

Economic Social Relationships with Nutrition Status in Terjun Waste Disposal Place at Kelurahan Paya Pasir Medan Marelan District Year Of 2016

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Abstract: The children under years are a period where the child is experiencing a period of relatively rapid growth. One crucial factor is the nutrition factor. Nutritional status of children under five years is critical in their growing process because it is the age that will determine their physical, psychological and intelligent development in the future. The objective of the research was to find out the correlation of socio-economy with the nutritional status of children below five years of age. It was an analysis of a cross-sectional design, the implementation using a questionnaire. The samples were 95 children below five years old in Lingkungan I, TPA (Landfills) Terjun, Paya Pasir Village. The variables were the socio-economy and nutritional status of children under five years of age. The data analysis using chi-square test and multiple logistic regression analysis. The result showed that 54.7% of the respondents had good nutritional status. The result of chi-square test showed that there was a correlation of socio-economy with those surveyed' nutritional status. The multivariate analysis indicated that mothers' knowledge was the most dominant factor which influenced respondents' nutritional status (OR= 8,2). Researchers suggested to the attendant health promotion along with officers nutrition providing information about the nutritional situation of children under five years and socialization to mothers in Posyandu (Integrated Health Service) Post or explanation to the parents about feeding patterns of children for five years so she can good knowledge of nutrition can reduce the incidence of children under five years and less nutrition status in children under five years through maternal or family role

Keyword: Socio-Economy, Nutritional Status, Nutrition Relationship

I. INTRODUCTION

The success of the development of a nation is determined by the availability of qualified human resources (HR) quality, namely human resources that have a strong physical, strong mental, excellent health, and smart. Empirical evidence indicates that good nutritional status largely determines this, and good nutritional status is determined by the amount of food intake consumed. Viewed from the point of health and nutrition problems, the toddlers included in the community groups of vulnerable groups of food, the most vulnerable groups of people affected by malnutrition, while at this time they are experiencing a relatively rapid growth process. As a result of this malnutrition susceptibility to infectious diseases can lead to an increase in infant mortality. Nutritional disorders that often occur in children is less nutrition, hunger, short, thin, obese and overweight. The prevalence of nutritional disorders in Indonesia according to Riskesdas 2013 is based on the BB / U of which malnutrition is less 13.5%, malnutrition 5.7%, TB / U with short 19.2%, very short 18%, lean 6.8% Very thin 5.3%, and 11.9% grease (Riskesdas, 2013). The condition of the problem can be overcome if the government together with the family can support each other to improve the nutritional status of children under five. Several programs to improve the nutritional status have been done by the government to overcome this problem, especially in the poor-categorized family groups, but in reality, the index of nutritional status of under-five children has not shifted toward better value (Lewis, 2013). Public health conditions, an especially health of children under five years in North Sumatra Province is still far from the vision of existing health development. Various research results indicate that the factors that cause the problems of this situation are the socio-economic conditions of the family, knowledge of the mother who is still less about the pattern of care, the number of families that much, the mother's education is still low, the pattern of exclusive breastfeeding and complementary feeding of breastmilk As well as social culture that is less in harmony with the concept of health services (Purwo, 2011). Indonesia as one of the developing countries with a population of 254.9 million, environmental health problem becomes very complicated especially in the major cities like Jakarta, Surabaya, Medan, Bandung, Yogyakarta, and Semarang. One of these health problems is related to waste. Open dumping, i.e., waste does almost every place in Indonesia, the garbage disposal system is thrown away or put on the field or

ravine without any further processing. Such exhaust systems cause contamination of air, soil, and water other than the land can also be a breeding ground for infectious disease agents (Sudradjat, 2010).

Problems occur because the garbage is not processed or processed correctly and considered completed by way of open dumping (Suyono and Budiman, 2010). The result of Meirinda's research (2008), at the 0-meter point of waste landfill in Medan Marelan sub-district, obtained the concentration of SO₂, H₂S, NH₃ and CH₄ gas pollutants that exceeded the quality standard. This is supported by the research of Sianipar (2009), about the risk of exposure to hydrogen sulfide (H₂S) average ambient air H₂S concentrations exceeding the standard quality of 0.0290 mg / m³ and the standard Integrated Risk Information System (IRIS) as well as risk to health disorders In the community living in the waste landfill of Kelurahan Paya Pasir Sub-district of Medan Marelan. In addition to environmental factors in the final waste disposal site, the other issues are personal hygiene (personal hygiene) and health status. The results of the preliminary survey show that the residents pay less attention to the pattern of personal hygiene and sanitation. This is increased by the environmental conditions of dense residential houses, slums, and limited clean water due to leaching of leachate from a waste landfill to residents' wells. Residents live in densely populated homes with their families with makeshift houses. For residents who work as waste pickers also usually take home garbage to be sorted and stacked around the house so as to make the home environment is not maintained. Poor home environmental conditions and poor hygiene habits can increase the risk of disease transmission. Also, in general, the population in the neighborhood is poorly educated. A low level of education indeed determines or influences their way of thinking which will subsequently result in their health status.

1. Problems

Based on the background that has been described above can be seen that the question in this research is whether there is a relationship of socioeconomic, parenting, and health status with the nutritional situation of under-fives in the landfill disposal area (Waste Disposal) Kelurahan Paya Pasir Medan Marelan District 2016?

2. Research Purposes

This study aims to analyze the socio-economic relationships (education, employment, income, and family size, mother's nutritional knowledge) with nutritional status of under-fives in the area of waste disposal in Kelurahan Paya Pasir,

3. Research Methods

The type of this research is a survey, which is descriptive-analytic with cross-sectional research design. The population in this study were all children aged 0- 59 months who belong to the environment I landfill waste landfill area. Number of toddlers as many as 95 people. The sample in this study was taken from the population in total sampling, i.e. all the population tested, i.e. 95 people. Data analysis was done by using Univariate Analysis, Bivariate Analysis with Chi-Square statistical test and Multivariate Analysis with multiple logistic regression tests

II. RESULT AND DISCUSSION

2.1 Univariate Analysis

2.2 Characteristics of Toddlers

Toddlers who became the sample in this study as many as 95 people. Distribution of toddlers by age, mostly in the 37-59 month category with 29 people (30.5%) and at least in the 25-36 month class of 9 people (9.5%). The age distribution of toddlers can be seen in Table 1 below:

Table 1.Frequency Distribution by Toddler Age

Age	Frequency	%
0-6 Month	18	18,9
7-12 Month	23	24,2
13-24 Month	16	16,8
25-36 Month	9	9,5
37-59 Month	29	30,5
Total	95	100,0

Distribution of frequency based on the gender of under-five, which is mostly based on male gender status is 37 people (38,9%), while female gender is 58 persons (61,1%), can be seen in Table 2 as follows:

Table 2.Frequency Distribution Based on Gender of Toddler

Gender	Frequency	%
Male	37	38,9
Female	58	61,1
Total	95	100,0

2.3 Characteristics of Respondents

The number of respondents in this study is 95 people. Unique characteristics of respondents based on mother's age, mostly in the category of 20-35 years with the number of 68 people (71.6%), and at least in the group of 15-19 years of 2 people (2.1%). The age distribution of respondents can be seen in Table 3 as follows:

Table 3. Frequency Distributions by Maternal Age

Mother's Age	Frequency	%
15-19 Year	2	2,1
20-35 Year	68	71,6
36-45 Year	25	26,3
Total	95	100,0

The characteristics of respondents based on maternal education, the most at the level of high school education as many as 40 people (42.1%), at least at the degree of teaching has not been school as much as 2 people (2.1%) and Universities as much as 2 people 2.1%), can be seen more clearly in Table 4 as follows:

Table 4.Frequency Distribution by Mother Education

Education Mother	Frequency	%
Never go to school	2	2,1
Unfinished Primary School	6	6,3
Primary School	15	15,8
Intermediate School	30	31,6
High School	40	42,1
Degree	2	2,1
Total	95	100,0

Characteristics of the next respondent are the work. From the interviews conducted most of the respondents who do not work as many as 54 people (56.8%), and who work as many as 41 people (43.2%) as table 5 below:

Table 5. Frequency Distribution Based on Mother's Work

Job	Frequency	%
Working	41	43,2
Not Working	54	56,8
Total	95	100

The highest number of respondent's jobs is as housemaid as many as 16 people (16,8%), and the least is the civil servant is one person (1,1%). For more details can be seen in Table 6 below:

Table 6. Frequency Distribution by Type of Work Mother

Type of work	Frequency	%
Farmers	4	4,2
Private employees	8	8,4
Government employees	1	1,1
Housemaid	16	16,8
Scavengers	12	12,6
Total	41	100,0

The income level of the family was obtained through interviews conducted with respondents, categorized based on the Regional Minimum Wage (UMR) of North Sumatera in 2016 amounting to Rp.≤2,037,000 as many as 58 people (61.1%), and those earning Rp> 2,037,000 of 37 people (38.9%). The data can be seen in Table 7 as follows:

Table 7.Distribution of Frequency Based on Family Income

Family Income (Rp)	Frequency	%
Rp.>2,037,000	37	38,9
Rp.≤2,037,000	58	61,1
Total	95	100,0

In the assessment of nutritional status of toddlers, large families are also very influential. Characteristic characteristics of respondents based on the family size according to the data obtained from the interviews of those surveyed, in the big category (number of household members > 4 people) as many as 56 people (58.9%), and small category (number of family members ≤ 4 persons) (41.1%) which can be seen in Table 8 as follows:

Table 8.Distribution of Frequency by Family

Number of Families	Frequency	%
Small (≤ four people)	39	41,1
Big (>4 people)	56	58,9
Total	95	100,0

The level of knowledge of mother in right category is 41 people (43,2%), and type less than 54 people (56,8%), can be seen in Table 9 below:

Table 9. Frequency Distribution Based on Mother's Knowledge

Knowledge	Frequency	%
Good	41	43,2
Less	54	56,8
Total	95	100,0

2.4 Nutrition Status of Toddlers

Nutritional status is the physical condition of under-five children determined by anthropometric measurement based on Weight Index by Age (BB / U), Body Height by Age (TB / U), and Weight by Body height (BB / TB), using standard WHO-Anthro An illustration of the nutritional status of children under the age of BB / TB can be seen in Table 10 as follows:

Table 10.Frequency Distribution Based on Under five Nutrition Status Based on BB/TB

Nutrition Status	Frequency	%
Normal	52	54,7
Thin	43	45,3
Total	95	100,0

The nutritional status of toddlers in Table 10 shows that the normal child nutrition status is 52 people (54.7%) and the underweight status is 43 people (45,3%). The description of the nutritional status of under-five children based on BB / U resulted in right category of 55 people (57,9%), less 21 people (22,1%), and bad for 19 people (20,0%), for more details could be seen in Table 11:

Table 11. Frequency Distribution Based on Under five Nutritional Status Based on BB / U

Nutrition Status	Frequency	%
Good	55	57,9
Less	21	22,1
Bad	19	20,0
Total	95	100,0

The description of the nutritional status of children under five TB / U, obtained the most results in the common category of 65 people (68.4%), while the least in the high class of 2 people (2.1%), for more details, can be seen on Table 12:

Table 12. Frequency Distribution Based on Under five Nutritional Status Based on TB/U

Nutrition Status	Frequency	%
High	2	2,1
Normal	65	68,4
Low	15	15,8
Too Low	13	13,7
Total	95	100,0

2.5 Evaluation of Toddler Age with Nutritional Status

An overview of cross-evaluation between toddler age and nutritional status of under-five children based on BB / TB can be seen in Table 13 as follows:

Table 13. Cross tabulation of Infant Age Relations with Under five Nutrition Status

Toddler Age	Nutrition Status				Total	
	Thin		Normal		n	%
	n	%	n	%		
0-6 Month	8	44,4	10	55,6	18	100
7-12 Month	8	34,8	15	65,2	23	100
13-24 Month	8	50,0	8	50,0	18	100
25-36 Month	3	33,3	6	66,7	9	100
37-59 Month	16	55,2	13	44,8	29	100

Based on table 13 it shows that at the 7-12 month age level more normal nutritional status is 15 people (65.2%), whereas the more nutritional status is underweight at the age level of 37-59 months by 16 people (55.2%).

Bivariate Analysis Socio-Economic Relations with Nutritional Status of Under Five

Based on the results of the analysis in Table 19 shows that from 59 low-educated women under five, there were 39 (66,1%) children under five who had the nutritional status of underweight and 20 (33.9%) children under normal nutritional status. Meanwhile, from 36 highly educated mothers, there were four people (11.1%) who had nutritional status and 32 people (88.9%) who had normal nutritional status. The results of statistical test obtained value $p = <0.001$ means there is an educational relationship with nutritional status of children. From the analysis results also received the value (OR = 5.6 with 95% CI 2,837-50,308) means that under-five mothers with small educational opportunities have a 5.6 times greater risk of children underweight than those with highly educated parents. Based on the results of the analysis in Table 19 shows that from 54 unworked mothers under five there is 34 people (63%) toddler who have the nutritional status of lean and 20 people (37%) toddler who have normal nutritional status. Meanwhile, from 41 working mothers under five years old, there were nine people (22%) who had nutritional status and 32 people (78%) who had normal nutritional status. Statistical test results obtained $p = <0.001$ means there is a relationship work with nutritional status of children. From the analysis results also received the value (OR = 6 with 95% CI 2,402-15,231) means that unmarried infants have a 6% greater risk of children underweight than the working mother.

Based on the results of the analysis of Table 19 shows that from 58 mothers under five years old who have income Rp. $\leq 2.037.000$ there is 39 people (67,2%) Toddler which have a nutrient status of thin and 19 people (32,8%) Toddler which have nutritional status normal. Meanwhile, from 37 mothers of under-five who have income Rp. 2,037,000, there are four people (10,8%) of children under five who have nutritional status and 33 (89,2%) who have normal nutritional status. Statistical test results obtained $p = <0.001$ means that there is an income relationship with nutritional status of children. From the analysis results also got the value (OR = 6.9 with 95% CI 2,237-54,761) means that the mother of a toddler who has an income of Rp. $\leq 2.037.000$ have a 6.9 times greater risk of children under five undernutrition Which has an income of Rp. 2,037,000.

Based on the analysis result in Table 19 shows that from 56 mothers who have a big family of ≥ 4 people there are 32 (57,1%) toddlers who have the nutritional status of underweight and 24 (42,9%) toddlers who have normal nutritional status. Meanwhile, from 39 children under five who have big family < 4 people there are 11 people (28,2%) of children under five who have nutritional status and 28 (71,8%) who have normal nutritional status. Statistical test results obtained p -value = 0.010 means there is a large relationship family with nutritional status of children. From the analysis results also received the value (OR = 3.4 with 95% CI 1.414-8.146) means that children with a large family of ≥ 4 people have a 3.4 times greater risk of children underweight skinny status compared to children with a large family < 4 people.

Based on the results of an analysis in Table 19 shows that from 54 mother toddlers who have knowledge less there is 38 people (70,4%) Toddler which have the nutritional status of lean and 16 people (29,6%) Toddler which have regular nutrient status. Whereas from 41 mother toddlers who have real knowledge

there are five people (12,2%) toddlers who have nutritional status and 36 (87.8%) who have normal nutritional status. Statistical test results obtained p-value = 0.010 means there is a relationship knowledge with nutritional status of children. From the analysis results also received the value (OR = 7,1 with 95% CI 4,676-51,516) means that under-five mother who has less knowledge have a risk chances 7.1 times bigger toddler experiencing nutritional status of thin compared to a mother of the toddler who is knowledgeable.

Table 14. Cross Sole Socio-Economic Relations with Under-five Nutrition Status

Independent Variables	Nutritional Status of 0-59 Month				Total		p-value	O R	95%CI
	Thin		Normal		N	%			
	N	%	N	%					
Education									
Low	39	66,1	20	33,9	59	100	<0,001	5,6	2,837-50,308
High	4	11,1	32	88,9	36	100			
Job									
No Working	34	63	20	37	54	100	<0,001	6	2,402-15,213
Working	9	22	32	78	41	100			
Income									
Rp.<=2,037,000	39	67,2	19	32,8	58	100	<0,001	6,9	2,237-54,761
Rp.>2,037,000	4	10,8	33	89,2	37	100			
Number of Families									
Big if ≥ 4	32	57,1	24	42,9	56	100	0,010	3,4	1,414-8,146
Low if < 4	11	28,2	28	71,8	39	100			
Knowledge									
Less	38	70,4	16	29,6	54	100	<0,001	7,1	4,676-51,516
Good	5	12,2	36	87,8	41	100			

III. MULTIVARIATE ANALYSIS

Based on the result of the chi-square test, there are 7 (seven) variables, namely mother's education, mother's job, family income, family size, mother's knowledge, parenting, and health status has p-value <0,25 so that seven variables can be continued to analysis Multivariate. Multivariate analysis is an analysis to find out the correlation of independent variables, namely socioeconomic (maternal education, mother's job, family income, family size, and mother's knowledge) with the dependent variable of nutritional status of the toddler, and also know the most dominant variable related. From multivariate test by using multiple logistic regression, it is found that independent variable that is mother education, parent job, family income, mother's knowledge related to dependent variable that is nutrition status of Toddler. Test results can be seen in Table 15 below:

Table 15. Relationship of Economic Status with Under five Nutritional Status

Variable independent	B	p-value	OR	95% CI for Exp (B)	
				Lower	Upper
Mother Education	1,490	0,024	5,778	1,574	32,788
Mother Work	1,303	0,018	4,187	1,767	48,381
Family Income	1,768	0,010	6,312	2,461	62,141
Mother Knowledge	2,827	0,005	8,220	2,084	34,414
Constant	2,102	0,001	0,000		

The result of multiple logistic regression analysis shows that education with p-value 0.024, a maternal job with p-value 0,010, maternal knowledge with p-value 0,005 correlated with the nutritional status of a toddler in Final Disposal Site (TPA) Kelurahan Paya Pasir Medan Marelan District in 2016. According to Hastono (2007), to see how big the influence of variables on the dependent variable observed from OR.

Based on the results of multiple logistic regression also shows that the most dominant variable related to the nutritional status of under-five is the knowledge variable (p = 0,005; OR = 8,2 95% CI 2,084-34,414) meaning that under-five mother who have less risky opportunity 8,2 Times larger children underweight skinny nutritional status compared with well-knowledge toddler mothers. This shows that these variables have the most significant relationship to the nutritional situation of children under five years old in the landfill area Garbage Paya Pasir District of Medan Marelan Year 2016.

3.1 Education Relationship with Under five Nutritional Status

The results showed that there was an association of teaching with nutritional status of under-five children $p = <0.001$. From the analysis results also obtained the value (OR = 5.6 with 95% CI 2,837-50,308) means that low-educated toddlers have a 5.6 times greater risk of toddlers experiencing skinny nutritional status compared with high-educated toddlers. This is supported by Elfrida's study (2015) there is a relationship of maternal education with nutritional status on BGM toddlers { p -value = 0.005}. Children with low-educated mothers have a higher mortality rate than children with well-educated mothers. A highly educated person will provide a more rational response to the information coming and will think the extent to which the benefits may be derived from the idea (Elfrida, 2015)

3.2 Employment Relationship with Under-five Nutritional Status

The results showed that there is a relationship of mother's work with nutritional status of children under five years old, with $p = <0,001$. From the analysis results also obtained the value (OR = 6 with 95% CI 2,402-15,231) means that unmarried mother under five has risk chances six times bigger toddler experience less nutritional status compared with working mother of a toddler. This is by the results of research Dian Handini (2013) the price p count is 0.009 for sample distribution based on BB / TB.

3.3 Income Relationship with Under-five Nutritional Status

The results showed that there was a family income relationship with nutritional status of under-five children $p = <0.001$. From the analysis results also obtained the value (OR = 6.9 with 95% CI 2,237-54,761) means that under five years old mother who has income, $Rp. \leq 2,037,000$ have risk chances 6.9 times bigger toddler experiencing nutritional status of lard compared to the mother who has Income $Rp. > 2,037,000$. This is in line with the study (Yuniman, 2013) which shows that there is a socioeconomic relationship with nutritional status of children ($p = 0.012$). From the analysis results also obtained the value (OR = 3.3 with 95% CI 0.714-2.110) means that the mother of low-income children has a 3.3 times greater risk of children under five less nutritional status compared to mothers who have a high income.

3.4 Large family Relationships with Under-five Nutrition Status

The results showed that there is a great relationship family with nutritional status of children under five years old, $p = 0,010$. From the analysis results also obtained the value (OR = 3.4 with 95% CI 1.414-8.146) means that children with a large family of ≥ 4 people have a 3.4 times greater risk of children under five underweight compared with the kids with large families <4 people. This is supported by research Sutrisno (2001) shows there is a significant relationship between the large family with the nutritional conscious family behavior. And also Mekides Wolde (2015) study showed there was a significant correlation between family size and nutritional status of children under five (OR = 3,3,95% CI, 1,4-7,9), and Q.D research. Badake (2014) has a significant relationship between household size and nutritional status ($P = 0.047$).

3.5 Knowledge Relationship with Under-five Nutritional Status

The results showed that there is a relationship of knowledge with nutritional status of children under five years old, with $p = <0,010$. From the analysis results also obtained the value (OR = 7,1 with 95% CI 4,676-51,516) means that under fives mother with less knowledge have a risk chances 7.1 times bigger toddler experience less nutritional status compared with the mother of a toddler who is knowledgeable. This is supported by the results of Husnul Khotimah (2011) study that there is a significant influence on knowledge on the nutritional status of children. The calculation of the probability of Odd Ratio value (OR) is 9.8. OR results show that respondents who have below average knowledge or ≤ 14.5 are more likely to have malnourished children under 9.8 than those with good or above average knowledge or > 14.5 . The level of knowledge determines the behavior of food consumption, one of them through nutrition education so that it will improve the food consumption habits of himself and his family (Suhardjo, 2010).

IV. CONCLUSION

1. Nutrition status of children under five is good as much as 52 people (54,7%).
2. ($P = 0,010$), knowledge ($p = 0,010$), parenting ($p = <0.001$), employment), Health status ($p = 0,001$) with nutritional status of children.
3. The most dominant variable related to the nutritional status of under-five children is the knowledge variable ($p = 0,005$; OR = 8,2 95% CI 2,084-34,414) meaning that under-five mother of a toddler has a risk chance 8,2 times more toddler experience nutritional status Less than the well-informed mother of toddlers.
4. To the nearest health center/health worker

It is expected that health promotion officers along with nutrition officers give counseling about status Nutrition in toddlers as well as provide socialization to Mother of Toddler at posyandu or in crowded places mothers gather or explanation to mother of toddler about pattern of feeding toddler so that mother can receive knowledge which is good about the toddler's diet and can decrease the incidence of less nutrition status in infants through the mother or family role.

5. To mother-toddler / family
 - a. It is expected that the mother of toddlers in order to increase their knowledge by coming to the Posyandu or the nearest health center to listen to counseling about the presentation of feeding to toddlers and families, and pay attention to the diet of children under five that is 3x a day with balanced nutrition, so that children do not experience less nutritional status and can bring toddlers to health services such as Posyandu, Puskesmas, Public Treatment Centers, self-employment midwives and hospitals.
 - b. To the family is expected to participate in improving efforts to prevent the occurrence of malnutrition in children, including by coaching and empowering families who have less nutritional risk in children. Participate in improving environmental health and caring for a healthy environment.
6. To the next researcher to add more dominant research variables related to nutritional status as well as using other research designs such as case-control to reveal factors related to nutritional status of children other than the results of this study

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