



Mother's Knowledge About Nutrition, Disease Infections And Snacking Habits With Nutritional Status Early Age Children In Garessi National Kindergarten

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ABSTRACT

The early childhood group is a group that is vulnerable to nutritional problems. Mothers' low knowledge about nutrition, infectious diseases and poor snacking habits often cause nutritional problems in early childhood. The aim of this research was to determine the relationship between maternal knowledge about nutrition, infectious diseases and snack habits with the nutritional status of early childhood children in Kindergarten in Garessi. This research method is an analytical survey with a cross sectional research design with a total sampling technique. This research was conducted on April 13 2023 using univariate and bivariate analysis with the chi-square test. The research results showed that there was a relationship between maternal knowledge and the nutritional status of early childhood with a p value of 0.004, infectious diseases with the nutritional status of early childhood with a p value of 0.001 and snack habits with the nutritional status of early childhood with a p value of 0.004. The conclusion is that the majority of mothers' knowledge about nutrition is lacking, namely 70.7%, 61% of young children who experience infectious diseases, 56.1% of young children who have bad snack habits and 56.1% of young children who experience abnormal nutritional status namely 53.7%. The research team hopes that mothers will maintain nutritional status in early childhood and prevent children from snacking carelessly.

Keywords: Mother's Knowledge, Nutrition, Infectious Diseases, Snack Eating Habits, Nutritional Status, Children, Early, Kindergarten Garessi

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1. Introduction

Growth and development are indications of morphology, biochemistry, and physiology that occur at the beginning to adulthood which can be influenced by genetic and environmental factors. Rapid growth occurs at the age of 0-1 year and puberty. Whereas in toddlers, growth can be easily observed. In the growth and development of toddlers, they have the same phase, but the speed is different (Soetjiningsih, 2012). Toddlers are the age group most vulnerable to energy and protein deficiencies. Large intake of nutrients is very important for the growth and development process in children. Good food is nutrients that are sufficient in quantity. If the body's nutrients cannot be met, it will cause several serious impacts, such as growth and development failure (Waryana, 2010).

Growth is the process of increasing body shape in large numbers due to the addition of cells and protein formation. This can be measured such as body weight and height (Armini et al., 2017). Development is an increase in abilities related to more optimal body structure and function (Armini et al., 2017). Growth and development can be defined as a process of physical growth characterized by an expansion in the size of body organs due to cell growth and a non-physical process of producing abilities regarding maturity (Sembiring, 2019).

The nutritional status of early childhood is an important issue that every parent should know. Mothers with good nutrition will give birth to well-nourished children. Well-nourished children are an asset and at the same time an investment in human resources in the future. Viewed from the perspective of health and nutrition issues, early childhood is included in the vulnerable nutritional group, namely the group of people who are most susceptible to nutritional disorders, while at this time they are experiencing a relatively rapid growth process. In general, there are four nutritional problems in early childhood in





Indonesia, namely; Protein Energy Deficiency, Vitamin A Deficiency, Iodine Deficiency, and Iron Deficiency. As a result of this malnutrition, susceptibility to infectious diseases can cause an increase in the mortality rate of early childhood (Santoso & Liens, 2014).

Malnutrition is a global and complex problem that occurs throughout the world. Malnutrition is usually experienced by early childhood and this needs to be a concern because early childhood is a group that needs attention for its nutritional needs, because they are in a period of growth. Lack of nutritional needs during childhood will not only cause disorders in physical growth but will also cause disorders in the child's mental development. Children who suffer from malnutrition after reaching adulthood will not be tall and muscle tissues will be underdeveloped. Good nutritional status can help the process of growth and development of children to achieve optimal maturity (Sari, 2017).

Malnutrition is a global and complex problem that occurs throughout the world. Around 37.3 million people live below the poverty line. Half of the total households consume less than daily food needs. Five million people are malnourished and more than 100 million people are at risk of various malnutrition problems (Almatsier, 2014).

World Health Organization data states that the incidence of malnutrition and severe malnutrition in early childhood in the world in 2016 increased to 8.3% and 27.5% respectively and in 2017 increased again to 8.8% and 28% respectively. This condition is quite worrying because in addition to having an impact on the growth and development of children, malnutrition is also one of the main causes of death in early childhood. WHO data in 2017 showed that 60% of infant and early childhood deaths were related to cases of malnutrition (Dina, 2017).

Based on Riskesdas data (2018), the prevalence of malnutrition in early childhood is 13.8%, which means that 212 nutritional and malnutrition problems in Indonesia are still public health problems and are approaching high prevalence, while the target of the Sustainable Development Goals in 2019 is 17%. Therefore, the prevalence of malnutrition nationally must be reduced by 2.3 %.

According to the 2016 Basic Health Research (Riskesdas) data, the prevalence of nutritional status of early childhood based on weight according to age in Indonesia, namely





malnutrition reached 5.7%, Undernutrition reached 13.9%, Good Nutrition reached 75.9%, and Overnutrition reached 4.5%.

Children's basic needs for growth and development are mostly divided into 3 groups, including (Syifauzakia, 2020):

- 1) Physical-biomedical needs (ASUH) Cover food (primary needs), basic health care, namely immunization, breastfeeding, weight measurement, and treatment if sick, adequate accommodation, cleanliness, environmental sanitation, physical fitness, and recreation.
- 2) Emotional or affection needs (ASIH) Deep or tender needs include comfortable connections, getting a feeling that everything is okay, comfort, security, being cared for, empowered, helped, appreciated, filled with happiness without any threat.
- 3) Providing stimulation needs (ASAH) Providing emotional needs by educating and refreshing the intellect from an early age to further develop the child's psychosocial needs such as insight, ethics, honor, religion, morals, character, language skills, innovation and freedom.

Many factors that influence the emergence of malnutrition are directly related to each other, first, children do not get balanced nutritional intake for a long time, and second, children suffer from infectious diseases and lack of maternal knowledge about nutritional status. Indirectly, the causes of malnutrition are insufficient food supplies in the household, inadequate parenting patterns and poor sanitation or environmental health and limited access to health services (Ministry of Health of the Republic of Indonesia, 2017).

Malnutrition in early childhood can cause suboptimal physical and brain growth, children become thin, and very short. If in the long term this is not addressed immediately, it will result in the loss of the potential of a smart and qualified young generation (lost generation) so that children become unproductive and unable to compete in the future. (Andria, 2016).

The causes of malnutrition can be influenced by several factors, including internal and external factors. Internal factors include food intake and infectious diseases. External





factors include parental education, type of work, parental income, mother's knowledge of nutrition and snack consumption patterns (Arini, 2014).

Lack of parental nutritional knowledge is one of the causes of malnutrition in early childhood. Mother's knowledge of nutrition is what mothers know about healthy food, healthy food for certain age groups and how mothers choose, process and prepare food properly. Lack of maternal nutritional knowledge will affect the nutritional status of early childhood children and will make it difficult to choose nutritious food for their children and their families. The level of maternal knowledge about nutrition also plays a role in the magnitude of nutritional problems in Indonesia (Ningsih, 2016).

In addition to knowledge, the cause of nutritional problems is infectious diseases. Early childhood who suffer from infectious diseases have a risk of suffering from malnutrition of 5.6 times compared to those who are not infected. Infectious diseases that attack children can interfere with the absorption of nutritional intake, thus encouraging malnutrition and severe malnutrition. As a reaction to infection, the child's appetite decreases so that the child refuses the food given, which results in reduced intake of nutrients into the body. Infectious diseases can disrupt metabolism which causes hormonal imbalance and disrupts immune function. In addition to infectious diseases, factors that affect the nutritional status of early childhood are snacking habits (Moehji, 2013).

The habit of snacking has an impact on high energy intake compared to children who do not have the habit of snacking. The habit of consuming snacks is related to increased energy intake and significantly affects nutrient intake. Consuming snack foods will affect nutritional status because these snacks mostly contain carbohydrates and little fiber, making you feel full quickly, in addition the cleanliness of these snacks is very questionable (Moehji, 2013).

2. Research Methods

The design of this research is analytical with a cross-sectional design, namely each variable is observed and the measurement of each variable is carried out at the same time (Notoatmodjo).





This study was conducted at the Kindergarten in Garessi. The population of this study were all mothers who had early childhood and students at the Kindergarten in Garessi, namely 41 people. The sample in this study were some mothers who had early childhood and students at the Kindergarten in Garessi. The sampling technique in this study was total sampling, which is a method of sampling by taking all samples, namely students and mothers who have early childhood in the Kindergarten in Garessi.

3. Results and Discussion

a. Results

Analysis Univariate

Analysis univariate describe distribution frequency knowledge, disease infection, habit snacks and status children's nutrition early. Analysis results seen on table following:

1. Knowledge Mother's Nutrition

Table 1
Distribution Respondent Frequency Based on Knowledge Mother's Nutrition

No	Knowledge Nutrition Mother	N	%
1	Not enough	12	70.7
2	Good	29	29.3
	Amount	41	100

Based on table 1 can seen that from 41 respondents, there are 29 Respondent (70.7%) knowledgeable not enough.

2. Disease Infection

Table 2
Distribution Respondent Frequency Based on Disease Infection





No	Infectious Diseases	N	%
1	Yes	25	61.0
2	No	16	39.0
	Amount	41	100

Based on the table 2 can seen that from 41 respondents, there is 25 Respondent(61%) Which experiencing an infectious disease.

3. Habit snacking

Table 3
Distribution Frequency Respondents
Based on habit Snacking

No	Habit Snacking	N	%
1	Bad	23	60.1
2	Good	18	30.9
	Amount	11	10.0

Based on table 3 can seen that from 41 respondents, there is 23 Respondent (56.1) Which have bad snacking habits.

4. Status Nutrition

Table 4
Distribution Frequency Respondents
Based on Over Nutritional Status

No	Status Nutrition	N	(%)
1	No Normal	22	53.7
2	Normal	19	46.3
	Amount	41	100

Based on table 4 can seen that from 41 respondents, there is 22 respondents (53.7%) with nutrition abnormal.

b. Discussion

- 1) The Relationship between Mother's Knowledge of Nutrition and Nutritional Status of Early Childhood in Kindergarten in Garessi.





Based on the results of the research that has been conducted, it is known that from 29 respondents who have less knowledge about nutritional status, there are 9 children (47.4%) who have normal nutritional status, while from 12 respondents who have good knowledge about nutritional status, there are 2 children (9.1%) who have abnormal nutritional status. Based on the statistical test, the p value = 0.004 ($p < 0.05$) was obtained, thus statistically there is a relationship between knowledge and nutritional status.

According to the results of the researcher's observations, respondents who have less knowledge but have normal nutritional status are because the respondents have enough time to provide nutritious food for their children and always pay attention to the types of food given to their children. Meanwhile, respondents who had good knowledge but experienced poor nutritional status did so because their mothers were busy working and did not have much time with their children, so mothers paid less attention to the nutritional content of their children's food.

A mother must take time to pay attention to her child. In addition, being able to choose food ingredients that have high nutritional value at a price that is affordable by the finances owned. Thus, children will be met in terms of nutritional needs and sufficient attention from parents, especially mothers (Ratna, 2016).

Considering that the level of education of parents who have low education means that health information, especially in the field of nutrition, is less readily available. So it is not surprising that these parents have toddlers who are malnourished. This is in accordance with what was stated by food and nutrition information, namely that parental education is a real relationship with all disease prevention efforts and parental education is also very strong in determining the nutritional status of toddlers (Ardi, 2014).

The results of this study are in accordance with the study conducted by Allo (2012) on the relationship between knowledge and fast food consumption with the incidence of overnutrition in students of SDN Sudirman 1 Makasar in 2012. The results of the study obtained a p value of 0.002. This study is in line with the study





conducted by Moazahro (2014) on the relationship between knowledge and the incidence of malnutrition in early childhood in Karanganyer Village in 2014. The results of the study showed that respondents with less knowledge were 65.2 %.

2) The Relationship between Infectious Diseases and the Nutritional Status of Early Childhood

Based on table 4.6, it can be seen that out of 16 respondents who did not experience infectious diseases, there were 13 children (68.4%) who experienced normal nutrition, while out of 25 respondents who experienced infectious diseases, there were 13 children (68.4%) who experienced abnormal nutritional status. Based on the statistical test, the p value was obtained = 0.001 ($p < 0.05$), thus statistically there is a relationship between infectious diseases and nutritional status. Based on the results of the study, it was found that the POR value = 0.73, this means that respondents who experience infectious diseases have a 1-fold chance of experiencing malnutrition.

According to the results of researchers' observations, the presence of infectious diseases such as ARI or diarrhea in early childhood will cause the absorption of food consumed by early childhood to be hampered and the energy obtained from food will be used up or reduced.

Respondents who do not have infectious diseases but their children experience malnutrition because of the pattern of dishes prepared by mothers every day that is not right and the frequency of eating early childhood in a day for food ingredients containing nutrients such as staple foods, side dishes, vegetables and fruits is still lacking which are generally given irregularly, this is what triggers malnutrition in early childhood. While respondents who have infectious diseases but normal nutritional status in their children is because when their children experience infectious diseases, the mother immediately takes them to health services and the mother always gives nutritious food to her child.

Infectious diseases with the nutritional status of early childhood are two things that are interrelated. Infectious diseases can worsen nutritional status and





poor nutritional status can make it easier to get infections. This infectious disease is supported by environmental sanitation conditions, if children aged early life in an environment that allows diarrhea and other infectious diseases (Hanasiah, Bustami, & Abidin, 2016).

Poor physical environmental conditions and sanitation can affect the lives of those around it. Unhealthy environmental conditions are an indirect cause of nutritional problems, especially in children. Not only environmental sanitation, but food and beverage sanitation also need to be considered, such as uncooked drinking water or food that is not stored in a closed place can be contaminated by dirty air or contaminated by germs (Rohaedi, Julia, & Gunawan, 2014).

3) Relationship between Snacking Habits and Nutritional Status in Early Childhood

Based on the results of the study, it was found that 23 respondents with bad snacking habits, there were 6 people (31.6 %) who experienced normal nutritional status. While from 18 respondents with good snacking habits, there were 5 people whose nutritional status was not normal. Based on the statistical test, the value of $p = 0.004$ ($p < 0.05$) was obtained, thus statistically there is a relationship between snacking habits and nutritional status in early childhood.

According to the researcher's assumption, respondents who have bad snacking habits but normal nutritional status are caused by their children's regular eating patterns at home, while respondents who have good snacking habits but abnormal nutritional status are caused by poor home environmental sanitation so that early childhood health will be disturbed and cause abnormal nutrition in children.

Food selection includes part of the broader issues of food-related habits that are typical behaviors of a society in relation to food. Food selection habits also affect meal times, number of dishes, method of food preparation, people who eat, portion sizes and how to eat (Barasi, 20).

School snacks are one of the problems that need the attention of the community, especially parents, educators and school administrators. The snacks





that are currently being sold still pose a health risk due to unhygienic handling, which can result in the snacks being contaminated with microbes or food additives (Cahyadi, 2016).

Children's snacking habits can affect the snack foods consumed by children. Snack foods are foods and drinks prepared and sold by street vendors on the streets and in other public places that are eaten or consumed directly without further processing or preparation. These foods are often not prepared hygienically or also use hazardous materials such as coloring agents because of their cheap price (Khomsan, 2009).

4. Conclusion

Based on the results of this study, it can be concluded that after conducting research on the relationship between nutritional knowledge, infectious diseases and snacking habits with nutritional status in early childhood in Kindergarten in Garessi, most mothers' knowledge about nutrition is lacking, namely 70.7%, early childhood who experience infectious diseases is 61%, early childhood who have bad snacking habits is 56.1% and early childhood who experience abnormal nutritional status is 53.7%.

5. Compliance with ethical standards

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Disclosure of conflict of interest

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

Reference

1. Ali Imran, Dr. A. Nursinah, Verawati, Rusnita. Health Communication Textbook (Key to Success in Hospital Administration). ISBN: 978623-10-0088-0.





- <https://agdosi.com/2024/04/04/buku-ajar-komunikasi-kesehatan-kunci-sukses-administrasi-rumah-sakit/>
2. Alini (2014). Nutrition Science. Correlation of Nutrition, Health and Work Productivity. Rineka Cipta. Jakarta Hanasiah et al. (2016). Infectious diseases in early childhood. Egc. Jakarta.
 3. Ministry of Health of the Republic of Indonesia. (2018). Nutrition and Public Health. Jakarta: Raja Grafindo Persada. Fajri. (2015). Diagnosis of infectious diseases in children. Jakarta: EGC.
 4. Wound Care And Treatment For Health. ISBN No.: 978-623-09-8231-6. <https://agdosi.com/2024/01/10/wound-care-and-treatment-for-health/>
 5. Fikawati, S., Syafiq, A., and Karima, K. 2015. Maternal and Infant Nutrition. Rajawali Press: Jakarta.
 6. Irianto, K. 2014. Balanced Nutrition in Reproductive Health. Alfabeta: Bandung.
 7. Julita, E., Rahagia, R., Fajar Cahya, MR, Resti Wijayanti, FE, Malaha, N., Rasyid, D., & Pannyiwi, R. (2023). Therapeutic Communication of Nurses in the Surgical Treatment Room of RSUD Arifin Nu'mang. International Journal of Health Sciences, 1(1), 39–47. <https://doi.org/10.59585/ijhs.v1i1.51>
 8. Marimbi. (2013), Growth and Development, Nutritional Status. Yogyakarta: Nuha Medika Moehji, S. (2013). Nutritional science. Jakarta. Papas Sinar Sinanti.
 9. Kusumawaty, I., Yunike, Y., & Astuti, RD (2023). Enhancing the Achievement of Community Mental Health Through Health Cadre Development in Talang Buluh Village. Sahabat Sosial: Journal of Community Service, 2(1), 28–39. <https://doi.org/10.59585/sosisabdimas.v2i1.212>
 10. Ministry of Health of the Republic of Indonesia. 2017. Indonesian Health Profile 2016. Jakarta: Ministry of Health of the Republic of Indonesia.
 11. Masdarwati, M., Kadir, E., Serli, S., Ruben, SD, Pannyiwi, R., & Rante, A. (2023). Counseling on Complementary Foods for Breast Milk with Toddler Nutritional Status. Sahabat Sosial: Journal of Community Service, 1(2), 58–60. <https://doi.org/10.59585/sosisabdimas.v1i2.28>
 12. Meilirianta, Istianah, and Yuliani, A. 2014. Influence Maintenance Breast to Excretion of breast milk (ASI) in mothers Postpartum in House Giving birth Fragrant Sustainable Ward Main Subdistrict Cimahi South Year 2014. Journal Rajawali Health, Vol. 4 No. 7, October 2014: 36-43.
 13. Love, S. 2016. Effectiveness Massage Oxytocin And Maintenance Breast To Smoothness Production breast milk on Mrs. Post Sectio Caesarea at RSAD Hero Devotion Mataram year 2015. Media Build Scientific, Vol. 10 No. 3, March 2016: 48-52.
 14. Nilamsari, MA, Wagiyo and Elisa. 2014. The Effect of Breast Care on the Smoothness of Breast Milk Excretion in Postpartum Mothers at Mardi Rahayu Maternity House, Semarang. Journal of Nursing and Midwifery (JIKK), 2014: 1-7.
 15. Ningsih, R. (2016). Analysis of Mother's Nutritional Awareness Behavior and Food Consumption and Nutritional Status of Toddlers. EGC. Bogor.





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16. Rahayuningsih, T., Mudigdo, A., and Murti, B. 2016. Effect of Breast Care and Oxytocin Massage on Breast Milk Production: a study in Sukoharjo Provincial Hospital. *Journal of Maternal and Child Health*, Vol. 1 No. 2, 2016: 101-109.
17. Ratna (2016). *Knowledge About Nutrition*. Salemba Medika. Jakarta.
18. Basic Health Research (Riskesdas). (2018). *Basic Health Research Results Report 2018*. Jakarta: Health Research and Development Agency. Ministry of Health of the Republic of Indonesia. 2018.
19. Sari (2017). *Introduction to Community Nutrition*. Jakarta: Kencana Prenada Media.
20. Santoso, Liens (2014). *Food and Nutrition Planning*. Jakarta: Bumi Aksara.
21. Sediaoetomo. (2016). *Introduction to food and nutrition*. Jakarta. Penebar Swadaya.
22. Supriasa. (2015). *Assessment of Nutritional Status of Toddlers*. Jakarta: EGC.
23. Suhardjo. (2013). *Assessment of Community Nutritional Status*. Bogor: IPB. Uripri. (2014). *Food Textbook for Toddlers*. 12th Edition.
24. WHO (2016) *The incidence of malnutrition among children under five at indonesia.who.co.id*
25. Wijayanti, L.A., Lestaluhu, V., Saputra, MKF, Masithah, S., Pannyiwi, R., & Malaha, N. (2024). Readiness for Accreditation of the Administration and Management Working Group at the Basaan Community Health Center Southeast Minahasa Regency. *International Journal of Health Sciences*, 2(1), 48–64. <https://doi.org/10.59585/ijhs.v2i1.239>

