

Conference Paper

The Relationship Between Mother's Nutritional Knowledge Towards Fruits Vegetables Consumption and Nutritional Status of Pre School Children Kindergarten Salman Jakarta

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Abstract

Currently, obesity is an unsolved problem. Children obesity caused by high intake calorie and lack consumption of various food, especially fiber that extracted from fruits and vegetables. Mother's knowledge about nutrition is essential, which influence level consumption of fruits and vegetables. The purpose of this research is to figure out the relationship between the mother's nutritional knowledge towards fruits vegetable consumption and nutritional status of preschool children of kindergarten Salman Jakarta. This research used a cross-sectional study design method. The sample consisted of 43 children, 4-6 years of age, selected based on a proportional random sampling. Mother's nutritional knowledge and attitude measured by questionnaire. Fruits and vegetable consumption habits measured by food record for seven days and the Food Frequency Questionnaire (FFQ). Nutritional status of preschool children measured by using anthropometric method (IMT/U). The data analyzed by using descriptive statistics and Spearman correlation. The result shows that in general, the nutritional knowledge of mothers was in the moderate level of 53.5%. Most respondents had a positive attitude towards nutrition. Consumption of fruits and vegetable children was less than the serving size. The type of fruits that children often consumed was orange, banana, and papaya. The most vegetables are carrot, tomato, and spinach. The frequency is 7-14 times a week. Index rated by IMT/U shows that 18.6% of children had obesity nutritional status. Thus, the result of Spearman correlation proved there was no significant relationship between mother's nutritional knowledge towards fruits vegetables consumption and nutritional status of preschool children ($p > 0,05$).

Keywords: nutritional knowledge, fruits, and vegetables, nutritional status

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1. Introduction

Obesity is a significant public health concern affecting more than half a billion people worldwide. Obesity rise is not only limited to developed countries, but to

developing nations as well [1]. Obesity is a complex condition, one with severe social and psychological dimensions, that affects virtually all age and socioeconomic groups and threatens to overwhelm both developed and developing countries. In 1995, there were an estimated 200 million obese adults worldwide and another 18 million under-five children classified as overweight. As of 2000, the number of obese adults has increased to over 300 million [2]. Previous research conducted in Indonesia about overweight in Children Aged 2.0–4.9 years, between 1993 and 2007, shows a significant increase in the prevalence of ‘at risk of overweight’ and overweight/obesity from 10.3% to 16.5% [3].

In general, overweight and obesity are assumed to be the results of an increase in caloric and fat intake [4]. Behaviors that influence excess weight gain include eating high-calorie, low-nutrient foods and beverages, not getting enough physical activity, sedentary activities such as watching television or other screen devices, medication use, and sleep routines [5]. Based on the results of a study conducted on 2-year-old and 5-year-old children in New York that known that low intake of fruits and vegetables is associated with insufficient intake of fiber and associated with increased total fat intake [6]. Fruits and vegetables include a diverse group of plant foods that vary significantly in the content of energy and nutrients. Additionally, fruits and vegetables supply dietary fiber, and fiber intake is linked to lower incidence of cardiovascular disease and obesity [7]. Consumption of fruits for preschool children is three serving/day and vegetables two serving/day [8].

Children who lack diverse consumption is influenced by eating habits at home. Eating behaviors evolve during the first years of life as biological and behavioral processes directed toward meeting requirements for health and growth. Parents powerfully shape children’s early experiences with food and eating, providing both genes and environments for children [9]. Parents can influence preschool children’s dietary practices in at least five ways: controlling the availability and accessibility of foods and meal structure, food modeling, food socialization practices, and food-related parenting style. For preschool children, parents control what foods and when meals offered, whether families eat together, and the frequency of eating out [10]. Therefore, this study aims to figure out the relationship between the mother’s nutritional knowledge towards fruits vegetable consumption and nutritional status of preschool children of kindergarten

2. Methods

The study used *a cross-sectional study* design. Location was conducted in kindergarten Salman Jakarta. The school was selected purposively. The school must have “A” accreditation and quantity of student more than 100 children. The study was conducted for two months from February to March 2012. The population of the study was mothers who have children at kindergarten Salman Jakarta. The total of the student is 142 children. The sample quantity is 43 children who were selected based on a proportional random sampling, 16 children from TK A children and 27 children from TK B.

Primary data obtained through interviews by using questionnaires conducted on mothers who become respondents in this study. Primary data include (1) family characteristics (2) children characteristics (3) mother’s nutritional knowledge and attitude (4)

fruit and vegetable consumption of children (5) nutritional status of children. Questions to measure a mother's nutritional knowledge consist of 30 queries. These questions related to nutrients (10 items), fruits (10 items), and vegetables (10 issues). Statement for attitude mother is about nutrition (10 questions) and fruits-vegetables (10 queries).

Data of fruits and vegetable children consumption were measured using food record method, the way to record food consumed during one week and to know the amount of waste. Food Frequency Questionnaire (FFQ) method is used to determine the consumption habits of fruits and vegetables (types and frequencies) consumed a month ago, then converted into units of consumption in a week. Nutritional status of children known by anthropometry index IMT / U. Data of body weight and height obtained by direct measurement.

3. Results

Family characteristics included a parameter of number family and family income. Most of the children, 62.8% were small family (<4 people). Family income was total income earned by family members who worked every month, both father and mother. Data distribution based on family income showed that 58.1% of children had income more than IDR 5.000.000.00. Central Bureau of Statistics (BPS) of DKI Jakarta 2011 set a poverty line at income limit of IDR 331.169 per capita per month. That it could conclude that children did not come from low-income families. Level of education sees from formal education. Instruction of father and mother, in general, were at the university level that was at 88.4% and 60.5% respectively. Most of the sample were boys with 22 children (51.2%). Based on the age distribution, most children were five years old (44.2%).

Knowledge is essential to build someone's actions. Mother's nutritional knowledge will affect the family's eating habits. The highest level knowledge of mother was moderate (53.5%). Mother's knowledge changed attitudes. It was the approval of an action. A positive attitude toward health values, especially the nutritional value usually manifested in response. Almost all mothers had positive attitude upon the consumption of fruits and vegetables (table 1).

The amount of fruits intake was known by food record method for seven days. The amount of fruit consumed measured by the gram (g). Consumption of fruit children range was from 0-268 g/day. Vegetable consumption range was from 0-157 g/day. Amount of fruits consumption was still low. Children who consumed more than 0.5 vegetable servings a day were more likely to eat vegetables at more than one meal or snack during the day, while those who drank less than 0.5 serving/day tended to eat vegetables at only one eating occasion [6].

The frequency of eating could measure by the amount of consumption of a food type in units of days, weeks, and months. The rate of consumption of fruits and vegetables was calculated based on groups of use per week. The most common types of fruits and vegetables consumed were oranges and carrots. Although fruits and vegetables were destroyed more than seven times a week, however, the quantity might not directly correspond to the recommended portion.

TABLE 1: Mother Nutritional Knowledge, Attitude and Children's Fruits Vegetables Intake.

Variable	n	%
Mother's Nutritional Knowledge		
High	20	46.5
Moderate	23	53.5
Mother's Nutritional Attitude		
Positive	37	86.0
Negative	6	14.0
Fruits Consumption (g/day)		
<100	29	67.4
100-200	10	23.3
>200	4	9.3
Vegetables Consumption (g/day)		
<100	40	93.0
100-200	3	7.0
Type and Frequency of Fruits Intake (7-14 times/week)		
Orange	12	27.9
Banana	6	14.0
Papaya	4	9.3
Type and Frequency of Vegetables Intake (7-14 times/week)		
Carrot	10	23.3
Tomato	8	18.6
Spinach	4	9.3

Research showed that 18.6% of pre-school children had obesity nutritional status. This result was lower when compared with the previous study in kindergarten in eastern Jakarta showing obesity prevalence based on IMT was 31% [11], indicating there was still nutritional problems in urban areas.

Spearman correlation showed there was no significant relationship between maternal nutritional knowledge towards fruit and vegetable consumption and nutritional status with $p > 0.05$. Also, children in Indonesia are different from children in developed countries who get regular nutrition education. Through classroom lessons and school lunch programs, the children are educated to understand and practice balanced nutrition guidelines. With that guideline, almost every day the children reminded to consume various types of food, vegetables, and fruits [12]. The results of this study were the same as previous research conducted in kindergarten Supriyadi Semarang. The results showed that the consumption of fruits and vegetables in children was not related to the mother's nutritional knowledge ($p > 0.05$) [13].

4. Discussion

The nutritional extension has a positive impact on public health and nutrition because, with a good knowledge of food, mothers will apply it in their households and in this way a healthy generation create in which children can grow and develop optimally [14]. The most question answered wrongly by the mother is about the definition of food (74.4%), the amount of fruit consumption recommended to children in a day (86.0%) and total use of vegetables in children recommended in the day (53.5%).

The nutritional attitude consists of 20 statements. The most misleading statements are about the portion of fruit and vegetables for the child. The is because low of level mother's knowledge. Knowledge can gain from formal and informal education. A study showed that Children of less-educated mothers exposed to more health risks, fewer health-promoting factors, worse social support. Had higher medical care consumption than children with more top educated mothers [15].

Children's nutritional intake depends not only on the availability of food. But also on other factors. Such as culture, environment, and social interaction [8]. In addition to meeting or exceeding federal nutrition standards for meals and snacks, to help increase the number of fruits and vegetables children eat, childcare, schools, and school districts can consider: including fruits and vegetables whenever food offer; training staff to make fruits and vegetables more appealing and accessible; and providing nutrition education and hands-on learning opportunities. Such as growing. Tasting. And preparing fruits and vegetables [16]. Because of the small sample size. The standard deviation for variables was higher than the mean. They are resulting in no significant variables.

5. Conclusions

The highest level the mother's nutritional knowledge is moderate. The level consumption of fruits and vegetables of children is still low even though their mothers have a good experience. Maternal nutrition education is needed to improve the intake of fruits and vegetables in children. There are still children who are obese at pre-school age even though mothers have a good knowledge of nutrition. A balanced diet is required so that obesity does not continue into adulthood.

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