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## Self-reported faster eating associated with higher ALT activity in middle-aged, apparently healthy Japanese women.

Mochizuki K<sup>1</sup>, Hariya N, Miyauchi R, Misaki Y, Ichikawa Y, Goda T.

### Author information

### Abstract

**OBJECTIVE:** Faster eating and elevated circulating activity of alanine aminotransferase (ALT), a marker for liver injury, are risk factors for the development of obesity and type 2 diabetes mellitus, and their complications. The aim of this study was to examine the association between self-reported eating rate and circulating ALT activity in apparently healthy middle-aged Japanese women.

**METHODS:** We conducted a cross-sectional study of 900 apparently healthy women ages 40 to 64 y (mean  $\pm$  SD, 53.1  $\pm$  7.1 y) who participated in health check-ups in Japan. We analyzed their clinical serum parameters and lifestyle factors, including self-reported eating rate. Associations between liver injury markers (ALT,  $\gamma$ -glutamyl transpeptidase [GTP], and aspartate aminotransferase [AST]), other clinical parameters and lifestyle factors were analyzed using Tukey's multiple range test following analysis of variance and analysis of covariance for three groups, divided by self-reported eating rates. The associations between self-reported faster eating and ALT activity and lifestyle factors were analyzed by multivariate logistic regression analyses.

**RESULTS:** ALT activity, but not  $\gamma$ -GTP or AST activities, was higher in participants who reported relatively fast/very fast eating than in those who reported medium eating after adjusting for age, alcohol intake, energy intake, smoking, and physical activity. The odds ratio of eating rate for ALT activity in T3 (18-128 U/L) compared with T1 (3-12 U/L) was 1.67 ( $P < 0.01$ ), but the association disappeared after adjustment for body mass index (BMI).

**CONCLUSIONS:** ALT activity is positively associated with faster eating, but is dependent on BMI in middle-aged, apparently healthy Japanese women.

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**KEYWORDS:** ALT; Apparently healthy women; Faster eating; Japanese women

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