



Research paper

Unhealthy lifestyle factors and depressive symptoms: A Japanese general adult population survey



Ryuji Furihata^a, Chisato Konno^a, Masahiro Suzuki^a, Sakae Takahashi^a, Yoshitaka Kaneita^b, Takashi Ohida^b, Makoto Uchiyama^{a,*}

^a Department of Psychiatry, Nihon University School of Medicine, Tokyo, Japan

^b Division of Public Health, Department of Social Medicine, Nihon University School of Medicine, Tokyo, Japan

ARTICLE INFO

Keywords:

Depression
Lifestyle
Insufficient sleep
Food intake
Exercise
Epidemiology
Japan

ABSTRACT

Objective: To investigate the relationship between unhealthy lifestyle factors and depressive symptoms among the general adult population in Japan.

Method: Participants were randomly selected from the Japanese general adult population. Data from 2334 people aged 20 years or older were analyzed. This cross-sectional survey was conducted in August and September 2009. Participants completed a face-to-face interview about unhealthy lifestyle factors, including lack of exercise, skipping breakfast, a poorly balanced diet, snacking between meals, insufficient sleep, current smoking, alcohol drinking, and obesity. Presence of depressive symptoms was defined as a score of ≥ 16 on the Japanese version of the Center for Epidemiologic Studies Depression Scale (CES-D). Relationships between unhealthy lifestyle factors and depressive symptoms were evaluated by multivariate logistic regression analysis adjusting for sociodemographic variables and other unhealthy lifestyle factors.

Results: Multivariate logistic regression analysis revealed that insufficient sleep, a poorly balanced diet, snacking between meals and lack of exercise were significantly associated with the prevalence of depressive symptoms, with odds ratios ranging from 1.56 for lack of exercise to 3.98 for insufficient sleep.

Limitations: Since this study was a cross-sectional study, causal relationships could not be determined.

Conclusion: These results suggest that promoting a healthy lifestyle focused on sleep, food intake and exercise may be important for individuals with depressive symptoms.

1. Introduction

Depression at some point during life is estimated to occur in up to 6.7–17.1% of the population (Kawakami et al., 2005; Kessler et al., 1994). Depression is considered to impact seriously on well-being, and the 2010 Global Burden of Disease Study found that it accounted for the greatest number of disability-adjusted life years among the various mental and behavioral disorders (Murray et al., 2012).

It is widely known that genetic and temperament-related factors, as well as stressful life events, are associated with incident depression (American Psychiatric Association, 2013). In addition, recent cross-sectional and longitudinal epidemiological studies have indicated that healthy lifestyle habits are undoubtedly essential for maintenance of good mental health. A number of lifestyle-related factors are known to be associated with depression, including nutrients and foods (Sanhueza et al., 2013), dietary intake patterns (Lai et al., 2014), insufficient sleep (Furihata et al., 2017), physical exercise (Stubbs et al., 2016), alcohol

drinking (Rodgers et al., 2000), smoking (Kinnunen et al., 2006; Korhonen et al., 2007) and obesity (Luppino et al., 2010). These modifiable risk factors are considered to be useful targets for the treatment and prevention of depression.

However, previous studies of this issue have had several limitations. First, although the above lifestyle-related factors influence each other, most of the previous studies have focused on only a single factor, and did not sufficiently examine the confounding effects of others. One study by Velten et al. investigated the association between several mental health outcome variables including depression and various lifestyle factors, i.e. physical/mental activity, alcohol consumption, smoking, body mass index, and circadian/social regularity in a German population, and showed that each factor had its own significant impact on depression (Velten et al., 2014). Second, although lifestyle is influenced by cultural differences, few previous studies have investigated depression and lifestyle factors in the Japanese population. Third, few previous studies have selected participants from the general adult

* Correspondence to: Department of Psychiatry, Nihon University School of Medicine, Oyaguchi-kamicho, 30-1 Itabashi-ku, Tokyo 173-8610, Japan.
E-mail address: uchiyama.makoto@nihon-u.ac.jp (M. Uchiyama).

population; in most of them, the participants were selected from a particular age group or cohort.

In the present study, we analyzed data from a survey of the Japanese general adult population to investigate the association between unhealthy lifestyle factors and depression symptoms. Our aims were 1) to investigate the frequency of eight unhealthy lifestyle factors and 2) to examine the association between unhealthy lifestyle factors and the prevalence of depressive symptoms in a cross-sectional survey. We hypothesized that each unhealthy lifestyle factor would have different associations with the prevalence of depressive symptoms.

2. Methods

2.1. Study participants and data collection

The study participants were enrolled in the Nihon University Sleep and Mental Health Epidemiology Project (NUSMEP). This study was conducted as part of an omnibus survey commissioned to a polling agency in August and September 2009. A three-stage stratified sampling method was used. Municipalities were stratified into 31 units representing 12 geographical blocks and 3 types of city size (metropolitan areas, other cities, towns and villages) in proportion to the population distribution in 2008. In the first stage, the target municipalities were selected randomly from each unit. In the second stage, a total of 8000 households were randomly selected from a digital house map of the selected municipalities. In the third stage, the interviewer visited the households and found that residents were present in 4738 of them. One individual aged 20 years or older was then randomly selected from each household. A final total of 2559 individuals participated in the survey (response rate 54.0%). All participants gave oral informed consent prior to enrollment in the study, and completed a face-to-face interview with a trained interviewer by reference to a panel-listed structured questionnaire. We obtained the electronic data file for the relevant interview component, with no personal identifiers. Details of this study have been published previously (Furihata et al., 2015). Participants who neglected to answer six or more questions on the Center for Epidemiologic Studies Depression Scale (CES-D) ($n = 27$), or had missing information on unhealthy lifestyle factors ($n = 198$) were excluded from present analyses. Finally, we analyzed data from 2334 subjects (1108 men, 1226 women).

The study was approved by the ethics committee of Nihon University School of Medicine.

2.2. Procedures

2.2.1. Unhealthy lifestyle factors

The following questions about unhealthy lifestyle factors were included in the questionnaire.

1. Exercise: Taking exercise regularly (No/Yes)
2. Breakfast: Eating breakfast every day (No/Yes)
3. Diet: Taking care to eat a balanced diet (No/Yes)
4. Snacking: Snacking between meals, including late-evening snacks (No/Yes)
5. Sleep: Obtaining enough rest during usual sleep (very sufficient/sufficient/insufficient/very insufficient)
6. Current smoking: Have you ever smoked? (Never/Not in the last month/Fewer than 100 cigarettes in 6 months/more than 100 cigarettes in 6 months)
7. Alcohol drinking: Do you drink alcoholic beverages more than 3 times per week, comprising more than one glass of sake (180 ml)? (A glass of sake is equal to a 500-ml bottle of beer, 80 ml of distilled spirit, 60 ml of whiskey, or two glasses of wine (240 ml)). (Yes/Not so much/Not at all)
8. Obesity: BMI calculated from self-reported height and weight.

For questions 1, 2 and 3 “No” was considered to indicate an unhealthy lifestyle habit, while “Yes” was considered to indicate this for question 4.

For question 5, “insufficient,” or “very insufficient” was considered to indicate poor sleep satisfaction.

For question 6, “less than 100 cigarettes for 6 months” or “more than 100 cigarettes for 6 months” was considered to indicate current smoking.

For question 7, “Yes” was considered to indicate alcohol drinking.

For question 8, BMI ≥ 25 was defined as obese (Obesity, 2002).

2.2.2. Depressive symptoms

The Japanese version of the Center for Epidemiologic Studies Depression Scale (CES-D) was used to assess the prevalence of depression (Shima et al., 1985). The CES-D, which is a 20-item inventory designed specifically to assess symptoms of depression in the general population, was used to screen for current depressive states during the period of one week leading up to the survey. The CES-D yields an item score (range: 0–3) and a sum of the scores for the 20 items (range: 0–60). Higher scores indicate increasing severity of depressive symptoms. It has been verified that a score of 16 or higher indicates the presence of clinically significant depressive symptoms (Radloff, 1977).

2.2.3. Other measures

Variables investigated in multivariate logistic regression analyses included sex, age, city size, educational achievement, and marital status. Age was divided into three groups (20–39, 40–59, and ≥ 60 years). City size was divided into three groups (metropolises, other cities, and towns and villages). Educational achievement was divided into three groups (junior high school, senior high school, and college or higher). Marital status was divided into two groups (married and unmarried).

2.3. Statistical analyses

The CES-D scores were calculated to investigate the prevalence of depressive symptoms. To examine the association between unhealthy lifestyle factors and CES-D scores, we calculated the CES-D scores based on responses to the remaining 18 questions after excluding one sleep question and one appetite question from the CES-D questionnaire. In addition, because some subjects may have omitted six or fewer answers on the CES-D questionnaire, we adjusted for CES-D scores using the following formula, to correct them as a conventional scale of 0–60: “CES-D score” = “sum of 18 item scores” \times “20/18” \times “18/number of answered questions.” Age and sex differences for the prevalence of depressive symptoms and unhealthy lifestyle factors were examined using χ^2 test among the categorical variables. Pearson correlation coefficients among the eight unhealthy lifestyle factors were calculated. Finally, a series of multivariate logistic regression analyses were conducted to examine the association between unhealthy lifestyle factors and depressive symptoms. After performing unadjusted logistic regression analyses, we conducted multivariate logistic regression analyses to adjust for the confounding effects of sociodemographic variables, and other unhealthy lifestyle factors. The results were expressed as odds ratios (OR) and 95% confidence intervals (CI). All analyses were performed using SPSS 19.0 for Windows.

3. Results

Table 1 shows the prevalence of depressive symptoms, and the mean value and standard deviation (SD) of the CES-D scores sorted by sex and age. The prevalence of depressive symptoms did not show any significant sex difference ($\chi^2 = 2.973$, $df = 1$, $P = 0.085$). The prevalence of depressive symptoms did not show any significant age difference but increased with age ($\chi^2 = 1.500$, $df = 2$, $P = 0.472$).

Table 2 shows the characteristics of unhealthy lifestyle factors

Download English Version:

<https://daneshyari.com/en/article/8815518>

Download Persian Version:

<https://daneshyari.com/article/8815518>

[Daneshyari.com](https://daneshyari.com)