

The Influence of Worm Infection and Nutritional Family Behavior (KADARZI) to Stunting Events on Toddlers are Worked in Public Health Center of East Langsa During 2019

¹Supriyanti, ²Norahayani, ^{3,*}Lina, ⁴Kasad, ⁵Azwarni, ⁶Keumalahayati,
^{1,2,3,4,5,6}Prodi D-III Langsa Nursing, Polytechnic of Health, Ministry of Health, Aceh, Indonesia

Abstract—Stunting in toddlers needs special attention because it can hamper the child's physical and mental development. Stunting is associated with an increased risk of morbidity and death as well as stunted growth in motor and mental abilities. There are a number of developing countries that can affect the nutritional status of children, namely lack of food consumption and accompanying diseases such as infections. Infectious diseases one of which is a worm infection. This study aims to determine the effect of intestinal worms and nutritionally aware family behavior on the incidence of stunting in infants in the area of Public Health Center of East Langsa during 2019. This type of research is quantitative with a cross-sectional approach. The population in this study are 42 mothers who have children aged 24-60 months. Bivariate analysis using Chi Square test and logistic regression. Significant results if the value of $p < 0.05$ with a 95% degree of confidence. Research results show the majority of toddlers do not have worm infections as many as 39 (92.9%), the majority of families have good nutritionally aware family behavior as much as 31 (73.8%), and the majority of toddlers do not experience stunting as much as 34 (81%). There is no significant relationship between intestinal worms infection with the incidence of Stunting in infants with a p -value = 1,000 ($p > 0.05$) and there is no significant relationship between nutritionally aware family behavior with the occurrence of stunting in infants with a p -value = 1,000 ($p < 0.05$) It is expected that health workers increase knowledge, motivation and public awareness of the importance of paying attention to the nutritional coverage of children so that children avoid stunting so as to decrease the incidence of Stunting.

Keywords—Stunting, Worm infection, KADARZI, Langsa, Aceh.

I. INTRODUCTION

According to [1], stunting is a chronic malnutrition problem caused by undernourished nutrition for a long time due to food that is not in accordance with nutritional needs [2]. According to [3], Stunting in infants needs special attention because it can hinder a child's physical and mental development. Stunting is associated with an increased risk of morbidity and death as well as stunted growth in motor and mental abilities. Stunted toddlers have a risk of decreased intellectual ability, productivity, and increased risk of degenerative diseases in the future. This is because stunting children also tend to be more susceptible to infectious diseases, so the risk of experiencing a decline in the quality of learning in school and at risk of more frequent absences. Stunting also increases the risk of obesity, because people with short bodies should ideally also be underweight. Just a few kilograms of body weight can make a person's Body Mass Index (BMI) rise above normal limits. In developing countries such as Indonesia, there are several things that can affect the nutritional status of children, namely lack of food consumption and accompanying diseases such as infections [4].

Worm infections are parasitic infections caused by worms that attack humans. Types of worms that can infect humans vary and can give different symptoms. This is caused by differences in the life cycle of the worm and the way the worm enters to infect. Public awareness of the importance of cleanliness, the level of environmental sanitation has helped reduce the incidence of this worm infection. In Indonesia, the disease caused by helminthes infections is still one of the health problems [5].

The results of Basic Health Research [6] noted that the proportion of nutritional status is very short and short in toddlers as much as 30.8%, Aceh Province is the third highest in having very short and short toddlers as much as 42.6%, whereas in five year old baby is a number that the highest is as much as 18.9%.

KADARZI is a family that is able to recognize, prevent and overcome the nutritional problems of each member. A family is called KADARZI if it has behaved in good nutrition continuously. The importance of attention to nutrition in infants causes parents to be more understanding in compiling family menus in order to meet adequate nutritional standards. Malnutrition can cause disruption of growth and physical development, mental, and brain tissue. In addition, the body's immunity becomes impaired so it is susceptible to disease. There are still many cases of malnutrition and the results of the report are far from the stated achievement that nutritional care at the family level is inadequate [7].

The nutritional awareness of the people in Aceh is very low, according to the Health Profile of the Province of Aceh in 2015 that the coverage of vitamin A in infants only reached 81%, the coverage of underfive weighing in 'Posyandu' was 79% and the coverage of exclusive breastfeeding was 53%. While cases of malnutrition increased in 2015 to 308 cases [8]. Declaration of the Government of Aceh and Regency/City on the stunting prevention and handling movement on 3 March 2019 namely making regulations for the implementation of the stunting prevention and handling movement, raising the commitment of all sectors and all levels of society, mobilizing ulama community leaders, academics, activists, the world, businesses and community organizations to support stunting prevention, encourage all people to behave cleanly and healthily, meet the nutritional needs of pregnant women and toddlers, ensure that every baby gets exclusive breastfeeding up to 2 years of age, monitor children's development and provision complete basic immunization.

Research conducted by [9], who analyzed the influence of nutritionally aware family behavior on stunting in children under five in West Kalimantan Province. The results showed that households with poor nutritional awareness behavior (KADARZI) had the opportunity to increase the risk of stunting in toddlers 1.22 times greater than households with good nutritional awareness behavior (KADARZI). Researchers suggest the need for socialization and development of delivery of balanced nutrition messages that are more effective and easily understood by the public, especially in the message of

consumption of fats and oils ¼ from the adequacy of energy and food sources of carbohydrates half of the energy needs.

The same study was also conducted by [10] which the relationship between the application of KADARZI (Nutritional Awareness Family) behavior with the nutritional status of children under five in Tulungagung district. The results of the study showed the relationship between the behavior of KADARZI with the nutritional status of under-fives ($p= 0.010$) and $\text{Height}=\text{H}/\text{Age}=\text{A}$ ($p= 0,000$) but not with $\text{Weight}=\text{W}/\text{Height}=\text{H}$ ($p=0.368$). The conclusion is that the better the application of KADARZI's behavior, the better the nutritional status of under-age children has Weight/Age and Height/Age . Mothers and all family members should adopt KADARZI behavior so that toddlers avoid nutrition and stunting problems. Data from the Public Health Center of Langsa City which had the highest number of stunting children under five compared to Public Health Center of East Langsa with 43 peoples, while in Public Health Center of East Langsading 2019, the number of toddlers was 822 with 39 was categorized into stunting.

Based on the results of interviews conducted by researchers with 6 mothers who have toddlers with stunting 4 persons (80%) mothers said they did not know the stunting incident to their children and they also said they did not know the cause of stunting. However, almost 20% of other mothers said they knew the cause of stunting in their toddlers and they had also tried to maintain their child's nutritional intake. The results of a stool examination to 5 toddlers in East Aceh District, it turns out that 2 toddlers have a worm infection that makes toddlers not appetite. After the toddler's appetite worming medicine started well and there was an increase in body weight the following month. Communities in the thePublic Health Center of Eastern Langsa do not have good nutritional awareness behavior, this is indicated by the exclusive breastfeeding coverage as much as 33.46% and there are toddlers with malnutrition cases which is as much as 0.92% [11].

Declaration of the Government of Aceh and Regency/ City on the stunting prevention and handling movement on 3 March 2019 namely making regulations for the implementation of the stunting prevention and handling movement, raising the commitment of all sectors and all levels of society, mobilizing community leaders, scholars, academics, activists, the world, business and community organizations to support stunting prevention, encourage all people to behave cleanly and healthily, meet the nutritional needs of pregnant women and toddlers, ensure that every baby gets exclusive breastfeeding until 2 years of age, monitor children's growth and development and complete basic immunization

Formulation of the Problem

Is there any influence of intestinal worms infection and family behavior of Toddler Nutrition Awareness on the incidence of stunting in children under five in the work of East Langsa Health Center in 2019?

This study aims to determine the effect of intestinal worms infection and nutritionally aware family behavior of toddlers on the incidence of stunting in toddlers in the area of Public Health Center of East Langsa during 2019. Then, to find out the incidence of stunting, intestinal worms infection in infants and effect of nutritionally aware family behavior with the incidence of stunting in infants in the working area of Public Health Center of East Langsa during 2019.

II. RESEARCH METHODOLOGY

This type of research is quantitative using Analytical Research Design with Cross Sectional Approach to determine

the relationship between risk factors as a cause with the impact of these causes [12].

This research was conducted from 1 June to 10 October 2019 in the work area of the Public Health Center of East Langsain June until July 2019. The population of this research is 822 mothers who have children under the age of 24-60 months. Sampling in this study used the Slovin formula with a total sample of 42 people. The sampling technique in this study uses a simple random sampling technique by drawing as many samples as we need, namely 42 people.

Data Analysis

Univariate data analysis calculates the percentage of each table and bivariate data analysis to determine the relationship between the independent variable and the dependent variable using the Chi Square test. Significant results if the value of $p < 0.05$ with a 95% degree of confidence.

III. RESULTS AND DISCUSSION

Univariate Analysis

Based on Table 1 shown the results of the study show that of the 42 respondents the majority had worm infections as many as 39 individuals (92.9%).

Table 1. Distribution of worm infection frequency in toddlers in the work area of Public Health Center of East Langsading 2019.

No	Worm Infection	Frequency (f)	Percentages (%)
1	Yes	3	7,1
2	No	39	92,9
Total Number		42	100

Sources: Primer Data (Processed on 2019)

Based on table 4.2 above the results of the study show that of the 42 (100%) respondents the majority have good nutritionally aware family behavior of 27 (64.3%).

Table 2. distribution of frequency of toddler nutrition conscious family behavior in the work area of Public Health Center of East Langsa during 2019.

No	Nutritional Family Behavior	Frequency (f)	Percentages (%)
1	Good	27	64,3
2	Fair	15	35,7
Total Number		42	100

Sources: Primer Data (Processed on 2019)

Based on table 4.3 above the results of the study show that of the 42 (100%) respondents the majority were not stunting as many as 34 (81%).

Table 3. Distribution of Stunting Frequency in Toddlers in the Work Area of East Langsa Health Center, Langsa City in 2019.

No	Stunting	Frequency (f)	Percentages (%)
1	Yes	8	19
2	No	34	81
Total Number		42	100

Sources: Primer Data (Processed on 2019)

Bivariate Analysis

Based on table 4 the results of the study show that toddlers who had worm infections apparently did not experience stunting as many as 3 people (100%), while respondents who did not experience worm infections were as many as 8 (20.5%) experienced stunting and as many as 31 (79.5 %) did not experience stunting. Chi-Square statistical

test results (Fisher's Exact Test) at 95% confidence level ($\alpha = 0.05$) obtained p-value = 1,000 ($p > 0.05$) which means H_a is rejected and H_o is accepted so it can be concluded that there is no relationship between helminthes infections and the incidence of stunting in infants.

Table 4.relationship of worm infection with stunting occurrence in the work area of Public Health Center of East Langsa during 2019.

No	Worm infection	Stunting						p-value
		Yes		No		Total		
		F	%	F	%	F	%	
1	Yes	0	0,0	331	100	3	100	1,000
2	No	8	20,5	79,5	39	100		
Total		8		34		42		

Sources: Primer Data (Processed on 2019)

Based on Table 5 the results of the study show that respondents who have not been well aware of nutritional behavior turned out to have children with stunting as many as 3 (20.0%) respondents and not stunting as many as 12 (80.0%) while respondents who had good nutrition awareness behavior turned out to have children with stunting were 5 (18.5%) and did not experience stunting as many as 22 (81.6%). Chi-Square statistical test (Fisher's Test) at 95% confidence level ($\alpha = 0.05$) obtained p-value = 1,000 ($p < 0.05$) which means H_a is rejected and H_o is accepted so it can be concluded that there is no the relationship between nutritionally aware family behavior.

Table 5.Relationship between family behavior of toddler nutrition consciousness and stunting in the work area of Public Health Center of East Langsa during 2019.

No	Nutritional Family Behavior	Stunting						p-value
		Yes		No		Total		
		F	%	f	%	F	%	
1	Fair	3	20,0	12	80,0	15	100	1,000
2	Good	5	18,5	22	81,5	27	100	
Total		8		34		42		

Sources : Primer Data (Processed on 2019)

IV. DISCUSSION

1. Relation of Worm Infection with Stunting in Toddlers in the Work Area Health Center of East Langsa.

The results showed that under five infants who had worm infections did not experience stunting as many as 3 individuals (100%), while respondents who did not experience worm infections were as many as 8 individuals (20.5%) experienced stunting and as many as 31 individuals (79.5%) did not stunted. Chi-Square statistical test results (Fisher's Exact Test) at 95% confidence level ($\alpha = 0.05$) obtained p-value = 1,000 ($p > 0.05$) which means H_a is rejected and H_o is accepted so it can be concluded that there is no relationship between helminthes infections and the incidence of stunting in infants.

The results in accordance with [4, 13] showed there were 5.9% of children who were positively infected by worms. Statistical analysis showed that there was no effect of helminthes on nutritional status based on W/A ($p=1,000$), based on H/A ($p = 0.154$), and based on H/A ($p=1,000$). The conclusion of this study was that there was no effect of helminthes on nutritional status in children at SDN 2 BarabaiDarat ($p > 0.05$). Key words: helminthes, nutritional status, SDN 2 BarabaiDarat.

This study is also in accordance with the results of the study of [14] shows that the frequency of intestinal protozoa infections is 16.9%. Based on the W/A index, children classified as malnourished were 44.6%, while according to the H/A index, children classified as short were 45.8%. Thin children based on the W/H index were 15.7%. Statistical test results showed that there was no significant relationship between the incidence of intestinal protozoa infection with nutritional status based on the body weight index ($p = 0.622$), H/A.

According to the results of [15], multivariate analysis using logistic regression obtained risk factor variables associated with STH worm infections, namely: habit of washing hands before eating with water and soap (OR = 0.33; 95% CI 0, 14-0, 78 and the value of $p = 0.012$). From the results of the study concluded that the risk factors associated with the incidence of helminthes is transmitted through soil to elementary school children in Arso District, Keerom Regency is the habit factor of washing hands before eating with water and soap.

There are several factors that can affect nutritional status, such as: food intake and infectious diseases. Food intake is not only determined by the education and socioeconomic status of the family, it is also determined by eating habits and nutrient content in food. If the socioeconomic status is low then the family's food needs will be less fulfilled so that the child will have less nutrition. Another thing that can affect a child's eating intake is eating habits, such as children who are lazy to eat and eating habits of children in portions that are far from adequate nutrition. Eating patterns that are accompanied by poor eating habits are one of the causes of nutritional problems. Third factor which can affect children's food intake is the content of nutrients in food [4,16].

Infectious diseases often suffered by toddlers such as intestinal worms, upper respiratory infections (ARI), diarrhea and other infections are closely related to the quality status of basic health services especially immunization, environmental quality and healthy behavior [17]. Worms are parasitic infections caused by worms that attack humans. Types of worms that can infect humans vary and can give different symptoms. There are several types of worms, which also differ between symptoms, causes, and treatment. Here are the types of worms that can cause intestinal worms: Adequate nutritional intake is very necessary for the growth and development of a toddler's body. This critical period is a time when toddlers will experience growth and growth chasing. Toddlers who experience nutritional deficiencies previously can still be improved with good intake so that they can catch up in accordance with their development. However, if the intervention is late, the toddler will not be able to catch up with the growth delay called failure to grow. Likewise with normal toddlers the possibility of growth disturbance if the intake received is insufficient. Because nutritional problems can occur in all periods or life cycles and nutritional problems that occur in one cycle will affect or result in other nutritional problems in the next cycle, therefore it is necessary to prepare good nutrition for a better quality of life [18].

According to researchers Tropical climate in Indonesia makes a person vulnerable to various diseases including worm infections. Worm infections generally affect children. Recurrent worm infections in children can cause nutritional disorders and lead to growth or stunting failure. Worms can enter the human body because of direct contact between the skin and soil contaminated with larvae or worm eggs. In the human body, worms will colonize and multiply in the intestine. Then absorb nutrients that enter the body such as carbohydrates and protei. So that children experience nutritional deficiencies, anemia, and even make stunting (stunted body) [18]. Toddlers

in this study who had all of the worm infections had normal weight due to adequate nutrition as needed for growth and development. And so it is with toddlers who have normal height growth disorders may occur if the intake received is insufficient. Nutrition problems can occur in all periods or life cycles and nutritional problems that occur in one cycle will affect or result in other nutritional problems in the next cycle, and therefore it is very necessary to prepare good nutrition for a better quality of life.

2. Relationship between Nutritional Conscious Family Behavior (KADARZI) and Stunting Occurrence in Toddlers in the Work Area of Public Health Center of East Langsa.

The results showed that respondents who had not been well aware of nutritional behavior turned out to have children with stunting as many as 3 individuals (20.0%) respondents and not stunting as many as 12 individuals (80.0%) while respondents who had good nutritional behavior turned out to have children with stunting as many as 5 individuals (18.5%) and did not experience stunting as 22 individuals (81.6%). Chi-Square statistical test (Fisher's Test) at 95% confidence level ($\alpha = 0.05$) obtained p-value = 1,000 ($p < 0.05$) which means H_a is rejected and H_o is accepted so it can be concluded that there is no the relationship between nutritionally aware family behavior.

This research is contrary to the research conducted by [10], The results of the study showed that there was a relationship between the behavior of KADARZI with the nutritional status of toddlers W/A ($p=0.010$) and H/A ($p=0.000$) but not with W/H ($p=0.368$). This research is also not in line with research conducted by [16]. Based on the normality of data analysis, the score of Behavior score data is normally distributed (p value = 0.00) and the nutritional status data of children under five according to H/A was not normally distributed (p value = 0.447). Therefore, the bivariate correlation test uses the Spearman Rank and the p value is 0.00. This indicates that there is a significant relationship between the levels of z_{fi} with toddlers stunting because it has a p value < 0.05 .

Research in Southern Ethiopia shows that toddlers who do not get exclusive breastfeeding for 6 months have a high risk of stunting. Research in Nepal shows that babies with low birth weight have a higher risk for stunting [6,18]. The length of the baby's birth is also related to the incidence of stunting. Research in Kendal shows that babies with short birth lengths are at high risk of the occurrence of stunting in infants [11,19].

This research is contrary to research conducted by [14], The results showed the application of the levels of z_{fi} more than half of respondents (52.4%) were good. This study uses the results of anthropometric measurements with nutritional status based on height by age. The nutritional status assessment produces a z -score which is then statistically analyzed to produce a mean value of -1.78; standard deviation of 1.05; a minimum of 4.74; and a maximum of 0.65. Determination of height nutritional status categories according to age using the Minister of Health's Decree No.920/Menkes/SK/VII/2002.

Short stunting or stunting is a terminology for height that is below the 3rd or -2th percentile SD on the normal growth curve that applies to that population. 14 Height by age (H/A) can be used to assess past nutritional status, length measurements can be made by yourself, are cheap and easy to carry. While the weakness is that height does not rise quickly so it is less sensitive to nutritional problems [20].

This study illustrates the absence of a relationship between nutritionally aware family behavior (KADARZI) and the incidence of Stunting can be caused by respondents' answers that are not comprehensive so that the occurrence of stunting in infants can not only be assessed from nutritionally

aware family behavior but, one of the other causes of stunting is a factor genetic. Researchers are also aware that the group of questionnaires in this study is mostly about toddler nutrition and there is no balanced nutrition in mothers during pregnancy, because balanced nutrition in the first 1000 days of life (HPK) must be fulfilled from pregnancy to 2-year-old children aimed at preventing stunting.

Stunting in infancy needs special attention including children aged 2-3 years. The growth process at the age of 2-3 years tends to slow down so that the chances of catching up to grow are lower than those of 0-2 years. Age 2-3 years is the age of the child experiencing rapid development in cognitive and motor skills. Adequate nutritional intake is very necessary for the growth and development of a toddler's body. This critical period is a time when toddlers will experience growth and growth chasing. Toddlers who experience nutritional deficiencies previously can still be improved with good intake so that they can catch up in accordance with their development. However, if the intervention is late, the toddler will not be able to catch up with the growth delay called failure to grow. Likewise with normal toddlers the possibility of growth disturbance if the intake received is insufficient.

This is in accordance with the theory put forward by [21], physical growth is often used as an indicator to measure the nutritional status of both individuals and populations. Therefore, parents need to pay attention to aspects of children's growth if they want to know their nutritional status and children who suffer from malnutrition will look shorter with lower body weight compared to peers who are healthy and well nourished. Nutritional Awareness Family (KADARZI) is a family that is able to recognize, prevent and overcome nutritional problems of each member.

Adequate nutritional intake is very necessary for the growth and development of a toddler's body. This critical period is a time when toddlers will experience growth and growth chasing. Toddlers who experience nutritional deficiencies previously can still be improved with good intake so that they can catch up in accordance with their development. However, if the intervention is late, the toddler will not be able to catch up with the growth delay called failure to grow. Likewise with normal toddlers the possibility of growth disturbance if the intake received is insufficient. Because nutritional problems can occur in all periods or life cycles and nutritional problems that occur in one cycle will affect or result in other nutritional problems in the next cycle, therefore it is necessary to prepare good nutrition for a better quality of life [22].

According to researchers the lack of nutrition conscious family behavior in this study we can see in terms of public knowledge about the importance of balanced nutrition, so according to researchers community knowledge is still lacking, this is evidenced by the majority of mothers having a background in junior high and elementary education. Another thing is also caused by economic factors because based on the results of interviews conducted by researchers, most people have farming activities, so according to researchers this is one of the causes of low family awareness of the importance of balanced nutrition. Based on respondents' answers also prove that most respondents who only give exclusive breastfeeding during the first 3 months and provide complementary food before the age of 6 months is what needs to be taken care of so as not to hinder the growth and development of their babies [23].

KADARZI behavior is one of the most important approaches in tackling nutritional problems, but a comprehensive approach to various factors that affect nutrition problems and needs to be taken into consideration. The incidence of stunting in children under five is a consequence of

several factors that influence each other. This research is supported by research conducted by [8, 19, 22] the results of this study indicate that the levels of nutrition behavior that are applied well have a higher percentage than the behavior of nutrition levels that are not good. This result is in accordance with the target of the Minister of Health of the Republic of Indonesia which stipulates that the national target for families who behave well in nutrition is 80%.

CONCLUSIONS

1. Out of 42 toddlers as many as 8 individuals (19,%) toddlers experience stunting and as many as 34 individuals (81%) toddlers do not experience stunting.
2. From 42 toddlers, 3 individuals (7.1%) toddlers have worm infections and 39 individuals (92.9) toddlers do not have worm infections.
3. Out of 42 toddler families as many as 31 individuals (73.8%) have good nutritionally aware family behavior and as many as 11 individuals (26.2) have poor nutritionally conscious behavior.
4. There is no significant relationship between intestinal worms infection with stunting in children under five with the results of the Chi-Square statistical test (Fisher's Test) with p-value = 1.00 ($p > 0.05$).
5. There is no significant relationship between nutritionally aware family behavior with the occurrence of stunting in infants with a p-value = 1.00 ($p < 0.05$).

SUGGESTIONS

1. It is expected that health workers increase knowledge, motivation and public awareness of the importance of paying attention to the nutritional coverage of children so that children avoid stunting so as to reduce the incidence of stunting.
2. It is hoped that this research can be useful as reading material for Healthy Agencies and Health Workers Teams.
3. It is expected that in subsequent studies to be able to develop this research, that is by adding relevant variables.

References

- [1] Kementerian Kesehatan Republik Indonesia (Kemenkes RI) 2013, Laporan Gizi Keluarga, Jakarta, Access on 15 Maret 2020.
- [2] Indrawati, S, Hubungan Pemberian ASI Eksklusif dengan Kejadian Stunting pada Anak Usia 2-3 Tahun di Desa Krangrezek Wonosri Gunung Kidul, 2016.
- [3] Kementerian Kesehatan Republik Indonesia (Kemenkes RI) 2012, Pedoman Operasional Keluarga Sadar Gizi Di Desa Siaga, Dirjenbin kesmas, Jakarta, Access on 25 April 2020.
- [4] Anthoni, M, Hubungan Kecacingan Dengan Status Gizi pada Murid Sekolah Dasar di Kabupaten Bolaang Mongondow Utara, Program Studi Ilmu Keperawatan, Fakultas Kedokteran, Universitas Sam Ratulangi, 2010.
- [5] UNICEF, Ringkasan Kajian Gizi Oktober 2013, UNICEF Indonesia, Jakarta, 2012.
- [6] Riset Kesehatan Dasar (Riskesdas), Situasi Balita Pendek Stunting di Indonesia, 2018.
- [7] Bertalina, Hubungan Perilaku Keluarga Sadar Gizi dengan Status Gizi Balita di Kecamatan Gedong Tataan, Kabupaten Pesawaran, Jurnal Keperawatan, Volume VIII, No 12, hal. 8-16, 2012.
- [8] Dinas Kesehatan Aceh, Profil Dinas Kesehatan Provinsi Aceh Tahun 2015, 2015.
- [9] Departemen Kesehatan R Epublik Indonesia (Depkes RI), Pedoman Strategi KIE, Keluarga Sadar Gizi, Jakarta, 2011.
- [10] Nindya, Hubungan Penerapan Prilaku Kadarzi (Keluarga Sadar Gizi) dengan Status Gizi Balita di Kabupaten Tulungagung, 2017.
- [11] PKM Langsa Timur, Data Balita Dengan Gizi Kurangan Stunting, Aceh, 2019.
- [12] Bimo, Faktor Risiko Stunting Pada Anak Usia 0 — 23 Bulan Di Provinsi Bali, Jawa Barat dan Nusa Tenggara Timur, J. Gizidan Pangan, hal. 12-16, 2011.
- [13] Djaiman, Hubungan Tingkat Pendidikan Ibu, Pendapatan Keluarga, Kecukupan Protein dan Zinc Dengan Stunting (Pendek) Pada Balita Usia 6 — 35 Bulan Di Kecamatan Tembalang, Kota Semarang. J. Kesehat. Masy., hal. 12-16, 2011.
- [14] Fitri, J, Faktor-Faktor Yang Berhubungan Dengan Perilaku Sadar Gizi Dalam Keluarga, Jurnal Kesehatan, Yogyakarta, 2013.
- [15] Kementerian Kesehatan Republik Indonesia (Kemenkes RI) 2013, Laporan Gizi Keluarga, Access on 15 Maret 2017.
- [16] Kusuharisupeni, Hubungan Tingkat Pendidikan Dan Pengetahuan Dengan Perilaku Keluarga Sadar Gizi (Kadarzi) Pada Masyarakat Perkotaan Dan Perdesaan Di Kabupaten Banyumas, Jurnal Kesehatan Masyarakat Fakultas Kedokteran Ilmu-Ilmu Kesehatan Universitas Jenderal Soedirman, hal. 7-14, 2011.
- [17] Ekayanti, Hubungan Status Sosial Ekonomi Dan Pengetahuan Dengan Status Kadarzi Dalam Keluarga, Jurnal Kesmas, Vol.6, No.2, hal. 7-10, Jakarta, 2013.
- [18] Primalia Trina, Cacingan, Access on <http://www.kerjanya.net/faq/4832-cacingan.html>.
- [19] Gandahusada, S, Ilahude, HHD, Pribadi, W, Parasitologi Kedokteran. Edisi Ketiga. Balai Penerbit FKUI, Jakarta, 2017.
- [20] Indrawati, S, Hubungan Pemberian ASI Eksklusif dengan Kejadian Stunting pada Anak Usia 2-3 Tahun di Desa Krangrezek Wonosri Gunung Kidul, 2016.
- [21] Vivi, Sulastri, Pengaruh Penyuluhan Makanan Bergizi Terhadap Tingkat Pengetahuan Ibu Tentang Makanan Bergizi Pada Balita di Puskesmas Ciptomulyo Kota Malang. Access on <http://eprints.umm.ac.id/52745/>, 2020.
- [22] Kemenkes RI, Pedoman Operasional Keluarga Sadar Gizi Di Desa Siaga, Dirjenbin kesmas, Jakarta, 2012.
- [23] Kustiani Ai dan Misa Prima Artha, Perubahan Pengetahuan, Sikap, dan Perilaku Ibu dalam Pemberian MP-ASI Anak Usia 6-24 Bulan pada Intervensi Penyuluhan Gizi di Lubuk Buaya Kota Padang Tahun 2018., 2018.