

Appetite | 中国挑食儿童父母对食物摄入及体重状况的认识：一项横断面研究

本文关键字：挑食、婴儿、幼儿、喂养、体重

影响因子：3.174

建议阅读时间：2 分钟

背景

既往研究表明，挑食儿童与不挑食的儿童相比，可能会出现不同的、食物种类较少的饮食模式，但目前有关中国儿童挑食现象的研究还非常有限。

目的

评估 6-35 月龄中国儿童挑食行为的发生率，探讨父母对挑食的认知与儿童摄入量及体成分之间的关系。

方法

本研究共纳入中国 8 个城市的 1414 名年龄在 6-35 月龄之间的婴幼儿，采用问卷调查的形式，收集有关家庭人口因素、儿童挑食行为、食物类别拒绝以及父母对儿童体重状态的认知等相关信息。同时利用 24 小时膳食回顾法收集饮食摄入的相关数据，并测量儿童的身长/高和体重。

结果

24-35 月龄儿童报告的挑食发生率为 36%，高于 6-11 月龄儿童的 12%。在营养素摄入方面，挑食儿童和不挑食儿童之间无显著性差异。父母报告不吃鸡蛋或水果的挑食儿童与不挑食的儿童相比，食物摄入量低，但据报告不吃肉的儿童其肉类的摄入量则比较高。挑食和不挑食儿童的父母亲均会低估儿童的体重状况。

结论

中国儿童挑食的发生率与其他国家报道的相似，父母对拒绝进食的认知并没有反映实际摄入量，挑食儿童的营养素摄入量与不挑食的儿童相比，也并没有显示出更多的差距。在具有典型生长发育模式的健康儿童中，挑食似乎是一些儿童在发育过程中的一个正常阶段，不会对营养或食物种类的摄入产生实质性影响。

Table 1
General characteristics of the study sample of picky and non-picky Chinese infants and toddlers.

Categories	Total		Picky		Non-Picky		p value	
	N	% ^a	N	% ^b	N	% ^b		
Age Group								
6-11 months	439	31.0%	54	12.3%	385	87.7%	<0.001	
12-23 months	485	34.3%	106	21.9%	379	78.1%		
24-35 months	490	34.7%	177	36.1%	313	63.9%		
Gender								
Male	753	53.3%	167	49.6%	586	54.4%	0.091	
Female	621	43.9%	162	48.1%	459	42.6%		
Missing	40	2.8%	8	2.4%	32	3.0%		
Ethnicity								
Han	1337	94.6%	320	95.0%	1017	94.4%	0.850	
Others	74	5.2%	17	5.0%	57	5.3%		
Missing	3	0.2%	0	0.0%	3	0.3%		
City								
Beijing	189	13.4%	49	14.5%	140	13.0%	0.228	
Suzhou	178	12.6%	48	14.2%	130	12.1%		
Guangzhou	172	12.2%	47	13.9%	125	11.6%		
Zhengzhou	171	12.1%	29	8.6%	142	13.2%		
Chengdu	180	12.7%	42	12.5%	138	12.8%		
Lanzhou	174	12.3%	44	13.1%	130	12.1%		
Shenyang	171	12.1%	33	9.8%	138	12.8%		
Shanghai	179	12.7%	45	13.4%	134	12.4%		
Education of caregivers								
Junior high school and under	172	12.16%	51	15.1%	121	11.2%		0.016
Senior high School	298	21.07%	79	23.4%	219	20.3%		
College degree	294	20.79%	78	23.1%	216	20.1%		
Bachelor degree	448	31.68%	84	24.9%	364	33.8%		
Postgraduate	202	14.29%	45	13.4%	157	14.6%		
Monthly household income per person (¥)								
1500 and under	168	11.88%	46	13.6%	122	11.3%	0.171	
1500-4000	699	49.43%	151	44.8%	548	50.9%		
4000 and above	485	34.30%	122	36.2%	363	33.7%		
Missing	62	4.38%	18	5.3%	44	4.1%		

^a The percentage accounted for total sample.

^b The percentage accounted for all the samples in picky/non-picky group.

Table 2
Energy and nutrients intakes of infants and toddlers by picky eater status (Mean ± SD).

Energy/Nutrient (Mean ± SD)	Age Group (months) ^b					
	6-11		12-23		24-35	
	Picky	Non-Picky	Picky	Non-Picky	Picky	Non-Picky
Energy (kcal)	727.2 ± 487.2	743.9 ± 417.6	1108.2 ± 645.5	1146.1 ± 647.8	1200 ± 545.7	1182.4 ± 609.8
Protein (g)	23.5 ± 14.8	24.2 ± 15.6	39.3 ± 23.5	41.3 ± 26.4	46.2 ± 23.5	45 ± 24.2
Fat (g)	23.2 ± 15.8	25.7 ± 13.8	39.9 ± 26.3	41 ± 27.8	43.9 ± 25.7^a	39.4 ± 23.2
Carbohydrate (g)	108.3 ± 88.2	105 ± 72.5	150.1 ± 94.6	154.8 ± 92.6	159.8 ± 79.4	165.5 ± 96.4
Diet Fiber (g)	1.7 ± 1.7	2.1 ± 3.0	3.5 ± 2.5	4.3 ± 4.4	5.7 ± 5.4	5.9 ± 7.1
Cholesterol (g)	234.6 ± 246	254.9 ± 310.2	322.6 ± 310.6	298.6 ± 258.3	337.4 ± 266.9	373.7 ± 335
Vitamin A (µgRe)	508.5 ± 384.5^a	670.2 ± 564.3	907.7 ± 802.2	867.2 ± 801.5	712.7 ± 629.1	691.2 ± 552.8
Thiamin (mg)	262.0 ± 394.6^a	313.0 ± 420.4	0.4 ± 0.8	0.4 ± 0.7	0.2 ± 0.4	0.3 ± 0.8
Riboflavin (mg)	0.6 ± 0.5^a	0.8 ± 0.6	1.2 ± 1.2	1.2 ± 1.2	1.0 ± 0.8	1.1 ± 1.1
Niacin (µgNE)	4.6 ± 4.2	4.2 ± 3.3	6.8 ± 4.4	7.7 ± 5.8	8.6 ± 5.3	8.9 ± 6.6
Vitamin B6 (mg)	0.2 ± 0.3^a	0.3 ± 0.4	0.6 ± 0.8	0.5 ± 0.5	0.5 ± 0.4	0.6 ± 0.8
Biotin (µg)	16.1 ± 12	18.7 ± 14.8	26.5 ± 18.9	27.5 ± 22.7	29.1 ± 19.1	29.8 ± 26.8
Folic Acid (µg DFE)	81.7 ± 124.3	91.8 ± 89.0	141.5 ± 110.2	137.7 ± 108.2	178.1 ± 195.9	172.7 ± 170.4
Vitamin C (mg)	44.5 ± 42.7^a	58.4 ± 45.3	88.1 ± 86.0	86.7 ± 92.6	88.1 ± 290.3	69.3 ± 67.9
Vitamin E (mg)	7.0 ± 5.5	7.6 ± 9.2	11.1 ± 7.7	12.5 ± 8.7	12.4 ± 8.3	12.4 ± 9.2
Calcium (mg)	503.0 ± 556.8	539.2 ± 408.5	812.4 ± 736.2	801.1 ± 853.5	650.1 ± 516.3	642.3 ± 535.7
Phosphorus (mg)	425.6 ± 334.5	441.1 ± 288.6	733.6 ± 496.3	772.5 ± 597.4	763.4 ± 402.1	760.9 ± 422.7
Potassium (mg)	541.8 ± 394.4	661.5 ± 487.2	1317.2 ± 971.5	1331.3 ± 1036.6	1355.3 ± 768.6	1335.2 ± 849.7
Sodium (mg)	517.6 ± 624.5	581.4 ± 1070.1	2140.9 ± 1631.2	2470.5 ± 1786.3	2164 ± 1743.3	2334.3 ± 2637.3
Magnesium (mg)	114.7 ± 69	122.5 ± 80.8	144.5 ± 79.4	153.8 ± 99.2	156 ± 76.6	162.3 ± 92.6
Iron (mg)	8.3 ± 6.6	8.7 ± 6.0	13.0 ± 9.0	13.4 ± 9.5	15.0 ± 11.3	15.3 ± 15.1
Zinc (mg)	5.3 ± 4.6	5.0 ± 3.1	7.5 ± 5.1	7.7 ± 5.6	7.7 ± 4.2	7.6 ± 4.5
Selenium (mg)	14.7 ± 10.9	15.4 ± 12.7	25.4 ± 20.7	27 ± 20.6	29.4 ± 15.4	31.1 ± 18
Copper (mg)	0.5 ± 0.4	0.7 ± 1.1	1.0 ± 0.7	1.0 ± 0.9	1.1 ± 0.7	1.1 ± 0.8
Manganese (mg)	1.1 ± 1.2	0.9 ± 1.1	1.7 ± 1.2	1.9 ± 1.3	2.4 ± 1.4	2.6 ± 2.1

^a There were statistically significant differences between picky and non-picky eaters. These entries are also marked in bold for better visibility.

^b Chinese DRIs (Chinese Nutrition Society, 2002): 6-11 months, RNI: Energy 95 kcal/kg, zinc 8 mg; AI: Protein 1.5-3.0 (g/kg•d), vitamin A 400 µgRe, thiamin 0.3 mg, riboflavin 0.5 mg, niacin 3 µg NE, vitamin C 50 mg, vitamin E 3 mg, Ca 400 mg, P 300 mg, K 700 mg, Na 500 mg, Mg 70 mg, Fe 10 mg, Se 20 mg, Cu 0.6 mg 12-23 months, RNI: Energy 1100kcal for male, 1050 kcal for female, vitamin A 500 µgRe, thiamin 0.6 mg, riboflavin 0.6 mg, niacin 6 µg NE, zinc 9 mg, Se 20 mg; AI: Protein 35 g, vitamin C 60 mg, vitamin E 4 mg, Ca 600 mg, P 450 mg, K 1000 mg, Na 650 mg, Mg 100 mg, Fe 12 mg, Cu 0.8 mg 24-35 months, RNI: Energy 1200kcal for male, 1150 kcal for female, zinc 8 mg; AI: Protein 40 g; others are same as 12-23 months.

Table 3

Percentage of parents who indicated that their picky eaters avoid specific food groups by age.

Category	Age (month)						Total	
	6–11		12–23		24–35		N	% ^a
	N	% ^a	N	% ^a	N	% ^a		
Milk and dairy products	15	27.8%	7	6.6%	9	5.1%	31	9.9%
Bean and bean products	9	16.7%	9	8.5%	13	7.3%	31	9.1%
Grain and grain products	8	14.8%	18	17.0%	19	10.7%	45	13.0%
Vegetable	8	14.8%	35	33.0%	90	50.8%	133	37.4%
Fruits	3	5.6%	8	7.5%	18	10.2%	29	8.5%
Meat	9	16.7%	14	13.2%	41	23.2%	64	17.6%
Dessert	11	20.4%	14	13.2%	9	5.1%	34	10.2%
Eggs	8	14.8%	16	15.1%	14	7.9%	38	11.9%
Total ^b	46		106		177		329	

^a Percentage of infants who avoided to eat this food category by age group.

^b Total number of picky eaters by age group is less than the sum of individual food categories avoided because some children may have avoided foods in more than one category.

Table 4a

Daily intake of food groups in grams of picky eaters reported to avoid specific food groups and non-picky eaters.

Group	Avoids this category		Non-picky		p value
	n	Mean ± SD	n	Mean ± SD	
Milk and dairy products	31	298.15 ± 214.90	1077	223.62 ± 208.86	0.052
Bean and bean products	31	0.00 ± 0.00	1077	1.44 ± 11.63	0.257
Grain and grain products	45	117.34 ± 82.21	1077	154.07 ± 139.28	0.254
Vegetables	133	66.22 ± 87.56	1077	52.77 ± 72.79	0.074
Fruit	29	45.29 ± 78.87	1077	78.940 ± 121.77	0.039*
Meat	64	67.51 ± 80.17	1077	49.07 ± 88.80	0.009**
Desserts	34	409.24 ± 362.39	1077	439.10 ± 350.67	0.519
Eggs	38	26.06 ± 43.81	1077	36.87 ± 44.42	0.036*

*: daily intake of the food type is significantly different between picky and non-picky eaters at $p < 0.05$; **: significant at $p < 0.01$.

Table 4b

Daily intake of food groups in kcal of picky eaters reported to avoid specific food groups and non-picky eaters.

Group	Avoids this category		Non-picky		p value
	n	Mean ± SD	n	Mean ± SD	
Milk and dairy products	31	177.28 ± 189.63	1077	318.79 ± 379.36	0.130
Bean and bean products	31	36.35 ± 123.47	1077	32.32 ± 117.14	0.661
Grain and grain products	45	491.25 ± 520.70	1077	450.29 ± 449.75	0.903
Vegetables	133	50.18 ± 113.84	1077	32.7 ± 79.77	0.001 ³
Fruit	29	29.58 ± 78.67	1077	48.91 ± 107.28	0.211
Meat	64	251.38 ± 304.77	1077	150 ± 257.01	0.003 ³
Desserts	34	102.12 ± 224.69	1077	93.72 ± 228.55	0.826
Eggs	38	69.76 ± 126.27	1077	89.32 ± 115.61	0.165

³ Daily intake of the food type is significantly different between picky and non-picky eaters at $p < 0.01$.

Table 5

Parents' reported and observed weight status of children.

Bodyweight Status	Picky				Non-picky			
	Reported		Observed		Reported		Observed	
	n	%	n	%	n	%	n	%
Overweight	17	5.10%	47	14.20%	79	7.40%	169	16.00%
Normal	229	68.20%	278	84.20%	842	78.80%	873	83.00%
Underweight	90	26.80%	6	1.60%	148	13.80%	11	1.00%

参考文献:

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