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Complemetary Feeding Practices Influences of Stunting Children in Buginese Ethnicity

Sirajuddin[1,2,6], Saifuddin Sirajuddin[3], Veny Hadju[3], Toto Sudargo[4], Rudy Hartono[1,6], Agustian Ipa[1,6], Sharifah Intan Zainun Sharif Ishak[5]

[1]Associate Professor in Nutrition and Dietetic Department Health Polytechnic Makassar, Indonesia, [2]Student Doctoral of Public Health Hasanuddin University, Indonesia, [3]Professor in Nutrition Department, Faculty Public Health, Hasanuddin University, Indonesia, [4]Associate Professor in Health and Nutrition, Faculty of Medicine, Nursing and Public Health, Gajah Mada University, Indonesia, [5] Lecturer in Nutrition Department of Management and Sciences University, Malaysia, [6] Center of Excellence Science and Technology in Urban Health

Abstract

Background. Breast milk and complementary foods are very influential variables in the nutritional status of children. The purpose of this study was to determine the risk factors for stunting in the Bugis ethnic group in Makassar based on breastfeeding factors, complementary foods for breast milk

Method. There is a cross-sectional study in this study. The sample size in this research was 300 subjects in Makassar City. Enumerators in this study were students of the Applied Nutrition & Dietetic Bachelor Program in the Nutrition Department of the Health Polytechnic Makassar, Indonesia, and the Nutrition Department Students at Science University Management. Research ethics was obtained at the Makassar Health Polytechnic Ethics Commission. Stunting risk factor data analysis with logistic regression test. Reliability and validity analysis of Bugis ethnic feeding style care with explanatory factor analysis, and Content Validity. Confirmatory factor analysis with Bartlett's and The KMO Coefficient.

The results of the study note that the risk factor for stunting is a child factor that is good appetite being a protective variable with a significance value of p = 0,000, OR 0.289 (0.185-0.480). Factors for breastfeeding (frequency of breastfeeding), p = 0.013, OR 1.99 (1.148-3.173). The conclusion is that the risk factor for stunting is breastfeeding. The suggestion is that education about good breastfeeding practices among ethnic Bugis caregivers needs to be done at the family level.

Key Words: *Feeding Practices, Stunting, Buginese.*

Introduction

Stunting prevalence data collected by the World Health Organization (WHO), Indonesia is included in the third country with the highest prevalence in the Southeast Asia / South-East Asia Regional (SEAR) region. The average prevalence of stunting toddlers in Indonesia in 2005-2017 was 36.4%. The determinant factor of nutritional problems is multidimensional[1,2,3,4].

Stunting, is a public health problem at all levels (National, Province, City), including Makassar City as a red zone area (prevalence> 40%) at the same time Makassar City is the largest Metropolitan city in Eastern Indonesia and the development center of eastern Indonesia[5]. Based on the results of the descriptive analysis above, nationally stunting is a very serious nutritional and health problem, because the trend has increased since the last five years 25.7% to 30.8% between 2013 and 2018. There has been an improvement for South Sulawesi and Makassar City by which is very slow with down from 40.9 to 35.7%[5].

Corresponding Author:
Rudy Hartono
Department of Nutrition, Makassar Health Polytechnic, Wijaya Kusuma Raya Street 46 Makassar, Indonesia
Email: dinomks70@gmail.com

Inadequate complementary food for breast milk is a real phenomenon in urban communities in Makassar. The contributing factors are the lack of knowledge about complementary foods, and the work status of mothers outside the home so that they do not pay enough attention to eating children[10,11,12].

Breastfeeding practice is also an interesting variable examined in this research because Indonesia's experience in improving breastfeeding practices still needs to be improved. The challenge is marketing formula milk. Although there are regional regulations regarding the method for marketing formula m[illegible], the results have not improved significantly[13,14]. The purpose of this study was to investigate the f[illegible]ors of breast milk and complementary foods for the stunting of children aged 0-59 months.

Research Method

The subjects of this study were obtained from Bugis Ethnic who live in Makassar City. The study sites were three Puskesmas working areas in the North of Makassar City. Tamalanrea Health Center, Health Center, Paccerakkang, and Sudiang Raya Health Center. The reason for choosing the northern area of the city is because the Bugis ethnic population inhabits the north of the city more than any other location. Criteria for inclusion of Buginese ethnic samples in Makassar City

(1) The mother is from the ethnic Bugis and the husband is also from the ethnic Bugis

(2) Having children aged 6-59 Months in September 2019

(3) Have lived for at least the past 6 months in Makassar City

(4) Willing to participate in this research

The sample size in this study is based on the estimated prevalence of stunting in Makassar City as a Bugis ethnic center that is 35.7%, using 80% power test with 95% confidence, design effects 1 and 5 with the addition of 10% additional data estimated not to participate in research This is because they refuse or are not present at the time of screening. Based on the calculation results above, the sample size of 300 is determined. Data Collection

Data collection in this study uses a list of questions that have been tested with good reliability. The questionnaire uses [illegible]tructured questions which are tested using official data on children aged 0-59 months (mother's [illegible]ata and household data) Data collected includes the child's age, sex, weight and height/ length; mother level, education level and participation in household decisions; br[illegible]stfeeding practices, supplementary feeding. Child weight was me[illegible]ured using an electronic SECA scale with an accuracy of 0.1 kg and the length of the child (for children aged 0-23 months) or height (for children aged 24-59 months) was measured using a locally made height/length board with an accuracy of 0, 1 cm. SECA scales are calibrated every morning, before data collection, using a [illegible]andard weight of 5 kg. All enumerators receive training at least two days before data collection, and those responsible for taking anthropometric measurements receive one additional training day. Supervisors are tasked with supervising the work of enumerators and facilitating good relations with community members. Stunting is defined as Z-score for height <<2. The HAZ -core matches 2006 WHO growth standards.

Results

Demographic Characteristics

Tabel 1. Demographic Characteristics

Demografi	Categories	Mother		Father	
		n	%	n	%
Occupation	Officials government	7	2,3	17	5,7
	non officials goverment	293	97,7	283	94,3
Education	0-9 years	79	26,3	98	32,7
	10-15 years	221	73,7	202	67,3

Based on the results of this research it is known that the work of parents is not a civil servant and the education of parents is generally between 10-15 years.

Breastfeeding Factors

The complementary breastfeeding factors in this research are presented in Table 2

Tabel 2. Complementary Feeding Factors

Complementary Feeding	**Category**	**n**	**%**
Prelactal food (n=300)	a. Yes	69	23.0
	b. no	231	77.0
Food Consistancy (n=300)	a. liquid	7	2.3
	b. soft	46	15.3
	c. semi-solid	20	6.7
	d. solid	227	75.7
	e. filter	7	2.3
Frequency (n=300)	a. 1-2 times	88	29.3
	b. 3-4 times	182	60.7
	c. >4 times	16	5.3
	d. No fixed	14	4.7
Feeding care givers n=300	a. Mothers	265	88.3
	b. babysitter	4	1.3
	c. Fathers	1	.3
	d. grandmothers	26	8.7
	e. commercial food	4	1.3
Feed the Children (n=300)	a. Mothers	272	90.7
	b. Babysitter	3	1.0
	c. Fathers	23	7.7
	d. grandmothers	2	.7
Children's appetite (n=300)	a. very good	74	24.7
	b. good	144	48.0
	c. not bad	82	27.3

Based on the results of data analysis, it was found that 69 children (23%) were given prelactal food, 227 people (75.7%) solid food forms, and 3-4 times the frequency of feeding, in general, was 182 times (60.7%)), the main caregiver for children in feeding is 265 people (88.3%). The children were fed by mothers as many as 272 (90.7%), children's tastes were generally good 144 people (48%) but found children whose appetite was lacking as many as 82 people (27.3%).

Stunting Determinant Analysis

The risk factor of stunting consisted of household factors, child factors and complementary feeding, breastfeeding factors, hygiene and sanitation, infectious diseases, child care, feeding style, and caring practices.

Tabel 3. Analysis of Determinants of Buginese Ethnic Stunting Factors

Determinant factors	Variabel Code	P Value	OR **	95,0% C.I.for EXP(B)	
				Lower	Upper
Child characteristic and complementary feeding	Sex	.155	1.546	.848	2.821
	Birth weight	.179	1.001	1.000	1.001
	Borth Leangh	.477	1.033	.945	1.128
	Prelactal	.319	1.424	.710	2.854
	Food consistency	.551	1.121	.769	1.635
	Food Frequency	.091	.694	.455	1.059
	Feeding care Giver	.963	1.012	.601	1.704
	Feed the children	.938	.978	.555	1.722
	Children's appetite	.000	.298	.185	.480

**) *based on logistic regression analysis, with stunting as the dependent variable;*

Based on the results of the risk factor analysis of various variables that influence stunting is that the child factor is good appetite being a protective variable with a significance value of p = 0,000, OR=0.289 (0.185-0.480). In reference to the standard appetite, then a good appetite becomes protective against stunting. This means that children whose appetite improves can avoid stunting, while normal appetite or no appetite will cause children to risk stunting.

Discussions

Based on these parameters, it can be proven that ethnic Bugis contributed significantly to the percentage of stunting in South Sulawesi in 2018. South Sulawesi Province ranks fourth in the highest percentage of stunting in Indonesia. Various factors were analyzed in this study in accordance with the conceptual framework published by Unicef in 2006.

Based on the concept map of the occurrence of stunting compiled by Unicef 2006 consists of several factors that affect stunting, namely household and family factors, child factors and complementary foods for breastfeeding, breastfeeding factors, hygiene sanitation factors, infectious disease factors, health-seeking behavior, parenting feeding style or style of care for child feeding, and caring practices or stimulation of child development. All of these variables are included in the scheme of the conceptual framework of determinants of global stunting factors [7,15,16,17,25,26,31,].

Household factors and toddlers' families are the closest factors to children where exposure to these

factors will greatly determine the nutritional status of children including height status. Theoretically, the concept can be easily understood as a very logical causal relationship. Household and family factors in this study were tested with child stunting status and it is known that the mother's age, father's age, mother's education, and father's education had no significant effect on the stunting of children under five. The number of family members and the number of children under five in one household as an economic burden variable also does not consistently affect stunting. In this study, several variables cannot be proven except for the occupational status of parents. Permanent employment with wages that are able to meet food and clothing needs is a protective factor while other jobs are a risk factor. This proves that the father's work status has a very strong influence on the incidence of child stunting[18,31].

Child and breast milk supplementary factors in this study tested the risk of stunting and found several facts, namely the status of prelactal feeding does not affect stunting, as well as several other variables; child food forms, frequency of eating, who makes food for children, who feeds children. All of these variables do not clearly differentiate a child's height status. The only variable that is very influential today is the child's appetite as a protective factor[20,31].

The poor appetite of children at risk of stunting and vice versa good appetite, causing children to avoid stunting. Based on these results it can clearly be used as a recommendation that efforts to provide foods that children like or provide ways to improve children's appetite are key points. Many factors affect a child's appetite. Mealtime, type of food, and calorie content of food give different dynamics in each child to the quality and quantity of macro and micronutrient intake

The breastfeeding factor theoretically determines the quality of macro and micronutrient intake, especially in the period of 1000 HPK. If the support of maximum breastfeeding, the child's height will be normal and vice versa. This is due to many biological and psychological beneficial factors obtained by breastfed children compared to children who are not breastfed. This study examined the variable breastfeeding factors and found that the frequency of breastfeeding became a risk factor for stunting. The reference used is breastfeeding> 12 times in 24 hours and frequencies lower than that are at risk for stunting. This proves that in the period of breastfeeding which is the age of 0-24 months, it is important to breastfeed properly with the right frequence [31].

Conclusion

Complementary feeding factors for buginese ethnic is that the child's appetite is an important factor. The better the child's appetite, the more avoiding stunting. Strengthening of mothers' groups to improve the quality of breastfeeding practices and children's food culinary education. Provision of employment opportunities for fathers through related sectors.

Conflict-of-Interest Statement : Between subjects and researchers there is no conflict of interest.

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Ethical Clearance : Research ethics were obtained from the Health Ministry Ethics Health Research Ethics committee Makassar No. 1123/KEPK-PTKMKS/X/2019.

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