

THE RELATIONSHIP OF INFECTIOUS DISEASES HISTORY AND MOTHER FACTORS TO UNDER RED LINE AMONG TODDLER

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Abstract: Nutrition under the red line is a state of severe nutritional deficiency caused by low consumption of energy and protein from daily food. Sungai Tiung is the village that has the highest number of children under five with under red line (BGM) from other villages in the working area of Rawat Inap Cempaka Health Center. This study aims to know the relationship of infectious diseases history and mother factors to under red line (BGM) among toddler in Sungai Tiung. This research uses cross-sectional design. The samples are 90 respondents. Sampling used purposive sampling. The independent variables are a history of infectious disease, knowledge, education, and mother care pattern. The dependent variable is under red line (BGM). The instrument in this study used questionnaire and Kartu Menuju Sehat (KMS). The result showed that there is a relationship history of infectious diseases with BGM (p-value = 0.03). The results also showed no relationship of knowledge (p-value = 0.12), education (p-value = 0.75) and mother care pattern (p-value = 0.32) with BGM. There is a relationship history of infectious diseases with BGM. So that, there should be efforts to prevent infectious diseases in toddler.

Keywords : under red line, toddler, infectious diseases

INTRODUCTION

Toddler period is the second golden period. In this childhood of nutrition plays an important role in the development of a child. In addition, the age of toddlers is the critical age in which a child will grow rapidly both physically and mentally.¹ In infancy, a child needs nutrients from various sources and foods. A toddler usually requires about 1000 - 1400 calories per day. Proper and complete nutrition will have a positive impact on the growth of the brain and also physical.²

Nutrition under the red line is a state of severe nutritional deficiency caused by low consumption of energy and protein from everyday food and occurs in a long time which is a state of vigilance in order not to experience malnutrition. Clinical signs of malnutrition in the outline can be distinguished marasmus, kwashiorkor or marasmic-kwashiorkor.³ Based on research on BGM toddler illustration shows that nutritional status in BGM under five is in the category of under nutrition as much as 17 people (100%).⁴ The BGM situation is detailed according to malnutrition (BB / U < -3 SD) and malnutrition (BB / U < -2 SD to \geq -3 SD). Toddlers BGM is a weighted toddler who is on the red line or below the red line on Kartu Menuju Sehat (KMS).⁵

Based on the data of Nutrition Information System in July 2016, BGM's largest number of children under five in Banjarbaru is at Cempaka Health Center, with an incidence of 502 BGM from the number of under-five weighed by 2,051 infants (2.4%).⁶ Data from Dinas Kesehatan Banjarbaru City in October 2016 found that Cempaka in July 2016 had the most BGM toddler that is 43 children from the total of 125 BGM children in Banjarbaru City⁷, while data from Puskesmas Cempaka found that in August 2016 in Cempaka there are 13 BGM, in Sungai Tiung there are 24 BGM, in Bangkal there are 4 BGM, and in Palam there are 2 BGM among toddlers. Sungai Tiung is the village that has the highest number of children under

five from other villages in the working area of Rawat Inap Cempaka Health Center. The percentage of BGM incidence in the Sungai Tiung Region in August was 2.6%,⁸ although the incidence of BGM in the Sungai Tiung region was not > 5% or was an exceptional occurrence, but it should still be a concern for BGM children not to experience malnutrition later as well as trying to reduce the incidence of BGM among toddlers.

According to Soekirman (2000), the incidence of nutritional problems among children under five consist of direct causes of infectious diseases and inadequate food consumption, whereas indirect causes are food availability, maternal education level, mother's level of knowledge, family income level, and health services, as well as participation to posyandu.¹⁰ This study aims to analyze the relationship of the history of infectious diseases and maternal factors (mother's education level, mother's level of knowledge, pattern of parenting) with the incidence of the Under Red Line (BGM) among toddlers in Sungai Tiung Sub district, Cempaka District, South Kalimantan.

RESEARCH METHODS

This research is an observational analytic research using cross-sectional design. The population in this study were all mothers who had children aged 12 - 59 months who visited Posyandu in Sungai Tiung Subdistrict, Cempaka District. The sample in this study is 90 people. Sampling in this research using purposive sampling technique. The independent variables used were the history of infectious diseases, maternal education level, mother's knowledge level, and pattern of parenting. The dependent variable used is the incidence of under red line (BGM) among toddler. Data analysis was completed using statistics software. To determine statistical significance in bivariate analyses χ^2 tests of differences in proportions (Chi Square test) were

used. P-value ≤ 0.05 was considered to be statistically significant.

RESULTS AND DISCUSSION

Based on the results of research on 90 respondents obtained the frequency distribution of respondents based on the

history of infectious diseases, maternal factors (mother's education level, mother's level of knowledge, pattern of parenting) and the under red line (BGM) presented in table 1 below:

Table 1. Distribution of Frequency Based on The History of Infectious Diseases, Maternal Factors (Mother's Education Level, Mother's Level Of Knowledge, Pattern Of Parenting) and The Under Red Line (BGM)

Variable	Frequency	Percentage (%)
Under Red Line (BGM)	26	28.9
Yes	63	71.1
No		
The history of infectious diseases	25	27.8
Yes	65	72.2
No		
Maternal Education Level	61	67.8
Low	29	32.2
High		
Mother's knowledge level	77	85.6
Not good	13	14.4
Good		
Pattern of parenting		
Not good	54	60.0
Good	36	40.0

Based on table 1 it is known that from 90 respondents showed that most respondents did not have a history of infectious disease that is 72.2% while the rest of 27.8% have a history of infectious diseases, namely diarrhea. The result of the research also shows that mothers have low education level or only to finish junior high school, that is as much as 67,8%,

have level of knowledge which are classified as less, that is 85,6% and mother pattern not good compared to good parenting, that is as much as 60%.

Cross tabulation The history of Infectious Diseases, Maternal Education Level, Mother's knowledge level, and Pattern of Parenting with The Under Red Line (BGM) is presented in table 2.

Table 2. The Relationship of The history of Infectious Diseases and Mother Factors (Maternal Education Level, Mother’s knowledge level, and Pattern of Parenting) With The Under Red Line (BGM)

Independent variable	The Under Red Line (BGM)				p-value	OR
	Yes		No			
	n	%	n	%		
The history of infectious diseases						
Yes	12	48.0	13	52.0	0.03	3.36
No	14	21.5	51	78.5		
Maternal Education Level						
Low	14	23.0	47	77.0	0.12	-
High	12	41.4	17	58.6		
Mother’s knowledge level						
Not good	23	29.9	54	70.1	0.75	-
Good	3	23.1	10	76.9		
Pattern of parenting						
Not good	13	24.1	41	75.9	0.32	-
Good	13	36.1	23	63.9		

Based on table 2 shows that the percentage of BGM occurs in infants with the history of infectious diseases. The results of statistical tests show the value of p-value of 0.03 which means Ho is rejected which means there is a relationship between the history of infectious diseases with the incidence of BGM. Odd Ratio (OR) value indicates 3.36 which means toddler with the history of infectious disease 3.36 bigger risk of having BGM than toddlers who do not have the history of infectious diseases.

The main causes of infectious diseases in children under five namely the amount of food consumed and the health condition concerned. Consumption deficiency in a certain period will cause the weight of the child under five declines so that the immune system decreases and will be susceptible to infectious diseases. In addition, due to lack of food availability and public awareness that is still lacking regarding the nutritional status of their children, there is a very strong relationship between malnutrition and death of children under five suffering from malnutrition accompanied by infectious diseases.¹¹

The results of this study are in line with Novitasari (2016) which states that

infectious disease is one of the factors associated with the incidence of BGM (p-value 0.024).¹² Infectious diseases in this study are diseases caused by infections, viruses, bacteria, and parasites that disrupt the metabolism and disrupt the function of immunity, causing weight loss. Then the measurement for infectious diseases started the last one month by interviewing the respondents, then obtained the results of 25 children under five suffer from infectious diseases, namely diarrhea.

This is in line with research Wilyandari (2014), that respondents who have poor environmental sanitation tend to experience infectious diseases of 78.9% compared with those who do not suffer from an infectious disease that is 21.1%. Where poor environmental sanitation has 14.25 times greater risk of getting infectious diseases than with good environmental sanitation.¹³

The results of the study in Table 2 show that the incidence of BGM has almost the same percentage between low knowledge mother and high knowledge mother. The results of statistical tests show the value of p-value of 0.12 which means Ho accepted which means there is no

relationship between maternal education level with the incidence of BGM.

The results of this study are in line with research conducted by Ni'mah and Muniroh (2015) which showed no relationship between maternal education level and BGM (P-value 0.581). Maternal education is a basic thing for the achievement of good nutrition of a toddler. The mother's education level is linked to the convenience of mothers in receiving information about nutrition and health from outside. Mothers with higher levels of education will more easily receive information from outside, compared with mothers who have lower levels of education. The level of education for poor families is mostly in the low category, due to the economic limitations experienced so that they are unable to continue their education at higher levels.¹⁴

In this study, mothers with low levels of education did not necessarily have toddlers with more BGM problems than mothers with higher levels of education. This is because maternal education is a basic cause of malnutrition, and there are many other factors that can affect the occurrence of malnutrition, especially wasting and stunting in poor families.

The results also showed no difference in the percentage of BGM incidence between mothers with less knowledge with mothers with good knowledge. The results of statistical tests show the value of p-value of 0.75 which means H_0 accepted which means there is no relationship between the level of knowledge of the mother with the incidence of BGM.

One of the indirect causes of malnutrition in children is education and knowledge of parents, especially mother's knowledge. The higher the educational level of a person the easier it is given an understanding of an information and the easier it is to implement its knowledge in behavior especially in terms of health and nutrition.¹⁵ According to the Depkes RI (2003), a mother with low education level, her toddler is twice as likely to face health

problems compared to mothers with high education.

No association in this study is consistent with research conducted by Ni'mah and Muniroh (2015) indicating that knowledge is not related to the nutritional state of infants (p-value 0.632).¹⁴ A high level of knowledge of mothers does not guarantee to have a toddler with normal nutritional status. Mothers who have good knowledge are expected to apply the knowledge possessed in everyday life. However, behavior other than influenced by the level of knowledge is also influenced by other factors, such as socioeconomic, socio-cultural, and environmental.¹⁶

The results of the study in Table 2 shows the incidence of BGM in respondents who get support from husbands and who do not get the support of husbands almost equal percentage. The results of statistical tests showed the value of p-value of 0.32 which means H_0 accepted, which means there is no relationship between mother's parenting pattern with the incident BGM.

The results of this study are in line with research by Ni'mah and Muniroh (2015) which shows no relationship between parenting patterns with nutritional status of children (p-value 0.72). Maternal care pattern has a role in work and nutrition status of toddler because intake of food in toddler fully arranged by her mother. Mothers with good parenting tend to have toddlers with better nutritional status than mothers with poor parenting.¹⁴ But in this study the mother with good parenting does not necessarily have a toddler with a BGM problem is smaller than the mother with less care pattern. This may be because despite good mother care pattern, in low-income families there are limitations in fulfilling daily needs so that mother's parenting does not affect the occurrence of BGM problems in infants.

CONCLUSIONS

There is a relationship between the history of infectious diseases and the incidence of children under five under the red line (BGM) in Sungai Tiung Subdistrict, Cempaka District. The variable of mother's education level, mother's level of knowledge, pattern of parenting does not have a relationship with the occurrence of children under five under the red line (BGM) in Sungai Tiung Subdistrict, Cempaka District.

REFERENCES

1. Soekirman. Healthy Living Balanced Nutrition In A Man's Life Cycle. Jakarta: Primamedia Pustaka. 2006.
2. Soediaoetama AD. Nutrition Sciences For Students And Professions 4th. Jakarta: Dian Rakyat.2006.
3. WHO. The State Of The World's Children. Oxford: Oxford University Press.2005.
4. Asdhany C, Kartini. Relationship Level of Mother Participation in Posyandu Activities With Nutritional Status Of Toddlers. Research Articles. Semarang: University of Diponegoro.2012
5. Department of Health RI. Book of Posyandu Cadres in Family Nutrition Improvement Effort. Jakarta: Department of Health RI.2006.
6. Department of Health Republic of Indonesia. National Health System. Jakarta : Department of Health Republic of Indonesia.2016.
7. Banjarbaru City Health Office. PWS Nutrition Weighing Baby-Toddler July 2016. Banjarbaru: Head of Basic Health Service.2016.
8. Puskesmas Rawat Inap Cempaka. Toddler data (1-60 months) BGM in August 2016. Banjarbaru: Nutrisionis Puskesmas.2016.
9. Pasaribu LR. Overview of Coal Mining Condition In Maternal Status Incidence Mother Hail In South Kalimantan Province (Advanced Analysis of Risesdas). Journal of Reproductive Health 2014; 5 (3): 1-9.
10. Atmarita. Foster Pattern In Relation With Nutritional Status Of Toddlers Viewed From Work, Income And Expenditure Of Parents In South Sulawesi Area.2004.
11. Jayani, I., 'The Relationship between Infectious Disease and Nutritional Status in Toddlers at Puskesmas Jambon Kecamatan Jambon Ponorogo Regency Year 2014', Journal of Nursing Science Program Faculty of Health Sciences Kadiri University [online]. From: <http://jurnal.unikediri.ac.id/hubungan-antara-penyakitinfeksi-dengan-status-gizi-balita-dipuskesmas-jambon-kecamatan-jambonkabupaten-ponorogo-year-2014>. 2014. [March 3, 2016]
12. Novitasari, Suci D, Fatmalina F. Determinants of Under-fives Children Under the Red Line In Puskesmas Awal Terusan. Journal of Public Health 2016; 7 (1): 48-63.
13. Wilyandari, L.B., Family Sanitation Relationship With Diarrhea Occurrence In Toddlers In Pringapus Village, Pringapus Sub-district, Semarang District. Nursing Science Program STIKES Ngudi Waluyo Ungaran. 2014.
14. Ni'mah C, Muniroh L. Educational Level Relation, Knowledge Level And Mothers Pattern By Wasting And Stunting In Toddlers Of Poor Family. Indonesian Nutrition Media 2015; 10 (1): 84-90.
15. RF Princess, Sulastri D, Lestari Y. Factors Associated With Nutritional Status Of Toddlers In The Work Area of Puskesmas Nanggalo Padang. Journal of Health Andalas 2015: 254-261.
16. Notoatmodjo, S. Health Promotion Theory and Applications. Jakarta: Rineka Cipta. 2005.