Association of a Healthy Dietary Habit with Dietary Practices for Lifestyle Disease Prevention and with Health Awareness

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Introduction

Background: In Japan, a well-balanced diet consisting of cereal grains (shushokuh), protein foods (shusai), and vegetables (fukusai) is recommended. However, a large proportion of people aged 20 to 49 years skip breakfast and have insufficient vegetable intake.

Objective: To comprehensively identify the factors associated with a healthy dietary habit.

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: The subjects were 723 respondents (331 males, 392 females) of the Survey, aged 20 to 49 years.

Measurable Outcome: A healthy dietary habit was defined as eating breakfast regularly, eating five or more vegetable dishes daily, and having a well-balanced meal at least twice daily. Factors associated with a healthy diet were defined as regular dietary practices for lifestyle disease prevention (controlling energy intake, controlling fat intake, restricting salt intake, controlling sugar intake, eating large amounts of vegetables, and eating fruit), health awareness (regular exercise, healthy weight maintenance, use of nutrition facts labels), and the habit of eating out infrequently.

Analysis: Variables above were used to develop a hypothetical model. For validation of the hypothetical model, a covariance structure analysis (using a maximum likelihood approach) was performed for overall and structural examinations by sex. On the basis of the path direction, standardized estimates, coefficient of determination, and fit indices such as GFI, AGFI, CFI, RMSEA, modification of the model (e.g. by deleting non-significant paths) was repeated until the best possible fit was achieved.

Results

Table 1. Characteristics of subjects

<table>
<thead>
<tr>
<th>Age</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤24 years</td>
<td>366</td>
<td>37.6</td>
<td>367</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>320</td>
<td>32.7</td>
<td>314</td>
</tr>
<tr>
<td>35 to 49 years</td>
<td>305</td>
<td>31.0</td>
<td>309</td>
</tr>
</tbody>
</table>

Family composition: Living alone | 21 | 2.9 | 12 | 3.6 |
| Married couple | 86 | 36.0 | 54 | 15.3 |
| Married individuals | 309 | 31.0 | 313 | 31.0 |

% 3- or 4-generation household | 723 | 17.7 |

Study type (N, %): Cross-sectional | 723 | 17.7 |

The results of the covariance structure analysis indicated that the hypothetical model had acceptable goodness of fit in both males (GFI = 0.962, AGFI = 0.936, CFI = 0.969, RMSEA = 0.033; Figure 1) and females (GFI = 0.959, AGFI = 0.929, CFI = 0.962, RMSEA = 0.04; Figure 2).

Dietary practices for lifestyle disease prevention was associated not directly, but indirectly via health awareness, with a healthy dietary habit, with standardized total effects of 0.421 in males and 0.438 in females.

In males, a significant negative path from relatively high frequency of eating out to a healthy dietary habit was observed, with a standardized estimate of -0.16.

Conclusions

Acquisition of a healthy dietary habit by using dietary practices for lifestyle disease prevention is mediated by health awareness and may be negatively influenced in males by a high frequency of eating out.

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