2.14) among those with normal weight, and 1.43(0.91-2.25) among those with obesity, respectively, compared to those with overweight. The relationship between four BMI category and having prefrailty or frailty showing mirror J association.

**Conclusion:** The risk to be prefrailty or frailty was lowest among elder Chinese with overweight. More loosening goal for body mass index may be suggested.

**Key words:** uric acid, bone mineral density