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Sociodemographic Factors Associated with Stunting Cases Among Tobacco Plantation Society in Jember District, Indonesia

Faktor Demografi dan Sosial Terkait Kasus Stunting di Masyarakat Perkebunan Tembakau Kabupaten Jember, Indonesia

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ABSTRACT

Background: Social and Demographic can affect health status. Social institutional factors such as cultural factors, traditions, and habits that exist in society can lead to the emergence of nutritional problems experienced by toddlers. This can have an impact on the growth and development of infants.
Objectives: The study aims to analyze the relationship between social institutions and the incidence of stunting in communities in tobacco plantations in Jember Regency.
Methods: This research is an observational analytic study, using Cross Sectional Design. The population of this study is families who have children under five with nutritional problems (nutrient-prone) in the district area which is a tobacco-producing center in Jember Regency. The sample in this study amounted to 233 respondents. Data were collected by interview using a questionnaire. The collected data were analyzed descriptively. The statistical test used in this study to test the hypothesis is Chi-Square.
Results: There is a relationship between the type of work of the mother and stunting (p= 0.015 <α). Mothers who do not work have a chance of 0.955 times or 1 / OR = 1.047 times greater for not having children who are stunted. There is a relationship between multiple institutions that includes two variables that had a significant association with the nutritional status of children, which is the variable Institution and institutions Education Information Hope and Institution Somatic Hope. Mothers who support related to health care have the opportunity 0,235 or 1 / OR = 4,255 times to not have a stunted child.
Conclusions: Mother is an important factor to prevent stunting.

ABSTRAK

Latar Belakang: *Faktor Sosial Demografi dapat berkaitan dengan status kesehatan. Pranata sosial seperti faktor budaya, tradisi, kebiasaan yang ada di masyarakat dapat membawa permasalahan gizi untuk anak. Hal ini dapat memberikan dampak pada pertumbuhan dan perkembangan bayi dan anak.*
Tujuan: *tujuan dalam penelitian ini menganalisis hubungan antara pranata sosial dan kejadian stunting pada masyarakat perkebunan tembakau di kabupaten Jember, Indonesia.*
Metode: *Penelitian ini merupakan penelitian observasional dengan pendekatan cross sectional. Populasi dalam penelitian ini adalah keluarga yang memiliki anak dengan usia dibawah lima tahun dengan permasalahan gizi kurang di area produksi tembakau kabupaten Jember. Sampel dalam penelitian ini adalah 233 orang responden. Dilakukan wawancara pada responden menggunakan lembar wawancara. Data dianalisa secara deskriptif dan analitik dengan menggunakan Chi Square test dan regresi logistik.*
Hasil: *Terdapat hubungan antara karakter responden yaitu tipe pekerjaan ibu dengan kejadian stunting (p= 0.015 <α). Ibu yang tidak bekerja memiliki resiko lebih kecil untuk memiliki anak stunting dibandingkan dengan ibu bekerja yaitu 0.955 kali (OR 1 / OR = 1.047. Terdapat hubungan pranata pendidikan dan pranata sosial. Ibu yang memberi dukungan kesehatan yang memiliki resiko 0,235 kali lebih rendah untuk memiliki anak stunting (1/OR= 4,255)*
Ibu yang bekerja memiliki pendapatan yang digunakan untuk memenuhi kebutuhan gizi anak, sehingga kebutuhan akan gizi nya tercukupi dengan baik dibandingkan dengan ibu yang tidak bekerja.

Kesimpulan: *ibu merupakan faktor penting dalam pencegahan stunting dalam keluarga di masyarakat perkebunan tembakau.*

Kata kunci: *Stunting, Malnutrisi, Perkebunan tembakau, Indonesia*

INTRODUCTION

Stunting is a condition or state of growth failure experienced by children under five (infants under five years old) as a result of chronic nutrient deficiencies. This causes children to be too short when compared to their age. Malnutrition occurs from the baby in the womb until the initial period after the baby is born. Another definition of stunting is the definition proposed by the Ministry of Health (Kemenkes) that children under five with z-scores less than - 2SD / standard deviation (stunted) and less than - 3SD (severely stunted) can be said to be stunting. In Indonesia, there are an estimated 7.8 million children under the age of 5 who are stunted, this data is based on a report released by UNICEF and Indonesia is in the top 5 countries with a high number of children under 5 experiencing stunting (Kementrian Kesehatan Republik Indonesia, 2013)[1]. Based on Riset Kesehatan Dasar data in 2018, it was explained that the proportion of malnutrition and malnutrition status in infants, from 2007 to 2018, had not reached the expected target[2].

The National Team for the Acceleration of Poverty Reduction of the Republic of Indonesia has released 100 (one hundred) districts/cities for stunting children. The 10 regencies or cities are located in East Java Province, including Lamongan, Nganjuk, Bondowoso, Sumenep, Probolinggo, Pamekasan, Jember, Bangkalan, Sampang, and Lumajang Districts (TNP2K, 2017). Data from the health service in the field of family health and nutrition shows that the rate of stunting in Jember Regency is 17.73%, where 3 districts with the rate of stunting in highest are Jelbuk District at 39.3%, Arjasa at 38.8%, and Sumberjambe 38.14% (Dinas Kesehatan Kabupaten Jember, 2017)[3]. Besides being high cases of stunting, the three districts are classified as the districts with the largest tobacco producers in Jember. (Forestry and Plantation Office of Jember Regency, 2009)[4].

The direct factors that cause stunting are imbalanced nutritional consumption and infectious disease, inadequate food intake, poor food quality, increased pain, or a combination of these factors that occur over long periods. In addition to these factors, social infrastructure factors such as cultural factors, traditions, and habits that exist in the community can lead to the emergence of nutritional problems experienced by toddlers. This can have an impact on the growth and development of infants. Based on the conditions described above, it is necessary to conduct research in the form of a relationship between social institutions and the incidence of stunting experienced by toddlers in Tobacco Plantation in Jember Regency. The aims of the research is to analyze the relationship between social institutions and the incidence of stunting in communities in tobacco plantations in Jember Regency.

METHOD

This research is classified as observational analytic research because researchers only observe without giving treatment to the object to be studied. The design of this study is to use Cross Sectional Design where data in the independent variable and the dependent variable will be collected simultaneously in a single measurement whose purpose is to find out the relationship of one variable to another variable[5].

The population is a region of generalization consisting of subjects or objects that have characteristics. The population referred to in this study are mothers who have toddlers and are willing to be interviewed. The sample in this study amounted to 233 respondents. The tools and materials used in this study are research instruments in the form of questionnaires, stationery, and data processing tools such as calculators and computers. Data by researchers will be analyzed descriptively using a computer and presented using tables accompanied by narration. The statistical test used in this study to test the hypothesis is Chi-Square, and logistic regression.

RESULTS AND DISCUSSION

The Characteristics in this study consisted of the Mother's Age, Mother Education Level, Mother's Work, Family Income, Number of Children, and Toddler's Gender. The description of the respondent's characteristics can be seen in the following table:

Table 1. Characteristics overview respondents

No	Characteristic Respondents	Child Nutritional Status				n	%	p-value	OR (Confidence interval 95%)
		No stunting		Stuting					
		N	%	N	%				
1.	Mother`s Age								
	< 40 years old	181	77,7	41	17,6	222	95,3	0,694	0,441(0,055-3,546)
	>=40 years old	10	5,2	1	2,4	11	4,7		1
2.	Mother educational level								

No	Characteristic Respondents	Child Nutritional Status				n	%	p-value	OR (Confidence interval 95%)
		No stunting		Stuting					
		N	%	N	%				
	Very low (no school)	4	1,7	4	1,7	8	3,4	2,444	0,581 (0,29-1,153)
	Low (finished elementary school)	54	23,2	14	6	68	29,2		1
	Lower middle (graduated junior high school)	69	29,6	17	7,3	86	36,9		
	High school (High school graduate)	51	21,9	7	3	58	24,9		
	Higher education (College)	13	5,6	0	0	13	5,6		
3.	Mother employment status								
	Not working mother	130	55,8	29	12,4	159	68,2	0,015	0,955 (0,464-1,966)
	Working mother	107	26,2	13	5,6	74	31,8		1
4.	Family Income								
	Low (1 million)	47	20,2	16	6,9	63	27	3,175	0,530(0,262-1,073)
	Medium (1-1,5 million)	107	45,9	11	4,7	118	50,6		1
	Hight (>1,5 million)	37	15,9	15	6,4	52	22,3		
5.	Number of childreen								
	1 child	90	38,6	15	6,4	105	45,1	1,809	1,604 (0,803-3,205)
	1 children	101	43,3	27	11,6	128	54,9		1
6.	Gender of toddler								
	Male	96	41,2	23	9,9	119	51,1	0,279	0,835 (0,427-1,632)
	Female	95	40,8	19	8,2	114	48,9		1

Based on Table 1, it can be seen that from the results of test analysis with Chi-Square most of the respondents surveyed were aged <40 years. The proportion of mothers who have stunting children is more in mothers aged <40 years compared to mothers aged 40 years which is equal to 17.6%. The majority of respondents' education level is lower middle school (junior high school) with a percentage of 29.6%. Mothers who are not working / IRT are more likely to have stunting children, this is indicated by the proportion of mothers who do not work is greater than working mothers which is equal to 12, 4% The majority of respondents' family income is at a moderate level (1 - 1.5 million), which is

45.9%. Families with stunted children tend to be more likely to have low-income families (<1 million). Then in terms of the number of children, respondents who have> 1 child are more likely to have non-stunting children compared to mothers who have 1 child, which is a percentage of 43.3%. In addition, most of the children of the respondents were male.

Institutional factors contained in this study include Institutional Kinship, Economy, Education and Information, Scientific, Beauty and Fun, Religious and Belief, Group or Politics, and Somatic. An overview of these institutional factors can be seen in the following table:

Table 2. The institutional factors and the stunting status

No	Respondents' Characteristics	Nutritional Status				Total		P=value	OR (Confidence interval 95%)
		No Stunting		Stunting					
		N	%	N	%	N	%		
1.	Hope Kinship Institution								
	Poor support	1	0.4	0	0	1	0.4	1,000	-
	Support	190	81.5	42	18	232	99.6		

Amerta Nutrition

No	Respondents' Characteristics	Nutritional Status				Total		P=value	OR (Confidence interval 95%)
		No Stunting		Stunting					
		N	%	N	%	N	%		
2.	Institution of Kinship Relity								
	Poor support	2	0.9	0	0	2	0.9	1,00	
	Support	189	81.1	42	18	231	99.1		
3.	Economic Hope Institute								
	Poor Support	47	20.2	23	9.9	70	30	14,896	0,270 (0,135-0,538)
	Support	144	61.8	19	8.2	163	70		1
4.	Economic Institution Reality								
	Poor support	56	24	22	9.4	78	33.5	8,222	0,377(0,191-0,745)
	Support	135	57.9	20	8.6	155	66.5		1
5.	Educational and Hope Information Institution								
	Poor support	0	0	3	1.3	3	1.3	0,006	-
	Support	191	82	39	16.7	230	98.7		
6.	Educational Institution and Reality Information								
	Poor support	1	0.4	1	0.4	2	0.9	0,329	0,216 (0,013-3,521)
	Support	190	81.5	41	17.6	231	99.1		1
7.	Scintific Institute of Hope								
	Poor support	1	0.4	0	0	1	0.4	1,000	
	Support	190	81.5	42	18	232	99.6		
8.	Scintific Framework for Reality								
	Poor support	0	0	0	0	0	0	-	
	Support	191	82	42	18	233	100		
9.	Institution Beauty and Pleasure of Hope								
	Poor support	0	0	0	0	0	0	-	
	Support	191	82	42	18	233	100		
10.	Institution Beauty and Pleasure of Reality								
	Poor support	2	0.9	0	0	0	0	1,000	
	Mendukung	189	81.1	42	18	233	100		
11.	Religious institutions and beliefs of Hope								
	Poor support	0	0	0	0	0	0	-	
	Support	191	82	42	18	233	100		
12.	Religious institutions and beliefs of Reality								
	Poor support	0	0	0	0	0	0	-	
	Support	191	82	42	18	233	100		
13.	Politics of hope institution								
	Poor support	1	0.4	1	0.4	2	0.9		
	Support	190	81.5	41	17.6	231	99.1		
14.	Politics of reality institution								

Amerta Nutrition

| No | Respondents' Characteristics | Nutritional Status | | | | Total | | P=value | OR (Confidence interval 95%) |
| | | No Stunting | | Stunting | | | | | |
		N	%	N	%	N	%		
	Poor support	0	0	0	0	0	0	0,329	0,216(0,013-3,521)
	Support	191	82	42	18	233	100		
15.	Somatic of Hope institution								
	Poor support	10	4.3	8	3.4	18	7.7	0,006	1
	Support	181	77.7	34	14.6	215	92.3		0,235(0,086-0,638)
16.	Somatic of Reality Institution								
	Poor support	47	20.2	13	5.6	60	25.8	0,725	1
	Support	144	61.8	29	12.4	17.3	74.2		0,728(0,350-1,514)

Based on table 2, it can be seen that some institutions do not show significant differences between expectations and reality, but Economic and Somatic institutions show significant differences. it is quite visible between hope and reality. After being statistically tested, the research showed the relationship between the respondent characteristic factors including the Mother's Age, Mother's Education Level, Mother's Work, Family Income, Number of Children, and Gender of toddlers. The analysis conducted was a bivariable analysis with a chi-square test. There are two variables which are the level of the mother's education and family income have passed the category merging stage because it does not meet the requirements to use the Chi-Square test. A complete bivariable analysis of the supporting factors can be seen in the following table:

The results showed that the mother's age less than 40 years old had a child with stunting was lower than the mother's age over 40 years old (18.3%). This figure is smaller than the number of stunting incidents experienced by children in mothers aged over 40 years. An age less than 40 years is classified as a productive age. At a productive age, a person will more easily absorb the knowledge provided. At a productive age, the level of maturity and strength of a person will be more mature in thinking[6].

Some respondents did not work. Mothers who do not work have children with a greater incidence of stunting (18.2%) than working mothers (17.6%). The main income of the family in the tobacco plantation area depends on the season. The Working mother had income from folding the tobacco leaves. When they had money, the working mother spent it to fulfill nutritious food for their children. They help their husband to meet the family's needs. They don't depend on their husband's income. Family income can be increased by working mothers so that it can affect food security, the quality of children's diets, and family health services[7].

Based on the results of the study, respondents who had more than 1 child would tend to have a generation who experienced stunting (21.1%) compared to respondents who had only 1 child (14.3%). A large number of children (more than 1) will have an impact on increasing the number of members in the family. This is not following research which states that the number of

families does not affect the incidence of stunting experienced by children[8].

The incidence of stunting in children is lower in the mother's high level of education ie high school graduates and college. The results showed that the incidence of stunting in respondents with higher education was lower (12.1%) than in respondents with low education levels (87.9%). Higher education makes it easier for mothers to receive nutritional information and health information[9]. Mothers with high education have extensive knowledge about the practice and child care. The mother's education level is also able to determine whether or not a mother is easy to absorb and understand nutritional knowledge.

The incidence of stunting is more common in children who have parents with low to moderate incomes less than 1 million (34.7%) than in families with above-average income (28.8%). The results of the study are the same as previous studies which state that stunting occurs mostly in families whose income is one million. Stunting correlated with family income[10]. The low income affected the family to acces the nutritious food, when they don't have money they cant buy the food[11].

The results showed that stunting in children tended to be experienced by women (19.3%) more than boys (16.7%). This result is different from some studies which show that stunting tends to be experienced by men rather than women. These results vary in several studies but this is reinforced by studies that state that sex does not have a significant relationship with the incidence of stunting in children[12].

The Chi-Square test showed that, the variables related to stunting are variables of the type of work of the mother, with a p-value of 0.015 ($<\alpha$). Mothers who do not work have a chance of 0.955 times or 1 / OR = 1.047 times greater for not having children who are stunting. The results of this study are the same as previous studies which state that mothers who do not work will have a great chance that their children will not be stunted because mothers can spend all their time with only their children, in contrast to working mothers. Mothers who work will lose time to pay attention to food intake for their toddlers which will affect the nutritional status of the toddler. Mothers who have toddlers then work more have the nutritional status of toddlers with less nutrition compared to mothers who do not work[13]. This result is different from several studies which state that working

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Rokhmah, et al | Amerta Nutrition Vol. 6 Issue 1SP (December 2022). 25-31

30

mothers tend to be less likely to have children with stunting. Working mothers can help the family economy, so that family income will be high. When family income is high, access to obtain or consume nutritious food is very easy[10].

Some institutions do not show significant differences between expectations and reality, but Economic and Somatic institutions show sufficiently visible differences between expectations and reality. It can be seen that some institutional variables have a constant value, and all respondents choose to support the questions or statements contained in the questionnaire. Economic and Somatic institutions show a quite visible difference between expectations and reality. This indicates that families with children under five with nutritional problems, including stunting, have hopes of improving the family's economic condition and improving physical health maintenance and access to health services. This means that at the moment the people in tobacco plantations who have toddlers with nutrient-prone conditions have economic difficulties in accessing daily needs and limited health facilities.

However, two variables had a significant association with the nutritional status of children, which variable Institution and institutions Education and Information Hope and Institution of Somatic Hope. Mothers who support related health care have the opportunity 0,235 or 1 / OR = 4,255 times to not have a child with stunting. It showed that if the mother had access to health care, she automatically had access to obtain health information and get adequate health services. Children whose mothers during pregnancy attended less than four antenatal care services[14]

This result related to the other research that showed the causes of malnutrition problems in childhood involves the interaction of various very complex determinants namely the influence of biological, cultural, and socioeconomic factors of the family. The root cause of malnutrition lies in the cycle of poverty in the community so resulting in stunted child growth and even stunting[15,16]. Socioeconomic, nonexclusive breastfeeding for the first 6 months, low household socio-economic status, premature birth, short birth length, and low maternal height and education are particularly important child stunting determinants in Indonesia[17]. The Other researchers said that stunting is modulated by household, dietary, and healthcare factors, both at household and community level [18] and also family income [19], It means that healthcare is very important to prevent stunting and is also included in the tobacco plantations area. Mothers should have healthcare knowledge, so they can use healthcare facilities. The mother's knowledge is correlated with stunting [20].

CONCLUSION

There is a relationship between the characteristics of respondents with the type of work a mother has for stunting. variables related to stunting are variables of the type of work of the mother namely p-value 0.015 (<α). Mothers who do not work have a chance of 0.955 times or 1 / OR = 1.047 times greater for not having children who are stunting. There is a relationship between multiple institutions that includes two variables that had a significant association with the nutritional status of children, which is the variable Institution and institutions Education Information Hope and Institution Somatic in hope. Mothers who support related to health care have the opportunity 0,235 or 1 / OR = 4,255 times to not have a stunted child. Cross-sector cooperation is needed between the local government and local community leaders to increase independence and public awareness to optimize family income and facilitate access to health services for families so that the incidence of stunting in infants can be prevented through business capital assistance and entrepreneurship skills training for families.

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