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SOCIAL-ECONOMIC AND CHILDREN'S NUTRITIONAL STATUS IN BENGKULU PROVINCE

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ABSTRACT

This study aims to determine the factors related to the nutritional status of children in Bengkulu Province due to COVID-19 that affect economic conditions and make the healthy situation worse than before, especially child nutrition. The method used is a cross-sectional study conducted through an online questionnaire. The results of this study indicate that the factors that are significantly related to the nutritional status of children are; financially inadequate (AOR = 2.32; 95% CI: 1.50 to 3.60, P<0.0001), employed (AOR = 3.03; 95% CI: 193 to 4.76, P< 0.0001), living in urban areas (AOR = 1.59; 95% CI: 1.03 – 2.43, P: 0.034), local ethnicity (AOR = 1.72; 95% CI: 1.11 to 2, 68, P: 0.016) and low-income family support (AOR = 2.10; 95% CI: 1.34 to 3.28 < P<0.0001). In conclusion, financial condition, employment status, place, ethnicity, and family are related to the nutritional status of children in Bengkulu Province.

Keywords: Financial Condition, Employment, Children's Nutritional Status

INTRODCTION

COVID-19 is a disease that brings many problems. World Health Organization (WHO) reported that the total case continuously increased by over 4.1 million and 84.000 new death. Europe had the highest issue, followed by South-East Asia Region (WHO, 2021). Many countries reported the COVID-19 situation. Indonesia says the total of COVID-19 patients is 1.791.221, and 49.771 death. This condition is riskier than before due to the case that always increases every day (WHO, 2021). The status of a global pandemic or epidemic indicates that the spread of COVID-19 is very fast (Padila et al., 2021; Andri et al., 2021). Many districts also showed an increase in COVID-19 points. Bengkulu province is one of the provinces in Indonesia that is facing significant growth and is the fifth higher COVID-19 cases in Indonesia (WHO, 2021). It makes the Bengkulu government control COVID-19 with many regulations and policies, such as banning studying at school, refusing to enjoy traveling to other provinces, tourism, etc.

The condition above made many sectors not run well as usual, especially in the economic sector. The financial industry got trouble with transaction products, many sellers and production are almost bankrupt, and many households lack income. Limited economic activities made family income decrease. The homes with low-middle income and education should struggle harder to improve their lives. It is not easy to get into nutrition-related

problems because they cannot afford to provide for their needs. The current condition makes the household struggle more than before. Hence, their wives and children lack nutrition.

Children need food to grow up. Childhood is the gold term for children because it affects their lives and health in the future (Padila et al., 2019). Usually, children who do not have good nutrition are riskier than others of getting non-communicable diseases when they are adults, such as hypertension, heart disease, obesity, failure of kidney, and stroke. Besides, they will lack intelligence quotient because of their lack of knowledge. It makes life difficult for them. They cannot make good choices, are unreasonable, cannot adapt to many sectors, etc. For those reasons, parents should provide the best nutrition, but unfortunately, COVID-19 has blocked economic activities that decrease household income (Padila et al., 2021).

A report showed that nutrition before COVID-19 was inadequate, with 11.4 % of stunting and 9 % of obese in Indonesia and 18.6% of stunting and 12% of obese in Bengkulu Province (Kemenkes RI, 2018). The double burdens prove that Indonesia still struggles with SDGs in points one and two (economic and hunger), and people's education is still low. The pandemic of COVID-19 in Indonesia makes economic matters and hunger matters worse than before, especially in Bengkulu Province, which has decreased poverty by 15.03% with a total of unemployed 302.576 people, which increased by 29.62%.

Another problem is the price of goods soaring. So, the households chose to adapt and survive in that condition because they had no choice. It can be a complicated term for everybody with low education and income to provide good nutrition to their household.

RESEARCH METHODS

Study Design

This research used a cross-sectional study. The data were obtained through an online questionnaire. It was done online to avoid face-to-face interviews and to prevent COVID-19 due to the Bengkulu Province situation being riskier than before. This way can protect the researchers and respondents from disease. Besides, the regulation does not permit observation research because the government wants to control and reduce the disease, especially in Bengkulu Province, the fifth highest cause of COVID-19 in Indonesia.

Data and Study Sample

The researchers got 442 respondents who hoped to give their information. The respondents were from ten districts that, include Bengkulu City. They submitted the data via Google form as a tool to collect the data. The online questionnaire had taken one month before the deadline. After that, the researchers collected data to be analyzed.

Method of Measurement and Analysis

The data were divided into two categories: independent and dependent variables. The dependent variable used the astrometry theorem that measures children's nutritional status by weight and height or length of the baby's body, depending on gender and age. The outcome was grouped into two categories by using the range. The analysis was divided into three research kinds: univariate, bivariate, and multivariate. The univariate described the demographic characteristics of respondents in two types of data, categorical data as

percentages and continuous data as a mean and standard deviation. The variables include age, education, children's number, ethnicity, job, place, financial situation, living conditions, community support, family support, breastfeeding, early marriage, and attitude. The proportion was used to find the prevalence of an outcome. Logistic regression and multiple logistic regressions investigated the factors associated with children's nutritional status. The analysis was done by Stata version 13.0.

Ethical Consideration

The Ethics Committee approved this study of Bengkulu University of Indonesia (No. 218/UN30.14.9/LT/2021).

RESULTS

Demographic Characteristic

Table. 1
Demographic and Socio-Economic Characteristics
of Respondents (n=488)

Characteristic	Number	Percentage
Age (Years)		
≥31	131	26.84
26-30	184	37.70
<26	173	34.45
Mean ± SD	27.6 ± 4.2	
Median (Min-Max)	28 (20-36)	
Education		
Primary school	34	6.97
Secondary school	215	44.06
High school	91	18.65
Higher than high school	148	30.33
Child number		
1	192	39.34
2	89	18.24
3	78	15.98
>3	129	26.43
Ethnics		
Others	177	36.27
Local ethnics	311	63.73
Job		
Unemployed	227	56.76
Employed	221	43.24
Place		
Urban	230	47.13
Rural	258	52.87
Financial situation		
Enough	194	39.75
Not enough	294	69.25
Living Condition		
Good	260	53.28
Bad	228	46.72

Community support		
Good	257	52.66
Bad	231	47.34
Family support		
Good	278	56.97
Bad	210	43.03
Breast feeding		
Good	369	75.61
Bad	119	24.39
Early marriage		
Did not	231	47.34
Did	257	52.66
Attitude		
Favorable	265	54.30
Unfavorable	223	45.70

The result reported that more than a quarter of them had a mean age of 27.6 ± 4.2 and a child number (of 39.34). Almost half of them were in secondary school (44.06%), employed (43.24%), in bad conditions of living (46.72%), lousy community support (46.72%), and unfavorable (45.70%). More than half of them did early marriage (52.66%), did not have enough financial (69.25%), lived in a rural area (52.87%), and local ethnic (63.73%). Almost a quarter of them did inappropriate breastfeeding (24.39%).

Prevalence of Outcome

Table. 2
Prevalence of Children's Nutritional Status

Children Nutritional Status	Number	Percent (%)	95% CI
Good	141	28.89	25.03 to 33.09
Bad	347	71.11	66.91 to 74.97

The prevalence showed that the dire situation of children's nutritional status is still higher than in other research before COVID-19. The case made life more complicated than before. It proves that pandemics can pressure economic conditions and give another problem in nutrition status, especially children's nutrition.

Significant Factors with Children's Nutritional Status

Table. 3
Crude and 95% CI of Children's Nutritional Status
Using Simple Logistic Regression

Independent Variable	Number	% Bad Children Nutritional status	Crude OR	95% CI	*P*
Age (years)					
≥31	94	71.76	1		0.9310
26-30	129	70.11	0.92	0.56 to 1.51	
<26	124	71.68	0.99	0.60 to 3.72	

Education					
Higher than high school	82	55.41	1		<0.001
High school	62	68.13	1.72	0.99 to 2.97	
Primary & Secondary school	203	81.53	3.55	2.25 to 5.60	
Child Number					
1	98	51.04	1		<0.001
2	48	53.93	1.12	0.69 to 1.86	
3	75	96.15	23.98	7.31 to 78.68	
>3	126	97.11	40.29	12.39 to 131.03	
Ethnics					
Others	111	62.71	1		0.0022
Local ethnics	236	75.88	1.87	1.25 to 2.79	
Job Status					
Unemployed	119	56.40	1		<0.001
Employed	228	82.31	3.60	2.38 to 5.43	
Place					
Rural	147	63.91	1		0.0009
Urban	200	77.52	1.95	1.31 to 2.90	
Financial Situation					
Enough	123	63.40	1		0.0024
Not enough	224	76.19	1.85	1.24 to 2.75	
Living Condition					
Good	136	59.65	1		<0.001
Bad	211	81.15	2.91	1.94 to 4.38	
Community Support					
Good	139	60.17	1		<0.001
Bad	208	80.93	2.81	1.87 to 4.22	
Family Support					
Good	122	58.10	1		<0.001
Bad	225	80.94	3.06	2.04 to 4.59	
Breast feeding					
Good	286	77.51	1		<0.001
Bad	61	51.26	0.31	0.19 to 0.47	
Early marriage					
Did not	138	59.74	1		<0.001
Did	209	81.32	2.93	1.95 to 4.42	
Attitude					
Favorable	148	66.37	1		0.0343
Unfavorable	199	75.09	1.53	1.03 to 2.26	

The result showed that many factors had significance on children's nutritional status with: 1.87, 95%CI: 1.25 to 2.79, and p: 0.0022, followed by the job status with crude odds ratio: 3.60, 95% CI: 2.38 to 5.43, and p<0.001; the place with crude odds ratio: 1.95,

95%CI: 1.31 to 2.90, and p: 0.0009; the financial situation with crude odds ratio: 1.85, 95%CI: 1.24 to 4.38, and p<0.001; the living condition with odd crude ratio: 2.91, 95%CI: 1.94 to 4.38, and p<0.001; the community support with odd crude ratio: 2.81, 95%CI: 1.87 to 4.22, and p<0.001; the family support with odd crude ratio: 3.06, 95%CI: 2.04 to 4.59, and p<0.001; the early marriage with odd crude ratio: 2.93, 95%CI: 195 to 4.42, and p<0.001; the attitude with odd crude ratio: 1.53, 95%CI: 1.03 to 2.26, p: 0.0343; having a child more than 3 with odd crude ratio: 40.29, 95%CI: 12.39 to 131.03, and p<0.00; and having primary & secondary school with crude odds ratio: 3.55, 95%CI: 2.25 to 5.60, and p<0.001.

Factors Associated to Children's Nutritional Status

Table. 4
Crude and Adjusted Odds Ratio and 95% CI of Children's Nutritional Status
Using Simple Logistic Regression and Multiple Logistic Regression

Independent Variable	Number	% Bad Children Nutritional Status	Crude OR	Adjusted	95% CI	*P*
Financial situation						
Enough	123	63.40	1	1		<0.001
Not enough	224	76.19	1.85	2.32	1.50 to 3.60	
Job Status						
Unemployed	119	56.40	1	1		<0.001
Employed	228	82.31	3.60	3.03	1.93 to 4.76	
Place						
Rural	147	63.91	1	1		0.034
Urban	200	77.52	1.95	1.59	1.03 to 2.43	
Ethnics						
Others	111	62.71	1	1		0.016
Local ethnics	236	75.88	1.87	1.72	1.11 to 2.68	
Family Support						
Good	122	58.10	1	1		<0.001
Bad	225	80.94	3.06	2.10	1.34 to 3.28	

The highest factor related to children's nutritional status was the financial situation with crude odds ratio: of 1.85, adjusted: 2.32, 95%CI: 1.50 to 3.60, and p<0.001, followed by the job status with crude odds ratio of 3.60, adjusted: 3.03, 95%CI: 1.93 to 4.76, and p<0.001; the place with crude odds ratio: 1.95, adjusted: 1.59, 95%CI: 1.03 to 2.43, and p: 0.034; the ethnics with crude odds ratio: 1.87, adjusted: 1.72, 95%CI: 1.11 to 2.68, and p: 0.016; and the family support with crude odds ratio: 3.06, adjusted: 2.10, 95%CI: 1.34 to 3.28, and p<0.001.

DISCUSSIONS

The result showed that the mother's job status was the highest cause of inadequate nutrition in children. The mother's activity will affect her concern and parenting style. The financial situation was the condition of household income that reflected their wealth, including food security. The statement can be a determinant of the household to provide for

their household nutrition, especially for their children who need nutrition. Dairy food can be the nutrient gap that the parent should be concerned about (Jia et al., 2020) due to undernutrition, which can be a determinant of 25-50% caused by the death of children (Paul et al., 2011). So, finance can be the solution to solve nutrition matters (Nie et al., 2019). The financial situation was the reason for buying good food for the baby, such as milk. Healthy food is expensive and can help many babies grow (Harton & Myszkowska-Ryciak, 2018). A mother's job status is a breastfeeding challenge, especially in low-middle-income countries (Kavli et al., 2019). Mothers who work in the agriculture sector and manual work significantly have children's nutritional status because these jobs need extra power, and the mother easier to get exhausted (Nanking et al., 2019). Job status affects parenting due to the assignment takes time a lot. So, mothers cannot be concerned about their children, affecting children's weight (Oddo et al., 2018). The place is a location that can be a factor in the job, household income, and food (Mkhize & Sibanda, 2020). In mountain, areas or villages are more challenging to get good nutrition than in urban areas because the geography of the mountain or village is the most difficult to adapt for some animals and plants. The temperature and weather constantly change suddenly. It can be why animals and plants survive.

Ethnic is a culture that is born in a community. The ethnic gives heritage traditions from one generation to the next, including traditional food. Minor ethnicities can face a challenge in food security. The ethnic culture has minimized some food nutrition information and made them riskier to get malnutrition than major ethnicities (Le et al., 2019). Ethics can also increase the vulnerability of children's health related to the mother's job and income, which can affect the quality of the child (Sánchez-Alemán et al., 2021). Family support motivates mothers to be concerned for their children. The mother's psyche will be more relaxed and enjoyable. Mothers' activities will positively affect their children and reduce inadequate nutrition (Anna et al., 2019).

COVID-19 affects children's nutritional status, but there is still a lack of information and study related to COVID-19 condition with children's nutritional status. This study provides an online questionnaire to collect the data to analyze the association between determinants with children's nutritional status. Therefore, this study does not represent the mother's condition as weight, height, etc. This study also does not measure the mother's physic as height and weight. Besides, it only uses a cross-sectional study that cannot find the risk variable of children's nutritional status. Another thing, there is still a lack of nutrition and health literacy information. It is still a community problem. The experiment study can be one of the best studies to find good food that can help to improve nutrition status.

CONCLUSION

Financial condition, employment status, place, ethnicity, and family are related to the nutritional status of children in Bengkulu Province. Mother's work status causes malnutrition. Mothers do not care about children's food because conditions force them to find ways to stabilize household income. This can change parenting patterns that can affect the soul and nutrition of children.

SUGGESTIONS

Mothers of toddlers are expected to always come to the posyandu so that they can see the growth and development of toddlers every month in order to prevent under-nutrition status of toddlers.

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