Abstract

Indonesia's aging population is experiencing a rising prevalence of obesity, putting older adults at an increased risk for disabilities, morbidity, and mortality. Chrononutrition-based strategies, including the timing and macronutrient distribution throughout the day, have shown promising benefits in obesity management. However, literature regarding chrononutrition, obesity among older adults, and the dietary patterns of older adults remains understudied and limited in Indonesia. This study aimed to examine the association between chrononutrition behavior and macronutrient load to obesity indicators (BMI and waist circumference) of older adults in Indonesia. A cross-sectional study was conducted in elderly facilities, among hospital volunteers, and within religious communities, recruiting 172 older adults. Data collection involved the Chrononutrition Profile Questionnaire (CPQ), 24-hr estimated dietary recall, and anthropometric measurements (weight, height, and waist circumference). Data were analyzed using descriptive statistics, ANOVA, and Pearson's correlation test. Within participants, 30.9% were obese, while 43.8% had abdominal obesity. Among chrononutrition behaviors, evening latency exhibited the strongest inverse correlation with BMI (r_s = -.440; $p<0.001$) and waist circumference (r_s = -.628; $p<0.001$), followed by a positive correlation between eating window with BMI (r_s = 477; $p<0.001$) and waist circumference (r_s = 519; $p<0.001$). Additionally, older adults who reported dinner as their largest meal had significantly higher BMI (25.93 kg/m^2 vs 23.34 kg/m^2; $p<0.001$) and waist circumference (93.68 cm vs 83.66 cm; $p<0.001$) compared to those whose largest meal was lunch. Lastly, macronutrient load analysis demonstrated a positive correlation between protein, fat, and carbohydrate intake at night with higher BMI (r_s = .275, .234, .181, respectively; $p<0.01$) and waist circumference (r_s = .265, .205, .192, respectively; $p<0.01$). Based on these findings, concentrating food intake earlier in the day, avoiding evening consumption, and shortening the eating window may aid in obesity management among older adults.

Keywords: *BMI, chrononutrition, macronutrient load, obesity, older adults*