

# The Relationship of Nutrition Extension Through Monopoly Game Media With Knowledge And Attitudes About Balanced Nutrition in Elementary School 03 Children in Pasir Village, Tripe Jaya District Gayo Lues Regency, 2022

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## ABSTRACT

The purpose of the study was to determine the relationship of nutrition counseling through the media of monopoly game to knowledge and attitudes about balanced nutrition in SDN 03 students in Pasir Village, Tripe Jaya District, Gayo Lues Regency in 2022. This type of research is a quantitative research (analytic survey) with a cross sectional approach. Location This research was conducted at SDN 03 Pasir Village, Tripe Jaya District, Gayo Lues Regency. The population in this study were taken from 2 classes at SDN 03, 15 students were sampled from class IV, and 15 students were taken from class V. The population technique in this study was non-probability sampling. The results showed that from 30 respondents that the majority of good knowledge as many as 15 respondents (50%). And the majority of children's nutritional attitudes in the very high category were 15 respondents (50%). This shows that nutrition counseling is closely related to knowledge of children's nutritional attitudes in understanding the importance of healthy food. Based on research conducted at SDN 03 Gayo Lues on the Relationship of Nutrition Extension Through Monopoly Game Media with Knowledge and Attitudes About Balanced Nutrition in Children at SDN 03 in Pasir Village, Tripe Jaya District, Gayo Lues Regency in 2022, the following conclusions can be drawn : The majority of children's knowledge about balanced nutrition at SDN 03 Gayo Lues, Tripe Jaya District, Gayo Lues Regency in 2022 is in the good category.

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## 1. Introduction

Normal physical and mental development of children is a healthy child according to their respective ages, normal growth and development of a child, not excessive weight, and normal height are factors of consuming a well balanced nutrition. This can cause children to have a sense of enthusiasm for school and learning. In 2015 there were 95.2 million children who were thin, and there were 14.3% of underweight children in the world. This nutritional problem is still quite high, both nutrition over or under nutrition (WHO, 2015).

The Indonesian Ministry of Health (2017) according to the BMI/U Index in North Sumatra Province, the percentage of underweight and very thin in school children is (3.8%) very thin, and (6.%) thin, based on WHO standards this causes the North Sumatra region declared to be experiencing acute malnutrition because the amount present is 5% or more. In 2014 - 2017 based on nutritional status indicators for underweight toddlers, there was a gradual decline in prevalence, but when compared with the national average, the prevalence of underweight toddlers in Aceh was (12.8%) almost twice the national prevalence of ( 6.9%), for the problem of underweight BB/U (poor and lacking) there was an increase in cases of 9.3% and was far above the national average,

In 2012, data and basic health research showed that in Indonesia the problem of overnutrition in children aged 5-12 years was still high, the highest prevalence of overnutrition was in the city of

DKI Jakarta with a total of 30.1%, and there was a low number in East Nusa Tenggara (8.7%). Nationally, there are 15 provinces with obesity problems, namely in Central Kalimantan, East Java, Banten, East Kalimantan, Bali, West Kalimantan, North Sumatra, Riau Islands, Jambi, Papua, Bengkulu, Bangka Belitung, Lampung and DKI Jakarta, while the problem is very thin. the highest number was found in East Nusa Tenggara (7.8%) and the lowest number was in Bali (2.3%).

The monozi game consists of a game plot containing the source of nutrients and the boxes that the participants must pass by rolling the dice and running the pawns, the monozi game aims to master the plot of nutrient sources such as energy, regulating and building substances and collect complete nutrition source card. The application of media in the form of balanced nutrition puzzles in nutrition counseling for school children in Kaliwungu District, Semarang Regency (Mardiana, 2015) that from the four selected elementary schools with a total of 101 students there was an increase in knowledge, the average value of the pretest against PSSTES increased by 58% as for the average value of children's knowledge amounted to 41 while the average value of posttest knowledge of children amounted to 71%,

Based on the results of research conducted by (Syarifah Rizkia Putri, 2016) about a balanced diet on the knowledge and attitudes of SDN 060902 Mangkubumi students, Medan City, it is known that the posttest results of school children have higher scores than the pretest, there is a fact that there is a difference in the category of children's knowledge before and after nutrition education through nutrition monopoly game media was given, namely there was an increase in knowledge after being given nutrition counseling through monopoly game media.

Based on an initial survey conducted by researchers on 15 fourth grade children and 15 fifth grade children at SDN 03 Pasir Village, it was found that only 4 children knew about a balanced diet, 7 children met a balanced nutritional diet, and 5 children who choose to bring lunch from home. Researchers saw that snacks at school did not meet the requirements for a balanced nutritional diet, such as fried meatballs, bokom (boiled noodles) and drinks high in artificial coloring and sweeteners. This makes researchers conduct research to see the relationship between nutrition education about eating patterns and balanced nutrition through monozy games (Monopoly Nutrition) where researchers will see how the knowledge and attitudes of school children about a balanced diet after receiving health education, in terms of balanced nutrition. children and a source of every nutrient they need.

Nutritional monopoly is a modification of an international game that is used as an educational medium about a balanced diet through the cards provided. In a media education that is fun, children are the main key in designing children's games, this concept aims at the concept of "Playing While Learning". The nutrition monopoly game basically consists of a plot or board game whose contents are boxes that the players must pass by moving the pawns after and before, where by rolling the dice first, the nutrition monopoly game about a balanced diet is one of the games which has the aim of controlling all plots of complete nutritional sources which include sources of energy (carbohydrates and fats),

## **2. Method**

### **2.1. Research Types and Design**

The type of research used is quasi-experimental using a pre- and post-test group design. After the first observation (pre-test) the researcher can examine the changes that occur after the treatment (post-test).

### **2.2. Research sites**

Location The research on nutrition education through monopoly game media was conducted at SDN 03 Pasir Village, Tripe Jaya District, Gayo Lues Regency.

### **2.3. Research time**

This research starts from March to June 2022

### **2.4. Population**

The population in this study was taken from 2 classes at SDN 03, 15 children were sampled from class IV, and 15 children were taken from class V. Techniques The population in this study amounted to 30 respondents.

### **2.5. Sample**

Sampling in this study was carried out by purposive sampling method, where purposive sampling is a sampling technique carried out with certain considerations that have been made by re-

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searchers based on the characteristics and characteristics of respondents that have been known previously. The sample in this study amounted to 30 respondents consisting of 15 children taken from class IV and consisting of 15 children taken from class V.

## 2.6. Operational Definition

The nutrition monopoly game is a game that aims to control all sources of nutrient plots where in all nutrient plots it includes all sources of substances such as regulators, building blocks and energy sources listed in the game plot and then collects nutrient source cards. Nutrition knowledge is the result of a nutrition education that can change a person's nutritional behavior both in food choices, eating patterns and awareness of eating habits. Nutritional attitude is a person's closed response to a certain stimulus or object, which already involves the relevant opinion and emotion factors (happy-not happy, agree-disagree, good-bad, and so on).

TABLE 1  
ASPECTS OF MEASUREMENT OF RESEARCH VARIABLES

No	Variable	Definition Operational	Measuring instrument	Measurement Results	Measuring Scale
1.	Knowledge	Children must eat a balanced diet	The questionnaire consists of 14 questions	1. Knowledge Good score 10-14 2. Knowledge Medium score 5-9 3. Lack of knowledge 4-0	ordinal
2.	Attitude	Consuming too much fat can cause health problems	The questionnaire consists of 10 questions	1. Strongly agree score 31-40 2. Agree score 21-30 3. Disagree score 11-20 4. Strongly disagree score 1-10	Ordina

## 3. Results and Discussion

### 3.1 Univariate Analysis

Characteristics of respondents on the relationship of nutrition counseling through Monopoly Game Media with Knowledge and Attitudes about Balanced Nutrition in SDN 03 children in this study consisted of Class, Age, Gender, Knowledge and Attitude.

TABLE 1  
CHARACTERISTICS OF RESPONDENT CHILDREN OF SDN 03 IN PASIR VILLAGE, TRIPE JAYA DISTRICT GAYO LUES DISTRICT IN 2022

Characteristics of Respondents Child SDN 03 Gayo Lues	F	%
<b>Gender</b>		
Man	12	40
Girl	18	60.7
<b>Total</b>	30	100
<b>Age</b>		
8-9	15	50
10	15	50
<b>Total</b>	30	100
<b>Class</b>		
IV	15	50
V	15	50
<b>Total</b>	30	100

Based on table 4.1 above, it can be seen from 30 respondents at SDN 03 Tripe Jaya District, Gayo Lues Regency in 2022, it can be seen that the age of 8-9 years is 15 respondents (50%), age 10 years is 15 respondents (50%), Gender of respondents the majority of women were 18 respondents (60%), the Education Class of the respondents was the majority of class IV as many as 15 respondents (50%), and the Education Class of respondents was the majority of class V as many as 15 respondents (50%).

TABLE 2  
FREQUENCY DISTRIBUTION OF PRE TEST AND POSTTEST MONOPOLY GAME SDN 03 IN PASIR VILLAGE, TRIPE JAYA DISTRICT, GAYO LUES REGENCY IN 2022

Pair	Test	Paired Differences					T	df	Sig. (2-tailed)
		mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest - Post Test	-,93333	,25371	,04632	-1.02807	-,83860	-20,149	29	0.00

Based on table 4.2. it was found that the level of knowledge of SDN 03 children before nutrition counseling using monopoly game media was in the bad category, while after nutrition counseling through monopoly game media got results in good categories with the result that there was an increase in knowledge and after monopoly games were carried out on balanced nutrition knowledge. Based on table 4.3, data shows that the level of attitudes about balanced nutrition for children at SDN 03 Tripe Jaya District, Gayo Lues Regency in 2022 is very high with 15 respondents (50%).

TABLE 3  
FREQUENCY DISTRIBUTION OF THE KNOWLEDGE LEVEL OF CHILDREN OF SDN 03 IN PASIR VILLAGE, SUB-DISTRICT TRIPE JAYA, GAYO LUES DISTRICT IN 2022

Characteristics	Frequency	Percentage
Good Knowledge	15	50
Medium Knowledge	8	26.7
Lack of Knowledge	7	23.3
Total	30	100

Based on table 4.3 above, it is found that the majority of children at SDN 03 District of Tripe Jaya, Gayo Lues Regency in 2022 have good knowledge of 15 respondents (50%).

TABLE 4  
FREQUENCY DISTRIBUTION OF ATTITUDE ABOUT BALANCED NUTRITION FOR SDN 03 CHILDREN IN PASIR VILLAGE, TRIPE JAYA DISTRICT, GAYO LUES REGENCY IN 2022

Nutritional attitude level in children	F	Percentage
Very low	8	26.7
Low	7	23.3
Very high	15	50.0
Total	30	100

Based on table 4.4, data shows that the level of attitude about balanced nutrition for children at SDN 03 Tripe Jaya District, Gayo Lues Regency in 2022 with a very high majority category as many as 15 respondents (50%).

### 3.2 Bivariate Analysis

Bivariate analysis is an analysis that is carried out to analyze the relationship between two variables that can not influence each other, influence each other, one variable affects other variables. Bivariate analysis in this study was to determine the relationship between nutrition counseling through monopoly game media with knowledge and attitudes about balanced nutrition in children at SDN 03 Tripe Jaya.

TABLE 4  
RELATIONSHIP OF NUTRITION EXTENSION THROUGH MONOPOLY GAME MEDIA WITH KNOWLEDGE AND ATTITUDE ABOUT BALANCED NUTRITION IN SDN 03 CHILDREN IN PASIR VILLAGE, SUB-DISTRICT TRIPE JAYA, GAYO LUES REGENCY IN 2022

Knowledge level	Attitude						Total	Value
	Very low		Low		Very high			
	F	%	F	%	F	%		
Well	0	00.0	0	00.0	15	50.0	15	23.3
Currently	1	3.3	7	23.3	0	00.0	8	26.7

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<b>Not enough</b>	7	23.3	0	0.0	00	00.0	7	23.3
<b>Total</b>	8	26.7	7	23.3	15	50.0	30	100

Based on table 4.5, the results of the chi-square test show that with a value of  $p = 0.000$  ( $<0.005$ ), then  $H_0$  is rejected,  $H_a$  is accepted which shows that there is a positive relationship between nutritional knowledge and children's attitudes about nutrition at SDN 03 Pasir Gayo Lues Village in 2022.

### 3.3 Discussion

#### a. Knowledge of Children of SDN 03 Elementary School Students in Pasir Village, Tripe Jaya District, Gayo Lues

The results of the study from 30 respondents, most of the respondents got the knowledge level of SDN 03 children in the category of getting Knowledge in the good knowledge category as many as 15 children (50%). Researcher assumptions Children who have been given good counseling will get good knowledge status because in the implementation of health counseling by means of games it will make elementary school children more enthusiastic because health education techniques play while learning to encourage children to get new knowledge without having to force children.

Knowledge is the result of knowing that is obtained from one's own experience or that of others. Health knowledge is a predisposing factor, one of the factors that influence changes in a person's health behavior. Health behavior is a person's response to a stimulus related to disease, the nutrition service system and the environment (2011). One of the causes of nutritional problems and poor nutrition attitudes in elementary school children is a lack of nutritional knowledge (Notoatmodjo, 2005). Mardhiah (2010) The lecture method and playing games can prove the effect of increasing knowledge on elementary school students.

According to Healthy People (2010), nutrition education can increase children's knowledge of nutrition and children's attitudes that can affect children's habits in choosing healthy foods and snacks and one of the factors that affects a person's nutrition is the lack of knowledge about nutrition. This is in line with the research conducted by Hayda Irnani and Tiorma Sinaga Tahun (2017) which stated that based on the results of the analysis and statistically using the paired t-test and Wilcoxon test where there was a significant relationship in the research conducted where  $p$  was  $0.001$  ( $p > 0.005$ ). So from the results of this study it can be said that there is a significant difference in the average score of balanced nutrition knowledge and attitudes towards the media in the intervention group and vice versa.

Prameshti Widya Hapsari (2021) which states that based on the results of the analysis and statistically using the Wilcoxon test, it shows that there are differences in the results of the pre-test and pre-test ( $p=0.000$ ). from the results of this study it can be said that from media acceptance data,  $>80\%$  of children stated that the game helped them to be able to find out knowledge about balanced nutrition and was easy to play and understand how to play.

#### b. Nutritional Attitude of Children at SDN 03 Gayo Lues

The results of the study found that from 30 respondents, most of the respondents received very high nutritional attitudes as many as 15 respondents (50). The assumption that children and the environment researchers have provided excellent external motivation for children is because playing games while learning with nutritional materials makes children aware of the importance of consuming fish and other protein sources and in playing games there is also a daily intake of 30% animal protein while vegetable protein 70 % and eat more vegetables and fruit as a trigger to encourage and direct children to play a more active role in determining the foods and snacks they eat in their daily lives.

Nutrition is one of the factors that determine the level of health and harmony between death, increasing the ability of children's physical, mental, social development, work productivity and academic achievement (Notoatmodjo, 2005). Nutrition counseling is an educational approach to produce individual or community behavior needed to improve health status and maintain good nutrition (Suhardjo, 2006). One of the causes of nutritional problems and poor nutrition attitudes in elementary school children is a lack of nutritional knowledge (Notoatmodjo, 2005).

School children need balanced nutrition for physical and mental growth in children, the school age group (7-12 years) is a group that is vulnerable to nutrition and is the easiest to suffer from

nutritional disorders and is associated with a relatively rapid growth process, thus requiring a relatively high nutritional intake. large (According to Susilowati and Kuspriyanto (2016)

These results are in line with research conducted by Estiwi Mandasari Tahun (2021) which states that based on the results of the analysis and statistically using the paired t-test and Wilcoxon test where there is a relationship between the influence of nutrition education with the game method on knowledge and consumption of vegetables and fruits in children. elementary school, which was significant in the research conducted where  $p$  was 0.001 ( $p > 0.005$ ).

Research conducted by Wike Aprilia Setyaningrum Year (2020) which states that based on the results of the analysis and statistically using the Wilcoxon test where there is a significant relationship in the research conducted where  $p$  is  $p$ -value 0.000 ( $p > 0.005$ ). So from the results of this study it can be said that the effect of the actions that can be seen from children who bring supplies before and after being given balanced nutrition education with monopoly games The actions of children before being given balanced nutrition education with monopoly games an average score of 2.23 Children's actions after being given balanced nutrition education with the monopoly game, the average score is 4.27, this shows that the monopoly game has an effect on the actions and provisions brought by the respondents. there are differences in the results of pre-test and pre-test that the game helps them to be able to know balanced nutrition and is easy to play and understand how to play. In addition, the provision of nutrition education based on the nutrition monopoly game also has a significant effect on increasing the nutritional knowledge of grade 4 students.

### **c. Research Results on the Relationship of Nutrition Extension Through Monopoly Game Media with Knowledge of Balanced Nutrition in Children Sdn 03 In Pasir Village, Tripe Jaya District, Gayo Lues Regency in 2022**

The results showed that from 30 respondents that the majority of good knowledge as many as 15 respondents (50%). And the majority of children's nutritional attitudes in the very high category were 15 respondents (50%). This shows that nutrition counseling is closely related to knowledge of children's nutritional attitudes in understanding the importance of healthy food.

The results of statistical tests with Chi Square showed a  $P$ -value of 0.000, meaning that the  $P$ -value  $< 0.005$  meant that there was a significant relationship between children's knowledge and the level of children's nutritional attitudes with nutrition counseling through monopoly game media. This shows that the more health counseling is held, the more children's knowledge increases to find out the level of nutrition for themselves and children are willing to sort out bringing food from home to eat during school breaks. Monopoly games as a means of balanced nutrition education can be used as routine games once a month for school students. that can work together with sports subjects or additional tutoring.

These results are in line with research conducted by Rita Fitriyanti, Brian Sriprahastuti, Lilis Heri Mis Cich Tahun (2021) which states that based on the results of the analysis and statistically using the paired t-test and Wilcoxon test where there are significant relationship in the research conducted where  $p$  is 0.001 ( $p > 0.005$ ). So from the results of this study it can be said that there is a significant difference in the average score of balanced nutrition attitudes and attitudes towards media in the intervention group and vice versa.

Nutrition education is an approach to disseminating nutritional information based on the principles of nutrition science. Generally, the information conveyed is in accordance with the problems faced by the community, such as how to choose nutritious food, balanced nutrition, eating habits, dietary restrictions, maintaining ideal body weight (Supriasa, 2015). Attitude according to Sarwono (2009), is a closed response. someone to a certain stimulus or object, which already involves the relevant opinion and emotional factors (happy-not happy, agree-disagree, good-bad, and so on). Meanwhile, Newcomb, a social psychologist stated that attitude is a readiness or willingness to act, and not an implementation of certain motives. In other words, the attitude function is not yet an action (open reaction) or activity. but is a predisposing behavior (action) or closed reaction. In determining this complete attitude, knowledge, thoughts, beliefs, and emotions play an important role (Notoatmojo, 2010).

Attitude is a term that reflects a person's feeling of pleasure, displeasure or mediocrity (neutral) towards something that arises towards something that is a happy feeling, it is called a positive attitude. Meanwhile, if the feeling is not happy, the attitude is negative. If there are no feelings, it means that the attitude is neutral (Sarwono, 2009).

Changes and increases in the value of knowledge in respondents are possible because of various things related to the nutrition education process, including the material contained and

made in media that attracts school children's interest, interesting educational methods in the form of games, so that respondents are easy to understand the content of the nutrition education material delivered. and the delivery and mastery of material from the communicator (who provides information) to the communicant (who is given information) (Purwanto (2013)).

Knowledge is the result of human sensing, or the result of someone knowing about objects through the senses they have (eyes, nose, ears, and so on). So knowledge is various kinds of things that are obtained by a person through the five senses (Notoatmodjo in Yuliana 2017).

Research conducted by Alfin Nur Adiningsih, Izka Sofiyya Wahyurin1 (2021) which states that based on the results of the analysis and statistically using the Wilcoxon test where there is a significant relationship in the research conducted where p is p-value 0.000 ( $p > 0.005$ ). So from the results of this study it can be said that there are differences in the results of the pre-test and pre-test that the game helps them to be able to know balanced nutrition and is easy to play and understand how to play. In addition, the provision of nutrition education based on the nutrition monopoly game also has a significant effect on increasing the nutritional knowledge of grade 4 students.

According to the assumption of the researcher, the more often health counseling is carried out in elementary schools by playing, making children's emotional development more provoked to want to know and want to play well so that children know the content of the message to be conveyed through games, the higher the nutritional level of children to change their eating patterns because at that age children in grades iv and v, children's curiosity is high and they begin to feel they are more willing to play a direct role in choosing for themselves so that children can maintain their health status and can find out nutritional and food needs that can become diseases early to prevent disease.

#### **d. Research Limitations**

Researchers have made every effort to obtain actual data by optimally processing research results, but there are obstacles in this study so that research limitations arise, namely: Researchers must need patience to communicate with children who are still sitting in elementary school by repeating the conversation until the child understand what the researcher is asking, the researcher only takes the respondents according to the children who were present that day in accordance with the research context

## **4. Conclusion**

Based on research conducted at SDN 03 Gayo Lues on the Relationship of Nutrition Extension Through Monopoly Game Media with Knowledge and Attitudes about Balanced Nutrition for Children at SDN 03 in Pasir Village, Tripe Jaya District, Gayo Lues Regency in 2022 it can be concluded as follows that the children of SDN 03 Tripe Jaya are very enthusiastic about doing and listening to health education delivered by playing using a nutrition monopoly game with the meaning that learning while playing is able to increase the knowledge of elementary school children about a balanced diet. The majority of children's knowledge about balanced nutrition at SDN 03 Gayo Lues, Tripe Jaya District, Gayo Lues Regency in 2022 is in the good category. The majority of the attitude towards balanced nutrition of children at SDN 03 Gayo Lues, Tripe Jaya District, Gayo Lues Regency in 2022 is in the very high category.

## **References**

- Ahmad Khalid, 2014. Health promotion, Jakarta: PT. Grafindo King.
- Ahmad Susanto, 2018. Child development, Jakarta: Kencana Prenada. PT. Media Group.
- Anisa MYG, 2012. The Relationship Between Knowledge Levels About Diet And Physical Activity With The Incident Of Obesity In Adolescents.
- Anung Sugihantono, 2019. Development of Nutrition Messages
- Amini, et al, 2014. The Nature of Early Childhood. Development and Basic Concepts of Early Childhood Development
- Arif S. Sadiman, 2019. Educational Media Definition of Development and Utilization. Jakarta: Rajawali Press.
- Arikonto S, Suhardjono et al, 2016. Classroom Action Research, Jakarta: Earth Literacy.
- Azwar, S, 2012. Human Attitude Theory and Its Measurement Second Edition, Issue XVII. Learning Library, Yogyakarta.

- Damayanti, Susi et al, 2021. Effectiveness of Education About Healthy Snack Selection Through Leaflet Visual Media on Changes in Knowledge and Attitudes of Kanisius Elementary School Children, Kadiridjo in Kalasan District, Sleman Regency, Yogyakarta: Journal of Public Health.
- Devi, N, 2012. Nutrition of School Children. Archipelago media: Jakarta
- Fatimah, Petti et al, 2020. Consumption of Fruits, Vegetables and Fish Based on Socio-Demography of the Coastal Communities of North Sumatra Province. North Sumatra University. Scientific Periodical of Public Health and Coastal.
- Gejir, I. Nyoman, et al, 2021. Implementation of the Learning Process in Health Counseling for Health Workers. Media Nusa Creative (MNC Publishing).
- Girsa, Wagner et al, 2020. Empowerment of Handwashing Education with Videos and Songs as a Prevention for Covid-19, Abdimas Talenta. Journal of Community Service.
- Hamidah, Siti, 2015. Vegetables and Fruits and Their Benefits for Health. Scientific Articles. Faculty of Engineering, Yogyakarta State University.
- Hestuaji, Y. 2012. The Relation of Domino Card Media to Understanding the Concept of Fractions for Class III Children at SDN Kihajar Dewantara Karangtengah Wonogiri.
- Ministry of Health, 2014. Regulation of the Minister of Health of the Republic of Indonesia Number 14 concerning balanced nutrition guidelines. Jakarta: (ID) Directorate General of Nutrition and Maternal and Child Health.
- Ministry of Health RI., 2014. Balanced Nutrition Guidelines. Indonesian Ministry of Health. Jakarta
- Kusuma Dewi et al, 2016. Fuzzy logic application to support decisions. Yogyakarta: Graha Ilmu
- Mahafi, Aditya et al, 2013. Malaria Educational Game and How to Prevent it.
- Mubarak, 2015. Health promotion. Yogyakarta: Graha Ilmu.
- Mulyani, Intan et al, 2014. Knowledge of balanced nutrition attitudes and behavior of elementary school children at SDN GU 12 am. Jakarta: Esa Unggul University.
- Nelliraharti et al, 2020. Socialization of the Use of Snakes and Ladders Game Learning Media to Train Children's Religious Ability at Baitul Munawwarah TPA Gampong Tibang. Banda Aceh: Journal of Community Service.
- Notoatmodjo, S, 2018. Public health sciences and arts., Jakarta: PT. Rineka Cipta.
- Notoatmodjo, S, 2014. Health behavior science. Jakarta: PT. Rineka Cipta.
- Notoatmodjo, S, Anwar et al, 2012. Health promotion in schools. Jakarta: PT. Rineka Cipta.
- Notoatmodjo, 2018. Health Research Methodology. Jakarta: PT. Rineka Cipta.
- Food, 2013. Deputy for Supervision of Safety and Hazardous Materials and the Food and Drug Supervisory Agency. "Guidelines for School Children's Snacks for Achieving Balanced Nutrition.
- Ratnaningsih, et al, 2014. Relationship of Information Technology Sophistication, Management Participation, and Knowledge of Accounting Managers on the Effectiveness of Accounting Information Systems. Udayana University Accounting E-Journal.
- Richar West and Lynn H. Turner, 2014. Intruduction Communication Theory Analysis and Application, McGrauhil.
- Riyadi, Ir Hadi et al, 2015. Nutrition and Development and Nutrients in Food.
- Sari, Ratu Novita, 2015. Analysis of Factors Associated with Children's Nutritional Status
- Setyawati, Vilda et al 2018. Basic Textbook of Public Health Nutrition. Yogyakarta.
- Suhardjo, 2018. Food and Nutrition Planning. Jakarta: Earth Literacy
- Suhaimi, Ahmad, 2019. Food, Nutrition and Health. Yogyakarta: CV. Main Budi
- Sulistyyoningsih, H. 2012 Nutrition for Maternal and Child Health. Yogyakarta: Graha Ilmu
- supariation. IDN et al, 2013. Assessment of Nutritional Status. Jakarta: EGC Medical Book publisher.
- Susilowati, 2016. Nutrition in the life cycle. Bandung: Refika Aditama.
- Waryana, 2016. Health Promotion Counseling and Community Empowerment. Yogyakarta: Nuha Medika
- Widiyanti, Febrina Artha, 2014. The Relationship between Knowledge Level of Child Caregivers about Balanced Nutrition and Nutritional Status of Children Age 1-3 Years.