



■ Editorial

Meal Frequency, Metabolic Health, and Social Norms

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Eating habits play an important role in protecting and promoting one's metabolic health. Meal frequency, an eating habit, has long been a topic of research owing to its relationship with metabolic health. The regular consumption of three meals—breakfast, lunch, and dinner—is considered the norm in traditional Korean society. Even now, three meals a day remains the most common eating pattern in Korea.¹⁾ Although increased meal frequency is considered favorable for metabolic health, observational studies of meal frequency and metabolic health have reported inconsistent results.²⁾ Various classifications of eating frequencies, under-reporting of dietary intake, and reverse causality are the suggested reasons for these inconsistent results.³⁾

Epidemiological studies in Korea suggested that a decreased eating frequency is associated with poor metabolic health, especially in men.^{1,4,5)} Kim et al.⁴⁾ reported that the eating frequency of Korean adults was inversely correlated with various obesity indicators, including body mass index (BMI), waist circumference, and body fat percentage, when diet quality was high. Jung et al.¹⁾ showed that Korean men who ate three meals a day had a lower likelihood of metabolic syndrome than those who ate two or fewer meals a day. In the present issue, Park et al.⁶⁾ showed that Korean adults who ate three regular meals a day had lower BMI, waist circumference, blood pressure, fasting plasma glucose, and serum triglycerides than those eating two or fewer regular meals a day. In contrast, a prospective cohort study by Kahleova et al.⁷⁾ reported that eating one or two meals a day was associated with a relative decrease in BMI versus eating three meals a day. Their study participants were adult members of Seventh-day

Adventist churches in the United States and Canada. Seventh-day Adventists traditionally eat two large meals a day (breakfast and lunch). In other words, their social norms for meal patterns differ from those of most Korean adults. The gap between the results of this study and other studies in Korea might be attributable to different social norms of meal patterns between study subjects.

Eating behaviors are strongly influenced by sociocultural context. Adhering to social norms is a common feature of higher socioeconomic classes who are more aware of health information.⁸⁾ In addition, subjects following their society's meal pattern norms are more likely to follow other health-related social norms. A cross-sectional study conducted in Sweden showed that a high daily eating frequency was associated with an overall healthy lifestyle, including non-smoking, lower alcohol consumption, and higher leisure-time physical activity.⁹⁾ In the present issue, Park et al.⁶⁾ also reported that subjects who consumed three regular meals a day were more likely to be non-smokers, never-drinkers, and dietary supplement users. However, meal frequencies may have different correlations with other health-related behaviors in societies with different social norms for meal patterns.

In epidemiological studies conducted in Korean society, where eating three regular meals is a social norm, decreased eating frequency was associated with poor metabolic health.^{1,4-6)} However, it is difficult to determine whether these devastating health effects were directly due to decreased eating frequency or, alternatively, an attitude that does not adhere to social norms. Thus, sociocultural context should be considered when interpreting epidemiological findings regarding meal frequencies and metabolic health.

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CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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