ASSOCIATIONS BETWEEN MATERNAL KNOWLEDGE OF NUTRITION, SOCIO ECONOMIC, AND CHILD UNDERWEIGHT IN DRY LAND ISLANDS

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ABSTRACT

Background: The problem of food security depends on food availability, food access, and food utilization. Community access is also a factor in food insecurity along with the high poverty rate of an area. The village of Bokong is one of the villages with the majority of poor families. This causes people's purchasing power to food and access to infrastructure to be still lacking. This study aimed to determine the relationship between family socio-economic factors and nutritional status of children under five.

Subjects and Method: This was a cross-sectional study conducted in Kupang, East Nusa Tenggara. A sample of 39 poor households was selected randomly. The dependent variable was nutrition status. The independent variables were education, family size, food cost expenditure, and non food cost expenditure. The data were analyzed using OR and chi-square.

Results: Extended family (OR= 9.69; 95% CI= 0.99 to 46.44; p= 0.020) was associated with an increased risk of underweight. Higher education level (OR= 0.14; 95% CI= 0.01 to 0.93; p= 0.016), higher food expenditure (OR= 0.12; 95% CI= 0.12 to 0.75; p= 0.070), higher non-food expenditure (OR= 0.18; 95% CI= 0.02 to 1.15.; p= 0.035) were associated with a reduced risk of underweight.

Conclusion: Extended family increases the risk of underweight. Higher education, higher food expenditure, and higher non-food expenditure reduce the risk of underweight.

Keywords: socio-economic, nutritional knowledge, underweight, children

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BACKGROUND

Nutritional problems occur as a result of nutritional imbalance that enters a person's body, so that malnutrition and over nutrition can occur, both of these problems can result in poor health status. Most of the population below the poverty line are unable to meet food needs with sufficient quantity and quality of nutritional norms. As a result, some family members in poor households experience growth and intelligence disorders (especially children), and have low work productivity and health status. living with non-biological parents significantly increased risk of stunting. Emphasis should be placed on current immunization, prolonging exclusive breastfeeding, and improving access to nutrient-rich foods among adopted children and their families via community-based nutrition interventions (Bloss et al., 2004). Thus this population group in general will experience malnutrition or malnutrition which will result in the low quality of human resources to be able to indulge

in development in general and increase income in particular.

The factor that plays a role in determining one's health status is the socioeconomic level (Department of Nutrition and Public Health, 2014). The socioeconomic level includes education, income, and employment which are indirect causes of nutritional problems (Arisman, 2010). Nutritional problems are generally caused by economic problems, lack of food, poor environmental quality. The results of reports from the Baumata Health Center on nutritional problems of children under five in Bokong village each year, among others, in 2014 the prevalence of very thin by 3.15% and thin by 20.13%, then in 2015 decreased to a very thin prevalence of 10, 12% and thin by 10.12%. The data in 2016 was very thin by 3.16% and thin by 3%. Data in 2017 was very thin by 7.26% and thin by 28.63% (Profil Puskesmas Baumata, 2017).

The nutritional problems of children under five in the village of Bokong are classified as not good, because most people in the village of Bokong work as farm farmers In general, managed agricultural land is classified as good due to the availability of sufficiently smooth water and fertile soils producing crops such as maize, tubers, vegetables, coconuts, and bananas. The results of the fields they harvest 2 times a year are expected to help the family economy. The distance from the village of Bokong to the city is not too far, but due to inadequate transportation access making it difficult for farmers to bring their produce to sell to the city, so that family income and food and non-food needs of each family member becomes low and the number of family members is increasing will affect the level of needs of each household. Based on the description above, This study aimed to determine the relationship between family socioeconomic factors and nutritional status of children under five. At the level of the household, Growth rate of consumption, Food also reflects levels. Income or purchasing power homeladders (Arida et al., 2015).

SUBJECTS AND METHOD

1. Study Design
This was a cross-sectional study conducted in Kupang, East Nusa Tenggara. The study assessed social economic connections and health nutrition knowledge with the incidence of undernourishment in infants being carried out simultaneously.

2. Population and Sample
Samples in this study were among the little toddlers who live in the village buttocks. The type of sample in this study is a probability sample, where every subject in the population has the same chance to be chosen or not to be selected as a research sample (Sastroasmoro & Ismael, 2008 dalam Siswanto et al., 2013). The drawing-side sample technique using the simple random sampling method, so that all members or units of the population have the same opportunity to be selected as samples. 46 Family included 39 under five years old. The total sample used in this study is 39 children under the age of five. The way of collecting samples on this research is by casting member of the population according to the size of the samples and considering the inclusion criteria as well as the mothers and toddlers who live in the village

buttocks at least 1 year old and mothers with a under five years old child.

3. Study variable

The dependent variable was nutrition status. The independent variables were education, family size, family income, occupation, food cost expenditure, non food cost expenditure, and mother nutritional knowledge.

4. Definition Operational of Variable

Nutrition status was the status of a nutriment is an illustration of the state of nutritional underage of a poor family determined by an anthroprometheistic measure using the BB/U formula.

Education was a successful level of formal education with the mother.

Family size was the number of family members who lived under the same roof and ate from the same kitchen and became the family's care (in Rupiahs).

Food cost expenditure we per capita expenditure on food that all household members consume in a month on total cash income.

Non food cost expenditure was per capita expenditure not on food that all household members consume in a month on total cash income.

5. Study Instruments

Primary data is data obtained directly from the respondents through interviews, the instrument used is the use of a questionnaire. There is data obtained from respondents in the family characteristic data that includes work, the number of family members, education, age and expense; Family food available; Consumption patterns; The characteristics of infants who include their age, gender, weight, height and nutritional status. As for the data under five yearso old height is obtained by measuring a under five yearso old 's height using microtoice. A secondary data includes the number of under five yearso old and nutritional status at Puskesmas Baumata in 2019. The intrument used was microtoice and questionnaires.

Microtoise validation and religious testing instruments are carefully calibrated to ensure that the level of validity of the measurement is in use. The validity test of the questionnaires is done by using the original corrected correlation through SPSS and obtained the original corrected correlation on each question with a value of 5% is greater than product product. Microtoice reliability tests were performed with a double-gauge repetition to ensure trustworthy and more accurate data. The validity test results, and valid points of matter are then assessed. Test results show that the value of cronbach's alpha on each variable with a 5% significance value has a greater value than what is currently a product at the r table (in Rupiahs) moment so all the questions are said to be confident.

6. Data Analysis

The data analysis used isa univariate analysis, followed by a computerized bivariate analysis. Univariate analysis aims to explain or describe the characteristics of each research variable. The statistical test used was Chi Square to the significant extent usedIt's 95% with 5% prosperity. Condition The chi square test is met, if nothing a cell that values less than 5 and less percentage is no more than 20% so Ho denied is accepted. It means both variables There is a connection. All analysis was done in SPSS version 16.

7. Research Ethics

The study has picked up ethical merit from the ethical research commission, the public health Faculty Of University Nusa Cendana with the number: 201-9946.

RESULTS

1. Social Economic Characteristic

some children have an elementary school education level (72%). children from large families (79%), with a low average family income (77%). Most of the mothers are housewives (92.31%), with low food expenditure (69%) and low non-food expenditure (74%).

mothers have sufficient knowledge about nutrition (33%). (Table 1).

Most children's status is normal in Bokong Village, Taebanu District (51%) (Table 2).

Extended family (OR= 9.69; 95% CI= 0.99 to 46.44; p= 0.020) was associated with an increased risk of underweight. Higher education level (OR= 0.14; 95% CI= 0.01 to 0.93; p= 0.016), higher food expenditure (OR= 0.12; 95% CI= 0.12 to 0.75; p= 0.070), higher non-food expenditure (OR= 0.18; 95% CI= 0.02 to 1.15.; p= 0.035) were associated with a reduced risk of underweight (Table 3).

Table 1. Distribution Five Years old based on Family Charactheristic

Variables	Frequency (N)	Percentage (%)
Education (years)		
Elementer school	28	72
Junior high School	8	21
High School	3	7
Family size		
Small	8	21
Large	31	79
Family Income		
Low	30	77
High	9	33
Occupation		
Working	3	7.69
Housewife/ Non-Working	36	92.31
Food Cost expenditure		
Low	27	69
High	12	31
Non-Food Cost expenditure		
Low	29	74
High	10	26
Mother Nutrional Knowledge		
Severe	12	26
Enough	17	33
Good	10	51

Table 2. Distribution of Child's Nutritional Status

Nutritional Status	Frequency (N)	Percentage (%)
Severe Under Nutrition	6	26
Under Nutrition	13	33
Normal	20	51

Table 3. Correlation between Family Socioeconomic anf Child Nutritional Status

Variables	Severe Under Nutrition n (%)	Under Nutrition n (%)	Normal n (%)	OR	CI95%	p
Education						
Elementer School	11 (14.4)	10 (8.6)	7 (5.0)			
Junior high School	6 (4.1)	2 (2.5)	0 (1.4)			
High School	3 (1.5)	0 (0.9)	0 (0.5)	0.14	0.01-0.93	0.016
Family Size						
Small	7 (4.1)	1 (2.5)	0 (1.4)			
Large	13 (15.9)	11 (9.5)	7 (5.6)	9.69	0.99-46.44	0.020
Food Cost Expenditure						
Low	10 (13.8)	11 (8.3)	6 (4.8)			
High	10 (6.2)	1 (3.7)	7 (7.0)	0.12	0.12-0.75	0.016
Non-Food Cost Expenditure						
Low	12 (14.9)	11 (8.9)	6 (5.2)	0.18	0.02-1.15	0.035
High	8 (5.1)	1 (3.1)	1 (1.8)			

DISCUSSION

1. Correlation between education and child's nutritional status

Based on social economic conditions, a high percentage of a mother's education is low in ds (72%), a low education will affect a family's ability to understand the importance of both food and nutrition properly. Statistical test results show that there is a correlation between education and nutrition status (p < 0.05), higher education may lower the risk of undernourishment to small children in the village of toddler (OR = 0.14). Toddlers with scant, minuscule nutritional status are spread in low maternal education of 14.4 percent and 8.6%. This corresponds with a study by Aramico et al. (2013) that there is a relationship between mother's education and nutrition status (OR= 4.06; p= 0.001), there is a relationship between father's education and nutrition status (OR= 3.37; p= 0.001).

2. Correlation between family size and Child's nutritional status

Large families are many members of families that consist of fathers, mothers, children and other household members who live together and live off of equal resource management. Large families on the average are rated larger families (> 5) family members in one household. A large number of family members will affect meeting food needs that may not be enough to meet the

needs of all family members but may provide only part of the needs of family members. Large families with the highest number of members listed in the big category have very thin children under five years of very thin nutritional status 15, 9% and skinnier (9.5%). The greater number of family members, the better the quality of life score of the subject based on the acquisition of physical role and PCS. This means that the greater number of family members does not share the amount of time and limit the subject to work/activities the physical (Puspa et al., 2020).

3. Correlation between food cost expenditure and child's nutritional status

The income of the family head is measured by the amount of income or income that is proxted or approached by spending and stated in the two categories is high, if the amount of income is rp 1,000,000/month. Tobacco use in LMICs may have a negative influence on investment in human capital development. Addressing the tobacco use problem in LMICs could benefit not only the health and economic well-being of smokers and their immediate families but also long-run economic development at a societal level (Do and Bautista, 2015; Keino et al. (2014).

Determinants of stunting and overweight among young children and adole. Income obtained from commercial plants or other increased income efforts have not been raised to purchase high-quality food or foodstuffs. Income levels help determine what kind of food to buy. Economic factors are key to nutritional status. The reality of nutrition is multicomplex, as not only eco-

nomic factors play a role but other factors play a role. A dominant factor connecting with the nutritional status of rural children is the type of father and mother's work (Devi, 2010). Low panagn discharging indicates that the status of undernourished children at very thin (138%) and lean (8.3%). High food resistance can reduce the risk of inadequate nutrition in the islands dry land area in this region of taebenu district in which OR= 0.12 (p< 0.05). Also, children at the highest wealth index or middle had a lower risk of stunting or wasting and underweighting, respecttively. Children who belong to households with no water systems and to households with no flush toilet at higher risk from stunting and underweighting, respecttively (Sonini, 2015).

4. Correlation between non-food cost expenditure and child's nutritional status

Because of the elasticity in demand for food in general, the elasticity to non-food needs is relatively high. This is clearly seen in people whose food consumption levels have reached saturated levels, so that increased revenue is used to meet needs instead of food, while saving or saving of the remainder may be investation. Our results indicated that economic development cannot solve all nutritional problems and comprehensive national developmental strategies should be considered to combat malnutrition. However, no association was observed between illiteracy rate and prevalence of stunting and underweight, and there was no correlation between GDP per capita, illiteracy rate, average family size and anaemia prevalence (Wu et al., 2015).

Low - food spending can lower the risk of inadequate nutrition incident to poor nutrition (OR= 0.018; p <0.05), results from studies indicate that low food expenditure is a poor nutrition case (extremely thin) 149% and skinny 8.9%. Low family income levels, and coupled with the consumption of cigarettes in poor families would incriminate the family in providing child nutritional needs. That it is necessary for parents especially for fathers to be able to limit the expenditure of cigarettes and the smoking habits so that children can obtain needed nutrition and child growth can be optimal (Oktaviasar et al., 2012). Socio-economic factors, family income, occupation status, food expenditure, and non-food expenditure have a significant relationship with nutritional status. Mother's nutritional knowledge about nutritional status has a relationship with the nutritional status of children under five. Direct factors related to nutritional status are the types of staple foods consumed with low correlation rates and the direction of positive relationships. Indirect factors related to nutriational status are large families with low correlation rates and the direction of positive relationships and maternal education with low correlation rates and negative relationship directions.

AUTHOR CONTRIBUTION

Anna H Talahatu. Ribka Limbu, Jakoba D niga. contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

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