

Nutrition Knowledge, Attitude and Practice on Prevention of Childhood Obesity in Parents of Preschool Children in Chengdu, China

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ABSTRACT

Parents play an important role in the development of their children's nutritional knowledge, attitude and practice (KAP). This study was conducted to investigate and assess the nutrition KAP status related to prevention of childhood obesity for parents of preschool children. 1828 subjects were selected cluster-randomly from 6 kindergartens in the urban of Chengdu, China and were surveyed by questionnaire. The results showed that the rate above 80% of total score were 64.3% (K), 89.6% (A), 19.5% (P) respectively. The nutrition KAP score of subjects was influenced by their education, gender and age. K, A and P scores were positively correlated with each other. The most expected approach obtained nutritional information for subjects was from newspaper, magazines, lectures and TV. It is concluded that the parents of preschool children in Chengdu indicated the limited nutrition knowledge, imperfect nutrition practice and better nutrition attitude. It is suggested that more nutritional education programs on childhood obesity prevention should be given mainly by newspapers, magazines and lectures in this population. (*J Community Nutrition* 6(3) : 137~140, 2004)

KEY WORDS : nutrition KAP · childhood obesity · parents.

Introduction

Obesity has become an important world-wide public health problem, as its prevalence in all age groups is increasing at an alarming rate in both developed and developing countries. It is recognized as a separate disease, also as a risk factor for type 2 diabetes, cardiovascular disease, hypertension, stroke, and a number of cancers. According to WHO, obesity is one of the top ten risk factors contributing to population disease burden. With modernization and change of life style in China, the rate of obesity is rapidly increasing especially in cities and developed rural areas. The percentages of overweight and obesity were 22.4% and 3.01% respectively (2003). Therefore it is a pressing need to prevent and control obesity.

Child obesity not only does harm to their physical and psychological health, but also frequently persists into adulthood which exacerbates the associated health risks. In China,

child obesity has become a severe health problem during the past 10 years. Although so many reports on prevalence of obesity for school children and adolescents are found, the research on obesity prevention for preschool children is limited, and almost no nutrition intervention study on this population group exists.

Nutrition intervention is very essential for obesity prevention of the preschool child because the quality of their nutrition has a direct impact on their growth and development as well as their nutritional status throughout life. The obesity control for children aged 3 – 6 years is most important as the key period developing health perceptions behaviors and habits in the life cycle.

This study was done to investigate the nutritional knowledge, attitude and practice (KAP) for the parents of preschool children in Chengdu, China, and aimed to prevent childhood obesity.

Subjects and Methods

1. Subjects and methods

The study is a descriptive cross-sectional survey, guided

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Table 1. Socioeconomic characteristics of the subjects N(%)

Variables	Fathers (N = 443)	Mothers (N = 1251)
Age (yr)	< 30	25(5.7)
	30 – 35	250(56.4)
	> 35	168(37.9)
Education level	< Middle school	12(2.7)
	High school	197(44.5)
	> College education	234(52.8)
Occupation	No job	4(0.9)
	Government office	174(39.3)
	Technique	54(12.2)
	Business	60(13.5)
	Armyman	27(6.1)
	Medical workers	29(6.5)
	Others	95(21.5)
Total	443(100.0)	1251(100.0)

by the Health Belief Model. Subjects for this study were 1828 parents of children aged 3 – 6 year from 6 kindergartens in Chengdu, China. A self-administered questionnaire was used to obtain their general information (age, education level, self-weight and self-height). The questions investigated knowledge, attitudes, and behaviors related to diet, physical activity, food preferences, weight and care-giving practices associated with obesity. Parents were also required to answer the questions about parents and children's food selection and nutrition behaviors that may influence child feeding and weight status.

2. Data analysis

The statistical analysis was conducted using SPSS 11.0 program. Measurements were expressed as averages, standard deviations, and percentages. Student's t-test, ANOVA and chi-square test were used to determine statistical significance. Qualitative methods were used to collect and analyze the data also.

Results and Discussion

1. Socioeconomic status

The overall response rate to the questionnaire was 93% (1251 mothers, 443 fathers, 134 other family members). Data on general information of 1694 parents are presented in Table 1. The subjects aged from 26 to 55 years (father), aged from 24 to 54 years (mother), and average age of the fathers was 35.2 ± 3.6 years, the mothers was 32.4 ± 3.0 years respectively. Male subjects generally achieved a higher education

Table 2. Distribution of BMI of the subjects N(%)

	Fathers (N = 443)	Mothers (N = 1251)	Total (N = 1694)
< 18.5	21(4.7)	225(18.0)	246(13.3)
18.5 – 24	274(61.9)	947(75.7)	1221(72.1)
> 24	131(29.6)	69(5.5)	200(11.8)
≥ 28	17(3.8)	10(0.8)	27(1.6)

Table 3. Nutritional KAP score

Variables	Primacy score		
	Full score	$\bar{x} \pm S$	Eligible rate (%)*
K	11	8.8 ± 1.4^1	64.3
A	3	2.8 ± 0.4	89.6
P	8	5.9 ± 1.5	19.5

1) Mean \pm S.D.

* : The rate above 80% of total score was regarded as eligibility

level than females ; 52.8% of fathers completed college education, compared to 40.7% for mothers.

2. Nutritional KAP status

Table 3 shows that the Nutritional Knowledge primacy score was 8.8 ± 1.4 (full score was 11), Nutritional Attitude primacy score was 2.8 ± 0.4 (full score was 3), Nutritional Practice primacy score was 5.9 ± 1.5 (full score was 8). The eligibility rate of nutritional attitudes primacy score was high (89.6%). It indicates that the parents have better nutrition attitude on childhood obesity. But the eligibility rate of nutritional knowledge and practice was very low, especially the latter (only 19.5%).

As shown in Table 4, the distribution of nutritional KAP Score : K score and P score are mostly concentrated in moderate scale, A score is concentrated in high scale.

Both father and mother were well aware of the positive relationship between nutrition and health. They had some basic nutrition knowledge, such as foods rich in calcium, vitamin A, dietary fiber and so on. 26% of parents were unaware that obesity is one of diseases. Only 40% of investigators knew the Chinese Food Dietary Guidelines and the Food Guide Pagoda for Chinese Residents. The most expected approaches of obtained nutritional information was from newspapers, magazines, lectures and TV.

Most parents show good nutrition attitude. 92.5% parents expressed the strong will to regulate their diets by nutritional knowledge. 70.3% parents thought that the family factor had the great effect on children's eating behavior. 31.3% parents reported that their children frequently consumed snacks. 7.5%

Table 4. Distribution of nutritional KAP

Distribution*	K			A			P		
	N	(%)	$\bar{x} \pm S$	N	(%)	$\bar{x} \pm S$	N	(%)	$\bar{x} \pm S$
High	596	35.2	92.4 ± 5.1 ¹⁾	1111	65.6	94.4 ± 9.0	330	19.5	87.6 ± 5.3
Moderate	827	49.0	73.6 ± 5.4	407	24.0	60.0 ± 8.0	872	51.5	69.3 ± 6.0
Low	271	16.0	48.8 ± 11.0	176	10.4	33.0 ± 11.6	492	29.0	45.5 ± 10.7
Total	1694	100	76.2 ± 16.0	1694	100	89.8 ± 17.2	1694	100	65.9 ± 16.6

1) Mean ± S.D

* : High means that NS ≥ 80, Low means that NS ≤ 60, Moderate means NS between 60 – 80

Table 5. Nutritional KAP normative score by age, education, gender

Variables	K	A	P	Significance*
Age (yr)				
20 – 30	72.4 ± 17.3 ¹⁾	90.2 ± 17.2	62.7 ± 17.1	p < 0.05
30 – 35	77.6 ± 15.2	90.6 ± 16.4	66.6 ± 16.5	
> 35	76.0 ± 17.0	87.0 ± 19.4	67.4 ± 15.9	
Education level				
< Middle school	61.5 ± 16.8	80.4 ± 22.7	61.4 ± 16.7	p < 0.01
High school	74.0 ± 16.4	90.1 ± 16.8	64.6 ± 16.7	
> College education	79.9 ± 14.5	90.1 ± 17.1	68.0 ± 16.0	
Gender				
Male	73.3 ± 15.8	86.0 ± 20.4	65.6 ± 17.4	p < 0.01
Female	77.3 ± 16.0	91.2 ± 15.7	66.1 ± 16.3	

1) Mean ± S.D.

* : Significance of value by one-way ANONA

parents reported that they often give their children snacks or fat denseness food as rewards.

Table 5 shows that nutritional KAP score was influenced by age, education and gender. Nutritional KAP score showed a significant increasing trend by age and education level ($p < 0.05$). A significant difference in gender was shown in KAP score in which mother's KAP score was higher than father's ($p < 0.01$).

The influence factors of K score were education level ($\beta = 0.285$), gender ($\beta = 0.148$) and age ($\beta = 0.068$); A score was gender ($\beta = 0.162$), education level ($\beta = 0.076$) and occupation ($\beta = 0.055$); P score was education level ($\beta = 0.123$), age ($\beta = 0.092$), gender ($\beta = 0.088$). Knowledge, attitude and practice score were positively correlated with each other.

Summary and Conclusion

The purpose of this study was to investigate the nutritional knowledge, attitude and practice (KAP) related to obesity for the parents of preschool children, and aimed to prevent childhood obesity. The nutritional KAP score and its distribution

and the influence factors of KAP are described in this study. The subjects was aged from 26 to 55years (father), 24 to 54 years (mother), and average age of the fathers was 35.2 ± 3.6years, the mothers was 32.4 ± 3.0years respectively. Male subjects generally achieved a higher education level than female; 53.8% of fathers completed college education, compared to 39.1% for mothers. Overweight rate was 33.4 percent in males, only 6.3 percent in females.

The eligibility rate of nutritional attitude is higher, but the rates of knowledge and practice were very low, especially the latter (only 19.5%). Knowledge score and practice score were mostly distributed in moderate scale and attitude score in high scale.

Both fathers and mothers were well aware of the positive relationship between nutrition and health. They had some basic nutrition knowledge. Most parents show good nutrition attitudes. The knowledge of parents was limited. Parents on food selection and feeding practice for preschool child were very irrational.

It is concluded that the parents of preschool children in Chengdu indicated the limited nutrition knowledge, imperfect nutrition practices and better nutrition attitudes. It is suggested

that more nutritional education programs on childhood obesity prevention should be given mainly by newspapers, magazines and lectures in this population.

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