CORRELATION OF EDUCATION LEVEL AND SOCIO-ECONOMIC WITH STUNTING CASE FOR TODDLERS IN THE WORKING AREA OF UPT LAU HEALTH CENTER, LAU SUB-DISTRICT, MAROS REGENCY

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ABSTRACT

Stunting is a representation of stunted growth as a effect of lack of nutrient intake in the long term. The level of education affects mothers in feeding children. Mothers who have extent education will make an impact of mother's response to something, both from inside and outside. Socio-economics also influences the ability of families to suffice the nutritional needs of toddlers, The purpose of the research was to determine the relationship between education and socio-economic levels with the incidence of stunting toward toddlers in the Work Area of the UPT Lau Health Center, Sub-disctrict Lau, Maros Regency. This research uses analytical research methods with a cross sectional study approach and held in the Work Area of the UPT Lau Health Center, Sub-disctrict Lau, Maros Regency on 24 December 2018 until 24 January 2019. Population in this research were all toddlers who were domiciled in the Working Area of the UPT Public Health Center in Lau, Sub-disctrict Lau, Maros Regency as many as 336 children, where there are 142 children who are male and 194 female. Sampling method that used was simple random sampling with a total sample of 77 children. The results of this research indicate that there is a correlation between the level of education and incidence of stunting on toddlers in the Work Area of the UPT Lau Health Center, Sub-disctrict Lau, Maros Regency and there is a socio-economic relationship with the incidence of stunting on toddlers in the Work Area of the UPT Lau Health Center, Sub-disctrict Lau, Maros Regency.

Keywords: level education, socio-economics, stunting, toddler

INTRODUCTION

Nutrition is a process of living things using food consumed normally through the process of digestion, absorption, transportation, storage, metabolism and expenditure of substances are not used. Nutrition is food substances contained in a food which can be used the body. Food related to health and nutrition is the process by which organisms use food for the maintenance of life, growth, normal functioning of members and body tissues and the production of energy (Hasdianah dkk, 2014).

The educational background of parents, both father and mother, is one important element in determining the nutritional status of children. Besides maternal education is the main capital in supporting the household economy, it gives a role in feeding patterns family and parenting (Mustamin, Asbar R & Budiawan, 2018).

Child growth is internationally recognized as an important indicator of nutritional status and health in populations. The percentage of children with a low height for age (stunting) reflects the cumulative effects of undernutrition and infections since and even before birth. Stunting is height for age with <-2 SD of the WHO Child Growth Standards median. Children who suffer from growth retardation as a result of poor diets or recurrent infections tend to be at greater risk for illness and death. Stunting is the result of long-term nutritional deprivation and often results in delayed mental development, poor school performance and reduced intellectual capacity. This in turn affects economic productivity at national level (NLIS WHO, 2010).

Based on The World Health Organization (WHO) data, in 2016, 87 million children are stunted live in Asia, 59 million in Africa and 6 million in Latin America and the Caribbean region. Five subregions have a child growth rate that exceeds 30% such as western Africa (31.4%), central Africa (32.5%), eastern Africa (36.7%), southern Asia (34.1%) and Oceania (38.3%) excluding Australia and New Zealand. Both Asia and Oceania experience delays or do not experience progress in reducing child stunting. In Latin America and the Caribbean, stunting has decreased two times faster than in Africa from 2000 to 2016 (WHO, 2018).

Riskesdas data, shows that the number of children under five suffering stunting has increased from year to year. The percentage of severe stunting of children under five years old was 18.8% in 2007, 18.0% in 2013, and continues to decline to 11.5% in 2018. While the percentage of stunting of children under five was 18.0% in 2007, an increase of 19, 2% in 2013 and 19.3% in 2018.

The percentage of children under five years old of severe stunting in 2007 was 18.8% and stunting was 18.0%, in 2013 severe stunting was 18.0% and stunting was 19.2%, then in 2018 severe stunting was 11.5% and stunting up to 19.3%. The province with the highest percentage of stunting and severe stunting toddlers in East Nusa Tenggara with 42.6% and the lowest in DKI Jakarta was 17.7% (Ministry of Health of the Republic of Indonesia, 2018).

Based on data from the Regency/City Health Departement Profile (2016), it shows the highest Regency/City (17-23) cases of malnutrition were North Toraja, Wajo, Takalar, and Soppeng. The lowest regencies (0-2) were Bulukumba, Bantaeng, Gowa, Pangkep, Sinjai, North Luwu and East Luwu (South Sulawesi Provincial Health Department, 2017).

Based on the results of the Susenas in March 2017, the number of poor people in South Sulawesi in March 2017 amounted to 813.07 thousand people or 9.38 percent of the total population. The number of poor people in South Sulawesi Province continues have fluctuations every year. The poor population has decreased in percentage by 0.02%, but has increased in absolute terms by 6.04 thousand people compared to the conditions in March 2016 which were 9.40% or 807.03 thousand people (BPS of South Sulawesi Province, 2017).

Based on data from the Health Department Maros Regency, shows that the number of children who in Maros District in 2016 as many as 49 670 children under five, where there were seven children under five years old suffering from severe malnutrition and everything has been receiving treatment (Maros District Health Department, 2017).

Based on data from the Lau Health Center, Lau Sub-district, Maros in 2017, showed that the number of children aged 24-60 months in the Health Center work area was 336 children where were 101 children (30.0%) who had stunting (Secondary Data of Lau Community Health Center, 2018). From the data above, it was found that the prevalence of stunting was still high at the Lau Health Center. Therefore it is necessary to take serious handling of this problem. The livelihoods of the population are mostly civil servants, employees, entrepreneurs, farmers and laborers. Varied jobs will affect the family's socio-economic status, so it can affect the nutritional intake of children.

This study aims to find out the socio-economic relationship with Stunting event for toddler in the Work Area of the Lau Health Center UPT, Kecamatan Lau, Kabupaten Maros so it can be used as information material for the community and related institutions and can be taken steps in handling nutritional problems and prevent the increasingly widespread nutritional issues.

MATERIAL AND METHOD

This research was conducted in the Lau Health Center UPT Work Area, Lau Sub-district, Maros Regency on January 24, 2018 to January 24, 2019. The population in this study were all children under five in the Work Area of the UPT Lau Health Center, Lau Sub-district, Maros Regency with as many as 336 children, where there are 142 children who are male and 194 female with samples obtained 77 children based on Slovin formula with purposive sampling technique. The sample is then sorted based on the characteristics and criteria of the sample based on

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1. *Inclusion Criteria:*
   a. Children aged 24-60 months.
   b. Children domiciled in the Work Area of the UPT Puskesmas Lau.
   c. Children who have parents who can read and write.
   d. Children allowed by parents are the subject of research.
2. *Exclusion Criteria:*
   a. Children who have parents who were not present at the time of the study.
   b. Children who are sick during the research are carried out.

Data collection
1. The collection of primary data is obtained using a questionnaire that has been provided by the researcher.

2. Secondary data collection was obtained from the UPT of Lau Health Center, Lau Sub-district, Maros Regency

Data processing
1. Editing
The questionnaire results were collected through need to be redacted (edited) in advance. If there is still incomplete data or information, and it is not possible to do a repeat interview, then the questionnaire is taken out.
2. Coding sheet
The code sheet or card contains the respondent's number, and the question number.
3. Data entry
Fill in the column in accordance with the answers to each question.
4. Tabulations
Creating data tables, according to the research objectives or desired by researchers (Notoatmodjo, Health Research Methodology, 2014).

Data analysis
1. Univariate analysis
Univariate analysis in general in this analysis generates a frequency distribution and percentage of each variable (Notoatmodjo, 2014).
2. Bivariate analysis
The bivariate analysis were conducted on two variables that were related or correlated (Notoatmodjo, 2014).

RESULT AND DISCUSSION
Result
1. Univariate analysis

Table 1.
Distribution characteristic respondents analysis in the working area of UPT Lau Health center, Lau Sub-district, Maros Regency.

CHARACTERISTICS OF RESPONDENTS		%
MOTHER'S AGE		
26-35 YEARS OLD	40	51.9
36-45 YEARS OLD	35	45.5
46-55 YEARS OLD	2	2.6
WORKER		
HOUSEWIFE	61	79.2
CIVIL SERVANT	3	3.9
PRIVATE EMPLOYEES	8	10.4
ENTERPRENEUR	5	6.5
AGE OF CHILD		
24-36 MONTHS	24	31.1
37-48 MONTHS	31	40.3
49-60 MONTHS	22	28.6
CHILD GENDER		
MALE	35	45.5
FEMALE	42	53.2

2. Bivariate analysis

Table 2.
Correlation of Education level with Stunting case for Toddlers in the working area of UPT Lau health center Lau Sub-district, Maros Regency.

Mother's Education Level	Stunting Case				Total	
	Unstunting		Stunting			
	N	%	n	%	n	%
Low	19	33.3	38	66.7	57	100
High	14	70,0	6	30,0	20	100
Total	33	42.9	44	57.1	77	100

P =0.005

Table 3.
Correlation of Feeding Analysis with Stunting case for Toddlers in the working area of UPT Lau health center Lau Sub-district, Maros Regency

Socio-economic	Stunting Incidence				Total	
	Unstunting		Stunting			
	N	%	n	%	n	%
Adequate	22	64.7	12	35.5	34	100
Less	11	25.6	32	74.4	43	100
Total	33	42.9	44	57.1	77	100

p =0.001

DISCUSSION
1. Education Level
Based on the research that has been done in the Work Area of the UPT Lau Health Center, sub-district Lau, Maros Regency shows that respondents the lowest education are 57 respondents, where 19 respondents (33.3%) Whose children are un*stunted* and 38 respondents (66.7%)The Child have *stunted.* This is because someone with low education is not necessarily less able to requirement compared to other people who have low education, moreover that person is diligent in listening to information about nutrition, it

is not impossible that nutrional knowledge will be better

The result of this study also showed higher education level is 20 respondents, which there are 14 Respondents (70.0%) Whose children are un*stunted* and 6 respondents (30.0%) Whose children have *stunted*.

Owned high education level will affect education about nutrition, lower education level of mothers then proportion nutritional problems of toddler getting high vice versa. This shows mother's education level is one component that cannot be ignored. Educated mother's about nutrition affect the behavior of mothers in providing food for their children. Mothers who have good nutritional education are expected to able supply food with type and veritble quantity so the children can grow and thrive optimally.

The results of the Chi-square statistical test obtained a value of p = 0.001. Because the value of p <α = 0.05, the null hypothesis is rejected and an alternative hypothesis is accepted. The interpretation is there is a significant relationship between the level of education of mothers and the incidence of stunting in children. Mother's education level has an effect on health, one of that is nutritional status. Individuals who have a high level of education have a greater possibility of a healthy lifestyle like providing nutritious food for their child. The level of education also related to socio-economic status in this point is income, where level of income tends to increase along with education level. Revenues that are sufficiently possible to live with better quality.

A person's educational background is one that is not important that can affect nutrition because with education it is expected that knowledge or information about nutrion will be better (Mentari, S & Hermansyah A, 2018)

Mother's education is the basic thing to reach good toddler nutrition because mother's education level is related to mothers receiving information about nutrition and health easier. Mothers with higher level education will be easier to receive information from outside compared to mothers who have lower level education.

2. Socio-Econimic

Based on the research that has been done in the Work Area of the UPT health center Lau Sub-district, Maros Regency 22 respondents were found that their status socio-economic are good enough and their children did not have stunting incidence. This can be affected by family income because in assign the type of food to be purchased depends on the high and low income. The purchasing power of food every household follows the extent of family income and fulfill necessary food to all family member. However family with the lacking income effect in hosehold food purchasing power getting lower (Illahi, 2017). In this research there were also 12 respondents with sufficient socio-economics but their child was stunting this can be affected by mothers education. Education also affect mothers in feeding children. Mothers who have high education will affect the mother's response to something, both inside and outside. Mother with high education will more rational in thinking and more easily receive information related to providing good food to children, so that it can have an impact on children's nutritional. And vice versa if the mother's education is low it is increasingly difficult to receive information about health, nutrition including stunting (Margawati, 2017).

The results of this research found 11 respondents with less socio-economic but whose child is not stunting. This can be affected by the mother in choosing the type of additional food and feeding time and healthy living habits (Ngaisyah, 2015). In this research also found 32 respondents whose social economics were lacking and experiencing stunting. This can be affected by the job of family members. The job of family members also determines income so that it can affect the quality of food served. There is no denying that family income also determines the dishes served for the family everyday, both quality and quantity of food. Families with limited income possibility less to fulfill food needs to fulfill nutritional needs in a child's body (Fikrina, 2017).

The results of the Chi-square statistical test obtained a value of p =

0.001. Because the value of p <α = 0.05, the null hypothesis is rejected and an alternative hypothesis is accepted. The interpretation is there are socio-economic relationships with the incidence of stunting for toddler in Work Area UPT Lau health center Lau Sub-district, Maros Regency. There is a relationship in this research because the respondents whose socioeconomic are more sufficient than their children not to experience stunting, Likewise, respondents whose social economics were more or less likely to have their children experience stunting.

Stunting or short is a condition of failure to thrive in infants (0-11 months) and toddlers (12-59 months) an effect of chronic malnutrition especially in the first 1,000 days of life so that the child is too short for his age. Stunted toddlers will not have a maximum level of intelligence, become more susceptible to disease and in the future it can risk declining productivity extent in the end stunting will be able to hinder economic growth and increase poverty (Ramayulis, dkk., 2018).

According to Nototmodjo (2003), stunting is not only caused by one factor, but it is caused by many factors, where these factors are related to one another, such as economics, socio-culture, education, and so on. Family social economy is one of the factors that determine the amount of food available in the family so that it also determines the nutritional status of the family including affect the growth of children (Ibrahim & Faranita, 2015).

Socio-economic of the family are related to the incidence of stunting in children because a good socio-economic family is more likely to have children not stunting. So the better the socio-economic family risk of stunting in children getting smaller. The socio-economic level affects the ability of the family to fulfill the nutritional needs of toddlers, besides that socio-economic conditions are also influential on the selection of various types of food additives and their feeding time and habits of healthy living. This is very influential on the incidence of stunting for toddlers.

CONCLUSION

1. There is a correlation of education level with stunting case for toddler in the working area of UPT Lau health center Lau Sub-district, Maros Regency.
2. There is a Correlation of socio-economic with stunting case for toddler in the working area of UPT Lau health Lau Sub-district, Maros Regency.

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REFERENCES

Ani Margawati, Astri Mei Astuti. 2018. *Maternal* knowledge, diet and nutritional Status in children *Stunting* age 1-5 years in Bangetayu Sub-district, Genuk, Semarang. *Nutrition Journal of Indonesia (THe Journal of Nutrition), 6 (2).*

BPS Prov. Sulsel. 2017. *Poverty Data and information South Sulawesi 2017* Makassar: Central Statistics Agency of South Sulawesi province.

Maros District Health Office. 2017. Maros Regency Health Profile in 2016. Maros: Maros District Health Office

Provincial Health Office South Sulawesi. 2017. Profile of the South Sulawesi Provincial Health Office in 2017. Makassar: South Sulawesi Health Office.

Fikrina, L. T. 2017. Relationship between the level of socio-economic and the incidence of stunting in children aged 24-59 months in Karangrejek Wonosari village, Gunung Kidul. Publication Document of the Faculty of Health Sciences 'Aisyiyah Yogyakarta.

Hasdianah, Siyoto, S., & Peristyowati, Y. 2014. Nutrition, Nutrition Stabilization, Diet and Obesity. Yogyakarta: Nuha Medika.

Ibrahim, I. A., & Faramita, R. 2015. The Relationship of Family Socio-Economic Factors with Stunting Events of Children aged 24-59 Months in the Working Area of the 2014 Makassar City Barombong Health Center. Al-Sihah: Public Health Science Journal, Volume 7, Number 1.

Mentari, S & Hermansyah A. 2018. Factors associated with the incidence of stunting of children aged 24-59 months in the Work Area of the Siantan Hulu Health Center. Pontianak Nutrition Journal (PNJ). Vol. 01 No. 01 of 2018. [cited 2018 OKT 22]. Available from: http://ejournal.poltekkes-pontianak.ac.id.

Mustamin, Asbar R & Budiawan. 2018. The level Education and maternal exclusive breastfeeding with the incidence of stunting in infants in South Sulawesi Province in 2015. Journal Media Gizi Pangan, Volume 25 Issue 1, 2018. [cited 2018 OKT 22]. Available from: https://www.researchgate.net/publication/327505029

Republik of Indonesia Ministry of Health. 2018. Main Results of Riskesdas 2018. Jakarta: Health Research and Development Agency of the Ministry of Health of the Republic of Indonesia.

Ngaisyah, R. D. 2015. Relationship between Socio-Economic and Stunting in Toddlers in Kanigoro Village, Saptosari, Gunung Kidul. Journal of Medika Respati, Vol. X Number 4.

Notoatmodjo, S. 2014. Health Research Methodology. Jakarta: PT. Rineka Cipta.

Ramayulis, R., Kresnawan, T., Iwaningsih, S., & Rochani, N. S. 2018. Stop Stunting with Nutrition Counseling. Jakarta: Penebar Plus.

Setiawan, D., & Prasetyo, H. (2015). Health Research Methodology for Health Students. Yogyakarta: Graha Ilmu.

Supariasa, I. N., Bakri, B., & Fajar, I. 2016. Assessment of Nutritional Status. Jakarta: EGC.

WHO. 2010. *Nutrition Landscape Information System (NLIS) Country Profile Indicators: Interpretaion Guide*. Geneva: World Health Organization; [cited 2018 OKT 22]. Available from: https://apps.who.int/iris/handle/10665/44397

WHO. 2018. *Reducing Stunting in Children: Equity Considerations for Achieving The Global Nutrition Targets 2025*. Geneva 27, Switzerland: Department of Nutrition for Health and Development.

Wijianto, & Ulfa, I. F. (2016). Effect of Social Status and Family Economic Conditions on Work Motivation for Early Adolescents (Ages 12-16 Years) in Ponorogo Regency. Al Tijarah Journal, Vol. 2, No. 2.