

Characteristics and eating lifestyle of people who increased family meals during the state of emergency caused by COVID-19 in Japan

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[SUMMARY]

This study examined the characteristics and changes in the eating lifestyle of people who increased the frequency of family meals during the first state of emergency (April and May, 2020) in Japan. Six thousand adults who filled in the cross-sectional survey developed by a Japanese research company were analyzed. A total of 1293 (21.6%) participants ate more with their families during the state of emergency. Compared to people who decreased or did not change the frequency of family meals, people who increased the same had a higher level of education, were female, were living with someone, and/or had a higher household income in 2019. They also followed a more nutritionally balanced diet, had more vegetables and fruits, and felt that they changed to a healthier eating lifestyle during the state of emergency. This study suggested that people who increased the frequency of family meals adopted healthier eating habits.

[BACKGROUND]

In April 2020, the Japanese government announced the first state of emergency for a month to prevent the spread of COVID-19. The measures taken during this period affected dietary patterns. Since people were requested to stay at home, the frequency of people eating with their family increased during this period.

[OBJECTIVE]

To examine the characteristics and changes in the eating lifestyle of people who increased the frequency of family meals during the state of emergency.

RQ1: How many people increased their frequency of family meals during the state of emergency?

RQ2: Who increased the frequency of family meals during the state of emergency?

RQ3: Did eating lifestyle of people who ate more with their family become healthier?

[METHODS]

Study design and participants:

- A cross-sectional study involving 6000 individuals aged 20–64 years was conducted in November 2020 via an internet survey developed by a Japanese research company. The participants were people who agreed to fill in the questionnaire and were chosen randomly in accordance with the population composition of prefectures in Japan after considering deviations of age and sex.
- This study was approved by the Ethics Committee of the University of Nagano (No. E20-3).

Measures:

1. Change the frequency of having family meals

The question was "Did you change the frequency of having family meals during the state of emergency compared to before the spread of COVID-19?" and the responses were: "Decreased," "No changes," "Increased."

2. Demographics (gender, age, education level, household income, etc.)
3. The changes in eating styles during the state of emergency compared to before the spread of COVID-19, such as the frequency of eating nutritionally balanced diet.

Analysis:

- We compared the characteristics and changes in the eating lifestyle of participants before and during the state of emergency. Chi-squared tests were used to compare three groups: people who increased, did not change, and decreased frequency of family meals during the state of emergency.

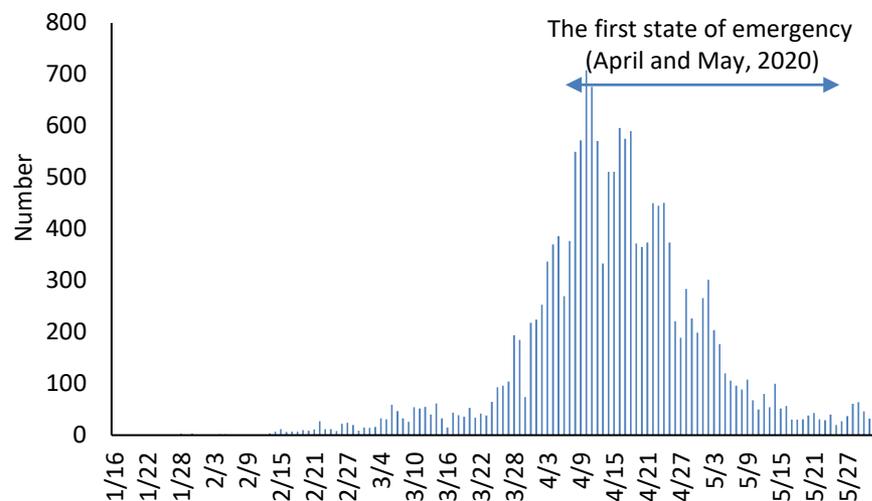


Fig. The number of COVID-19 cases from January 16 to May 31 in 2020 in Japan

[RESULTS]

✓ **The distribution of changes in family meal frequency during the state of emergency**



✓ **Characteristics of participants according to changes in family meal frequency during the state of emergency**

	Family meal frequency				p ^{*1}
	Total N=6000	Decreased n=293	No changes n=4414	Increased n=1293	
Gender					
female	2956(49.3)	142(48.5)	2023(45.8)	791(61.2)	<0.001
male	3044(50.7)	151(51.5)	2391(54.2)	502(38.8)	
Age					
20-29	1099(18.3)	82(28.0)	778(17.6)	239(18.5)	0.002
30-39	1256(20.9)	48(16.4)	935(21.2)	273(21.1)	
40-49	1602(26.7)	75(25.6)	1184(26.8)	343(26.5)	
50-59	1405(23.4)	60(20.5)	1027(23.3)	318(24.6)	
60-64	638(10.6)	28(9.6)	490(11.1)	120(9.3)	
Education level^{*2}					
low	1650(27.3)	72(24.6)	1034(29.5)	274(21.2)	<0.001
middle	1298(21.6)	59(20.1)	932(21.1)	307(23.7)	
high	3052(50.9)	162(55.3)	2178(49.3)	712(55.1)	
Household income in 2019^{*3}					
<2 million yen	662(11.0)	54(18.4)	525(11.9)	83(6.4)	<0.001
2-4 million yen	1203(20.1)	87(29.7)	940(21.3)	176(13.6)	
4-6 million yen	1220(20.3)	49(16.7)	929(21.0)	242(18.7)	
≥6 million yen	2073(34.6)	72(24.6)	1355(30.7)	646(50.0)	
unknown	842(14.0)	31(10.6)	665(15.1)	146(11.3)	
Living style					
living alone	1138(19.0)	137(46.8)	815(18.5)	45(3.5)	<0.001
living with someone	4862(81.0)	156(53.2)	3599(81.5)	1248(96.5)	
Employment					
did not work	1615(26.9)	76(25.9)	1141(25.8)	398(30.8)	0.002
work	4385(73.1)	217(74.1)	3273(74.2)	895(69.2)	
Frequency of remote work^{*4}					
almost everyday	1239(28.3)	61(28.1)	905(27.7)	273(30.5)	<0.001
3-4 days/week	552(12.6)	36(16.6)	368(11.2)	148(16.5)	
1-2 days /week	396(9.0)	21(9.7)	265(8.1)	110(12.3)	
1 day/moth	76(1.7)	9(4.1)	50(1.5)	17(1.9)	
almost none	2212(48.4)	90(41.5)	1685(51.5)	347(38.8)	

n(%), N=6000; *1 Chi-squared test; *2 low= junior high school, high school, middle= professional school, junior college, high=university, graduate school; *3 1 million yen = US \$ 9552 (as of 30 Jan.2021); *4 N=4385

✓ **Eating style changes according to changes in family meal frequency under the state of emergency**

	Total N=6000	Family meal frequency			p ^{*1}
		Decreased n=293	No changes n=4414	Increased n=1293	
Overall eating lifestyle^{*2}					
unhealthier	1287(21.5)	83(28.3)	390(8.8)	204(15.8)	<0.001
no changes	4036(67.3)	129(44.0)	3373(76.4)	534(41.3)	
healthier	677(11.3)	81(27.6)	651(14.7)	555(42.9)	
Nutritional balanced diet^{*3}					
decreased	231(3.9)	58(19.8)	102(2.3)	71(5.5)	<0.001
no changes	5186(86.4)	196(66.9)	4139(93.8)	851(65.8)	
increased	583(9.7)	39(13.3)	173(3.9)	371(28.7)	
Vegetables intake (amount)					
decreased	255(4.3)	49(16.7)	119(2.7)	87(6.7)	<0.001
no changes	5194(86.6)	194(66.2)	4072(92.3)	928(71.8)	
increased	551(9.2)	50(17.1)	223(5.1)	278(21.5)	
Fruits intake (frequency)					
decreased	398(6.6)	62(21.2)	199(4.5)	137(10.6)	<0.001
no changes	5092(84.9)	183(62.5)	4005(90.7)	904(69.9)	
increased	510(8.5)	48(16.4)	210(4.8)	252(19.5)	
Eating out (frequency)					
decreased	3316(55.3)	223(76.1)	2063(46.7)	1030(79.7)	<0.001
no changes	2533(42.2)	51(17.4)	2275(51.5)	207(16.0)	
increased	151(2.5)	19(6.5)	76(1.7)	56(4.3)	
Spending time for dinner					
decreased	135(2.3)	53(18.1)	47(1.1)	35(2.7)	<0.001
no changes	5262(87.7)	200(68.3)	4181(94.7)	881(68.1)	
increased	603(10.1)	40(13.7)	186(4.2)	337(29.2)	
Cooking (frequency)					
decreased	204(3.4)	55(18.8)	103(2.3)	46(3.6)	<0.001
no changes	4378(73.0)	137(46.8)	3719(84.3)	522(40.4)	
increased	1418(23.6)	101(34.5)	592(13.4)	725(56.1)	
Eating with friends (frequency)					
decreased	2936(48.9)	238(81.2)	1665(37.7)	1033(79.9)	<0.001
no changes	2964(49.4)	42(14.3)	2710(61.4)	212(16.4)	
increased	100(1.7)	13(4.4)	39(0.9)	48(3.7)	

n(%), N=6000; *1 Chi-squared test; *2 Was your eating lifestyle healthier or unhealthier during the state of emergency (April-May, 2020) than before (Nov., 2019)?; *3 Frequency of meals consisting of grain, fish and meat, and vegetable dishes

[CONCLUSION]

Although the state of emergency was a tough situation for the entire population, people who ate more with their families during this period had healthier eating habits.

[FUNDING]

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