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Letter to the Editor

A Comparison of Body Composition among Korean University Students before and after a Korean Traditional National Holiday Period

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Dear Editor-in-Chief

In Korea, people celebrate major traditional holidays such as New Year's Day and Chuseok, which is the Korean Thanksgiving Day. During these periods, it is a customary to make offerings to ancestors and to share food with family members. Since 1989, 3 consecutive days have been designated as holidays for each of New Year's Day and Chuseok, and in 2014 substitute holidays were even added for Chuseok so that people could enjoy the holiday season for many days (1). However, most foods offered during such national traditional holidays in Korea are high in protein, fat, and calories. After such a holiday period, it is common for people to gain weight (2), and such patterns of excessive intake of food and less physical activity during the holiday seasons causes excessive fat to be accumulated in the body (3). People gain weight or body fat during traditional holiday periods, thereby increasing the risks of diseases such as obesity and metabolic syndrome. Ironically, as a result, many people are rather afraid of the traditional holiday periods in Korea.

This study aimed to examine body composition change among Korean university students during a week of traditional holidays. This proactive report of the body composition change that is common during and after a national traditional holiday period in Korea, particularly among university students, is provided so that people can prepare themselves for possible health problems that may occur during such holiday periods.

This study has been prepared in accordance with the Namseoul University Ethics Committee, and the subjects were safely protected throughout every stage of the experiment. All of the subjects understood the purpose of this study and provided written informed consent prior to their participation in accordance with the ethical standards of the Declaration of Helsinki.

This study was conducted among 76 students attending a Namseoul University, Cheonan City, South Korea. Their body compositions were measured before and after the week of Chuseok holidays in 2018. A questionnaire was used that included items regarding weight change that they expected and the number of exercises they practiced during the Chuseok period. For determination of body composition, a subject's weight, skeletal muscle mass, body fat mass, Body Mass Index (BMI), Waist Hip Ratio (WHR), and body fat percentage were measured by means of the DSM-BIA InBody 720 (Biospace, Korea).

A paired *t*-test was conducted on the collected measurements by means of SPSS 23.0 Windows in order to examine the difference before and after the period based on the average and standard deviation.

The participant characteristics were as follows: Korean university students (n = 76; age, 21.35 ± 2.11 yr; height, 167.47 ± 17.37 cm; weight, 70.57 ± 13.18 kg).

The results indicate that there was a statistically significant increase in body weight (*P*=0.010), body fat mass (*P*=0.006), BMI (*P*=0.001), and body fat percentage (*P*=0.004) after the traditional holiday period. There was no statistically significant change in skeletal muscle mass (*P*=0.808) and WHR (*P*=0.147). The weight change that study subjects expected was 1.54 ± 1.05 kg, and the number of exercises that they practiced during the holiday week was 1.33 ± 1.85 days (Table 1).

The increase in body weight, body fat mass, BMI, and body fat percentage during the holiday week indicates a negative change in the body composition. It is expected that the findings of this study can be widely utilized as public health research data based on which people can predict and control body composition change during traditional holiday periods in Korea.

Table 1: Changes in body composition variables

Variables	***Before***	***After***	***t***	***P***
Body weight (kg)	70.57±13.18	71.06±13.71	-2.803	.010
Skeletal muscle mass (kg)	30.46±7.87	30.43±7.98	.246	.808
Body fat mass (kg)	16.38±6.42	16.96±6.47	-3.037	.006
BMI (kg/m_2)	24.23±3.42	24.41±3.57	-3.682	.001
WHR	.86±.04	.87±.04	-1.495	.147
Body fat percentage (%)	23.49±8.69	24.24±8.68	-3.173	.004

Data are presented as mean ± standard deviation

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Conflict of interest

The authors declare that there is no conflict of interest.

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