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Research Article

Dominant Factors Affecting the Dietary Habits Among School-Age Children Utilizing the Dorothea Orem Theory Approach at Orphanages Surabaya

Gita Marini^{1*} | Fatma Sriardiana² | Yuanita Wulandari³ | Supatmi Supatmi⁴

^{1,3,4}Lecturers at Department of Pediatric and Maternity, Faculty of Health Sciences Universitas Muhammadiyah, Surabaya, Indonesia

²Student at Faculty of Health Sciences Universitas Muhammadiyah, Surabaya, Indonesia

*contact

gita.ners82@gmail.com

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Abstract

Aims: The diets of foster children in orphanages in groups tend to differ from those of children cared for by their parents. Indeed, applying Self Care Theory to children will help train them in independence in meeting their needs. However, there is a lack of studies to explore the factors affecting children's diets utilizing Dorothea Orem's theory approach.

Objective: Analyzing the dominant factors affecting school-age children's eating patterns utilizing Dorothea Orem's theory approach at the Muhammadiyah Orphanage in Surabaya.

Methods: A cross sectional design included 43 children with orphanages in Surabaya with Cluster Random Sampling technique. The dependent variable is dietary habits. At the same time, the independent variables in this research include nutritional knowledge, body image, the role of caregivers, and food availability. The *Spearman-Rho* with a significant value <0.05 was performed.

Results: Results of the study revealed that age ($p = 0.007$), caregiver role ($p = 0.012$) and food availability ($p = 0.000$) was significantly correlated with dietary habits. However, gender ($p = 0.930$), nutritional knowledge ($p = 0.667$), body image ($p = 0.975$) no significantly correlated with dietary habits.

Conclusion: Food availability is the most vital factor and directly influences the diet of school-age children. Moreover, in this case, the foster mother and adequate food availability support the child's independence process in fulfilling the appropriate self-care process.

Keywords:

Caregiver role, Diet, Food availability, Orem, Orphanage, School-age children

INTRODUCTION

Based on article 34 of the 1945 Indonesian National Constitution that the poor and neglected children are cared for by the government, and a social institution called Orphanage National Development Planning (RKPD) was formed (1). There are 244 orphanages scattered in each sub-district, in Surabaya that care for 2,274 foster children

and 80% are orphanages with the LKSA (Child Welfare and Social Institution) group where these orphanages receive and care for children starting from elementary school age (2). Research on several Orphanage in Surabaya, it is known that foster children at the Muhammadiyah Social Orphanage, Putri Aisyiyah Orphanage, Al-Huda Orphanage, Muslim Orphanage and Asslafiayah Orphanage, most of the foster

children have sufficient energy consumption levels and high levels of energy consumption (3).

The pattern of eating in orphanages in the form of groups tends to be different which results in reduced parenting patterns and the attention to the health of foster children. Importantly, School-age children in orphanages are vulnerable to malnutrition because the regulation of daily consumption is influenced by the existence of funds, facilities and staff at the orphanage so that it will have an impact on the fulfillment of nutrients and the nutritional status of foster children (4). Moreover, school children (6-12 years) begin to recognize a new environment, namely school. Elementary school age children are vulnerable to malnutrition caused by unbalanced food intake.

Parenting pattern of children's food intake is one of the factors related to children's eating patterns, where inappropriate parenting patterns can affect children's eating patterns by 78.5% (18) Meanwhile, a healthy diet is needed for children to get balanced nutrition. Nutritional balance obtained through a healthy diet will have a positive effect on the health, growth and development of children (5). The national prevalence states the nutritional status of children aged 5-12 years with a thin percentage according to nutritional status Body Mass Index/Age (BMI/Age) of 11.2%, consisting of 4% skinny and 7.2% thin. Nationally, the prevalence of stunting in children aged 5-12 years is 30.7% (12.3% stunting and 18.4% wasting) and 18.8% for obese children (10.8% for overweight and 8.8% for obesity) (6). The results of data from the Ministry of Health in 2017 stated that the prevalence of children aged 5-12 with stunting children was 8.3%, 19.4% short children, 3.4% very thin and 7.5% thin children (7).

The prevalence of malnutrition in 2018 reached 2.4%, including very thin. This phenomenon is a dangerous threat to the health of the world's population. It is estimated to be the main cause of 3.1 child

deaths each year (8). The number of eating patterns that are less regular or balanced in school-age children (6-12 years) is 82.5%. Being in the moderate category which includes a not optimal diet. The number of cases of malnutrition in Indonesia in school-age children (6-12 years) in East Java province in 2018 based on the BMI/Age index reached 2.2% skinny and 5.8% thin (6). The number of cases of malnutrition in Surabaya is school-age children (6-12 years) with less weight is 8.22% and 3.81% is thin (9). The population consuming food below 70% of the recommended 2018 Adequacy Nutrition Rate is 45.7% (6). This situation is often found in school-age children (93.5%). The 2018 RISKESDAS states that aged 5-12 years with a scale the rate of thin children is 6.8% and skinny children is 2.4%, while the number of overweight children is 2.4% and obese children reached 9.2%.

Factors that influence dieating patterns according to Worthington (2000) are influenced by two factors, namely external and internal factors. Internal factors consist of BMI, age, gender, nutritional knowledge, beliefs, values and norms, selection and meaning of food, physiological needs of the body, body image/self-image, self-concept, psychosocial development, health (history of illness) and external factors which include family economic level, occupation, parents' education, social and culture, the role of parents, friends peer, individual experience, media influence (11). Diet has something to do with income, type of food, and availability of food ingredients (12). Age is one of the factors related to eating patterns. The higher the age, the nutritional intake will increase (5). Apart from age, the role of caregivers is also a factor that has a significant influence on eating patterns by 56.5%. This is in line with previous study which said that there is a relationship between age and eating patterns and there is a relationship between the role of caregivers and eating patterns (13).

Diet is one of the factors that cause malnutrition or malnutrition in children. So

that there are health problems, one of which is stunting, namely with less TB (height). Therefore, the application of self-care to children is quite important so that individuals can get to know their personality better. Self-Care Theory is a theory put forward by Dorothea Orem (2001) (14). According to Orem, self-care can improve functions and development in social groups that are in line with human potential, know limitations, and desire to be normal. Self-care for children aged 6-12 years includes body hygiene, dietary patterns, clothing, self-help, communication, environmental adaptation, use of free time, simple skills (15). Orem's concept has been explained clearly, in fact individuals with certain circumstances and ages according to their basic conditions have instincts and the body's ability to be able to care for, protect, control, minimize. Also managing negative impacts in order to lead an optimal and healthy life, recovery from illness/trauma or coping and its effects, including in terms of diet (14). In this case, it encourages researchers to conduct research on "dominant factors that influence the eating patterns of school-age children using the Self Care Theory approach at the Muhammadiyah Surabaya Orphanage."

METHODS

This study uses a quantitative method with an analytic design using a cross sectional approach to examine several variables. This research was conducted in July 2022. The population in this study were school-aged children (6-12 years) who lived in dormitories and non-dormitories at the at five Muhammadiyah Surabaya Orphanages with 91 children as respondents. Thus, sampling used the Cluster Random Sampling technique with a total sample of 43 respondents.

The independent variables in this study were age, gender, knowledge of nutrition, body image, caregiver role, food availability. The dependent variable in this study was the diet of school-age children. Data collection tools used in this study were primary data obtained from filling out a checklist questionnaire on nutritional knowledge, body image, caregiver roles, food availability, 48 hours Food Recall sheets and secondary data on child identity from data from each institution. The questionnaire of nutritional knowledge is it self develop instrument that has been tested for validity and found that the value of R count > R table is based on a significant test of 0.05, which means that the items are valid. The reliable test uses the Cronbach's Alpha formula to get a result of 0.620, which means that this questionnaire is said to be reliable. The questionnaire of body image has been tested for validity and found that the value of R count > R table is based on a significant test of 0.05, which means that the items are valid. The reliable test uses the Cronbach's Alpha formula to get a result of 0.884, which means that this questionnaire is said to be reliable. The questionnaire of caregivers roles has been tested for validity and found that the value of R count > R table is based on a significant test of 0.05, which means that the items are valid. The reliable test uses the Cronbach's Alpha formula to get a result of 0.918, which means that this questionnaire is said to be reliable. The questionnaire of food availability has been tested for validity and found that the value of R count > R table is based on a significant test of 0.05, which means that the items are valid. The reliable test uses the Cronbach's Alpha formula to get a result of 0.741, which means that this questionnaire is said to be reliable. Then to find out the relationship between variables that have an ordinal scale. The test was carried out using the Spearman Rho test with a significance level of $\alpha < 0.05$.

RESULTS

This study used 43 children living in the Muhammadiyah Surabaya Orphanage Dormitory and consisted of various characteristics. The description of the characteristics of the respondents was carried out using a frequency distribution test with the following results.

Table 1. Description of the demographic characteristics of the respondents who living in the Muhammadiyah Surabaya Orphanage Dormitory in July 2022.

	Characteristics	Frequency	Percentage (%)
Age	. 6-8 years	11	25,6
	. 9-10 years	18	41,9
	11-12 years	14	32,6
Gender	Male	28	65,1
	Female	15	34,9
School Grade	Grade 1	4	9,3
	Grade 2	7	16,3
	Grade 3	8	18,6
	Grade 4	10	23,3
	Grade 5	7	16,3
	Grade 6	7	16,3

Table 2. Provides Characteristics of The Factor Variables Influencing School-Age Children's Diet Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage in July 2022

	Characteristic of Respondents	Frequency	Percentage (%)
Knowledge of Nutrition	Less	4	9,3
	Good	39	90,7
	Total	43	100
Body image	Negative	14	32,6
	Positive	29	67,4
	Total	43	100
The Role of foster mother	Support	32	74,4
	Not support	11	25,6
	Total	43	100
Availability of Food	Not Available	14	32,6
	Available	29	67,4
	Total	43	100
Diet habits	Enough	11	25,6
	Over	32	74,4
	Total	43	100

Table 3 Provides Spearman Rank Analysis Results of Dominant Factors Influencing School Age Children's Diet Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage in July 2022

Variabel	Correlation Coefficients	Significant Value
Age	-0,406	0,007
Gender	-0,014	0,930
Knowledge of nutrition	-0,064	0,667
Body-image	0,005	0,975
Foster Mother Role Model	0,379	0,012
Availability of Food	0,602	0,000

DISCUSSION

The Effect of Age on the Diet of School-Age Children Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage.

The results of this study are in line with the previous research which showed that there was an influence between age and diet where the higher the age, the higher the food intake. This is in line with another study that most of the time school-age children are used for activities outside the home so that children need more energy, the older they are, the higher their nutritional needs (16).

Food that is mostly sold in schools is classified as non-nutritious food so that school-age children are said to be very vulnerable to poor nutritional intake. Age is one of the important factors of self-care. Based on Erik Erikson's theory of development, children at the school age stage of 6-18 years where at this age are expected to be able to have independence, especially being able to carry out self-care independently. Self-care skills include eating, using the toilet, putting on and taking off clothes, personal hygiene, make-up skills.

The Effect of Gender on the Diet of School-Age Children Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage

The results of this study indicate that there is no significant effect of gender on the diet

of school-age children with a significance value of 0.930, because the sig value is $0.930 > 0.05$. The number of children who were male was 28 (65.1%) and children who were female were 15 (34.9%).

Gender is an internal factor for a person's nutritional needs. The nutritional needs of men and women are very different, this is due to their different growth and development (12). But this research is not in line with this study which shows the results that gender has no effect on eating patterns. The gender factor can occur due to differences in consumption between boys and girls. The nutritional and energy needs of men and women are very different, this is because the growth and development of men and women are also different.

The results of statistical tests using the chi square test obtained a p-value of $0.048 < \alpha (0.05)$, so it can be concluded that there is a relationship between gender and eating patterns in adolescents, Semarang Regency. Gender is a factor that can differentiate food consumption patterns. Individual growth, development, and muscle mass differ greatly between males and females. Thus, causing men to have more food consumption patterns. compared to girls. Therefore, researchers took the gender variable to see differences in food consumption patterns between men and women. There are differences in food consumption between men and women.

The Influence of Nutritional Knowledge on the Diet of School-Age Children Using

the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage

The results of this study indicate that there is an insignificant effect between nutritional knowledge on the diet of school-age children with a significance value of 0.66, because the sig value is $0.667 > 0.05$. The effect of nutritional knowledge on school-age children in orphanages is in the less category (9.3%), which means that some of the children in orphanages do not understand the nutritional knowledge that must be obtained at their age. But in this study the results were obtained from respondents who had good nutritional knowledge (90.7%).

The effect of nutritional knowledge on eating patterns is not significant or not always linear, which means that the higher the level of one's nutritional knowledge is not necessarily a good pattern applied, because eating patterns are rarely directly influenced by knowledge but can be influenced by the interaction between attitudes and food choices. The higher the level of one's knowledge of eating, the more likely it is to choose cheap food, according to everyone's tastes and eating habits.

The Influence of Body Image on Eating Patterns of School-Age Children Using the Theory Approach of Dorothea Orem at the Muhammadiyah Surabaya Orphanage

The results of this study indicate that there is no significant effect between body image on eating patterns of school-age children with a significance value of 0.975, because the sig value is $0.975 > 0.05$. The effect of body image on school-age children in orphanages with a negative value of 14 (32.6%). But in this study, the results obtained from respondents who had a positive body image were 29 (67.4%).

Body image is the way a person evaluates and views his own body shape. Women tend to consider themselves fat, so they are very concerned about their food consumption.

The more negative the body image, the more it tends to reduce the frequency of eating. Research on adolescents said that there was a significant influence between body image and the eating patterns of young women aged 16-17 years. This means that the more positive the body image, the better the diet and vice versa. However, this is different from elementary school-age children who have not paid attention to their own body image. Because teenagers and adults tend to have a more positive influence on their bodies and are able to understand the changes that occur in their bodies.

The Influence of the Caregiver Role on the Diet of School-Age Children Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage

The results of this study indicate that there is an influence between the role of caregivers on the eating patterns of school-age children with a significance value of 0.012, because the sig value is $0.012 < 0.05$. There was an effect of the role of caregivers on school-age children in orphanages by 32 (74.4%), and there was no influence on the role of caregivers on school-age children in orphanages by 11 (25.6%).

This is in line with previous study which shows that there is a positive correlation between family roles and eating patterns with a ρ value of 0.035, even though the strength of the relationship category is weak ($r = 0.016$) (17). This means that the better the role of the family, the better the nutritional behavior of school-age children. The role of the family includes being a provider of health promotion, provider and role model in family dietary practices. The family plays an important role in all forms of health promotion and health risk reduction. Parents are responsible for the health practices of family members including an understanding of balanced nutrition and the processing and provision of nutritious food. This also applies to the role of caregivers in orphanages as a substitute for the child's parents who

function as health promotion. The more often caregivers provide knowledge, it will help in maintaining a balanced nutritional health pattern and support optimal growth and development of children (18). The role of caregivers also plays a role in child self-care where it becomes a supporter in the child's independence process of self-care. The Effect of Food Availability on the Diet of School-Age Children Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya.

The Effect of Food Availability on the Diet of School-Age Children Using the Dorothea Orem Theory Approach at the Muhammadiyah Surabaya Orphanage.

The results of this study indicate that there is an influence between food availability on the diet of school-age children with a significance value of 0.000, because the sig value is $0.000 < 0.05$. The availability of food in orphanages was more available, 29 (67.4%) compared to 14 (32.6%), which was not available. This is in line with another research which shows that there is a significant relationship between household food availability and the nutritional status of adolescents with a p value = 0.024 ($p < 0.05$) (19). Food availability can be interpreted as a condition of providing food including food and drink derived from plants, livestock and fish for residents of an area within a certain period of time (11). According to Syafawi in Hermansyah 2010, the availability of nutritious and affordable food is an important element in fulfilling appropriate nutritional intake in addition to behavior and culture in food processing and childcare.

At the orphanage the food schedule is scheduled. There are several orphanages during the meal schedule, food has been prepared on each child's plate according to the portions determined by the orphanage, but there are several orphanages that free the orphanage children to take food according to the portion and taste of each child. In orphanages where they are free to

take their own food, many children choose not to eat and buy food outside the orphanage. Some orphanages do not provide fruits and snacks such as bread or snacks.

CONCLUSION

This study revealed that age has a non-significant effect on the diet of children in orphanages, which means that not all children aged 6-12 have the same eating pattern because each child has a different appetite from one another. Knowledge of nutrition has no significant effect on the diet of children in orphanages, which means that some of the children in orphanages do not understand the nutritional knowledge that must be obtained at their age. Body image has no influence on the eating patterns of children in orphanages, which means that at school age children do not pay attention to their own body image. Moreover, the role of caregivers has an influence on the eating patterns of children in orphanages, which means that in this case the caregiver becomes a supporter in the child's independence process in carrying out self-care. Interestingly, the availability of food has an influence on the diet of children in orphanages, which means that the availability of nutritious food is an important element in fulfilling appropriate nutritional intake in addition to behavior and culture in food processing and child care.

The caregivers at the orphanage are expected to be able to apply a good diet to foster children and apply independence so that foster children are able to carry out self-care independently. This can be used as a reference for students, especially in the field of pediatric nursing. For Further Researchers. It is hoped that future researchers will be able to conduct dietary research using other nursing theories, and be able to use other analytical tests so as to obtain more specific results.

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