

What Do Japanese Preschoolers with High Vegetable Intake Eat for Dinner?

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[SUMMARY]

This study explored what Japanese preschoolers with high vegetable intake eat for dinner to identify ways to increase vegetable intake in children. A total of 121 Japanese preschoolers and their mothers participated in the dietary record survey. Parents are recommended to include one side dish and use five kinds of vegetables per dinner to increase preschoolers' vegetable intake.

[BACKGROUND]

Although vegetables are necessary for young children's growth and development, many do not adhere to daily vegetable intake guidelines. Given that many children do not like vegetables, it is difficult for parents to feed their children enough vegetables.

[OBJECTIVE]

To explore the association between vegetable consumption and picky eating and examine what Japanese preschoolers with high vegetable intake eat for dinner to identify ways to increase vegetable intake in children.

[METHODS]

Study design and participants: A total of 121 preschoolers aged 4–6 years and their mothers participated in this cross-sectional study. Mothers completed the preschoolers' dietary records and took pictures of meals for 5 days.

Analysis:

1. The average vegetable intake per dinner was calculated.
2. Participants were classified into three groups based on quartiles.
3. Socio-demographic characteristics, preschoolers' picky eating, and dinner contents were compared among the groups using the chi-squared test or Kruskal–Wallis test.

[RESULTS]

Data of 118 participants with no defects were analyzed; 24.6% (n = 29) were classified into the high vegetable intake group (> 74 g/meal), 50.8% (n = 60) into the medium vegetable intake group (39–74 g/meal), and 24.6% (n = 29) into the low vegetable intake group (<39 g/meal). The high intake group generally adhered to vegetable intake guidelines (240g/day).

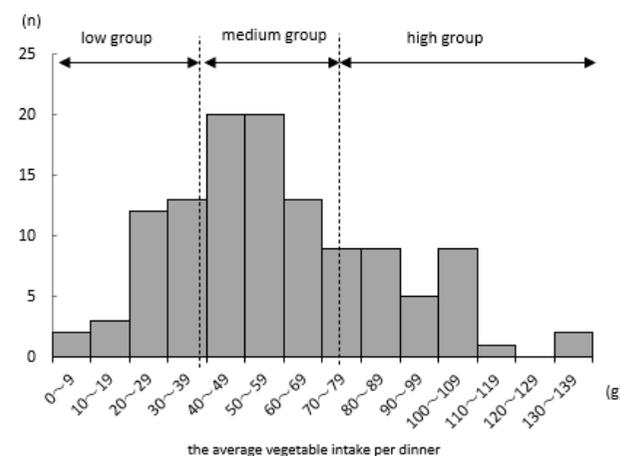


Figure 1 Distribution of vegetable intake

- ✓ There were no significant differences regarding socio-demographic characteristics.
- ✓ The low-intake group had a higher degree of picky eating score (p = 0.003).

The characteristics of dinner eaten by the high-intake group. The high-intake group

- ✓ had higher energy (p = 0.002), carbohydrate (p < 0.001), and salt intake (p = 0.001)
- ✓ ate more side dishes (p < 0.001)
- ✓ ate five kinds of vegetable per dinner

	Low (n = 29)	Medium (n = 60)	High (n = 29)
Vegetable (g)***	27 (22, 33)	54 (47, 63)	96 (85, 106)
Energy (kcal)**	465 (415, 541)	470 (429, 516)	529 (492, 569)
Protein (g)	17.3 (15.8, 21.7)	18.9 (16.0, 23.2)	21.1 (19.0, 22.9)
Fat (g)	16.1 (14.3, 23.1)	17.2 (14.3, 21.9)	17.8 (16.1, 22.3)
Carbohydrate (g)**	57.6 (51.0, 62.1)	55.2 (50.2, 58.8)	62.1 (55.4, 72.5)
Salt (g)**	2.1 (1.8, 2.5)	2.2 (2.0, 2.7)	2.7 (2.2, 3.0)
Number of vegetable kinds (/ dinner)***	2.2 (1.4, 2.8)	3.7 (2.8, 4.2)	5.0 (4.2, 5.8)
Staple food (/5 dinners)	3 (2.25, 4)	3 (2, 4)	3.3 (2.25, 4)
Main dish (/5 dinner)	3 (3, 5)	4 (3, 6)	4.4 (2.75, 5)
Side dish (/5 dinners)***	1 (0.5, 2.25)	3 (2, 4.75)	6 (5, 7)
Staple with main or side dish (/5 dinners)	2 (1, 2)	1 (0, 2)	1 (0.5, 2)

Kruskal–Wallis test, * < 0.05, ** < 0.01, *** < 0.001



Low vegetable



High vegetable

Vegetable dishes eaten by the high-intake group

- ✓ The high-intake group ate uncooked vegetable, vegetable soup, vegetable Nimono, and so on.

Vegetable dish	Example	Mean (SE) [†]
1 Uncooked vegetable	Salad, tomato	1.22 (1.30)
2 Vegetable soup	Miso soup, vegetable soup	1.10 (1.02)
3 Vegetable nimono [‡]	Pumpkin nimono, radish nimono	0.97 (1.09)
4 Staple with main or side dish with vegetable	Curry rice, pasta	0.83 (0.75)
5 Boiled vegetable	Boiled broccoli	0.77 (1.04)

[†]Number of times / 5 dinners [‡]Japanese stewed dish

DISCUSSION & CONCLUSION

- Children in the high-intake group generally adhere to vegetable intake guidelines.
- Japanese preschoolers with high vegetable intake for dinner
 - ✓ had a lower degree of picky eating
 - ✓ ate more side dishes and five kinds of vegetable per dinner
 - ✓ ate uncooked vegetable, vegetable soup, vegetable nimono, and so on
- Limitations: the use of self-report measures may be subject to biased reporting.
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