

This is a summary based on the report of the National Health and Nutrition Survey, 2018 published by the Ministry of Health, Labor and Welfare.
For more information, please visit the following site (in Japanese): https://www.mhlw.go.jp/bunya/kenkou/kenkou_eiyou_chousa.html.

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National Institute of Health and Nutrition

The National Health and Nutrition Survey (NHNS) Japan, 2018

Summary

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Summary of the Survey

1. Purpose of the National Health and Nutrition Survey (NHNS)

This survey aimed to clarify the physical conditions, nutrient intake, and lifestyle of citizens based on the Health Promotion Act (Law No. 103, enacted in 2002) and to obtain basic data for the comprehensive promotion of their health.

2. Participants

In the Comprehensive Survey of Living Conditions in 2018 (approximately 2,000 areas with 60,000 households and 146,000 family members), the participants included households and family members (aged 1 year and over as of November 1, 2018) in 300 areas, who were stratified and randomly extracted from the general census areas.

The following households and family members were excluded from this survey:

<Households>

-Households of which the heads were not Japanese.

-Households that were provided with delivered/prepared meals three times a day.

-One-person households in a live-in situation or residing in dormitories provided with meals.

<Family Members>

-Infants aged 11 months or younger.

-Persons who were unable to eat regular meals, including home care patients taking only fluids or drugs due to illness.

-Those who were not having meals together with the rest of the family.

-Those who were absent from the household, including migrant workers and those who were (a) working away from home, (b) away on business for a long period (3 months or more), (c) studying away from home, (d) admitted to a social welfare facility (including nursing care facilities), (e) admitted to a hospital for a long period, (f) put out to nurse, (g) imprisoned, and (h) not living together.

3. Purpose and period of survey

3.1 Survey items and target age

This survey consisted of a physical examination, a dietary survey, and a lifestyle habits questionnaire survey. The age indicated in the survey was based on the participants' age as of November 1, 2018. The survey items and the target age were as follows.

3.1.1 Physical examination

A) Height (aged 1 year and over)

B) Body weight (aged 1 year and over)

C) Abdominal circumference (aged 20 years and over)

D) Blood pressure: systolic and diastolic blood pressure (aged 20 years and over) measured twice a day.

E) Blood tests (aged 20 years and over)

F) Medical interview (aged 20 years and over) regarding the following variables:

Drugs used

Antihypertensive

Anti-arrhythmic

Cholesterol lowering

Antihyperlipidemic (triglyceride)

Iron supplements for treatment of iron deficiency anemia

Diagnosis and treatment

Diagnosis of diabetes

Treatment for diabetes

Status of treatment: insulin or other oral drugs for treatment of diabetes mellitus

Status of treatment: regular blood glucose tests or lifestyle improvement education in hospital

Regular exercise habit

Presence of restrictions for exercise due to medical reasons

Frequency of exercise per week

Average exercise duration
Duration of regular exercise habit

3.1.2 Dietary survey (aged 1 year and over)

- A) Household status: Name, birth date, sex, pregnant (gestational age) or lactating women, and occupation.
- B) Meal classification for each family member on the day of the survey (meals cooked at home, home meal replacement, buying cooked food, using food delivery services, eating out, meals provided at school/workplace, etc.).
- C) Food intake: Dish name, food name, volume, waste volume and proportional distribution by each household member.
- D) Daily physical activity (the number of steps in a day, aged 20 years and over).

3.1.3 Lifestyle habit questionnaire (aged 20 years and over)

The participants were provided with a self-administered questionnaire, in which they answered questions about eating habits, physical activity, exercise, resting (sleep), alcohol intake, smoking, and dental health. Further, socio economic status, such as household income, was examined as an important item in 2018.

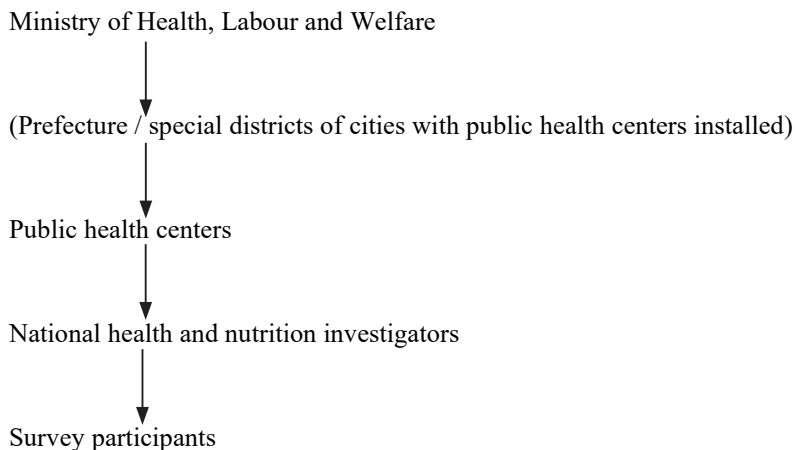
3.2 Survey period

The survey was performed in November 2018.

- A) Physical examination: Date on which the highest participation could be achieved, considering the circumstances in the national census areas (several dates were established).
- B) Dietary survey: One day, excluding Sunday and holidays.
- C) Lifestyle habits questionnaire: During the survey period (November 2018).

4. Organizations involved in the survey

The survey system was as follows:



5. Data analyses

The comments related to the evaluation of results, such as “significantly higher (or lower, increased, or decreased)” and “with no significant change”, were made based on the statistical tests (level of statistical significance defined as $p < 0.05$). The details are presented below.

5.1 Analysis regarding annual changes

The trend of the past 10 years was calculated using age-adjusted values based on the 2010 Census population, using the three age categories (65–74 years, 75–84 years, and 85 years and over¹) for the proportion of malnutrition ($BMI \leq 20 \text{ kg/m}^2$) in individuals aged 65 years and over and the six age categories (20–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, and 70–79 years¹) for other outcomes. Then, the Joinpoint Regression Program was performed using the mean/proportion and standard error for each year². In these analyses, the adjusted national values were used for the 2012 and 2016 surveys³.

5.2 Analysis between annual results

A trend test for annual results was conducted using a multivariate regression analysis with adjustment for age (six categories: 20–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, and 70–79 years).

5.3 Analysis of income and lifestyle/diet

The values of income and lifestyle/diet were estimated with adjustment for age (four categories: 20–39 years, 40–59 years, 60–69 years, and 70 years and over) and number of household members (five categories: 1, 2, 3, 4, and 5 or more). The number of household members was estimated based on the response of a household head to question no. 12 in a lifestyle habits questionnaire. The proportions were estimated using a direct method, while means were estimated using the analysis of covariance. Comparison across household income was conducted by a multivariate logistic regression (for proportions) or analysis of covariance (for means) using the category of 6,000,000 yen and over as a reference.

¹ Directed estimation method

² National Cancer Institute (NCI): Joinpoint Trend Analysis Software (<https://surveillance.cancer.gov/joinpoint/>).

³ Results of NHNS Japan, 2012 (<https://www.mhlw.go.jp/bunya/kenkou/eiyoudl/h24-houkoku.pdf>).
Results of NHNS Japan, 2016 (<https://www.mhlw.go.jp/bunya/kenkou/eiyoudl/h26-houkoku.pdf>).

6. Collection of samples and results

The results were analyzed by the National Institutes of Biomedical Innovation, Health and Nutrition. Of 5,032 target households for the survey, 3,268 households that responded to the questions regarding household status in the dietary survey questionnaire were included in the analysis.

Number of samples collected according to age

Men and Women	Physical Examination				Dietary Survey				Lifestyle Questionnaire	
	Examination		Blood Test				Daily step counts			
	n	%	n	%	n	%	n	%	n	%
Total	6,234	100.0	2,948	100.0	6,926	100.0	5,373	100.0	6,554	100.0
1-6 years	346	5.6	0	0.0	389	5.6	0	0.0	0	0.0
7-14 years	438	7.0	0	0.0	517	7.5	0	0.0	0	0.0
15-19 years	216	3.5	0	0.0	277	4.0	0	0.0	0	0.0
20-29 years	360	5.8	135	4.6	428	6.2	410	7.6	522	8.0
30-39 years	584	9.4	291	9.9	668	9.6	634	11.8	770	11.7
40-49 years	833	13.4	376	12.8	915	13.2	863	16.1	1,062	16.2
50-59 years	822	13.2	436	14.8	908	13.1	875	16.3	1,033	15.8
60-69 years	1,108	17.8	703	23.8	1,174	17.0	1,141	21.2	1,314	20.0
70 years and over	1,527	24.5	1,007	34.2	1,650	23.8	1,450	27.0	1,853	28.3
(reprint)	1,209	19.4	809	27.4	1,257	18.1	1,202	22.4	1,406	21.5
65-74 years										
(reprint)	953	15.3	619	21.0	1,047	15.1	885	16.5	1,187	18.1
75 years and over										
(reprint)	1,021	16.4	702	23.8	1,071	15.5	988	18.4	1,190	18.2
70-79 years										
(reprint)	506	8.1	305	10.3	579	8.4	462	8.6	663	10.1
80 years and over										

Men	Physical Examination				Dietary Survey				Lifestyle Questionnaire	
	Examination		Blood Test				Daily step counts			
	n	%	n	%	n	%	n	%	n	%
Total	2,912	100.0	1,204	100.0	3,260	100.0	2,508	100.0	3,053	100.0
1-6 years	153	5.3	0	0.0	181	5.6	0	0.0	0	0.0
7-14 years	230	7.9	0	0.0	273	8.4	0	0.0	0	0.0
15-19 years	112	3.8	0	0.0	143	4.4	0	0.0	0	0.0
20-29 years	174	6.0	52	4.3	211	6.5	201	8.0	254	8.3
30-39 years	271	9.3	103	8.6	314	9.6	296	11.8	374	12.3
40-49 years	409	14.0	146	12.1	445	13.7	418	16.7	516	16.9
50-59 years	366	12.6	161	13.4	417	12.8	400	15.9	482	15.8
60-69 years	507	17.4	302	25.1	548	16.8	533	21.3	620	20.3
70 years and over	690	23.7	440	36.5	728	22.3	660	26.3	807	26.4
(reprint)	556	19.1	350	29.1	578	17.7	558	22.2	651	21.3
65-74 years										
(reprint)	430	14.8	274	22.8	460	14.1	402	16.0	509	16.7
75 years and over										
(reprint)	478	16.4	320	26.6	496	15.2	464	18.5	543	17.8
70-79 years										
(reprint)	212	7.3	120	10.0	232	7.1	196	7.8	264	8.6
80 years and over										

Women	Physical Examination				Dietary Survey				Lifestyle Questionnaire	
	Examination		Blood Test				Daily step counts			
	n	%	n	%	n	%	n	%	n	%
Total	3,322	100.0	1,744	100.0	3,666	100.0	2,865	100.0	3,501	100.0
1-6 years	193	5.8	0	0.0	208	5.7	0	0.0	0	0.0
7-14 years	208	6.3	0	0.0	244	6.7	0	0.0	0	0.0
15-19 years	104	3.1	0	0.0	134	3.7	0	0.0	0	0.0
20-29 years	186	5.6	83	4.8	217	5.9	209	7.3	268	7.7
30-39 years	313	9.4	188	10.8	354	9.7	338	11.8	396	11.3
40-49 years	424	12.8	230	13.2	470	12.8	445	15.5	546	15.6
50-59 years	456	13.7	275	15.8	491	13.4	475	16.6	551	15.7
60-69 years	601	18.1	401	23.0	626	17.1	608	21.2	694	19.8
70 years and over	837	25.2	567	32.5	922	25.2	790	27.6	1,046	29.9
(reprint)	653	19.7	459	26.3	679	18.5	644	22.5	755	21.6
65-74 years										
(reprint)	523	15.7	345	19.8	587	16.0	483	16.9	678	19.4
75 years and over										

7. Others

- The number of analyzed participants is shown in parentheses in the figures and tables.
- Because the values listed in this report were rounded off, the breakdown total may not match the total number.

Summary of the Results

Part I. Socioeconomic status and lifestyle

1. Income and lifestyle

The results of comparison of the participants' lifestyle (diet, exercise, smoking, alcohol consumption, sleep, medical checkup, physical condition, and number of teeth) by household income (less than 2,000,000 yen, 2,000,000 to less than 4,000,000 yen, 4,000,000 to less than 6,000,000 yen, and 6,000,000 yen or more) are described as follows:

1. The mean salt intake was significantly lower in men with a household income of less than 2,000,000 yen than in men with a household income of 6,000,000 yen or more. The mean vegetable intake was significantly lower in men with household incomes of less than 2,000,000 yen and 2,000,000 to less than 4,000,000 yen than in men with a household income of 6,000,000 yen or more. Furthermore, the proportion of those consuming less than 100 g of fruits was significantly higher in women with a household income of less than 2,000,000 yen than in women with a household income of 6,000,000 yen or more.
2. The mean daily step counts were significantly lower in men with a household income of less than 2,000,000 yen than in men with a household income of 6,000,000 yen or more. Compared with women with a household income of 6,000,000 yen or more, women in other household income categories (less than 2,000,000 yen, 2,000,000 to less than 4,000,000 yen, and 4,000,000 to less than 6,000,000 yen) had significantly lower mean daily step counts.
3. The proportion of regular smokers was significantly higher in men with household incomes of less than 2,000,000 yen and 2,000,000 to less than 4,000,000 yen than in men with a household income of 6,000,000 yen or more. For women, the proportion of regular smokers was significantly higher in those with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.
4. The proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases was significantly lower in men with household incomes of less than 2,000,000 yen and 4,000,000 to less than 6,000,000 yen than in men with a household income of 6,000,000 yen or more.
5. The proportion of those without adequate rest during sleep was significantly higher in women with a household income of less than 2,000,000 yen than in women with a household income of 6,000,000 yen or more.
6. Compared with those with a household income of 6,000,000 yen or more, the proportion of those without medical checkup was significantly higher in both men and women in other a household income of categories (less than 2,000,000 yen, 2,000,000 to less than 4,000,000 yen, and 4,000,000 to less than 6,000,000 yen).
7. The proportion of underweight was significantly higher in men with a household income of 2,000,000 to less than 4,000,000 yen than in men with a household income of 6,000,000 yen or more.
8. Compared with men with a household income of 6,000,000 yen or more, the proportion of those with less than 20 teeth was significantly higher in men in other a household income of categories (less than 2,000,000 yen, 2,000,000 to less than 4,000,000 yen, and 4,000,000 to less than 6,000,000 yen). For women, the proportion was significantly higher in those with household incomes of less than 2,000,000 yen and 2,000,000 to less than 4,000,000 yen t with a household income of 6,000,000 yen or more.

Table 1. Status of annual income of the households included in the analysis

	n of households	%
Total	2,913	-
Less than 2,000,000 yen	617	21.1
2,000,000 yen to less than 4,000,000 yen	917	31.5
4,000,000 yen to less than 6,000,000 yen	580	19.9
6,000,000 yen or more	799	27.4

* Excluding 353 households that responded "I don't know" to question no.13 from the 3,087 households with a valid response to question no.13 in the lifestyle questionnaire.

Table 2. Income and lifestyle (aged 20 years and over)

¹ Adjusted for age (four categories: 20–39 years, 40–59 years, 60–69 years, and 70 years and over) and number of household members (five categories: 1, 2, 3, 4, and 5 or more). The proportions were estimated using a direct method, while means were estimated using the analysis of covariance.

² Income refers to household income during the past year (including tax) based on the response to question no. 13 in a lifestyle habit questionnaire.

³ Household income was applied to each of the household members. Comparison between household income was conducted by a multivariate logistic regression (for proportions) or analysis of covariance (for means) using the category of 6,000,000 yen and over as a reference: * $p < 0.05$.

		Household income							
		< 2,000,0000 yen		2,000,0000 to < 4,000,000 yen		4,000,0000 to < 6,000,000 yen		$\geq 6,000,000$ yen	
		n	mean or %	n	mean or %	n	mean or %	n	mean or %
1. Diet									
Mean salt intake (g)	Men	281	10.5*	705	10.9	537	11.1	821	11.2
	Women	453	9.2	802	9.3	574	9.2	900	9.3
Mean vegetable intake (g)	Men	281	253.9*	705	271.2*	537	301.2	821	296.6
	Women	453	266.6	802	264.4	574	283.7	900	278.5
Proportion of those who had less than 100g of fruit intake (%)	Men	281	64.4	705	65.3	537	62.7	821	67.9
	Women	453	64.5*	802	56.3	574	53.3	900	55.7
2. Exercise									
Proportion of those who did not exercise regularly (%)	Men	179	66.4	439	70.6	285	66.3	407	61.7
	Women	325	70.9	534	76.5	375	78.6	560	63.1
Mean daily step counts (steps/day)	Men	253	5,327*	653	6,751	522	7,243	798	7,015
	Women	396	5,685*	743	5,897*	548	5,779*	868	6,373
3. Smoking									
Proportion of regular smoker (%)	Men	337	34.3*	810	32.9*	613	29.4	925	27.3
	Women	529	13.7*	911	9.6	646	6.6	1,001	6.5
4. Drinking									
Proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases (%)	Men	338	12.1*	809	15.3	615	13.8*	927	19.2
	Women	528	6.6	911	8.7	645	15.6	1,001	8.7
5. Sleep									
Proportion of those without adequate rest from sleep (%)	Men	338	16.4	810	22.5	615	20.0	927	22.0
	Women	529	28.1*	910	20.9	644	22.4	999	20.2
6. Medical checkup									
Proportion of those without medical checkup (%)	Men	337	40.7*	810	29.8*	615	19.2*	927	16.7
	Women	528	41.1*	909	34.2*	644	36.8*	1,001	26.1
7. Weight status									
Proportion of obesity (BMI ≥ 25 kg/m ²) (%)	Men	260	30.0	660	30.8	486	31.9	732	32.0
	Women	431	18.5	712	23.8	518	28.1	804	27.0
Proportion of underweight (BMI < 18.5 kg/m ²) (%)	Men	260	4.8	660	5.1*	486	2.7	732	2.2
	Women	431	9.0	712	10.7	518	11.4	804	9.9
8. Number of teeth									
Proportion of those with less than 20 teeth (%)	Men	334	30.2*	802	24.0*	612	21.3*	927	18.9
	Women	529	29.8*	905	22.2*	643	16.6	998	21.6

* “Those who did not exercise regularly” refers to participants except for “those who exercised regularly (those who performed physical activities for 30 minutes or longer per session, twice a week or more for at least one year).”

* “Regular smokers” refer to those who reported smoking every day or sometimes.

* “Those who consumed alcohol at a level that increases the risk of lifestyle-related diseases” refer to men and women who consumed 40 g or more and 20 g or more of pure alcohol daily, respectively. This included:

(1) Men who consumed 360 mL or more of sake every day, 360 mL or more 5 to 6 times a week, 540 mL or more 3 to 4 times a week, 900 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

(2) Women who consumed 180 mL or more of sake every day, 180 mL or more 5 to 6 times a week, 180 mL or more 3 to 4 times a week, 540 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

* “Those without adequate rest from sleep” refer to those who responded “not enough” or “no sleep” to the question about sleep.

* “Those without medical checkup” refer to those who did not undergo a medical checkup in the previous year.

2. Income and diet

1. Important criteria for food choice

- The proportion of those who responded “taste”, “nutritious”, and “seasonality” as important criteria for food choice was significantly lower in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.

2. Frequency of eating balanced diets with staple foods, main dishes, and side dishes

- The proportion of those who eat balanced diets with staple foods, main dishes, and side dishes twice per day or more “almost every day” was significantly lower in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more. Furthermore, the proportion of those who responded “rarely” was significantly higher in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.

3. Barriers to consuming balanced diets composed of staple foods, main dishes, and side dishes

- Among those who consumed balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week,” the proportion of those who knew that balanced diets include staple foods, main dishes, and side dishes was significantly lower in men with a household income of less than 2,000,000 yen than in men with a household income of 6,000,000 yen or more.
- The proportion of those who responded “dietary cost” as a barrier to consuming balanced diets composed of staple foods, main dishes, and side dishes was significantly higher in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more. Meanwhile, the proportion of those responded “frequent eating out” was significantly lower in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.

4. Dietary intake

- Intakes of meat and milk were significantly lower in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.
- Energy intake was significantly lower in both men and women with a household income of less than 2,000,000 yen than in those with a household income of 6,000,000 yen or more.

Table 3. Income and important criteria for food choice (aged 20 years and over)

		Household income			
		< 2,000,000 yen	2,000,000 to < 4,000,000 yen	4,000,000 to < 6,000,000 yen	≥ 6,000,000 yen
Participants (n)	Men	338	810	614	927
	Women	529	909	644	1,001
Tasty (%)	Men	65.5*	73.3*	76.9	78.5
	Women	66.6*	76.8*	81.6*	85.3
Preference (%)	Men	63.4*	69.5	71.8	70.7
	Women	66.3	65.2	64.3	71.5
Nutritious (%)	Men	25.3*	29.5	31.6	34.3
	Women	45.1*	55.9	60.7	62.1
Seasonality (%)	Men	26.2*	28.0*	29.9	35.7
	Women	39.8*	54.0	59.2	60.0
Safety (%)	Men	40.1	40.8	46.2	45.3
	Women	61.3*	64.3*	72.6	67.3
Price (%)	Men	49.4	54.0	50.9	50.6
	Women	68.1	71.1	76.2*	72.0

¹ Included were those who responded to questions 1 and 2 in a lifestyle habit questionnaire and were derived from a household whose head responded to questions 12 and 13. Excluded were households with more than one member who responded to questions 12 and 13 or households whose head responded “I don’t know” to question no. 13.

² Adjusted for age (four categories: 20–39 years, 40–59 years, 60–69 years, and 70 years and over) and number of household members (five categories: 1, 2, 3, 4, and 5 or more). The proportions were estimated using a direct method, while means were estimated using the analysis of covariance.

³ Income refers to household income during the past year (including tax) based on the response to the question no. 13 in a lifestyle habits questionnaire.

⁴ Household income was applied to each of the household members. Comparison between household income was conducted by a multivariate logistic regression (for proportions) or analysis of covariance (for means) using the category of 6,000,000 yen and over as a reference: * $p < 0.05$.

* This footnote applies to Tables 3–5 and Figure 1.

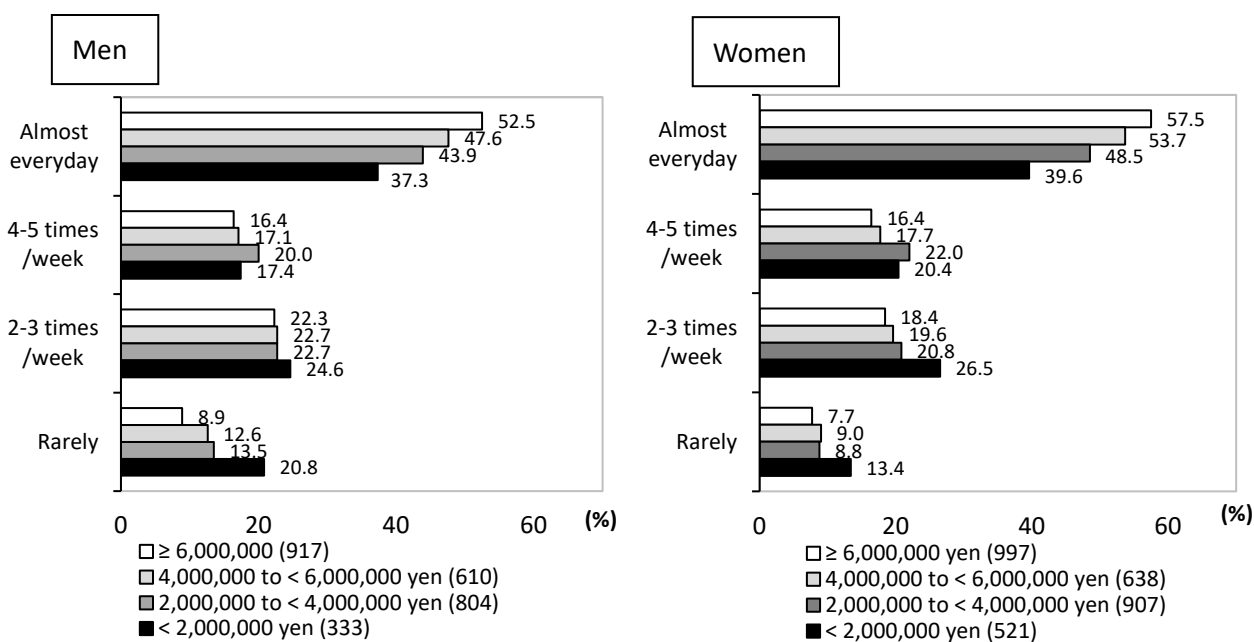


Figure 1. Income and frequency of consuming balanced diets composed of staple foods, main dishes, and side dishes (aged 20 years and over)

Table 4. Income and the proportion of those who knew that balanced diets include staple foods, main dishes, and side dishes among those who consumed balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week” (aged 20 years and over)

	Household income							
	< 2,000,000 yen		2,000,000 to < 4,000,000 yen		4,000,000 to < 6,000,000 yen		≥ 6,000,000 yen	
	n	%	n	%	n	%	n	%
Men	211	81.8*	424	86.6*	326	91.5	497	88.2
Women	307	93.2	449	97.6	333	86.3	471	87.7

Table 5. Income and barriers to consuming balanced diets composed of staple foods, main dishes, and side dishes among those who consumed balanced diets with staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week” (aged 20 years and over)

		Household income			
		< 2,000,000 yen	2,000,000 to < 4,000,000 yen	4,000,000 to < 6,000,000 yen	≥ 6,000,000 yen
Participants (n)	Men	177	366	298	458
	Women	281	436	323	458
Time (%)	Men	31.4	37.8	38.2	37.3
	Women	38.9	43.6	45.7	42.3
Dietary cost (%)	Men	22.1*	13.7*	3.8	7.6
	Women	28.9*	18.8*	8.0	5.3
Difficulty of preparing (%)	Men	41.1	44.9	45.0	39.7
	Women	56.5	51.8	51.6	49.7
Volume (%)	Men	14.0	15.4	14.6	7.8
	Women	22.5	26.0	18.2	18.1
Frequent dining out (%)	Men	6.9*	16.8*	20.8	30.2
	Women	3.4*	6.3*	4.9*	11.2
Other	Men	24.7	21.1	22.5	20.7
	Women	21.5	17.8	16.3	18.5

Table 6. Income and food group intakes (aged 20 years and over)

		Household income			
		< 2,000,000 yen	2,000,000 to < 4,000,000 yen	4,000,000 to < 6,000,000 yen	≥ 6,000,000 yen
Participants (n)	Men	281	705	537	821
	Women	453	802	574	900
Cereals (g)	Men	501.3	509.3*	495.4	482.9
	Women	368.5	369.2*	349.7	350.8
Potatoes and starches (g)	Men	50.8	50.5	53.9	54.4
	Women	46.1	47.1	51.5	50.9
Sugars and sweeteners (g)	Men	6.8	6.7	7.3	6.5
	Women	5.8	7.2	6.8	6.8
Pulses (g)	Men	58.0	64.2	68.4	71.1
	Women	55.9*	59.4*	69.9	72.2
Nuts (g)	Men	0.7*	2.6	2.5	2.2
	Women	3.0	2.5	2.3	3.2
Vegetables (g)	Men	253.9*	271.2*	301.2	296.6
	Women	266.6	264.4	283.7	278.5
Fruits (g)	Men	75.8	89.5	89.3	88.0
	Women	89.3*	111.2	114.2	114.2
Mushrooms (g)	Men	13.1*	15.1*	17.0*	20.4
	Women	16.7	17.0	17.9	17.9
Seaweed (g)	Men	9.3	9.5	10.4	9.7
	Women	7.8	8.3	9.2	8.7
Fish and shellfish (g)	Men	75.2	68.7	78.6	76.0
	Women	59.3	62.4	60.6	65.2
Meat (g)	Men	106.8*	124.8	127.1	129.3
	Women	79.7*	88.3	90.1	91.9
Eggs (g)	Men	37.6*	44.7	46.1	44.8
	Women	39.7	41.2	40.4	39.7
Milks (g)	Men	84.4*	95.4*	101.5	111.4
	Women	101.0*	118.3	119.6	126.3
Fats and oils (g)	Men	10.5*	10.9	11.1	11.2
	Women	9.2	9.3	9.2	9.3
Energy (kcal)	Men	2,041*	2,167	2,207	2,187
	Women	1,651*	1,737	1,730	1,767

¹ Included were those aged 20 years and over who participated in the dietary survey and were derived from a household whose head responded to questions 12 and 13 in a lifestyle habit questionnaire. Excluded were households with more than one member who responded to questions 12 and 13 or households whose head responded “unknown” to question no. 13.

² Adjusted for age (four categories: 20–39 years, 40–59 years, 60–69 years, and 70 years and over) and number of household members (five categories: 1, 2, 3, 4, and 5 or more). The proportions were estimated using direct method, while means were estimated using the analysis of covariance.

³ Household income was applied to each of the household members. Comparison between household income was conducted by a multivariate logistic regression (for proportions) or analysis of covariance (for means) using the category of 6,000,000 yen and over as a reference: * $p < 0.05$.

3. Working hours and lifestyles

For average working hours, the proportion of those with 40–48 working hours/week was highest in men, while the proportion of those with 1–39 working hours/week was highest in women.

With regard working hours, the proportion of those who did not undergo medical checkup was higher in both men and women with 1–39 working hours/week, while the proportion of obesity was higher in both men and women with more than 60 working hours/week.

Figure 2. Average working hours per week (aged 20 years and over, based on age and sex)

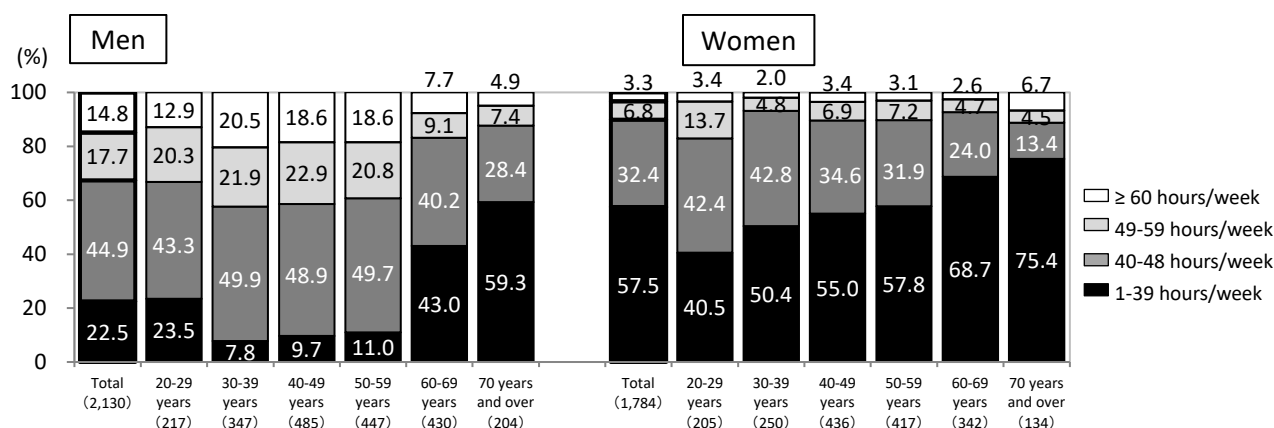


Table 7. Average working hours per week and lifestyle (aged 20 years and over)

* The shaded cells show the highest value (or the lowest value for vegetable intake) for each category.

		Working hours								
		1-39 hours/week		40-48 hours/week		49-59 hours/week		≥ 60 hours/week		
		n	mean or %	n	mean or %	n	mean or %	n	mean or %	
Diet	Mean salt intake (g)	Men	411	11.7	808	11.0	336	10.9	260	11.1
		Women	882	9.4	496	9.1	101	9.0	48	9.5
	Mean vegetable intake (g)	Men	411	308.1	808	283.3	336	277.3	260	279.4
		Women	882	271.2	496	254.3	101	255.0	48	268.0
Exercise	Proportion of those who did not exercise regularly (%)	Men	240	64.6	423	78.0	151	81.5	120	78.3
		Women	582	82.5	280	87.1	59	88.1	26	96.2
Smoking	Proportion of regular smokers (%)	Men	479	30.9	956	34.4	377	29.7	314	38.5
		Women	1026	10.9	578	12.3	122	10.7	58	6.9
Drinking	Proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases (%)	Men	480	14.6	956	18.4	377	17.2	315	22.9
		Women	1026	11.9	578	13.8	122	19.7	58	19.0
Sleep	Proportion of those without adequate rest from sleep (%)	Men	480	18.1	957	22.6	378	31.7	315	42.2
		Women	1026	25.3	578	29.9	122	34.4	58	32.8
Medical checkup	Proportion of those without medical checkup (%)	Men	480	26.3	957	15.3	378	11.9	315	16.2
		Women	1025	29.4	577	15.1	122	18.9	58	20.7
Weight status	Proportion of obese (BMI ≥ 25 kg/m ²) (%)	Men	382	31.7	729	32.2	284	32.7	229	34.9
		Women	825	20.2	422	17.8	85	23.5	43	30.2
	Proportion of underweight (BMI < 18.5 kg/m ²) (%)	Men	382	3.4	729	3.4	284	2.8	229	2.6
		Women	825	12.1	422	15.6	85	8.2	43	9.3

* “Those who did not exercise regularly” refers to participants except for “those who exercised regularly (those who performed physical activities for 30 minutes or longer per session, twice a week or more for at least one year).”

* “Regular smokers” refer to those who reported smoking every day or sometimes.

* “Those who consumed alcohol at a level that increases the risk of lifestyle-related diseases” refer to men and women who consumed 40 g or more and 20 g or more of pure alcohol daily, respectively. This included:

(1) Men who consumed 360 mL or more of sake every day, 360 mL or more 5 to 6 times a week, 540 mL or more 3 to 4 times a week, 900 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

(2) Women who consumed 180 mL or more of sake every day, 180 mL or more 5 to 6 times a week, 180 mL or more 3 to 4 times a week, 540 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

* “Those without adequate rest from sleep” refer to those who responded “not enough” or “no sleep” to the question about sleep.

* “Those without medical checkup” refer to those who did not undergo a medical checkup in the previous year.

Part II. Results of basic items

Chapter 1. Physical condition and diabetes

1. Obesity and underweight

The proportion of obesity (BMI ≥ 25 kg/m²) was 32.2% in men and 21.9% in women with no significant change over the past 10 years in both sexes.

The proportion of underweight (BMI < 18.5 kg/m²) was 3.7% in men and 11.2% in women with no significant change over the past 10 years in both sexes. Additionally, the proportion of underweight was 19.8% in women aged 20–29 years.

The proportion of malnutrition (BMI ≤ 20 kg/m²) in elderly aged 65 years and over was 10.3% for men and 20.3% for women with no significant change over the past 10 years in both sexes. With regard to age category, the proportion was higher in men and women aged 85 years and over.

* Evaluation of obesity: body mass index (BMI [kg/m²]: body weight [kg]/(height [m])²) was used to evaluate obesity (Obesity Criteria-Reviewing Committee of Japan Society for the Study of Obesity, 2011).

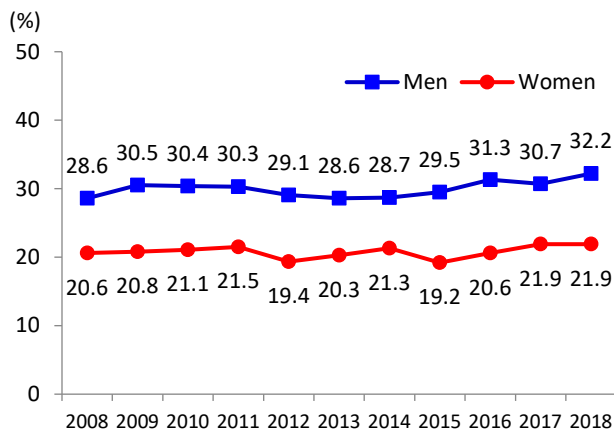


Figure 3-1. Annual changes in the proportion of obesity (BMI ≥ 25 kg/m²) (aged 20 years and over) (2008–2018)

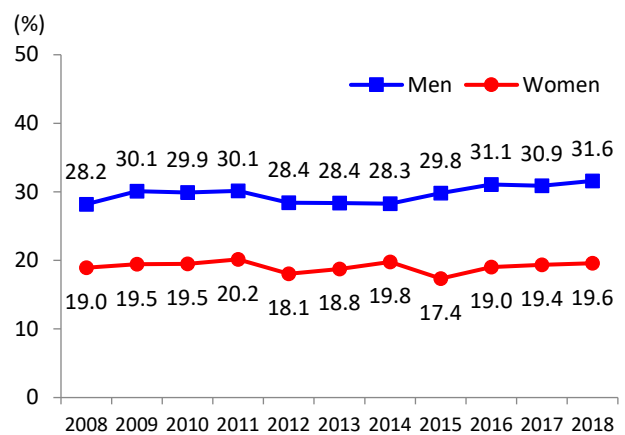


Figure 3-2. Annual changes in the age-adjusted proportion of obesity (BMI ≥ 25 kg/m²) (aged 20 years and over) (2008–2018)

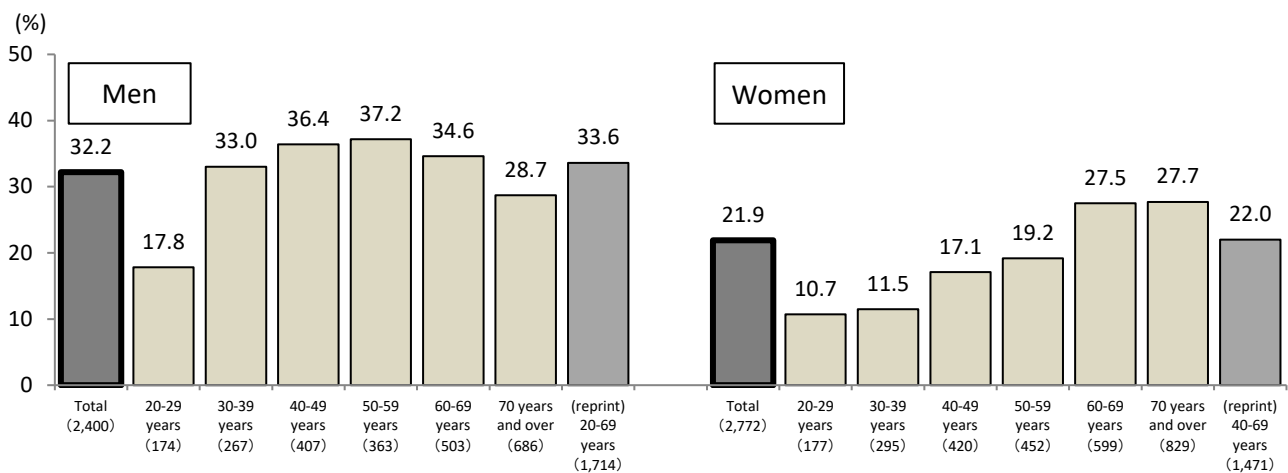


Figure 4. Proportion of obesity (BMI ≥ 25 kg/m²) (aged 20 years and over, based on age and sex)

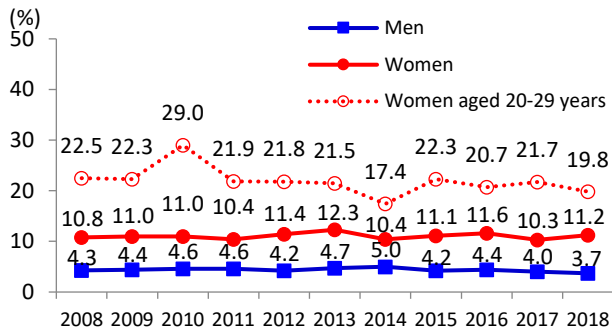


Figure 5-1. Annual changes in the proportion of underweight (BMI < 18.5 kg/m²) (aged 20 years and over) (2008–2018)

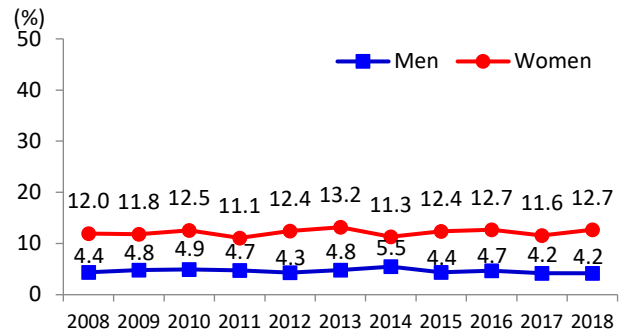


Figure 5-2. Annual changes in the age-adjusted proportion of underweight (BMI < 18.5 kg/m²) (aged 20 years and over) (2008–2018)

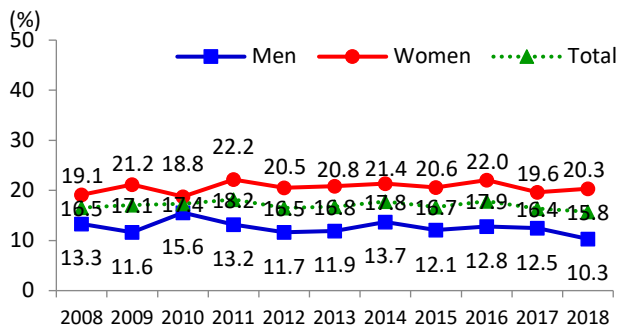


Figure 6-1. Annual changes in the proportion of malnutrition (BMI ≤ 20 kg/m²) (aged 65 years and over) (2008–2018)

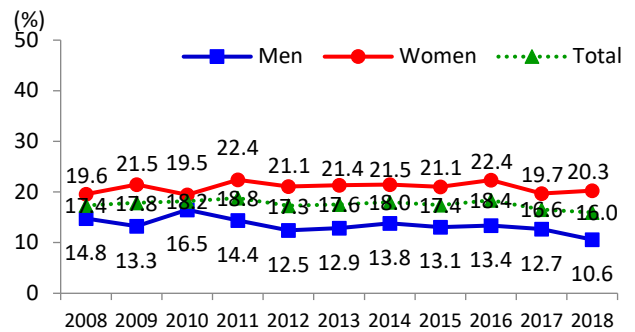


Figure 6-2. Annual changes in the age-adjusted malnutrition (BMI ≤ 20 kg/m²) (aged 65 years and over) (2008–2018)

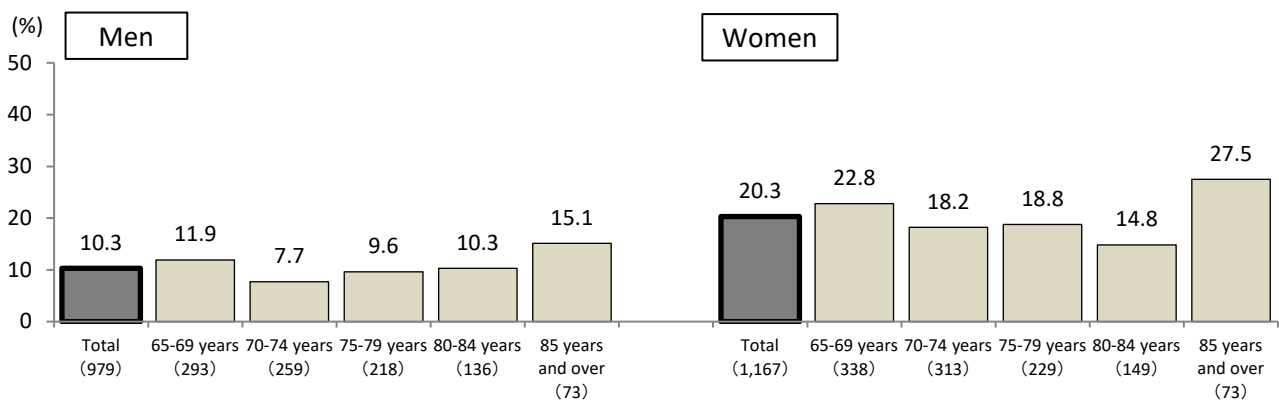


Figure 7. Proportion of malnutrition (BMI ≤ 20 kg/m²) (aged 65 years and over, men and women, based on age)

2. Diabetes

The proportion of “those in whom diabetes is strongly suspected” was 18.7% in men and 9.3% in women with no significant change over the past 10 years in both sexes. With regard to age, the proportion was higher in the older age groups.

* “Those in whom diabetes is strongly suspected” was defined as participants with a hemoglobin A1c (NGSP) value of 6.5% or higher (or a hemoglobin A1c [JDS] value of 6.1% or higher before 2012) or those who responded “yes” to the question “Have you ever received diabetes treatment?” among those with a hemoglobin A1c value and valid responses to “diagnosis of diabetes”, “treatment for diabetes”, and “status of treatment”

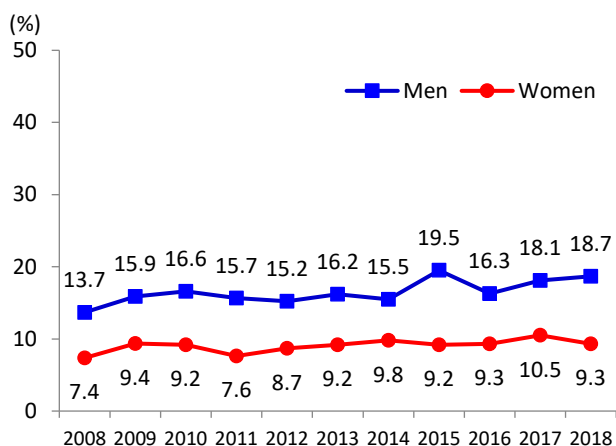


Figure 8-1. Annual changes in the proportion of “those in whom diabetes is strongly suspected” (aged 20 years and over) (2008–2018)

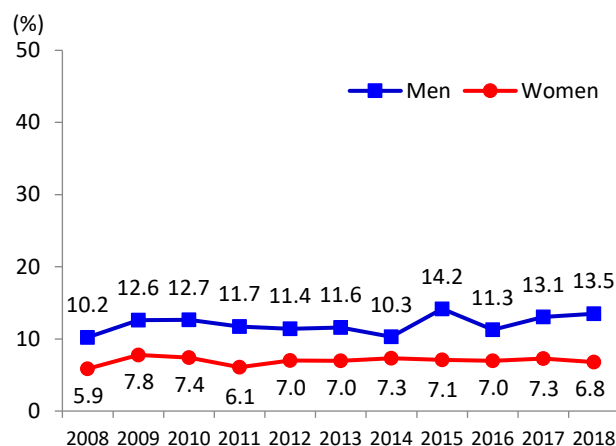


Figure 8-2. Annual changes in the age-adjusted proportion of “those in whom diabetes is strongly suspected” (aged 20 years and over) (2008–2018)

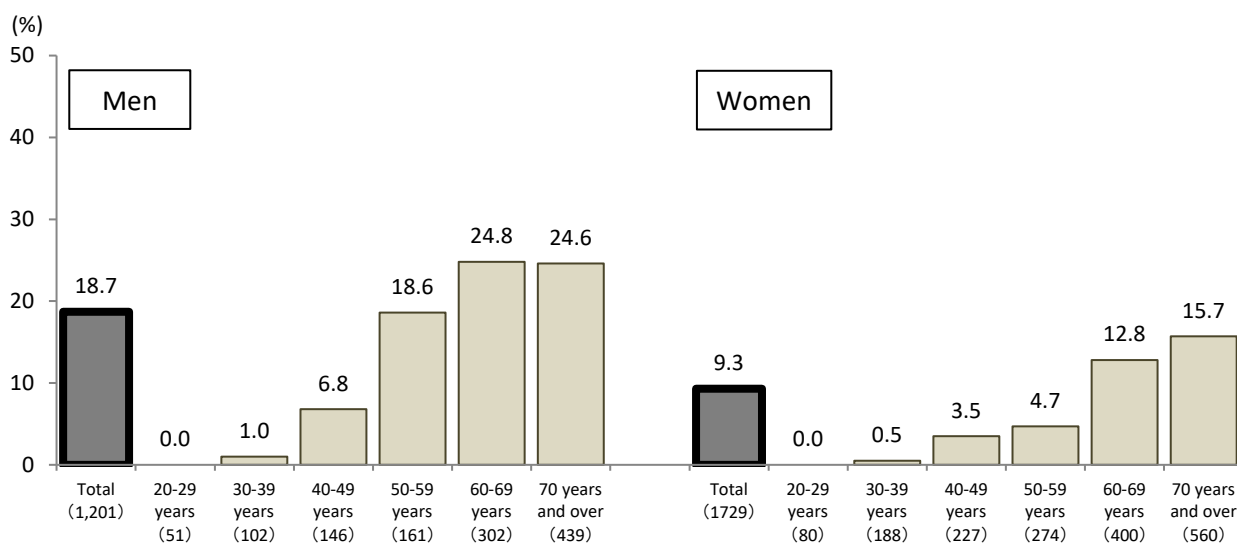


Figure 9. Proportion of “those in whom diabetes is strongly suspected” (aged 20 years and older, based on age and sex)

3. Blood pressure

The mean systolic blood pressure was 134.7 mmHg in men and 127.9 mmHg in women. These values have significantly decreased over the past 10 years in both sexes.

The proportion of those with a systolic blood pressure of 140 mmHg or higher was 36.2% in men and 26.0% in women. These values have significantly decreased over the past 10 years in both sexes.

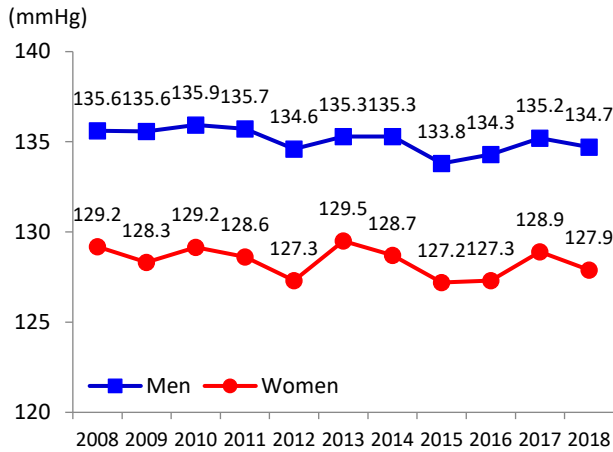


Figure 10-1. Annual changes in the mean systolic blood pressure (aged 20 years and over) (2008–2018)

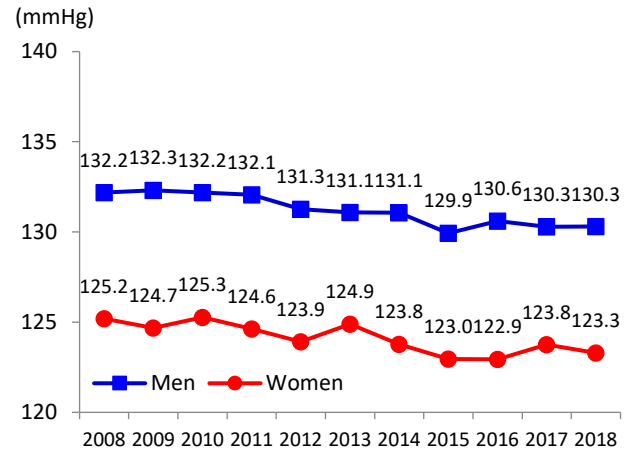


Figure 10-2. Annual changes in the age-adjusted mean systolic blood pressure (aged 20 years and over) (2008–2018)

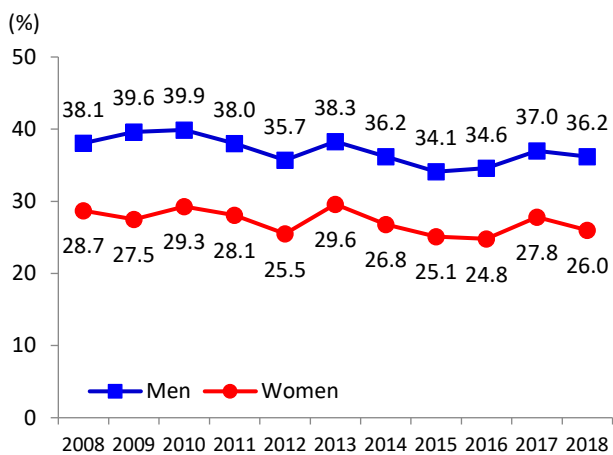


Figure 11-1. Annual changes in the proportion of those with a systolic blood pressure of 140 mmHg or higher (aged 20 years and over) (2008–2018)

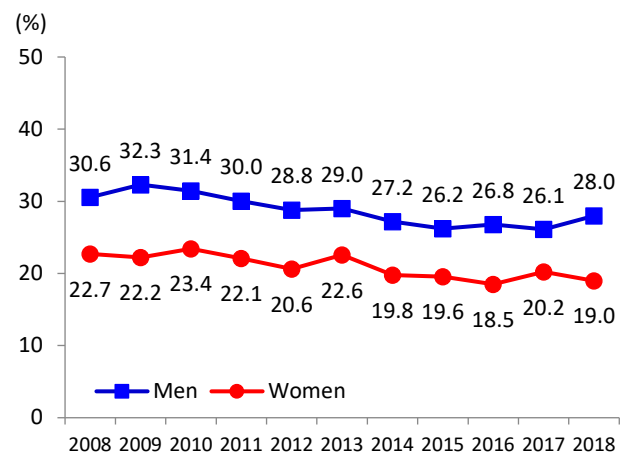


Figure 11-2. Annual changes in the age-adjusted proportion of those with a systolic blood pressure of 140 mmHg or higher (aged 20 years and over) (2008–2018)

4. Blood cholesterol

The proportion of those with a serum total cholesterol level of 240 mg/dL or higher was 12.2% in men and 21.1% in women. These values have significantly increased over the past 10 years in women but not in men.

The mean serum non HDL cholesterol level was 141.8 mg/dL in men and 142.6 mg/dL in women with no significant change over the past 10 years in both sexes.

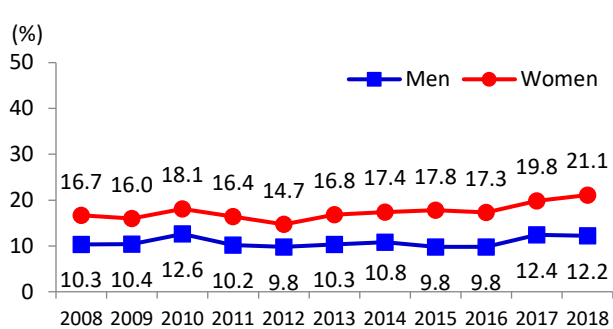


Figure 12-1. Annual changes in the proportion of those with serum total cholesterol level of 240 mg/dL and over (aged 20 years and over) (2008–2018)

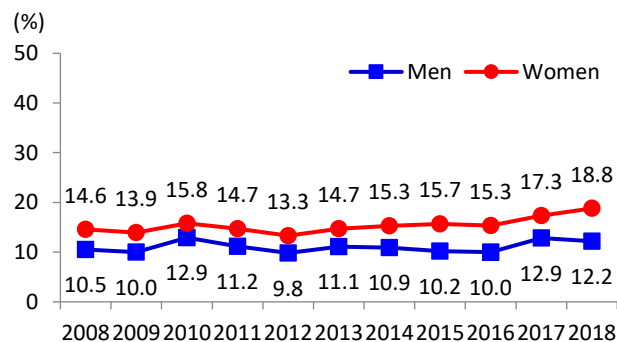


Figure 12-2. Annual changes in the age-adjusted proportion of those with serum total cholesterol level of 240 mg/dL and over (aged 20 years and over) (2008–2018)

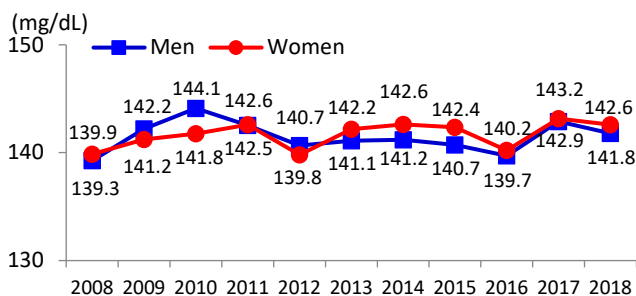


Figure 13-1. Annual changes in the mean serum non HDL cholesterol level (aged 20 years and over) (2008–2018)

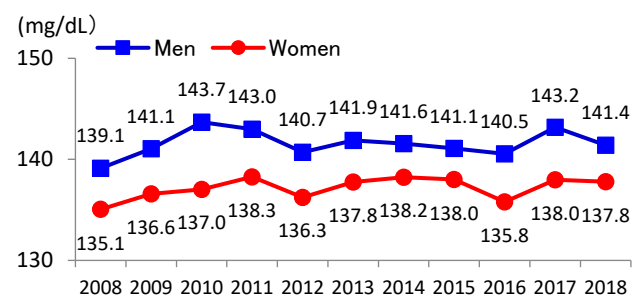


Figure 13-2. Annual changes in the age-adjusted mean serum non HDL cholesterol level (aged 20 years and over) (2008–2018)

*non HDL cholesterol (mg/dL) = total cholesterol (mg/dL)–HDL cholesterol (mg/dL)

Chapter 2. Nutrition/dietary habits

1. Salt intake

The mean salt intake was 10.1 g in the total participants, and 11.0 g in men and 9.3 g in women. These values have significantly decreased over the past 10 years in all participants as well as men and women. With regard to age, the highest mean intake was observed in men and women aged 60–69 years.

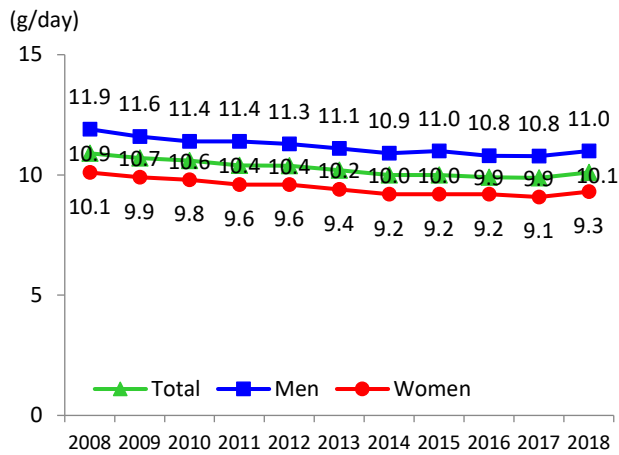


Figure 14-1. Annual changes in the mean salt intake (aged 20 years and over) (2008–2018)

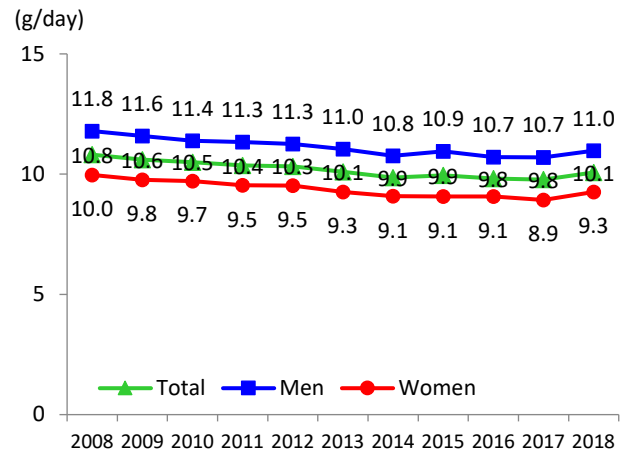


Figure 14-2. Annual changes in the age-adjusted mean salt intake (aged 20 years and over) (2008–2018)

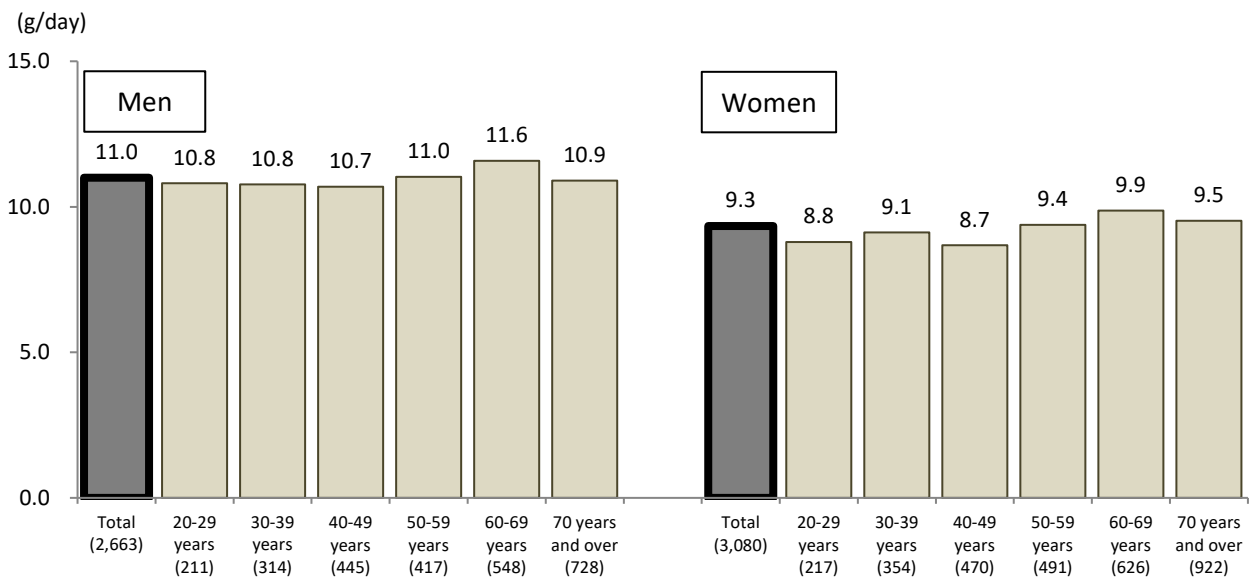


Figure 15. Mean salt intake (aged 20 years and over, based on age and sex)

2. Vegetable Intake

The mean vegetable intake was 281.4 g in the total participants, and 290.9 g in men and 273.3 g in women with no significant change over the past 10 years. With regard to age, those aged 20–49 years had lower vegetable intake, while those aged 60 years and over had higher vegetable intake in both men and women.

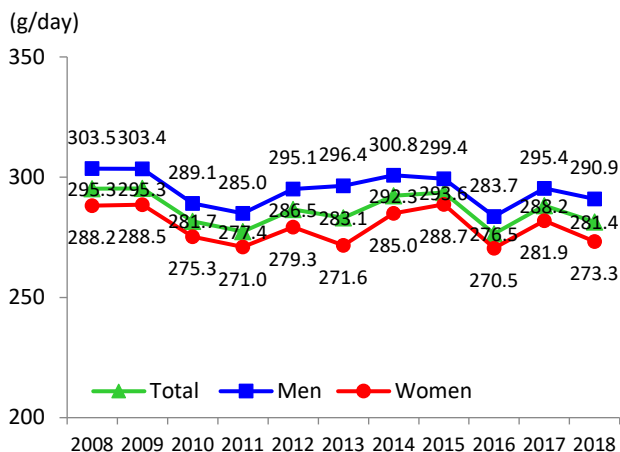


Figure 16-1. Annual changes in the mean vegetable intake (aged 20 years and older) (2008–2018)

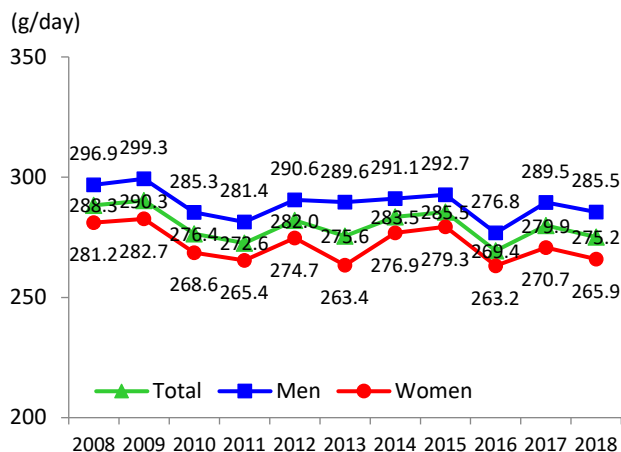


Figure 16-2. Annual changes in the age-adjusted mean vegetable intake (aged 20 years and older) (2008–2018)

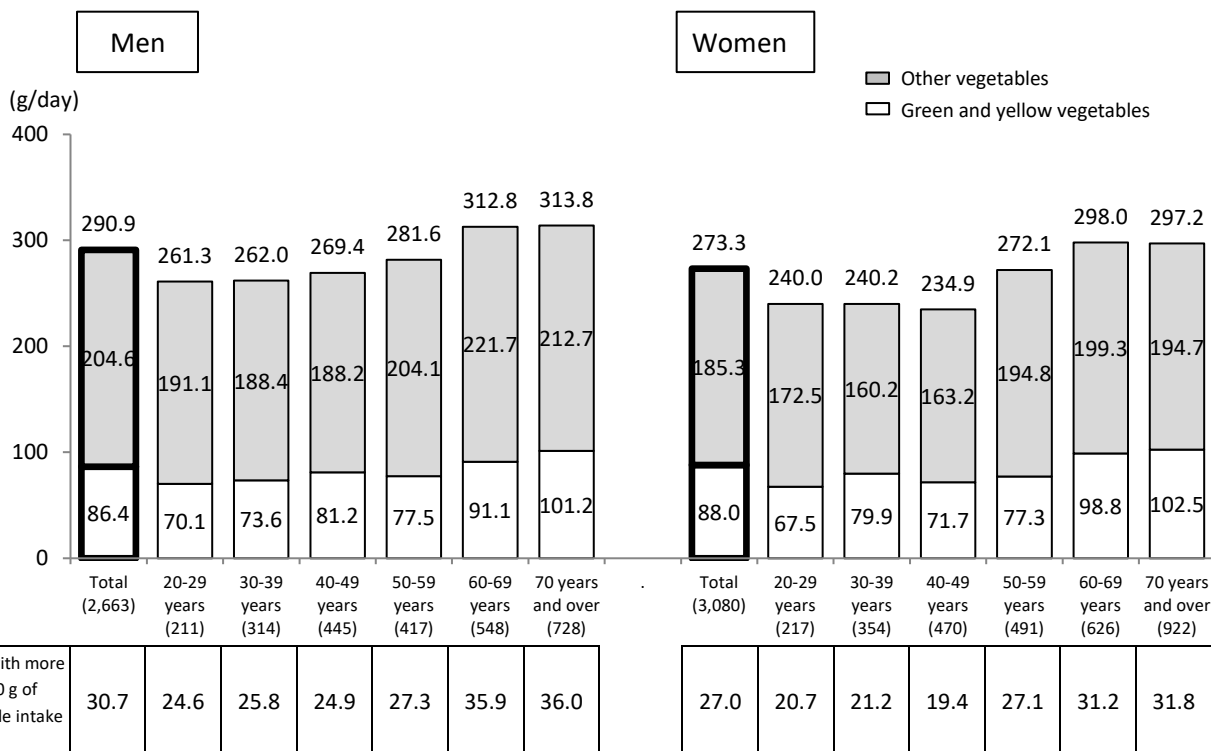


Figure 17. Mean vegetable intake (aged 20 years and over, based on age and sex)

3. Food choice

3-1. Important criteria for food choice

The proportion of those who responded “taste” as important criteria for food choice was the highest in both sexes and was 74.4 % in men and 77.4% in women. The proportion of those who responded “nutritious”, “seasonality”, “safety”, “freshness”, and “price” varied widely between sexes.

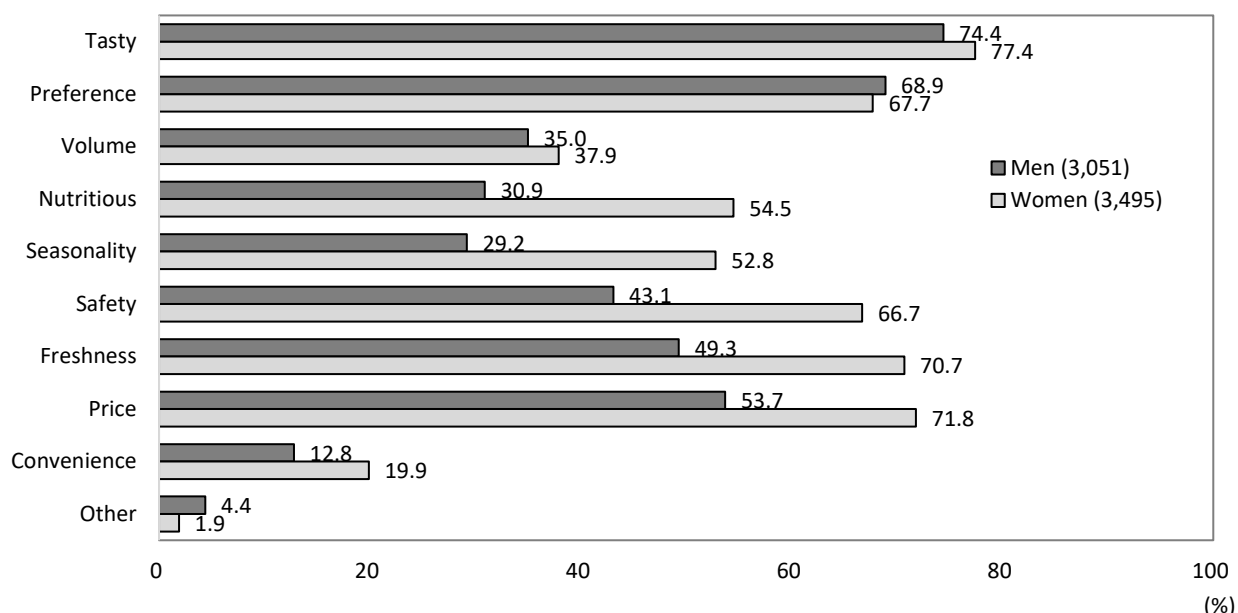


Figure 18. Important criteria for food choice (aged 20 years and over, based on sex)

* Multiple answers allowed

Table 8. Important criteria for food choice (aged 20 years and over, based on age and sex)

	Total		20-29 years		30-39 years		40-49 years		50-59 years		60-69 years		70 years and over	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Men	3,051	-	254	-	374	-	515	-	482	-	620	-	806	-
Tasty	2,271	74.4	193	76.0	297	79.4	388	75.3	363	75.3	457	73.7	573	71.1
Preference	2,102	68.9	189	74.4	271	72.5	363	70.5	332	68.9	443	71.5	504	62.5
Volume	1,069	35.0	124	48.8	181	48.4	219	42.5	174	36.1	180	29.0	191	23.7
Nutritious	943	30.9	57	22.4	95	25.4	149	28.9	116	24.1	196	31.6	330	40.9
Seasonality	891	29.2	36	14.2	88	23.5	126	24.5	113	23.4	211	34.0	317	39.3
Safety	1,315	43.1	56	22.0	119	31.8	201	39.0	203	42.1	300	48.4	436	54.1
Freshness	1,503	49.3	59	23.2	136	36.4	225	43.7	218	45.2	373	60.2	492	61.0
Price	1,637	53.7	126	49.6	200	53.5	301	58.4	277	57.5	355	57.3	378	46.9
Convenience	390	12.8	38	15.0	52	13.9	68	13.2	51	10.6	77	12.4	104	12.9
Other	135	4.4	15	5.9	15	4.0	20	3.9	22	4.6	18	2.9	45	5.6
Women	3,495	-	268	-	396	-	545	-	551	-	694	-	1,041	-
Tasty	2,706	77.4	222	82.8	336	84.8	440	80.7	438	79.5	539	77.7	731	70.2
Preference	2,366	67.7	214	79.9	285	72.0	368	67.5	379	68.8	482	69.5	638	61.3
Volume	1,326	37.9	115	42.9	150	37.9	220	40.4	218	39.6	274	39.5	349	33.5
Nutritious	1,904	54.5	95	35.4	191	48.2	295	54.1	327	59.3	413	59.5	583	56.0
Seasonality	1,847	52.8	73	27.2	168	42.4	283	51.9	314	57.0	427	61.5	582	55.9
Safety	2,332	66.7	106	39.6	252	63.6	351	64.4	416	75.5	524	75.5	683	65.6
Freshness	2,470	70.7	112	41.8	255	64.4	382	70.1	431	78.2	566	81.6	724	69.5
Price	2,510	71.8	188	70.1	311	78.5	425	78.0	443	80.4	540	77.8	603	57.9
Convenience	697	19.9	46	17.2	112	28.3	103	18.9	119	21.6	134	19.3	183	17.6
Other	68	1.9	2	0.7	6	1.5	7	1.3	3	0.5	5	0.7	45	4.3

* The breakdown total is not 100% because multiple answers were allowed.

* The shaded cells show the most selected criteria in each age category.

3-2. Intake of balanced diets

The proportion of those who consumed balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “almost every day” was 45.4% in men and 49.0% in women. With regard to age, the proportion tended to be lower in the younger age group.

Among those who consumed balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week”, the proportion of those who knew that balanced diets include staple foods, main dishes, and side dishes was 88.7% in men and 95.5% in women. Among those with this knowledge, the proportion of those who responded “takes much effort to prepare meal” as a barrier to consuming balanced diets composed of staple foods, main dishes, and side dishes was the highest.

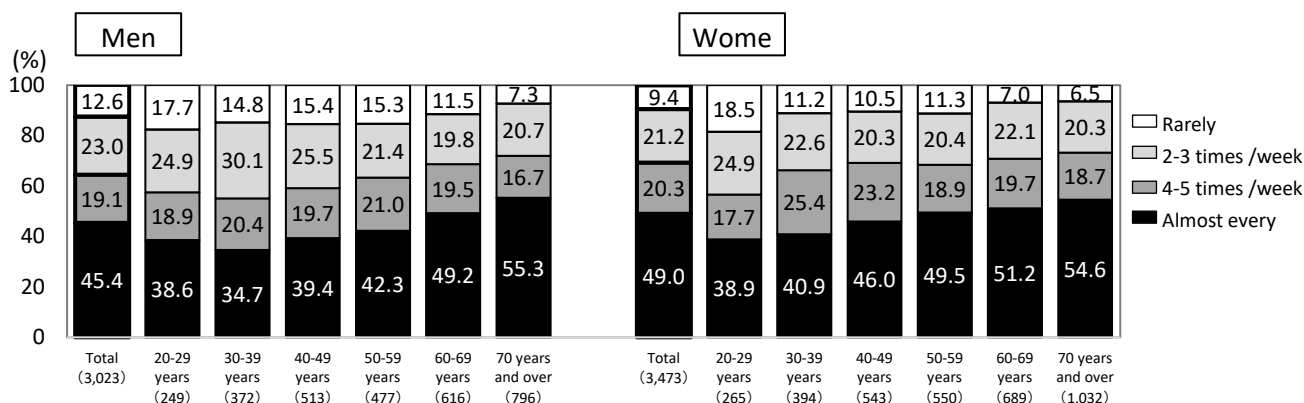


Figure 19. Frequency of eating balanced diets with staple foods, main dishes, and side dishes twice per day or more (aged 20 years and over, based on age and sex).

Table 9. Proportion of those who knew that balanced diets include staple foods, main dishes, and side dishes among those who eat balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week”* (aged 20 years and over, based on age and sex).

		Total		20-29 years		30-39 years		40-49 years		50-59 years		60-69 years		70 years and over	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Men	Total	1,651	88.7	153	89.5	243	89.3	311	88.7	275	93.5	313	85.3	356	87.4
	4-5 times /week	577	92.5	47	100.0	76	94.7	101	96.0	100	95.0	120	90.0	133	86.5
	2-3 times /week	694	89.3	62	90.3	112	92.0	131	86.3	102	93.1	122	88.5	165	87.9
	Rarely	380	81.8	44	77.3	55	76.4	79	83.5	73	91.8	71	71.8	58	87.9
Women	Total	1,771	95.5	162	95.7	233	98.3	293	96.6	278	97.5	336	96.7	469	91.5
	4-5 times /week	706	97.3	47	95.7	100	98.0	126	98.4	104	99.0	136	98.5	193	94.8
	2-3 times /week	738	94.3	66	95.5	89	98.9	110	95.5	112	97.3	152	96.7	209	88.0
	Rarely	327	94.5	49	95.9	44	97.7	57	94.7	62	95.2	48	91.7	67	92.5

* Those who responded “4-5 times/week”, “2-3 times/ week”, and “rarely”.

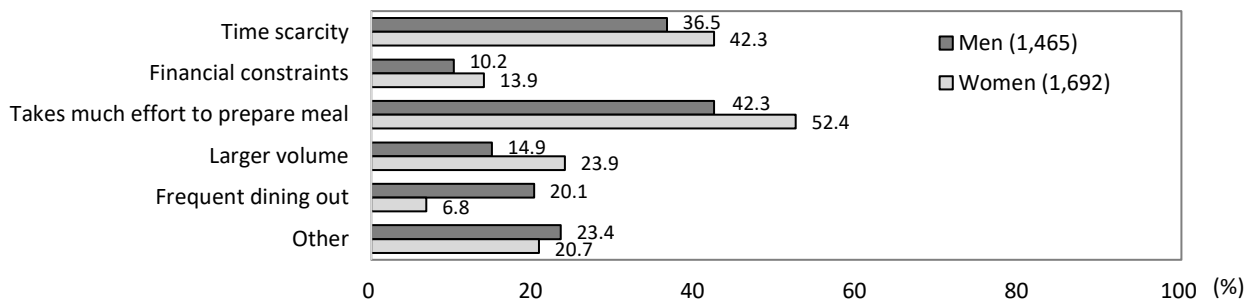


Figure 20. Barriers to consuming balanced diets with staple foods, main dishes, and side dishes (aged 20 years and over, based on sex)

* Multiple answers were allowed.

* Those who knew that balanced diets include staple foods, main dish, and side dish among those who consumed balanced diets composed of staple foods, main dishes, and side dishes twice per day or more “less than 5 times/week”

Chapter 3. Physical activity, exercise, and sleep

1. Exercise habits

The proportion of those who exercised regularly was 31.8% in men and 25.5% in women. These values have significantly decreased over the past 10 years in women but not in men. With regard to age, the lowest proportion was observed in men (17.6%) and women (7.8%) aged 20–29 years.

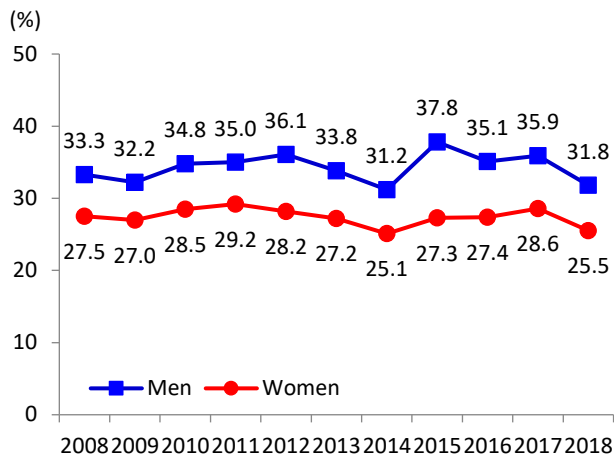


Figure 21-1. Annual changes in the proportion of those who exercised regularly (aged 20 years and over) (2008–2018)

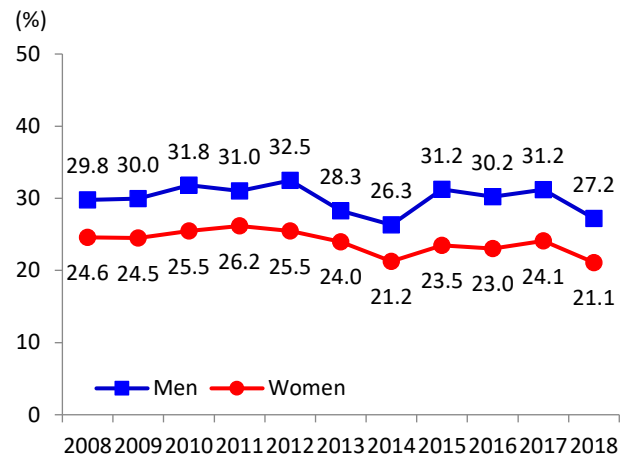


Figure 21-2. Annual changes in the age-adjusted proportion of those who exercised regularly (aged 20 years and over) (2008–2018)

* “Those who exercised regularly” refer to those who performed physical activities for 30 minutes or longer per session, twice a week or more for at least one year.

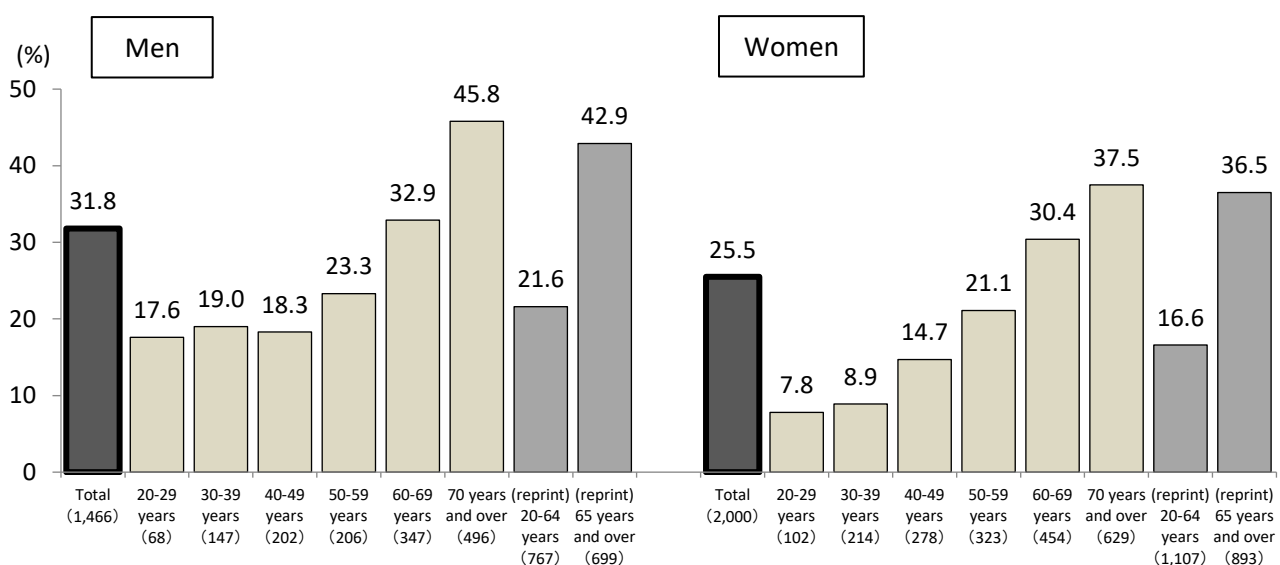


Figure 22. Proportion of those who exercised regularly (aged 20 years and over, based on age and sex)

2. Daily step counts

The mean daily step counts were 6,794 in men and 5,942 in women with no significant change over the past 10 years in both sexes. With regard to age, the mean daily step counts were 7,644 in men and 6,705 in women aged 20–64 years, while the corresponding values were 5,417 in men and 4,759 women aged 65 years and over.

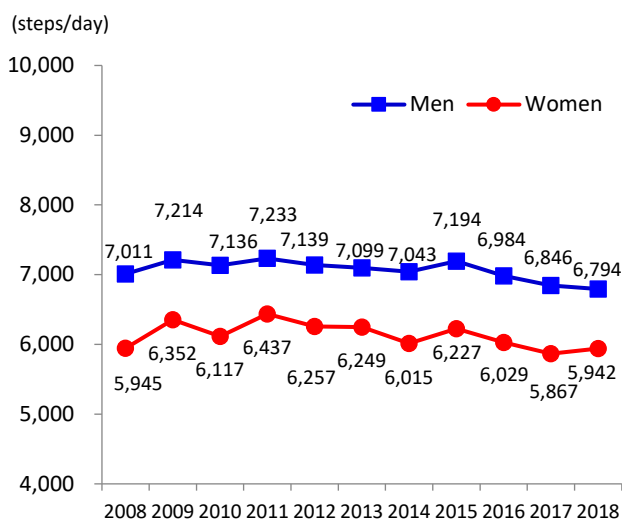


Figure 23-1. Annual changes in the mean daily step counts (aged 20 years and over) (2008–2018)

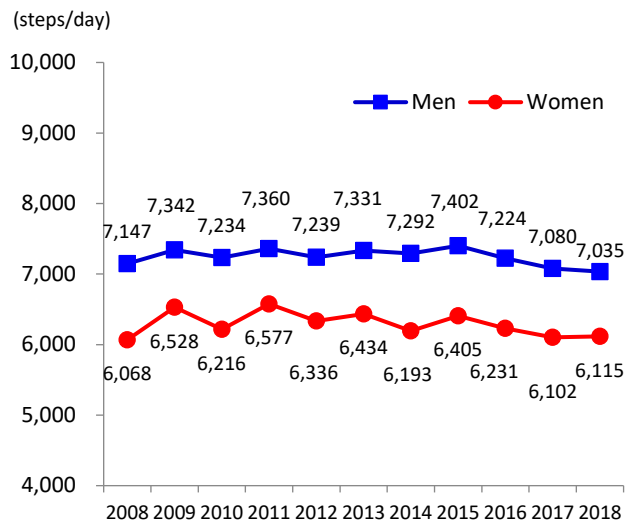


Figure 23-2. Annual changes in the age-adjusted mean daily step counts (aged 20 years and over) (2008–2018)

* Those taking less than 100 steps or 50,000 steps and over were excluded from the 2012 survey.

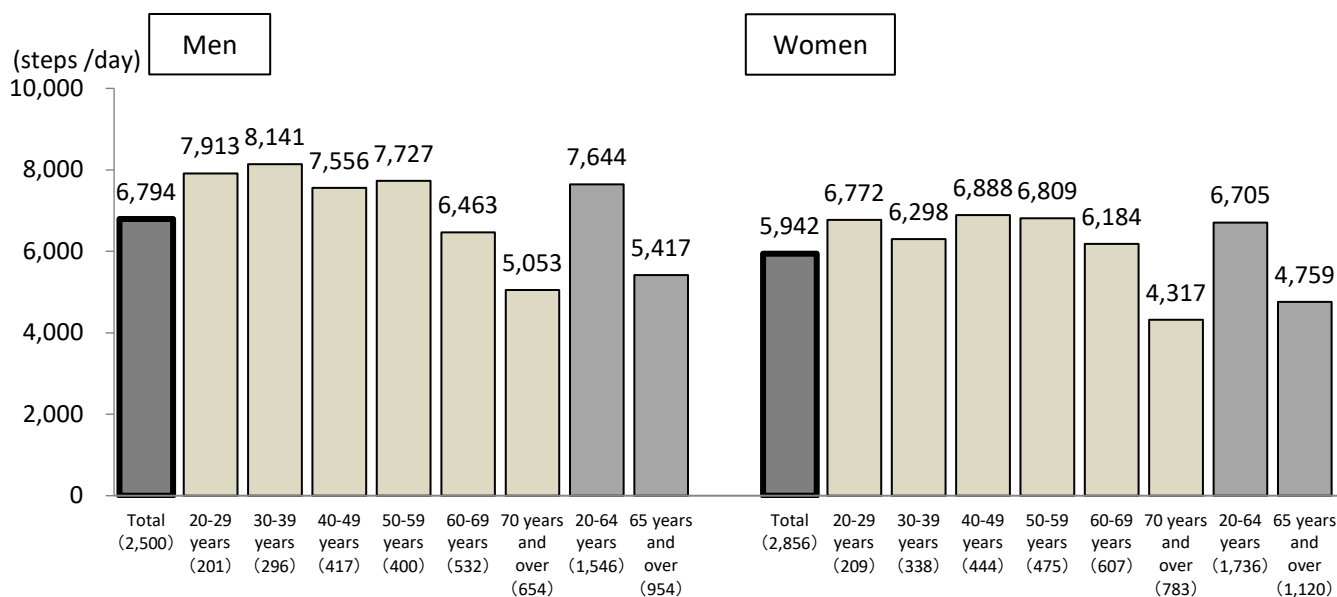


Figure 24. Mean daily step counts (aged 20 years and over, based on age and sex)

* Those taking less than 100 steps or 50,000 steps and over were excluded.

3. Sleep

The proportion of those without adequate rest from sleep in the previous month was 21.7% in the total participants. The proportion has significantly increased across the surveys from 2009 to 2018.

For mean sleeping duration in the previous month, the proportion of those with 6–7 hours of sleep/day was the highest: 34.5% in men and 34.7% in women. With regard to age, the proportion of those with less than 6 hours of sleep/day was more than 40% in men aged 30–59 years and women aged 40–69 years.

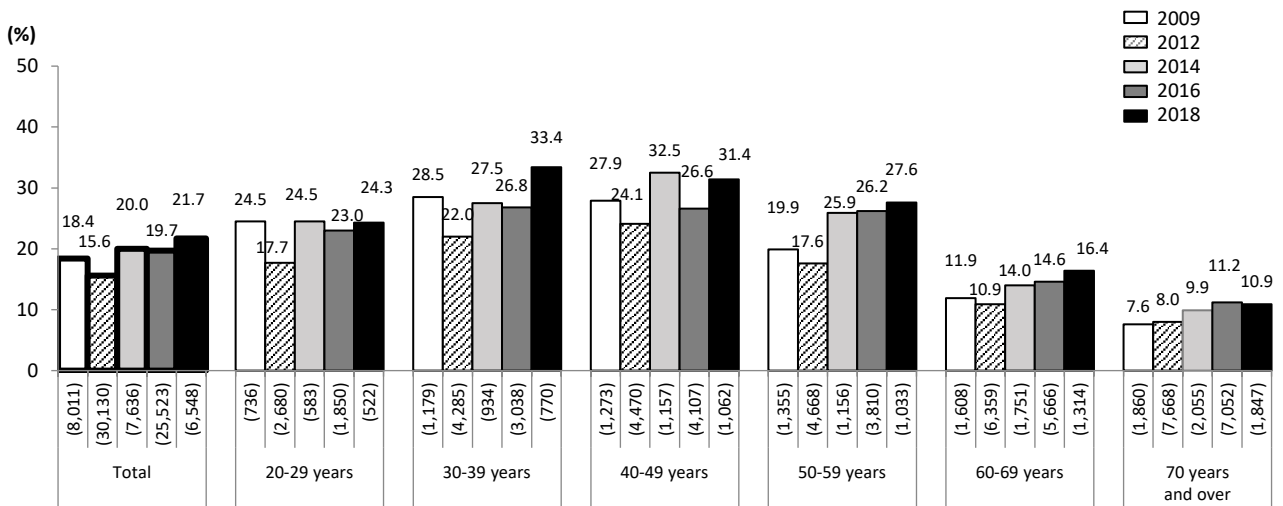


Figure 25. Annual changes in the proportion of those without adequate rest from sleep (aged 20 years and over, total of men and women, based on age) (2009, 2012, 2014, 2016 and 2018)

* “Those without adequate rest from sleep” refer to those who responded “not enough” or “no sleep” to the question about sleep.

* The age-adjusted proportion of those without adequate rest from sleep were 19.4% in 2009, 16.3% in 2012, 21.7% in 2014, 20.9% in 2016, and 23.4% in 2018. The proportion has significantly increased across the survey from 2009 to 2018.

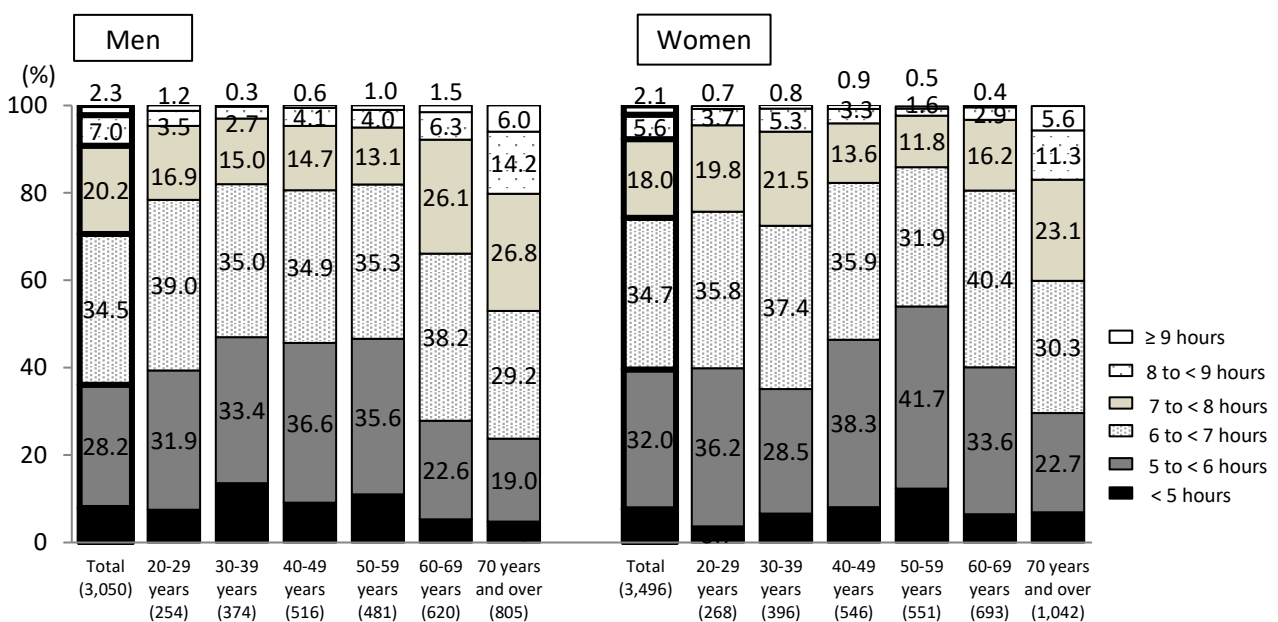


Figure 26. Proportion of mean sleep duration per day (aged 20 years and over, based on age and sex)

Chapter 4. Alcohol consumption and smoking status

1. Alcohol consumption

The proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases was 15.0% in men and 8.7% in women. The proportion has significantly increased over the past 8 years (except for 2013 without survey) in women but not in men. With regard to age, the highest proportion was observed in men (22.4%) and women (15.6%) aged 50–59 years.

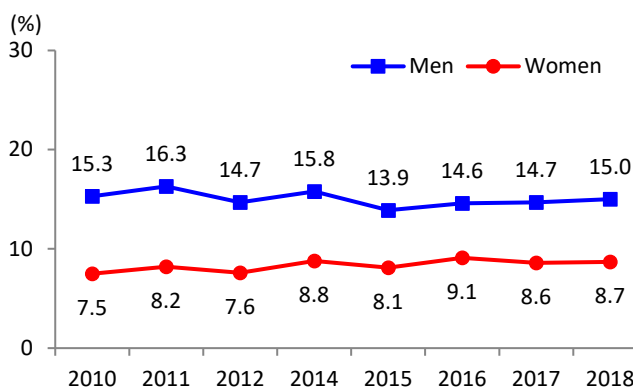


Figure 27-1. Annual changes in the proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases (aged 20 years and over) (2010 to 2018)

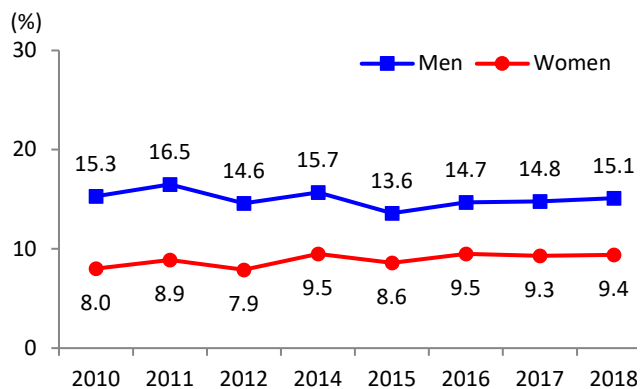


Figure 27-2. Annual changes in the age-adjusted proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases (aged 20 years and over) (2010 to 2018)

* No survey was conducted in 2013.

* “Those who consumed alcohol at a level that increases the risk of lifestyle-related diseases” refer to men and women who consumed 40 g and more and 20 g or more of pure alcohol daily, respectively. This included:

(1) Men who consumed 360 mL or more of sake every day, 360 mL or more 5 to 6 times a week, 540 mL or more 3 to 4 times a week, 900 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

(2) Women who consumed 180 mL or more of sake every day, 180 mL or more 5 to 6 times a week, 180 mL or more 3 to 4 times a week, 540 mL or more once or twice a week, or 900 mL or more 1 to 3 times a month.

* The age-adjusted proportion of men and women who consumed alcohol at a level that increases the risk of lifestyle-related diseases was 15.3% and 8.0% in 2010, 16.5% and 8.9% in 2011, 14.6% and 7.9% in 2012, 15.7% and 9.5% in 2014, 13.6% and 8.6% in 2015, 14.7% and 9.5% in 2016, 14.8% and 9.3% in 2017, and 15.1% and 9.4% in 2018, respectively. The proportion has significantly increased over the past 8 years (except for 2013 without survey) in women but not in men.

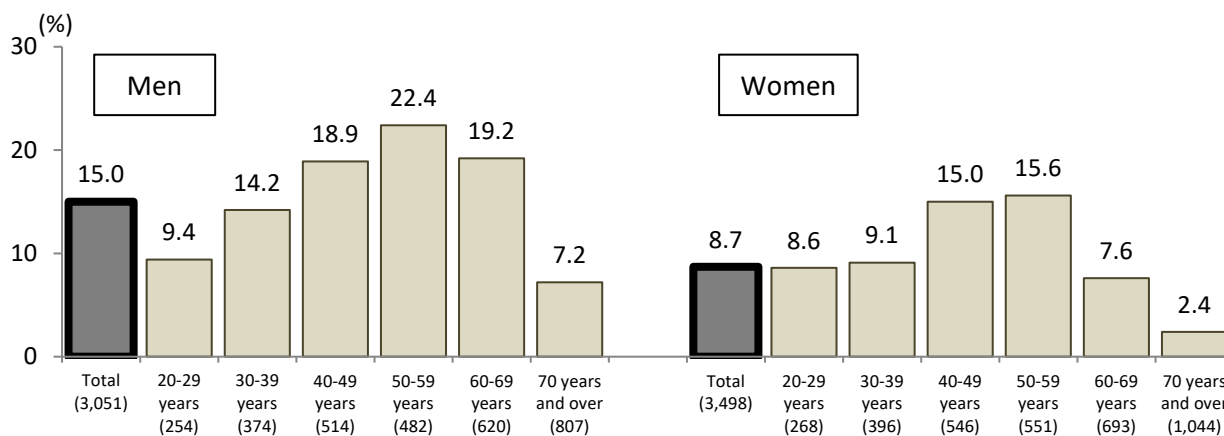


Figure 28. Proportion of those who consumed alcohol at a level that increases the risk of lifestyle-related diseases (aged 20 years and over, based on age and sex)

2. Smoking status

The proportion of regular smokers was 17.8% in the total participants, and 29.0% in men and 8.1% in women. The proportion has significantly decreased over the past 10 years in both sexes. With regard to age, the highest proportion was observed in men aged 30–69 years (>30%).

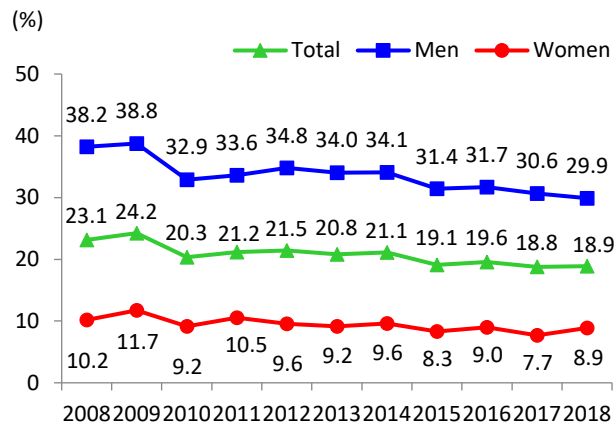
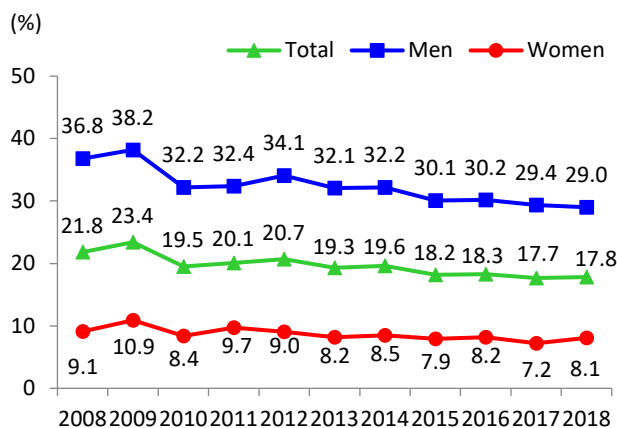


Figure 29-1. Annual changes in the proportion of regular smokers (aged 20 years and over) (2008–2018)

Figure 29-2. Annual changes in the age-adjusted proportion of regular smokers (aged 20 years and over) (2008–2018)

* “Regular smokers” refer to those who reported smoking every day or sometimes (after 2013), smoking every day or sometimes in the past month (in respondents who reported smoking cigarettes) (from 2011 to 2012), and smoking (or had smoked) 100 cigarettes or more in a total of 6 months or longer (from 2008 to 2010).

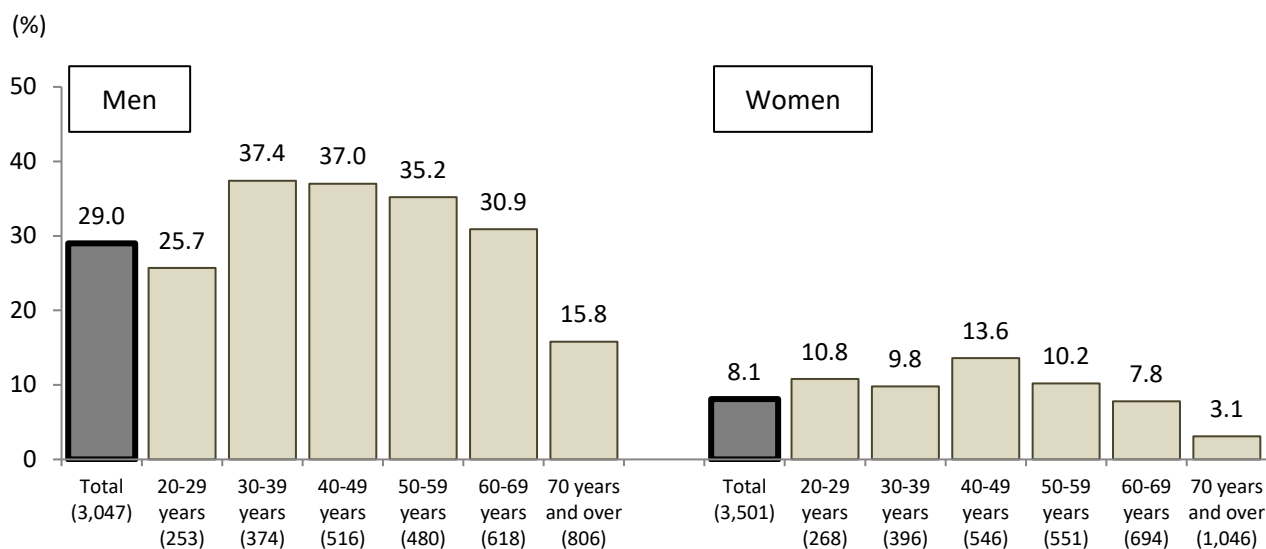


Figure 30. Proportion of regular smokers (aged 20 years and over, based on age and sex)

With regard to the types of tobacco products, the proportion of those who smoked “cigarettes” among regular smokers was 77.0% in men and 84.9% in women, while the proportion of those who smoked “heated tobacco products” was 30.6% in men and 23.6% in women.

With regard to the combination of types of tobacco products, the proportion of regular smokers who smoked “only cigarettes”, “only heated tobacco products”, and “both cigarettes and heated tobacco products” was 68.1%, 22.1%, and 8.5% in men and 76.1%, 14.8%, and 8.8% in women, respectively.

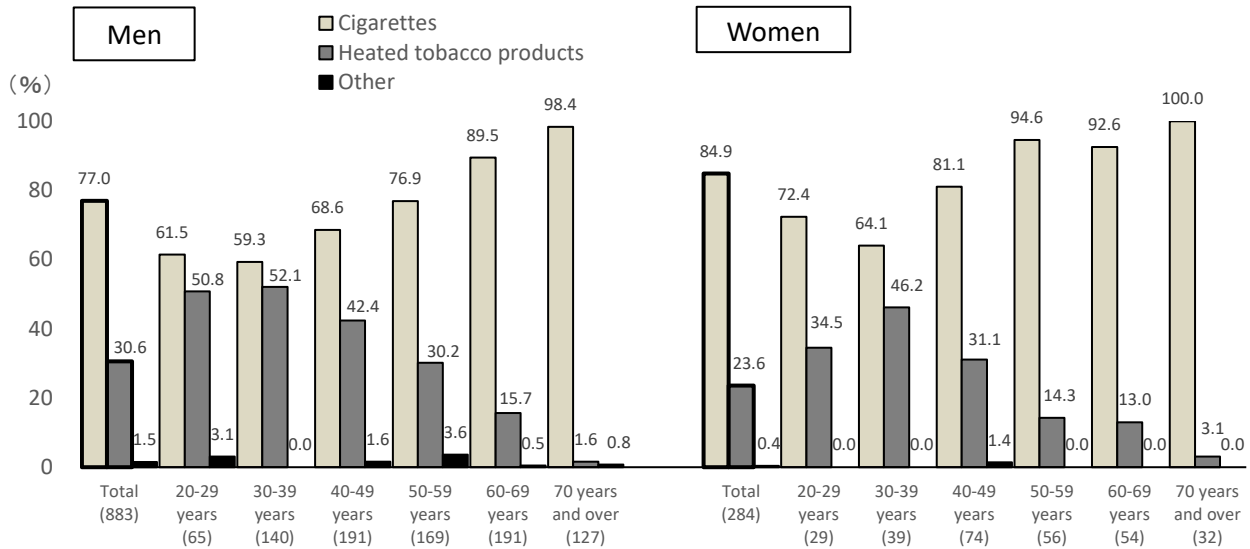


Figure 31. Types of tobacco products smoked by regular smokers (aged 20 years and over, based on age and sex)

* “Regular smokers” refer to those who reported smoking every day or sometimes.

* Multiple answers allowed from “cigarettes”, “heated tobacco products”, and “other”.

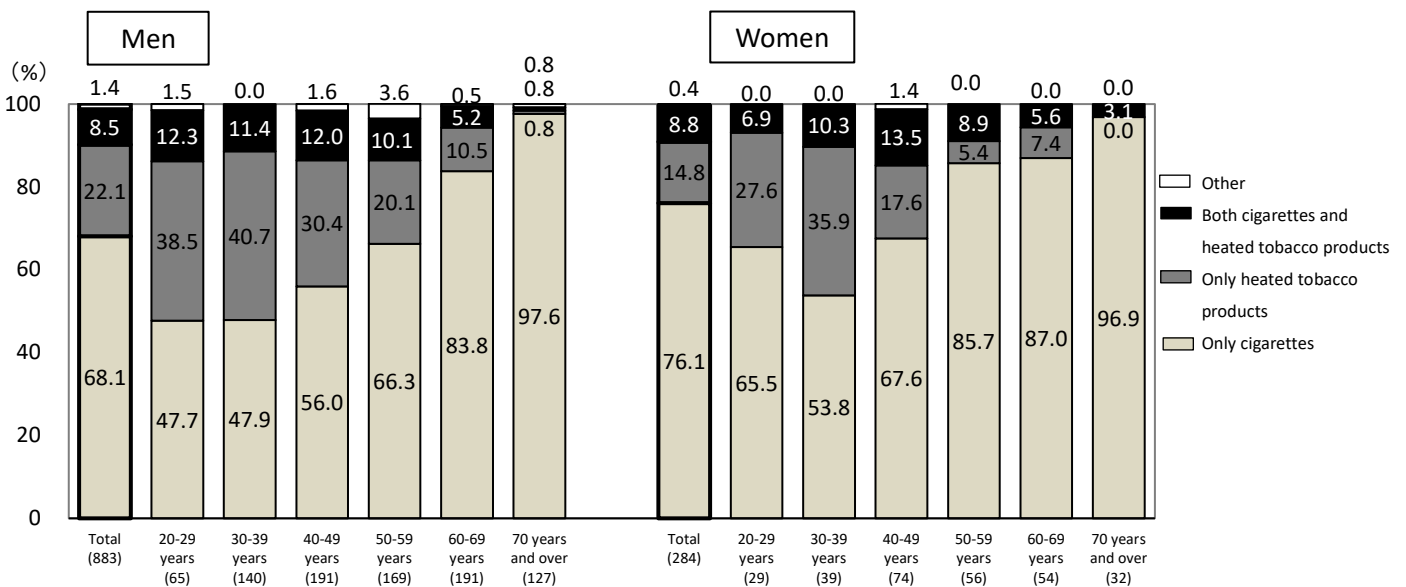


Figure 32. Combination of types of tobacco products smoked by regular smokers (aged 20 years and over, based on age and sex)

* “Both cigarettes and heated tobacco products” refer to those who reported smoking both “cigarettes” and “heated tobacco products” as well as one person who reported smoking “other”, “cigarettes”, and “heated tobacco products”.

3. Willingness to quit smoking

Among regular smokers, the proportion of those willing to quit smoking was 32.4% in the total participants, and 30.6% in men and 38.0% in women.

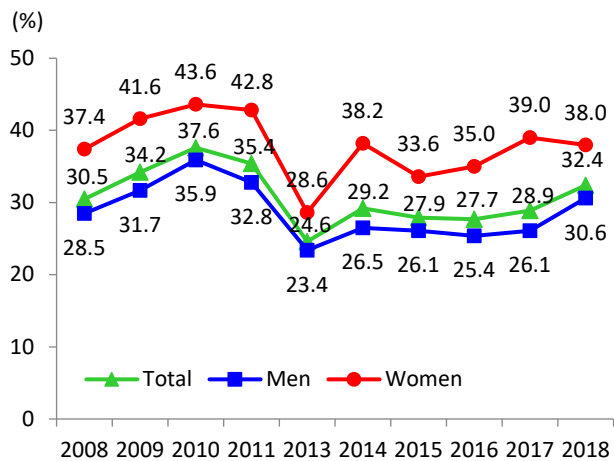


Figure 33-1. Annual changes in the proportion of those willing to quit smoking among regular smokers (aged 20 years and over) (2008–2018)

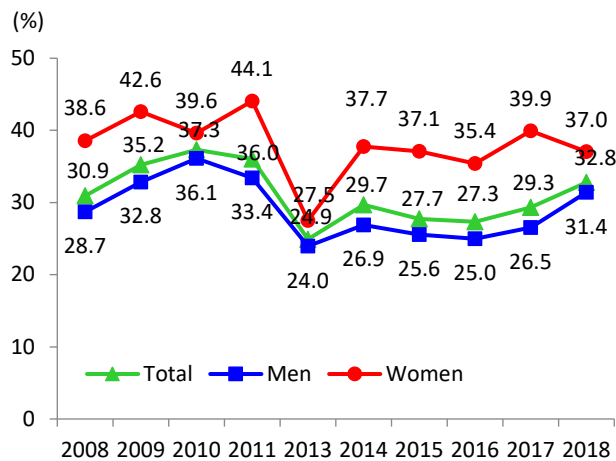


Figure 33-2. Annual changes in the age-adjusted proportion of those willing to quit smoking among regular smokers (aged 20 years and over) (2008–2018)

* No survey was conducted in 2012.

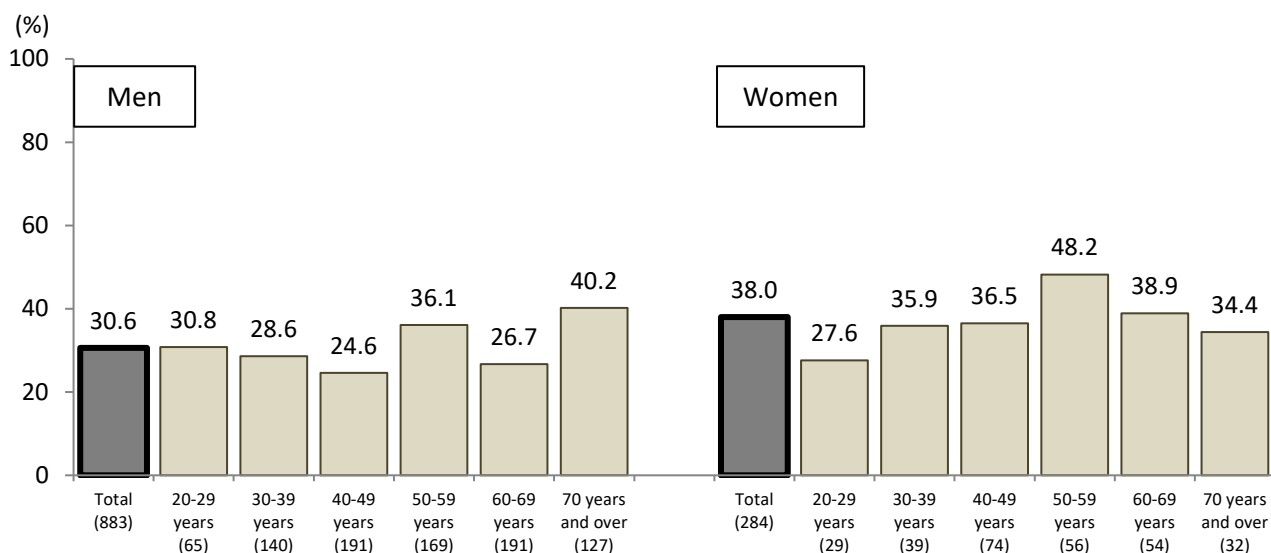


Figure 34. Proportion of those willing to quit smoking among regular smokers (aged 20 years and over, based on age and sex)

4. Passive smoking

With regard to places, the proportion of participants who were exposed to passive smoking in the past month (except for regular smokers) was the highest in “restaurants” (36.9%), followed by “street” (30.9%) and “amusement places” (30.3%); the proportion of passive smoking in these places was more than 30%. In “home”, “workplace”, “school”, “restaurants”, “amusement places”, “administrative agency”, and “medical institutions”, the proportion has significantly decreased across the surveys from 2003 to 2018.

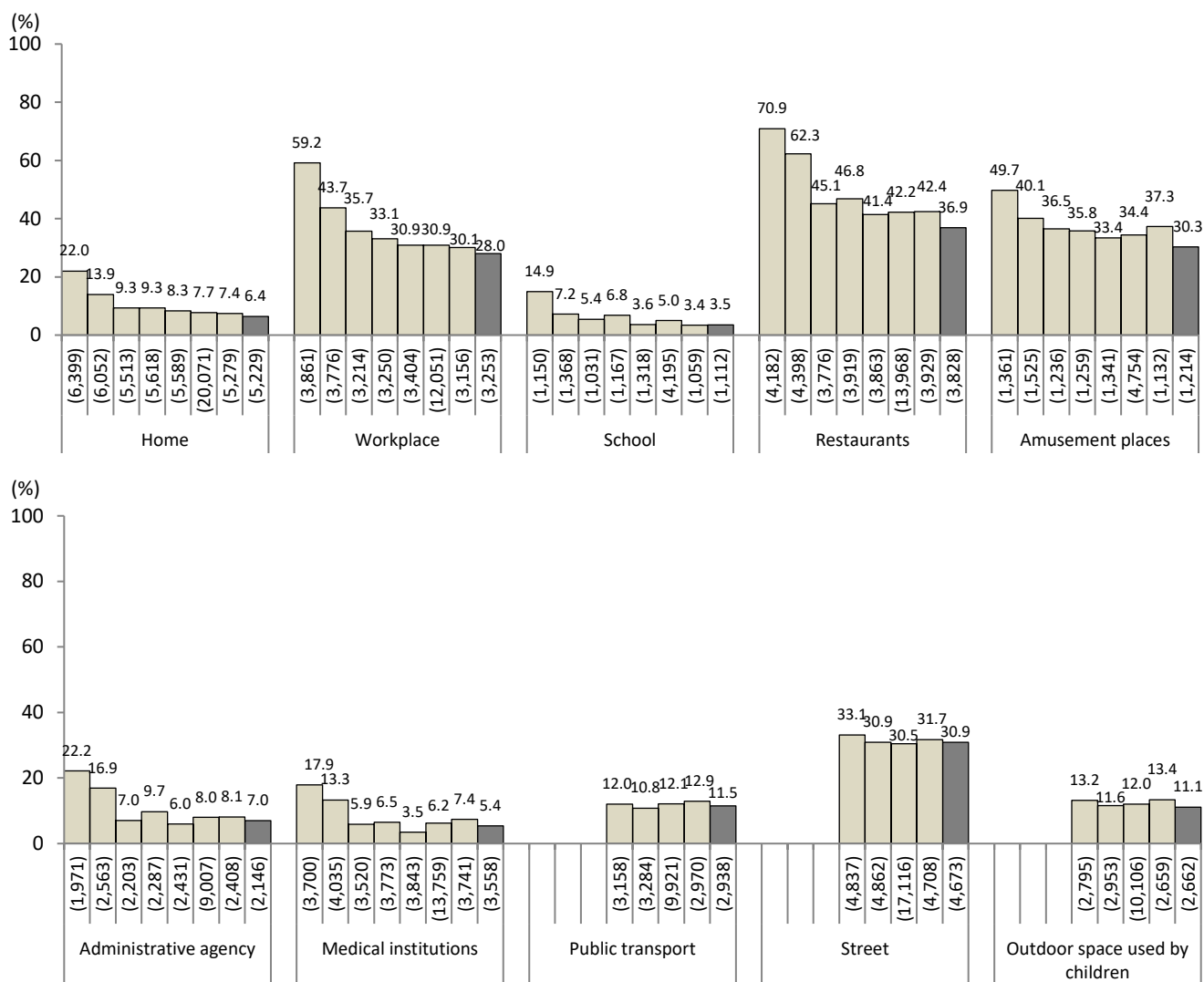


Figure 35. Proportion of those exposed to passive smoking (aged 20 years and over, except for regular smokers) (2003, 2008, 2011, 2013, 2015, 2016, 2017 and 2018).

* Results of 2003, 2008, 2011, 2013, 2015, 2016, 2017, and 2018 surveys are shown (from left to right) for all places, except for “public transport”, “street”, and “outdoor space used by children”, for which, results of 2013, 2015, 2016, 2017, and 2018 surveys are shown.

* “Regular smokers” refer to those who reported smoking every day or sometimes.

* “Those exposed to passive smoking” refer to those exposed to passive smoking every day at home or once a month or more out of home.

* Those who worked in schools, restaurants, and amusement places and were exposed to passive smoking responded “workplace”.

* The specific place or occasion in which the respondents were exposed to passive smoking was unknown.

Chapter 5. Dental health (oral health)

1. Dental health (oral health)

The proportion of those with 20 teeth and over was 76.9% in the total participants. The proportion has significantly increased across the surveys from 2004 to 2018.

The proportion of those with gingival inflammation was 21.3% in the total participants. The proportion has significantly decreased across the surveys from 2004 to 2018.

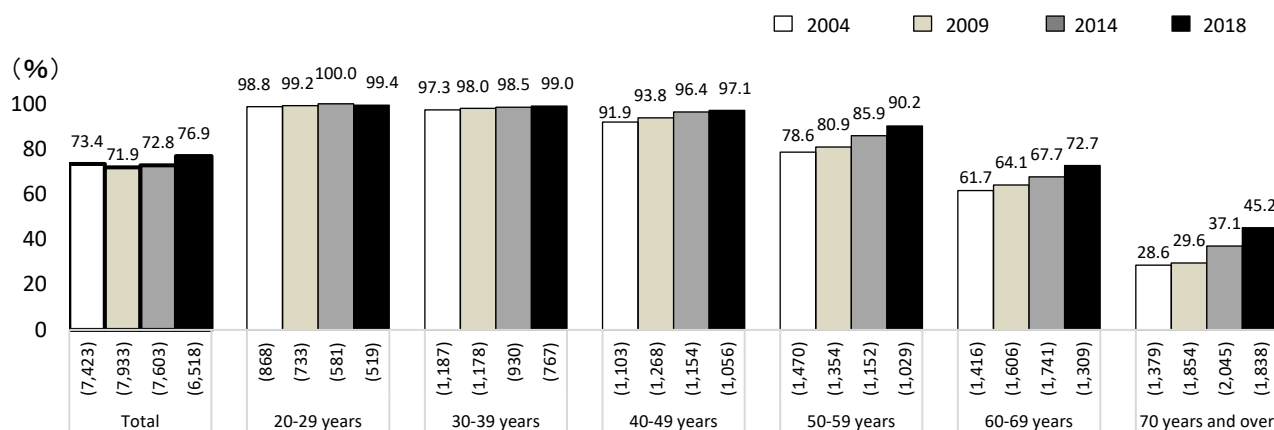


Figure 36. Annual changes in the proportion of those with 20 teeth and over (aged 20 years and over, total of men and women, based on age) (2004, 2009, 2014 and 2018)

* The age-adjusted proportion (total number) of those with 20 teeth and over was 73.6% in 2004, 75.0% in 2009, 78.6% in 2014, and 81.9% in 2018. The proportion has significantly increased across the surveys from 2004 to 2018.

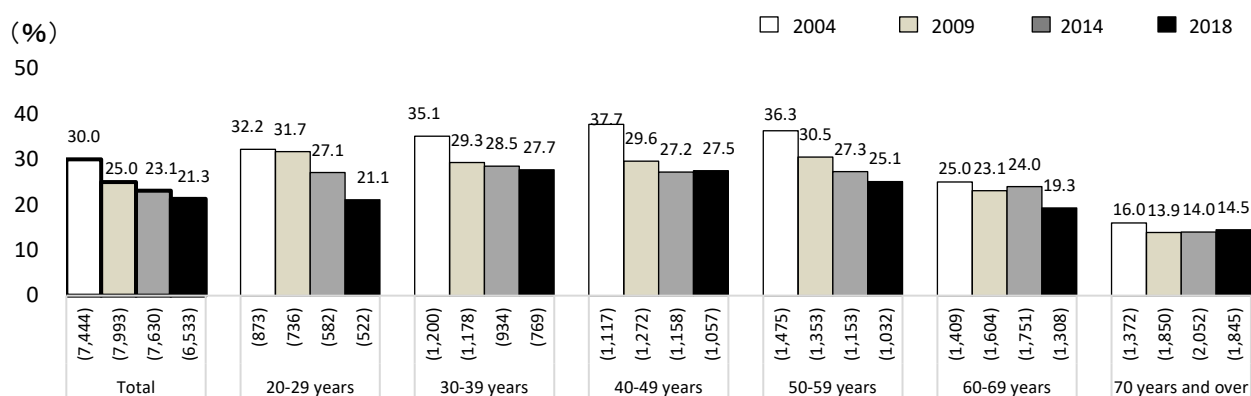


Figure 37. Annual changes in the proportion of those with gingival inflammation (aged 20 years and over, total of men and women, based on age) (2004, 2009, 2014 and 2018)

* “Those with gingival inflammation” refer to those who responded “swollen gums” or “bleeding during brushing teeth” to the question regarding the status of the gums.

* The age-adjusted proportion (total number) of those with gingival inflammation was 29.7% in 2004, 25.7% in 2009, and 24.2% in 2014, and 22.3% in 2018. The proportion has significantly decreased across the surveys from 2004 to 2018.

< Appendix > Status of intake by nutrients/food groups

1. Intake of nutrients

Table 10. Age-dependent nutrient intake

	Total	1-6 years	7-14 years	15-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	(reprint) 20 years and over	(reprint) 65-74 years	(reprint) 75 years and over	(reprint) 70-79 years	(reprint) 80 years and over	
Participants (n)	6,926	389	517	277	428	668	915	908	1,174	1,650	5,743	1,257	1,047	1,071	579	
Energy	kcal	1,900	1,223	1,921	2,185	1,933	1,966	1,922	1,973	1,994	1,850	1,930	1,957	1,814	1,910	1,739
Protein	g	70.4	43.6	69.7	79.8	69.7	70.4	69.6	73.0	75.9	70.5	71.8	74.5	69.1	73.3	65.2
Animal protein	g	38.9	24.7	40.7	47.6	40.2	39.1	38.4	41.0	41.4	37.1	39.3	39.7	36.4	38.9	33.9
Fat	g	60.4	38.8	63.7	72.9	65.7	64.6	63.4	64.3	62.2	54.3	61.0	60.3	51.8	57.3	48.7
Animal fat	g	31.8	21.5	36.5	41.3	37.0	33.4	33.2	33.2	31.7	27.7	31.6	30.3	26.7	29.3	24.6
Saturated fatty acid	g	17.83	13.01	21.85	22.14	19.89	19.19	18.55	18.44	17.66	15.29	17.59	17.03	14.61	16.17	13.66
Monounsaturated fatty acid	g	22.28	13.67	22.42	27.64	25.33	24.36	23.92	24.08	22.79	19.48	22.60	21.98	18.41	20.67	17.28
Omega-6 fatty acid	g	10.50	6.15	9.98	12.27	10.88	11.08	11.13	11.41	11.18	9.72	10.75	10.74	9.33	10.20	8.84
Omega-3 fatty acid	g	2.39	1.28	1.89	2.28	2.04	2.30	2.31	2.54	2.75	2.64	2.51	2.77	2.57	2.74	2.45
Cholesterol	mg	333	194	310	415	339	333	334	354	362	323	340	349	320	331	309
Carbohydrate	g	251.2	171.0	259.4	290.8	252.0	256.8	246.7	249.5	259.9	255.7	254.0	260.7	255.2	259.8	248.1
Dietary fiber	g	14.4	8.5	12.6	13.3	12.4	13.2	13.1	14.1	16.6	16.8	15.0	17.3	16.4	17.6	15.5
Water-soluble dietary fiber	g	3.4	2.2	3.2	3.2	3.1	3.2	3.1	3.4	3.9	3.8	3.5	4.0	3.7	4.0	3.5
Water-insoluble dietary fiber	g	10.4	5.9	9.0	9.6	8.8	9.5	9.4	10.2	12.0	12.2	10.8	12.4	12.0	12.7	11.3
Vitamin A RE	µgRE	518	376	501	482	448	492	423	510	569	613	531	625	606	643	558
Vitamin D	µg	6.6	4.1	5.3	5.6	5.3	5.7	5.5	6.8	8.1	8.0	7.0	8.3	7.8	8.4	7.4
Vitamin E	mg ¹	6.7	4.0	5.7	6.7	6.0	6.7	6.4	7.0	7.6	7.2	7.0	7.7	6.9	7.5	6.5
Vitamin K	µg	246	134	181	221	212	237	235	238	289	288	260	305	275	307	252
Vitamin B1	mg	0.90	0.58	0.93	1.09	0.95	0.92	0.89	0.93	0.95	0.89	0.92	0.94	0.86	0.93	0.80
Vitamin B2	mg	1.16	0.77	1.19	1.19	1.07	1.09	1.07	1.17	1.28	1.25	1.18	1.30	1.23	1.30	1.17
Niacin NE	mg	29.7	17.0	27.2	32.5	29.0	30.0	29.7	31.9	32.7	29.8	30.7	31.7	29.0	31.2	27.2
Vitamin B6	mg	1.15	0.70	1.03	1.19	1.09	1.08	1.06	1.19	1.30	1.25	1.19	1.30	1.23	1.31	1.16
Vitamin B12	µg	5.9	3.0	5.0	4.8	4.6	5.4	5.0	5.9	7.4	7.2	6.3	7.5	7.1	7.7	6.5
Folic acid	µg	287	153	228	257	246	257	255	294	335	346	303	352	340	360	321
Pantothenic acid	mg	5.57	3.92	5.93	6.09	5.29	5.41	5.23	5.60	6.01	5.77	5.63	6.05	5.65	6.02	5.31
Vitamin C	mg	95	54	66	74	73	73	72	89	119	132	102	131	131	137	122
Sodium	mg	3,825	2,060	3,379	3,891	3,852	3,897	3,803	3,992	4,200	3,988	3,982	4,129	3,940	4,063	3,849
Salt equivalent	g ²	9.7	5.2	8.6	9.9	9.8	9.9	9.7	10.1	10.7	10.1	10.1	10.5	10.0	10.3	9.8
Salt equivalent	g/1,000 kcal	5.2	4.3	4.5	4.7	5.2	5.1	5.2	5.3	5.5	5.6	5.4	5.5	5.6	5.5	5.7
Potassium	mg	2,290	1,463	2,163	2,194	1,993	2,105	2,077	2,312	2,599	2,579	2,362	2,657	2,527	2,688	2,378
Calcium	mg	505	396	638	475	417	439	437	479	555	560	502	577	549	583	518
Magnesium	mg	263	154	237	251	229	243	246	271	302	292	273	302	288	304	271
Phosphorus	mg	992	663	1,050	1,058	927	955	942	1,008	1,088	1,024	1,006	1,076	1,006	1,063	950
Iron	mg	7.5	4.2	6.3	7.5	7.1	7.2	7.2	7.7	8.6	8.3	7.9	8.7	8.2	8.6	7.8
Zinc	mg	8.3	5.3	8.6	10.0	8.7	8.5	8.2	8.5	8.7	8.1	8.4	8.6	7.9	8.4	7.5
Copper	mg	1.12	0.68	1.04	1.19	1.06	1.10	1.08	1.14	1.24	1.21	1.16	1.25	1.20	1.24	1.14
Fat-energy ratio	% ³	28.3	27.9	29.6	30.0	30.4	29.3	29.4	29.1	27.8	25.9	28.1	27.4	25.2	26.6	24.8
Carbohydrate-energy ratio	% ^{3,4}	56.8	57.9	55.8	55.4	54.9	56.2	56.0	55.9	56.8	58.8	56.9	57.3	59.5	58.0	60.2
Animal protein ratio	% ³	53.5	54.8	57.3	57.5	55.7	53.3	53.2	54.2	52.9	51.2	52.9	51.9	51.1	51.6	50.5
Cereal-energy ratio	% ³	40.0	39.5	41.1	43.7	42.7	43.1	42.1	38.8	37.3	38.8	39.8	37.6	39.5	38.2	40.0

Abbreviations: RE, retinol equivalents; NE, niacin equivalents

¹ Including only α -tocopherol.

² Salt equivalents = Na (mg) \times 2.54/1,000

³ Nutrient values are shown as the mean value per person per day.

⁴ Carbohydrate-energy ratio = 100 – protein-energy ratio – fat-energy ratio.

Table 11. Age-dependent nutrient intake in male participants

	Total	1-6 years	7-14 years	15-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	(reprint) 20 years and over	(reprint) 65-74 years	(reprint) 75 years and over	(reprint) 70-79 years	(reprint) 80 years and over	
Participants (n)	3,260	181	273	143	211	314	445	417	548	728	2,663	578	460	496	232	
Energy	kcal	2,120	1,268	2,042	2,527	2,230	2,200	2,141	2,249	2,228	2,046	2,164	2,147	2,036	2,083	1,966
Protein	g	76.7	45.4	73.4	91.4	78.2	77.4	75.9	80.5	82.6	76.0	78.4	79.0	76.1	77.8	72.0
Animal protein	g	42.9	25.9	43.0	55.1	45.3	43.5	42.5	45.9	46.1	40.0	43.4	42.4	40.0	41.5	36.9
Fat	g	65.9	39.9	67.2	82.3	75.0	69.4	68.7	71.0	67.6	58.6	66.7	64.2	57.2	61.0	53.5
Animal fat	g	35.3	21.9	38.9	48.1	42.8	36.7	36.6	37.3	34.9	30.3	35.2	32.6	29.8	32.0	26.8
Saturated fatty acid	g	19.26	13.31	23.15	24.92	22.54	20.05	19.78	19.99	18.81	16.46	18.96	17.90	16.19	17.13	15.02
Monounsaturated fatty acid	g	24.60	13.92	23.56	31.52	29.25	26.58	26.28	27.17	25.05	21.24	25.06	23.73	20.46	22.27	19.02
Omega-6 fatty acid	g	11.50	6.37	10.50	13.59	12.47	12.04	12.14	12.71	12.34	10.51	11.84	11.53	10.33	10.85	9.78
Omega-3 fatty acid	g	2.59	1.40	2.01	2.64	2.32	2.53	2.58	2.76	3.01	2.78	2.73	2.96	2.76	2.87	2.60
Cholesterol	mg	356	197	327	454	371	357	352	383	394	343	365	367	348	345	337
Carbohydrate	g	278.0	177.7	277.5	340.9	292.7	289.1	274.1	279.8	283.2	279.2	281.5	281.5	282.7	280.1	277.5
Dietary fiber	g	14.7	8.8	13.0	14.4	12.9	13.6	13.7	14.4	16.5	17.5	15.3	17.0	17.8	17.8	16.8
Water-soluble dietary fiber	g	3.5	2.2	3.2	3.4	3.2	3.3	3.2	3.4	3.8	4.0	3.6	3.9	4.0	4.1	3.8
Water-insoluble dietary fiber	g	10.6	6.2	9.3	10.5	9.3	9.7	9.8	10.3	11.9	12.6	11.0	12.2	12.8	12.8	12.2
Vitamin A RE	µgRE	534	401	521	539	482	517	439	486	594	632	544	637	634	668	557
Vitamin D	µg	6.9	4.4	5.4	6.9	5.5	5.8	6.2	7.0	8.6	8.3	7.3	8.4	8.4	8.5	7.7
Vitamin E	mg ¹	7.0	4.4	5.9	7.2	6.6	6.8	6.8	7.2	7.8	7.6	7.3	7.8	7.5	7.8	7.1
Vitamin K	µg	252	137	189	228	218	245	246	243	294	301	268	307	297	316	268
Vitamin B1	mg	0.98	0.59	0.97	1.26	1.08	1.01	0.97	1.03	1.01	0.96	1.00	0.98	0.95	0.99	0.88
Vitamin B2	mg	1.22	0.79	1.25	1.34	1.19	1.16	1.11	1.24	1.32	1.32	1.24	1.32	1.33	1.34	1.26
Niacin NE	mg	32.6	17.9	28.7	37.6	32.6	33.4	32.6	35.5	36.0	32.4	33.8	34.1	32.1	33.5	30.1
Vitamin B6	mg	1.24	0.74	1.08	1.36	1.22	1.18	1.15	1.30	1.40	1.34	1.28	1.36	1.35	1.38	1.26
Vitamin B12	µg	6.5	3.5	5.0	5.6	4.9	5.9	5.9	6.1	8.4	7.9	6.9	8.2	7.8	8.3	7.0
Folic acid	µg	295	158	236	276	256	265	263	297	341	360	311	355	361	369	341
Pantothenic acid	mg	5.96	4.06	6.26	6.93	5.86	5.84	5.53	6.04	6.35	6.13	6.00	6.26	6.16	6.31	5.74
Vitamin C	mg	93	56	67	80	75	70	73	84	111	134	99	122	137	136	130
Sodium	mg	4,140	2,153	3,499	4,304	4,255	4,241	4,210	4,343	4,560	4,291	4,332	4,420	4,278	4,300	4,272
Salt equivalent	g ²	10.5	5.5	8.9	10.9	10.8	10.8	10.7	11.0	11.6	10.9	11.0	11.2	10.9	10.9	10.9
Salt equivalent	g/1,000 kcal	5.1	4.2	4.4	4.4	5.0	5.0	5.2	5.1	5.3	5.5	5.2	5.3	5.5	5.4	5.6
Potassium	mg	2,386	1,514	2,267	2,437	2,160	2,197	2,163	2,373	2,670	2,714	2,454	2,679	2,755	2,764	2,606
Calcium	mg	514	413	668	523	452	438	433	468	551	578	504	558	598	584	566
Magnesium	mg	279	159	250	278	252	258	259	289	318	314	290	312	318	318	304
Phosphorus	mg	1,062	696	1,106	1,202	1,033	1,025	1,003	1,076	1,151	1,094	1,075	1,116	1,106	1,115	1,048
Iron	mg	7.9	4.3	6.5	8.3	7.6	7.5	7.5	8.1	9.0	8.8	8.3	9.0	8.8	8.9	8.5
Zinc	mg	9.1	5.4	9.1	11.6	9.8	9.4	9.0	9.5	9.5	8.8	9.3	9.2	8.8	9.1	8.3
Copper	mg	1.21	0.70	1.10	1.34	1.18	1.19	1.17	1.22	1.33	1.30	1.25	1.32	1.31	1.32	1.27
Fat-energy ratio	% ³	27.6	27.8	29.4	29.1	30.0	28.0	28.6	28.2	27.0	25.3	27.3	26.6	24.8	25.9	24.1
Carbohydrate-energy ratio	% ^{3,4}	57.8	58.1	56.2	56.5	55.8	57.8	57.1	57.4	58.1	59.8	58.1	58.6	60.2	59.2	61.2
Animal protein ratio	% ³	54.2	54.9	57.7	58.2	56.1	54.1	54.1	54.8	54.0	51.1	53.6	52.2	51.1	51.7	49.9
Cereal-energy ratio	% ³	41.5	39.8	41.2	45.9	44.4	45.4	43.8	41.1	38.4	39.8	41.4	39.3	40.0	39.6	40.3

Abbreviations: RE, retinol equivalents; NE, niacin equivalents

¹ Including only α-tocopherol.

² Salt equivalents = Na (mg) × 2.54/1,000

³ Nutrient values are shown as the mean value per person per day.

⁴ Carbohydrate-energy ratio = 100 – protein-energy ratio – fat-energy ratio.

Table 12. Age-dependent nutrient intake in female participants

	Total	1-6 years	7-14 years	15-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	(reprint) 20 years and over	(reprint) 65-74 years	(reprint) 75 years and over	(reprint) 70-79 years	(reprint) 80 years and over	(reprint) Pregnant	(reprint) Lactating	
Participants (n)	3,666	208	244	134	217	354	470	491	626	922	3,080	679	587	575	347	19	67	
Energy	kcal	1,704	1,184	1,785	1,820	1,643	1,757	1,714	1,739	1,790	1,695	1,728	1,796	1,640	1,760	1,587	1,708	1,917
Protein	g	64.7	42.0	65.6	67.4	61.5	64.3	63.6	66.6	70.0	66.1	66.1	70.6	63.7	69.4	60.6	56.6	71.1
Animal protein	g	35.3	23.7	38.1	39.7	35.2	35.1	34.5	36.9	37.2	34.9	35.7	37.3	33.6	36.7	31.9	29.7	38.2
Fat	g	55.5	37.9	59.8	62.9	56.7	60.3	58.3	58.5	57.5	50.9	56.1	56.9	47.5	54.1	45.5	59.2	64.6
Animal fat	g	28.7	21.2	33.8	34.0	31.3	30.4	30.0	29.6	28.9	25.6	28.5	28.4	24.4	27.1	23.1	34.2	33.0
Saturated fatty acid	g	16.56	12.76	20.39	19.17	17.32	18.42	17.39	17.13	16.65	14.36	16.40	16.29	13.37	15.33	12.75	19.20	20.18
Monounsaturated fatty acid	g	20.22	13.45	21.14	23.50	21.51	22.40	21.68	21.45	20.82	18.09	20.47	20.49	16.80	19.28	16.12	22.99	23.75
Omega-6 fatty acid	g	9.61	5.96	9.40	10.86	9.33	10.22	10.17	10.32	10.16	9.10	9.82	10.06	8.54	9.63	8.22	8.24	10.56
Omega-3 fatty acid	g	2.20	1.17	1.76	1.90	1.76	2.09	2.06	2.35	2.53	2.52	2.32	2.62	2.43	2.63	2.34	1.87	2.22
Cholesterol	mg	311	191	292	372	308	312	316	329	334	308	318	335	298	318	290	298	313
Carbohydrate	g	227.4	165.2	239.2	237.3	212.5	228.2	220.8	223.7	239.6	237.1	230.2	242.9	233.6	242.3	228.4	230.2	255.2
Dietary fiber	g	14.1	8.2	12.2	12.1	11.9	12.8	12.6	14.0	16.7	16.3	14.7	17.5	15.4	17.4	14.6	11.9	14.5
Water-soluble dietary fiber	g	3.3	2.1	3.1	2.9	3.0	3.2	3.0	3.3	3.9	3.7	3.5	4.0	3.5	3.9	3.3	3.1	3.8
Water-insoluble dietary fiber	g	10.2	5.8	8.7	8.6	8.4	9.2	9.0	10.2	12.2	11.8	10.7	12.6	11.3	12.5	10.7	8.6	10.4
Vitamin A RE	µgRE	505	354	479	420	414	469	408	531	547	599	520	615	583	623	559	372	512
Vitamin D	µg	6.3	3.9	5.2	4.1	5.2	5.6	4.8	6.5	7.5	7.8	6.7	8.2	7.2	8.3	7.1	5.0	5.3
Vitamin E	mg ¹	6.4	3.7	5.5	6.1	5.5	6.6	6.0	6.8	7.4	6.9	6.7	7.6	6.4	7.4	6.1	5.7	6.5
Vitamin K	µg	239	132	172	213	205	229	224	234	284	277	253	303	258	299	242	157	264
Vitamin B1	mg	0.84	0.57	0.88	0.91	0.83	0.85	0.83	0.84	0.89	0.83	0.85	0.91	0.79	0.89	0.74	0.75	0.95
Vitamin B2	mg	1.11	0.75	1.12	1.02	0.96	1.03	1.04	1.12	1.24	1.20	1.13	1.28	1.16	1.26	1.11	0.91	1.10
Niacin NE	mg	27.1	16.2	25.5	27.0	25.5	27.0	27.0	28.8	29.8	27.8	28.0	29.7	26.7	29.3	25.3	23.2	29.5
Vitamin B6	mg	1.07	0.67	0.97	1.00	0.96	1.00	0.98	1.09	1.21	1.18	1.11	1.24	1.14	1.24	1.09	0.95	1.11
Vitamin B12	µg	5.4	2.6	4.9	3.9	4.2	4.9	4.2	5.7	6.5	6.7	5.7	6.9	6.6	7.1	6.1	5.0	4.3
Folic acid	µg	281	149	218	237	236	249	246	292	329	335	297	350	323	352	307	232	258
Pantothenic acid	mg	5.23	3.79	5.57	5.19	4.73	5.04	4.95	5.22	5.71	5.49	5.30	5.86	5.26	5.77	5.02	4.76	5.79
Vitamin C	mg	97	52	64	67	71	76	72	93	127	131	105	138	126	139	117	83	76
Sodium	mg	3,545	1,980	3,245	3,449	3,459	3,592	3,417	3,693	3,884	3,748	3,678	3,880	3,674	3,858	3,566	3,237	3,780
Salt equivalent	g ²	9.0	5.0	8.2	8.8	8.8	9.1	8.7	9.4	9.9	9.5	9.3	9.9	9.3	9.8	9.1	8.2	9.6
Salt equivalent	g/1,000 kcal	5.4	4.3	4.7	5.0	5.5	5.3	5.2	5.4	5.6	5.7	5.5	5.6	5.8	5.6	5.0	5.1	
Potassium	mg	2,205	1,418	2,046	1,934	1,830	2,023	1,996	2,260	2,536	2,473	2,282	2,639	2,349	2,623	2,225	1,765	2,273
Calcium	mg	497	381	603	424	384	441	441	489	559	546	500	593	510	582	485	401	504
Magnesium	mg	248	149	223	221	206	230	234	256	288	275	258	293	264	291	250	187	257
Phosphorus	mg	930	635	987	903	824	894	884	951	1,033	968	947	1,043	928	1,018	885	810	991
Iron	mg	7.2	4.1	6.1	6.7	6.5	6.8	6.8	7.3	8.2	8.0	7.5	8.5	7.7	8.4	7.3	6.1	7.4
Zinc	mg	7.5	5.2	8.0	8.3	7.5	7.7	7.5	7.6	8.0	7.5	7.6	8.0	7.3	7.8	6.9	6.9	8.6
Copper	mg	1.05	0.66	0.98	1.03	0.95	1.03	0.99	1.06	1.16	1.13	1.08	1.19	1.10	1.18	1.06	0.95	1.13
Fat-energy ratio	% ³	28.9	28.1	29.9	30.9	30.8	30.4	30.2	29.9	28.6	26.5	28.8	28.1	25.6	27.2	25.2	30.5	30.1
Carbohydrate-energy ratio	% ^{3,4}	55.9	57.7	55.4	54.1	54.1	54.9	54.9	54.7	55.7	58.0	55.9	56.2	59.0	57.0	59.5	55.9	54.9
Animal protein ratio	% ³	52.9	54.8	56.9	56.8	55.3	52.6	52.3	53.6	51.9	51.2	52.3	51.6	51.1	51.5	50.8	51.5	52.5
Cereal-energy ratio	% ³	38.7	39.3	40.9	41.4	41.1	41.1	40.4	36.8	36.2	38.0	38.4	36.1	39.1	37.0	39.7	42.5	41.0

Abbreviations: RE, retinol equivalents; NE, niacin equivalents

¹ Including only α -tocopherol.

² Salt equivalents = Na (mg) \times 2.54/1,000

³ Nutrient values are shown as the mean value per person per day.

⁴ Carbohydrate-energy ratio = 100 – protein-energy ratio – fat-energy ratio.

2. Intake by food groups

Table 13. Age-dependent intake in participants by food groups

	Total	1- 6 years	7-14 years	15-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	(reprint) 20 years and over	(reprint) 65-74 years	(reprint) 75 years and over	(reprint) 70-79 years	(reprint) 80 years and over	
Total	Participants (n)	6,926	389	517	277	428	668	915	908	1,174	1,650	5,743	1,257	1,047	1,071	579
	Cereals	415.1	257.1	427.0	535.0	457.2	458.7	443.4	418.6	403.8	390.2	418.9	398.7	389.9	394.8	381.7
	Potatoes and starches	51.0	39.8	58.4	55.0	51.8	48.0	41.3	50.5	54.8	54.5	50.9	54.2	55.9	53.3	56.6
	Sugars and sweeteners	6.4	3.8	5.8	6.3	5.4	5.9	6.2	6.2	7.4	7.3	6.7	7.2	7.5	7.2	7.5
	Pulses	62.9	35.6	51.8	48.8	51.9	57.0	57.9	66.0	74.7	73.0	66.4	75.1	72.2	77.1	65.3
	Nuts and seeds	2.4	0.6	1.4	1.2	1.3	1.7	2.5	2.9	3.3	3.0	2.7	3.4	2.9	3.0	3.2
	Vegetables	269.2	144.2	234.1	256.7	250.5	250.4	251.7	276.5	304.9	304.5	281.4	312.6	295.5	320.6	274.8
	Green and yellow vegetables	82.9	48.7	65.9	73.7	68.8	77.0	76.3	77.4	95.2	101.9	87.2	106.4	96.7	108.5	89.7
	Fruits	96.7	90.5	72.8	62.1	49.9	54.9	54.8	73.3	126.0	155.7	100.9	146.4	156.8	158.8	150.1
	Mushrooms	16.0	7.3	12.3	13.8	14.3	14.9	14.3	16.6	20.4	18.1	17.1	20.9	16.5	19.9	14.8
	Seaweed	8.5	4.9	6.7	7.4	6.8	7.2	8.2	7.6	10.1	10.8	9.0	11.2	9.9	11.8	9.0
	Fish and shellfish	65.1	29.9	43.8	49.3	46.2	55.7	53.0	67.6	85.4	82.3	70.1	85.1	81.7	84.7	77.8
	Meats	104.5	60.4	109.0	165.1	146.2	126.1	122.3	116.7	95.1	73.8	104.2	84.6	70.2	80.2	62.1
	Eggs	41.1	22.2	34.3	53.5	39.9	38.3	40.9	44.2	46.8	41.4	42.4	45.5	41.3	41.7	40.7
	Milks	128.8	189.2	303.1	124.2	89.9	89.4	85.3	104.4	123.7	127.8	109.2	128.8	128.3	132.7	118.7
	Fats and oils	11.0	6.1	9.7	13.4	11.8	12.5	12.3	12.4	11.5	9.6	11.4	11.3	8.7	10.3	8.5
	Confectionaries	26.1	25.0	34.4	29.0	25.4	26.4	23.9	22.3	27.5	25.5	25.2	26.4	26.1	24.8	26.8
	Beverages	628.6	240.1	324.6	471.5	576.8	666.0	660.8	792.0	750.2	645.7	689.8	721.2	606.5	679.1	584.0
	Seasonings and spices	60.7	30.5	53.7	60.6	62.8	63.3	60.7	63.4	67.2	62.2	63.4	66.4	60.1	65.0	57.2
Men	Participants (n)	3,260	181	273	143	211	314	445	417	548	728	2,663	578	460	496	232
	Cereals	483.5	267.3	459.7	645.4	551.0	545.8	516.6	508.0	469.5	444.4	492.0	462.6	440.8	450.0	432.5
	Potatoes and starches	53.3	41.7	62.5	57.6	56.2	51.1	43.0	49.9	58.8	56.0	52.9	54.3	61.5	53.0	62.4
	Sugars and sweeteners	6.6	4.2	6.5	7.5	5.5	6.0	6.3	5.6	7.4	7.5	6.7	6.9	8.3	7.1	8.5
	Pulses	63.3	37.4	53.7	47.7	49.3	52.4	57.1	64.8	77.2	77.4	66.8	75.1	80.8	77.4	77.4
	Nuts and seeds	2.2	0.6	1.6	1.2	1.1	1.1	2.3	2.4	3.2	2.9	2.4	3.0	3.1	2.7	3.3
	Vegetables	278.0	147.5	238.4	279.6	261.3	262.0	269.4	281.6	312.8	313.8	290.9	316.0	310.9	325.7	288.5
	Green and yellow vegetables	82.7	53.8	68.3	77.7	70.1	73.6	81.2	77.5	91.1	101.2	86.4	101.3	98.4	107.8	87.1
	Fruits	87.6	93.3	74.3	68.7	49.1	44.1	43.4	57.9	106.6	154.7	89.6	125.1	163.9	152.4	159.6
	Mushrooms	16.2	7.3	12.0	15.6	13.2	16.0	15.1	15.6	19.9	19.1	17.2	21.0	17.2	21.5	14.1
	Seaweed	9.0	5.3	6.3	7.4	6.9	8.1	8.9	8.6	11.0	10.9	9.6	11.1	10.7	11.6	9.4
	Fish and shellfish	70.7	33.0	46.1	57.8	49.6	60.4	62.4	70.6	95.6	88.9	76.5	93.2	89.0	90.3	85.8
	Meats	122.7	61.9	115.4	194.4	171.3	149.8	139.9	144.7	114.9	83.3	123.7	97.2	78.9	90.8	67.3
	Eggs	43.1	22.3	36.3	55.6	43.5	39.2	41.8	47.2	50.0	43.1	44.5	46.8	44.2	42.7	44.1
	Milks	127.2	202.4	325.2	153.3	100.9	78.0	70.8	87.5	110.2	127.9	100.4	111.2	138.3	129.8	123.8
	Fats and oils	12.3	6.5	10.1	14.7	13.8	13.9	13.8	14.3	13.0	10.6	12.8	12.6	9.6	11.3	8.9
	Confectionaries	23.6	25.1	38.3	26.6	25.0	24.9	20.0	16.8	22.8	22.7	21.8	22.4	25.3	19.8	29.1
	Beverages	696.5	260.2	360.5	497.3	621.9	736.2	717.5	909.8	850.8	723.4	771.3	815.2	671.1	754.8	656.3
	Seasonings and spices	65.2	32.1	56.5	70.1	69.9	66.6	68.1	66.8	72.4	65.7	68.1	71.1	63.3	68.1	60.7
Women	Participants (n)	3,666	208	244	134	217	354	470	491	626	922	3,080	679	587	575	347
	Cereals	354.2	248.3	390.5	417.2	366.1	381.5	374.1	342.7	346.4	347.4	355.8	344.4	350.0	347.2	347.8
	Potatoes and starches	48.9	38.1	53.9	52.2	47.5	45.2	39.7	50.9	51.4	53.3	49.1	54.2	51.6	53.7	52.7
	Sugars and sweeteners	6.3	3.4	4.9	5.0	5.2	5.7	6.1	6.7	7.4	7.2	6.7	7.5	7.0	7.4	6.9
	Pulses	62.5	34.0	49.7	50.0	54.4	61.1	58.7	67.0	72.5	69.5	66.0	75.1	65.5	76.8	57.3
	Nuts and seeds	2.6	0.5	1.2	1.2	1.5	2.1	2.6	3.2	3.4	3.2	2.9	3.6	2.8	3.2	3.1
	Vegetables	261.4	141.4	229.4	232.3	240.0	240.2	234.9	272.1	298.0	297.2	273.3	309.7	283.4	316.3	265.6
	Green and yellow vegetables	83.2	44.3	63.2	69.5	67.5	79.9	71.7	77.3	98.8	102.5	88.0	110.7	95.4	109.2	91.5
	Fruits	104.7	88.0	71.1	55.0	50.6	64.5	65.5	86.4	142.9	156.5	110.7	164.5	151.3	164.3	143.7
	Mushrooms	15.9	7.2	12.6	11.8	15.3	13.8	13.5	17.5	20.9	17.4	16.9	20.8	15.9	18.6	15.3
	Seaweed	8.1	4.6	7.1	7.4	6.6	6.3	7.4	6.8	9.2	10.7	8.5	11.3	9.2	11.9	8.7
	Fish and shellfish	60.0	27.2	41.1	40.2	43.0	51.4	44.0	65.0	76.5	77.0	64.6	78.3	76.0	79.8	72.4
	Meats	88.4	59.1	101.8	133.9	121.9	105.1	105.7	93.0	77.9	66.3	87.3	73.8	63.3	71.0	58.6
	Eggs	39.3	22.2	32.0	51.2	36.4	37.6	40.1	41.6	44.0	40.0	40.6	44.3	39.0	40.9	38.5
	Milks	130.2	177.7	278.4	93.1	79.1	99.4	99.0	118.8	135.5	127.7	116.8	143.7	120.4	135.2	115.3
	Fats and oils	9.9	5.8	9.3	12.0	9.8	11.3	10.9	10.8	10.1	8.9	10.1	10.3	8.0	9.3	8.2
	Confectionaries	28.3	24.9	30.0	31.6	25.8	27.6	27.7	27.0	31.5	27.7	28.2	29.8	26.8	29.1	25.3
	Beverages	568.2	222.7	284.4	443.9	533.0	603.8	607.2	692.0	662.1	584.3	619.4	641.3	555.8	613.7	535.6
	Seasonings and spices	56.7	29.2	50.7	50.6	55.9	60.4	53.6	60.6	62.6	59.5	59.3	62.4	57.7	62.3	54.9

* Food values are shown in grams and as the mean values per person per day