

22913 | Addressing the missing link in obesity treatment: How chronotypes, eating speed and sleep quality shape body composition

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Background & Aim: Chronotype, eating speed and sleep quality are emerging as key factors in the obesity pandemic. However, their impact on body composition remains unclear. This study analyzed these relationships in obese individuals. **Methods:** Cross-sectional study with obese participants, attending bariatric surgery appointments at São João Local Health Unit. Bioelectrical Impedance was performed, weight, height, fat mass (FM), skeletal muscle mass (SMM), waist circumference (WC) and hip circumference (HC) were evaluated. WC/HC, WC/height and HC/height ratios were calculated. Eating speed was self-reported, with individuals classifying themselves as slow, intermediate or fast, and eating time categorized into <10min, 10–20min, 20–30min, and >30min. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), and chronotype through the reduced Morningness-Eveningness Questionnaire (rMEQ), classifying individuals as Morning (MT), Intermediate (IT) or Evening Type (ET). **Results:** Among 286 participants, 78.3% were women. Eating speed differed between sexes ($p = 0.004$); women had a higher prevalence of slow eating (10.3% vs. 3.3% in men) and lower of fast eating (51.8% vs. 75.4%). Compared to slow eaters, fast eaters had significantly higher SMM (34.4kg vs. 32.1kg, $p = 0.024$) and non-significantly higher weight (117.8kg vs. 109.9 kg, $p = 0.060$), WC (123.7cm vs. 117.5cm, $p = 0.066$) and lower FM (48.0% vs. 48.8%, $p = 0.112$). Age correlated positively with rMEQ score ($R = 0.312$, $p < 0.001$), with most sample being IT (47.0%). Chronotype had no association with sex ($p = 0.324$), eating speed ($p = 0.957$), eating time ($p = 0.916$) or body composition. Poor sleep quality (PSQI > 5) was observed in 70.3% and correlated with higher FM ($R = 0.181$, $p = 0.003$), HC/height ratio ($R = 0.160$, $p = 0.007$) and lower SMM ($R = -0.192$, $p = 0.002$). **Conclusions:** Behavioral and biological rhythms shape body composition in ways we can't ignore, highlighting the need to integrate them into obesity management.

Keywords: Obesity, Chronotypes, Body Composition, Eating Speed, Sleep Quality.