Association Between Dietary Practices for Lifestyle Disease Prevention and Breakfast Habits

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Introduction

Background: Healthy diets are essential in preventing lifestyle diseases. However, inadequate dietary intake such as high fat-energy ratios and insufficient vegetable intake is observed in young adults in Japan. Additionally, a large proportion of young adults skip breakfast. In an attempt to solve both issues in dietary practices for lifestyle disease prevention and breakfast habits, we hypothesized that these inadequate dietary factors are mutually related and improvement in one effectively leads to improvement in the other.

Objective: The aim of this study was to examine the association between dietary practices for lifestyle disease prevention and breakfast habits.

Methods

Study Design: The Hyogo Diet Survey 2016 is a cross-sectional survey of the stratified random sample of 32 areas (4,747 household members from 1,919 households) in Hyogo Prefecture.

Setting and Participants: Our subjects included 791 adults (males, 368; females, 423) aged 20–49 years who completed the self-administered questionnaire of the survey.

Measurable Outcome: The questionnaire included questions on breakfast frequency and dietary habits. Regular breakfast was defined as a breakfast frequency of 4 days or more per week, and skipping breakfast was defined as a breakfast frequency of 3 days or less per week. With regard to dietary practices for lifestyle disease prevention (six items, Table 2), subjects were asked to choose one of the four answers for each dietary practice: “I practice this habit daily,” “I sometimes practice this habit,” “I rarely practice this habit,” and “I do not practice this habit at all.” The first two answers were subsequently combined into “practicing” and the last two answers into “not practicing.”

Analysis: Logistic regression analysis was performed using subjects’ dietary practices for lifestyle disease prevention (six items) as independent variables and whether or not subjects eat breakfast regularly as the dependent variable. The models were adjusted for sex and age. As the dependent variable, skipping breakfast and regular breakfast were coded as 1 and 0 (reference), respectively, and as the independent variable, “practicing” and “not practicing” were coded as 0 (reference) and 1, respectively, for each dietary practice.

Results

Table 1 shows the characteristics of subjects included in the analysis according to breakfast habits. The numbers of subjects who ate breakfast regularly and who skipped breakfast were 605 (79.7%) and 154 (20.3%), respectively. The percentage of subjects who ate breakfast regularly was higher in females (57.9%) than in males (42.1%), whereas the percentage of subjects who skipped breakfast was higher in males (62%) than in females (37%). This indicated a significant association between breakfast habits and sex (p < 0.001). The percentages of subjects who ate breakfast regularly were 20.2%, 33.7%, and 46.1% in subjects aged 20–29 years, 30–39 years, and 40–49 years, respectively. Residual analysis indicated a significant association between the age group of 40–49 years and the percentage of subjects who skipped breakfast (32.5%) (p < 0.01).

<table>
<thead>
<tr>
<th>Sex</th>
<th>Breakfast regularly</th>
<th>Skipping breakfast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>407</td>
<td>53.6</td>
</tr>
<tr>
<td>Females</td>
<td>340</td>
<td>64.3</td>
</tr>
</tbody>
</table>

Table 1. Characteristics of subjects included in the analysis according to breakfast habits

Logistic regression analysis showed significantly higher odds for skipping breakfast in subjects who did not practice the following dietary habits than those who did (Table 2): “rest control intake” (odds ratio, 1.53; 95% confidence interval, 1.02–2.28), “eat a lot of vegetables” (1.65, 1.14–2.40), and “eat fruits” (1.62, 1.04–2.51).

Note: The logistic regression analysis performed in the present study is different from the one reported in the previously submitted abstract, in that the models in the present study have been adjusted for sex and age. As a result, three of the six dietary practices for lifestyle disease prevention showed associations with skipping breakfast, instead of the four reported previously.

Conclusions

Three of the six dietary practices for lifestyle disease prevention showed an association with skipping breakfast. The results suggest that improvements in diet for preventing lifestyle diseases may result in regular breakfast habits. Therefore, an effective approach for reducing the proportion of breakfast skippers among young adults would involve educating people without regular breakfast habits about the necessity of daily life dietary habits for prevention of lifestyle diseases.