

Original Article

Knowledge Level, Economic Status and Number of Family Members on Food Diversity Intake at School-Age Children in Banyumas Regency

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ABSTRACT

Background Dietary diversity is an indicator of the quality of food intake which is very important to meet the nutritional needs of school-age children to support children's growth and physical development. School-age children (6-12 years) are a very strategic target for health coaching to prepare the next generation who are healthy, independent, productive, qualified, resilient, and able to compete globally. Improving nutrition for primary school children is a strategic step in particular because its impact is directly related to quality human resources (HR) who are ready to compete. Direct factors (diet and infectious diseases) and indirect factors (economic status, maternal knowledge, and several family members) influence the nutritional adequacy of school-age children.

Objectives This study aims to look at the relationship between maternal knowledge about nutrition and health, economic status, and the number of family members on food diversity in primary school children in rural and urban areas of Banyumas Regency during the Covid-19 pandemic.

Methods This study used a quantitative approach with a cross-sectional design involving 58 elementary school students in Banyumas Regency. Data were collected using an online questionnaire on google form to minimize the transmission of the covid-19 virus outbreak between researchers and students who were respondents of this study. Researchers have provided video tutorials on how to fill out a google form questionnaire to avoid confusion that results in biased data provided.

Results The results of this study indicate that most of the mothers' knowledge is still lacking about nutrition and health (63.8%) this can be influenced by the education level of mothers who graduated from high school (43.1%) and most of the mothers are not working or as pure housewives (81.1%). knowledge influences the diversity of children's diets (0.44%), economic status (0.009%), and the number of family members (0.26%).

Conclusions There is a relationship between the economic status of parents and the diversity of food for school-age children compared to the level of knowledge of the mother and the number of family members

Keywords: diversity of food, elementary school children, physical activity

INTRODUCTION

Since the Covid-19 pandemic, the government has launched a new life order with the implementation of 5M, namely getting used to wearing masks, washing hands with soap (hand sanitizer), maintaining distance (social distancing), staying away from crowds, and avoiding traveling outside the region, especially areas that are already declared as a red zone. This certainly changes the life order of various sectors including the education sector, all learning activities are carried out in their respective homes to break the chain of spreading the virus so that students continue to learn (1).

School-age children (6-12 years) are a very strategic target of health coaching to prepare the next generation who are healthy, independent, productive, quality, resilient, and able to compete globally (2) so that this period will greatly determine the quality of humans in adulthood (3). So improving the nutrition of elementary school children, in particular, is a strategic step because the impact is directly related to quality human resources(4,5). The Balanced Nutrition Guidelines issued by the Ministry of Health of the Republic of Indonesia aim to overcome the problem of multiple nutritional burdens so that people need to consume a variety of foods in their daily life. Food diversity can be defined as a food group consisting of staple foods, side dishes, vegetables and fruits, and water (6). Children who consume a balanced diet generally experience growth both physically and in stronger bodily functions. A strong body in childhood, which is vulnerable between infants and adolescents, helps children develop their brains before becoming school children (7,8).

Food diversity is the number of food groups consumed during a 24 hour period which has been documented as a valid and reliable indicator to assess the adequacy of food in children so that food diversity can be used as a proxy variable that is easy enough to measure children's nutritional intake (9). WHO uses dietary diversity as one of the key indicators for assessing feeding practices in children. The practice of giving food diversity to children is influenced by direct and indirect factors, direct factors (food and infectious diseases), and indirect factors (economic status, maternal knowledge, and many family members) (10).

Lack of maternal knowledge about the nutrition that children must fulfill during their growing up is most evident in the community. Mothers usually buy delicious food for their children without knowing whether the food contains sufficient nutrients or not, and do not balance it with healthy foods that contain lots of nutrients. A mother plays a very important role in the child's diet, in regulating the diet must be done regularly and carefully. Feeding should be regularly timed, that is, for 3

times a day, if necessary, provide a snack. Meanwhile, the selection of food ingredients to be processed must be more careful with nutritional content that is under the needs of the child. Thus, children will not experience disturbances in their growth and development so that they have a good nutritional status (11).

The economic level also affects the variety of food consumption in a family. The higher the economic level, the greater the ability to buy various kinds of food for the family. The number of family members can affect the allocation of family income in meeting the nutritional needs of their family, with limited resources, including foodstuffs that must be divided equally among all children and there is infrastructure competition, differences in food, and reduced child care time, having too many children too. causes parental affection for children to be divided, the amount of attention received per child is reduced, and is exacerbated if the economic status of the family is low (12)(9). Previous research related to the diversity of household diets with children under five, which was conducted in Central Java Province, stated that rice is the staple food consumed by the community, where rice contributes around 70 percent of the total daily energy. In contrast to the results of this analysis of dietary diversity for children under five in Indonesia, a study in Central Java found that many households consumed legumes and vegetables. This shows that the influence of ethnicity makes a difference to the diet of the people. Where in this case the majority of people in Central Java are Javanese (13).

From the description above, this study aims to examine the relationship between maternal knowledge about nutrition and health, social status, and many family members on the diversity of food consumption in primary school children in the Banyumas Regency area during the Covid-19 pandemic.

METHODS

The research was conducted in urban and rural areas of Banyumas Regency from June to August 2020. The research design used was cross-sectional with a quantitative approach.

The research was conducted at seven elementary schools which each represent urban characteristics, namely SDN 1 Pandak, SDN 2 Pandak, SDN Purwokerto Lor, SDN 4 Purwanegara, SDN 1 Sumampir, and rural areas which are the locus of stunting, namely SDN1 and SDN 2 Banjarnayar. The variables in this study include the mother's level of knowledge, economic status, number of family members, food diversity. Calculation of the minimum sample using the sample formula in this type of cross sectional research using the Lemeshow formula as many as 56 students.

Data collection was adjusted to the conditions of the Covid-19 pandemic online using a Google Form questionnaire . Before filling out the questionnaire, the respondents were asked to read and sign the informed consent twice, namely the children's and parents' informed concentrations. The variables in this study are part of a large study entitled "Eating Diversity Factors for Elementary School Children in Urban and Rural Areas, Banyumas Regency".

The data collected included student demographics, clean and healthy living habits, knowledge about nutrition and health, student sick status, physical activity of mothers and children during the Covid-19 pandemic. The data was carried out using univariate analysis to determine individual characteristics based on variables descriptively by using a frequency distribution, namely mother's knowledge, economic status and number of families. Next, a bivariate analysis was carried out to determine the relationship between the variables of mother's knowledge, economic status and number of families with the diversity of food consumed.

RESULTS

This study involved 58 student respondents and elementary school students in grades IV, V, and VI who were scattered in seven elementary schools in urban and rural areas of Banyumas Regency. The results of the study obtained student demographic data, data on nutrition and health knowledge, socioeconomic status, number of family members, and children's dietary diversity. The characteristics of the respondents are presented in the following table:

Table 1. Respondents Characteristics

Respondents Characteristics	Value (n=58)	Frequency (%)
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Region type		50
Rural	29	50
Urban	29	
The gender of the student		
Man	29	50
Woman	29	50
Mother's education level		
Never went to school	1	1,7
Graduated from elementary school	18	31,0
Graduated from junior high school	8	13,8
Graduated from high school	25	43,1
Diploma / higher	6	10,3
Mother's job		
Daily labor	1	1,7
Civil Servant/ Army	3	5,2
Private employees	2	3,4
Entrepreneur / Entrepreneur	3	5,2
Seller	1	1,7
Housewife pliers	47	81,1
Honorary staff	1	1,7

Based on Table 1. It can be seen that the distribution of the number of respondents based on urban and rural areas is the same, each 29 students. The number of female and male respondents is the same, namely 29 students. Most of the mothers were housewives who did not work (81.1%).

Table 2. Distribution of knowledge on nutrition and maternal health, economic status, and number of children

Variable	Value (n=58)	Frequency (%)
Mother's knowledge		
Good	21	36,2
Less	37	63,8
Economic status		
Enough	46	79,3
Less	12	20,7
Number of family members		
≥ 6 people	6	10,3
≤ 5 people	52	89,7

Mothers knowledge about nutrition and health includes personal hygiene, nutritious and balanced food,

physical activity, and knowledge of the importance of maintaining a clean environment around the place of residence. The economic status is considered adequate if the family income is more than the same as the minimum wage for the regency/district (UMK) of Banyumas Regency, which is IDR 1,970,000. Many family members will affect the level of food consumption, namely the amount and distribution of food in the household. Based on Table 2. The percentage of mothers' knowledge about nutrition and health is still not good (63.8%), sufficient economic status (79.3%), and the number of family members ≤ 5 people is 52 students (89.7%).

Table 3. Distribution of food diversity based on knowledge of nutrition and maternal health, economic status, and number of children

Characteristics	n	Diverse (%)	Undiverse (%)	p-value (<0,05)
Mother's knowledge				0,044
Good	21	75,3	24,7	
Less	37	38,8	61,2	
Economic status				0,009
Enough	46	67,9	32,1	
Less	12	35,0	65,0	
Number of family members				0,026
≥ 6 people	6	58,1	41,9	
≤ 5 people	52	47,2	42,8	

Based on Table 3. It can be concluded that the knowledge of mothers about nutrition and health influences the consumption of diversity in school children's food (0.044). Economic status has a significant effect on the prohibition of food for school children (0.009) and the number of family members has a significant effect on the diversity of food consumed by school children (0.026).

DISCUSSION

Diversity in food consumption is a proxy for dietary quality and nutritional adequacy (13). Divergent food consumption is a problem for developing countries, where

consumption of animal products is low, and there are few fruits and vegetables. Plus, the staple plant foods consumed are poor in micronutrient content, and the micronutrients they contain are also types that are difficult for the body to absorb (14). WHO recommends complementary feeding for children from 6 months of age to meet the needs of calories, protein, and micronutrients needed for their growth and development. Proper feeding during childhood is also important for the prevention of chronic degenerative diseases in the future (15). Improper feeding (in terms of nutritional content) will increase the risk of malnutrition, disease disorders, and child mortality, it is estimated that 6 percent of under-five mortality can be prevented by providing optimal food diversity (7,9).

The practice of giving food diversity to children is influenced by direct and indirect factors, direct factors (food and infectious diseases), and indirect factors (economic status, maternal knowledge, and many family members) (10). The results of the analysis show that the level of mother's knowledge affects the food diversity consumption of primary school children. Most of the respondent's mother's education has graduated from high school, although knowledge about food diversity is not only obtained from the school. The government together with health workers has provided counseling and counseling on food diversity. Along with the development of technology, access to social media is getting easier where the respondent's mother can access various information needed. Most of the respondent mothers do not work so they have a lot of time at home to care for and give full love to their children, besides that the free time that the mother has also affected how long or not the mother has access to social media which is useful to add insight into health so that it can be applied in daily life (8,16).

The study conducted in Ghana found similar results, where there is a trend of increasing food diversity with the age of the child. This is a good trend for child nutrition because parents or caregivers understand the nutritional needs of children following the growth process. Dietary diversity was

also significantly higher in mothers with higher education. This is by the previous opinion that with a sufficient level of education, mothers will understand the importance of balanced nutrition for their children. This can be one of the important foundations for nutrition awareness to be included in the school curriculum, especially at the basic education level (17).

Other studies have shown a significant relationship between maternal education and diversity in consumption. A great opportunity that can be exploited by the government is to deliver literacy material about the benefits of diverse food consumption for children's growth through various literacy means, both formal and informal. Good literacy will foster awareness and better parenting practices. So that It is hoped that the practice of providing a variety of foods will be realized to meet the needs of macronutrients and micronutrients that support children's growth and development (9,10,15).

The results of the analysis show that there is a relationship between economic status and the consumption of various types of food among schoolchildren. Most of the respondents are at an adequate economic level, this is based on information on parents' income which is more or the same as the local City / Regency Minimum Wage, besides that the cost of living in the Banyumas Regency is relatively small so that the family income can meet the diversity of family food. This is consistent with other studies which show that the higher the economic level, the more diverse the food consumption is. The diversity of consumption is also greater for children under five in urban areas. This result is in line with studies in the Philippines and Thailand which found that more older children had minimal dietary diversity scores compared to younger children. Children from families with better food security who live in urban areas also have a better dietary diversity than children from families with low food security (2,16).

Low dietary diversity is a serious problem in poor communities in developing countries, where their diets are dominated by starchy staples and usually low or no animal

foods and few fruits and vegetables. These plant-based diets tend to be low in micronutrients and the micronutrients they contain are usually in a form that is difficult to absorb. Although other aspects of food quality, such as consumption of fat, salt, and sugar, have not yet become a concern in developing countries, global changes in food consumption and activity patterns caused by increased income and urbanization also cause these problems to be relevant in developing countries. underwent this transition too (18).

The results showed that there was a relationship between the number of family members and the adequacy of food diversity among school children. Most of the respondents' family members were ≤ 5 people (89.7%). The number of family members can affect the allocation of family income in meeting the nutritional needs of their family, with limited resources, including foodstuffs that must be divided equally among all children and there is infrastructure competition, differences in food, and reduced child care time, having too many children too. causes parental affection for children to be divided, the amount of attention received per child is reduced, and is exacerbated if the economic status of the family is low (9,10).

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