Key messages

- Belief in Taian-Butsumetsu, a superstition relating to the six day lunar calendar, is common among Japanese people.
- This study showed that the mean number of patients discharged on Taian (a lucky day) is the highest and that on Butsumetsu (an unlucky day) is the lowest.
- Patients discharged on Taian were older, were more likely to be female, and had longer hospital stays than those discharged on other days.
- The findings suggest that patients were extending their stay to leave hospital on Taian.
- This superstitious belief increased the cost of medical care in Japan.

This study was presented at the 2nd Asian-Pacific congress of epidemiology, Tokyo, Japan, on 28 January 1998. We thank Mr Gert van Tonder of the Graduate School of Human and Environmental Studies at Kyoto University for his linguistic help and Mr Masahiro Natsume of Medical Informatics Department at Kyoto University (Kyoso Computer Co Ltd ES3 Implementation Department) for data collection.

Contributors: KH initiated the research, conducted analysis of the data and wrote the paper. TF participated in all processes extending hospital stay to the patients while taking into consideration the possible psychological impact of the superstition on health.

Subjects, methods, and results

Subjects were from the Harvard alumni health study, an ongoing study of men entering Harvard University as undergraduates between 1916 and 1950. We included 7841 men, free of cardiovascular disease and cancer, who responded to a health survey in 1988 providing information on consumption of candy.

We asked about the average number of servings of candy eaten in the past year. Response options ranged from “almost never” to “6+ per day.” In analyses, we regarded as non-consumers of candy the men who answered “almost never.” The survey also asked about other health habits (see table). We obtained death and is guarantor for this paper. AE participated in data collection and discussion. MR and MM participated in the analysis of the data and discussion.

Funding: None

Competing interest: None declared.

References

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Life is sweet: candy consumption and longevity

I-Min Lee, Ralph S Paffenbarger Jr

Our attitude towards candy—“if it tastes that good, it can’t be healthy”—betrays society’s puritanical stance towards pleasure. Candy has been blamed for various ills, including hyperactivity in children; however, clinical trials have not supported this. Candy—sugar confectionery and chocolate—is not regarded as non-consumers of candy the men who answered “almost never.” The survey also asked about other health habits (see table). We obtained death...
Consumption of candy was associated with greater longevity in this study. Men who indulged lived almost a year longer, up to age 95, than did abstainers.

We could not differentiate between consumption of sugar candy and chocolate in our study. One plausible explanation for our observations may be the presence of antioxidant phenols in chocolate. A 41 g piece of chocolate contains about the same amount of phenol as a glass of red wine, and alcohol consumption, in moderation, lowers the risk of coronary heart disease. Direct evidence regarding the antioxidant properties of chocolate also exists. Cacao liquor phenol can inhibit reactive oxygen species, as well as modulate immune function. Additionally, cacao powder extract is a powerful antioxidant for oxidation of low density lipoprotein cholesterol. These beneficial effects of chocolate may decrease the risk of heart disease and cancer.

Unfortunately, greater consumption of candy was not associated with progressively lower mortality. Mortality was lowest among those consuming candy 1-3 times a month and highest among those indulging this habit three or more times a week. Non-consumers of candy, however, still had the highest mortality overall. As with most things in life, moderation seems to be paramount.

This is report No LXII in a series on chronic disease in former college students.

Funding: HL 54174 and CA 44854 from the National Institutes of Health.

Competing interests: The authors admit to a decided weakness for chocolate and confess to an average consumption of one bar a day each.

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**Favourite prayers**

**The physician's prayer**

From inability to let well alone, from too much zeal for the new and contempt for what is old, from putting knowledge before wisdom, science before art and cleverness before common sense, from treating patients as cases and from making the cure of the disease more grievous than the endurance of the same, good Lord deliver us.


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**Table 1**: Comparison of non-consumers and consumers of candy. Values are medians (interquartile ranges) unless specified otherwise.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Non-consumers of candy (n=3312)</th>
<th>Consumers of candy (n=4529)</th>
<th>P value *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>65 (60-72)</td>
<td>65 (60-71)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Body mass index (kg/m²)</td>
<td>24.39 (22.69-26.22)</td>
<td>24.41 (22.95-26.44)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Energy expenditure (kcal/week)</td>
<td>2018 (1852-2623)</td>
<td>1926 (1868-3470)</td>
<td>0.07</td>
</tr>
</tbody>
</table>

*Comparison of non-consumers and consumers of candy. Values are medians (interquartile ranges) unless specified otherwise. For categorical variables, differences of missing data. For continuous variables, tests for differences between medians used non-parametric Wilcoxon rank sum tests since variables were not normally distributed. Calculations may be based on fewer than 3312 candy non-consumers and 4529 candy consumers because of missing data. For continuous variables, tests for differences between medians used non-parametric Wilcoxon rank sum tests since variables were not normally distributed. For categorical variables, differences in proportions were compared with z² tests. Estimated from walking, climbing stairs, and participating in sports or recreational activities.

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