Breast Feeding Practice Prevention for Nutritional Stunting of Children In Buginese Ethnicity

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Abstract

Background. The practice of breastfeeding is very important to determine the quality of nutrient intake in children under two years. In ethnic Bugis. The purpose of this study was to determine the effect of breastfeeding on stunting prevention in ethnic Bugis.

There is a cross-sectional study in this study. The sample size in this research is 300 mothers and children. The enumerators in this study were applied to undergraduate students of nutrition & dietetic programs in the Makassar Department of Nutrition Health Polytechnic, Indonesia. Research ethics was obtained at the Makassar Health Polytechnic Ethics Commission. Stunting risk factor data analysis with logistic regression test.

The results showed that 32% of children were breastfed, with a frequency of 5-8 times / 24 hours breastfeeding. The reason for not breastfeeding a child is over 2 years old, the child refuses to breastfeed (10%), has 17.3% formula milk. Statistical analysis showed that breastfeeding (frequency of breastfeeding), p = 0.013, or 1.99 (1,148-3,173) was significant as stunting prevention. The conclusion is breastfeeding habits in ethnic Bugis can prevent stunting.

Key words: *Breast Feeding, Nutritional, Stunting, Bugis.*

Introduction

Two variables that are always related to improving the nutritional status of children are breastfeeding and supplementary feeding of breast milk. Stunting is a condition of failure to thrive characterized by short, recurrent infections and low psychosocial stimulation. The 2017 Indonesia stunting prevalence is 36.4% and the determinant factor stunting is multi-factors [1,2,3,4] . Stunting in 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] .

A systematic review determinant factor stunting in Indonesia is caused by various factors factor Households and Families, insufficient food addition to breastfeeding, infection and and factors of social[6,7,8].

The practice of breastfeeding is also a variable that is studied in this research because. The population of Makassar City is 50% *Buginese*. This means that the prevalence of stunting in Makassar City is also related to *Buginese*. And having uniq character in the economic field and the ability to survive anywhere. The study required to find breastfeeding ethnic Buginese and its effect on the prevention of stunting.

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, due to

geographical proximity to the Bone, Soppeng, and Wajo (Bosowa) Regencies as the Bugis ethnic base in South Sulawesi.

The population is all mothers who have children aged 6-59 months in Makassar City. 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 300 people, 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 participated in this research because they refused or were not present at the time of screening

Data collection in this study uses a list of questions that have been tested with good reliability. The questionnaire was tested using structured questions using official data on children aged 0- 59 months (data mom and household data) Data collected included age, gender, weight and height/length; mother level, education level and participation in household decisions; breastfeeding practices, supplementation, and washing hands; children's access to health and nutrition services (growth monitoring, micronutrient supplementation, and immunization); maternal access to health services (antenatal care, assistance during labor and place of delivery); household water, sanitation and hygiene; and social economy

My child's weight is measured using electronic SECA scale with an accuracy of 0.1 kg and a length of the child (for children aged 0-23 months) or height (for children aged 24- 59 months) was measured using high board / long local made with an accuracy of 0, 1 cm. SECA scales are calibrated every morning, before data collection, using a standard weight of 5 kg. Duplicate anthropometric measurements were carried out for 10% of the sample; the coefficient of variation in subjects from duplicate measurements in children and women is less than 5%. 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. In the 2006 WHO Anthropometry standard.

Results and Discussion

Demographic Characteristics

Based on the results of this research it is known that the main occupation of mothers is as housewives as many as 243 people (83.3%), and private employees as many as 26 people (8.7%). Father's occupation is as a private employee and laborer, 153 people (51.1%) and 85 people (28.6%).

Distribution of Stunting Children on Ethnic Bugis

Table 2 .Distribution of Buginese Ethnic Stunting Children

Status	n	%
Stunting	68	22.7
Normal	232	77.3
Total	300	100.0

Based on the results of this study it is known that the percentage of stunted children in the Bugis ethnic group in Makassar City is 22.7%.

Breastfeeding Factor

Factors for breastfeeding are breastfeeding status, frequency of breastfeeding and current reasons for not breastfeeding (Table 2)

Table 2 . Factors of Buginese Ethnic Breastfeeding

Breastfeeding Factor	Category	n	%
Current breastfeeding status (n = 300)	a. Yes	97	32.3
	b. No	203	67.7
Frequency of breastfeeding (n = 300)	a. 1-4 times	16	5.3
	b. 5-8 times	36	12.0
	c. 9-12 times	27	9.0
	d. > 12 times	18	6.0
Reasons for Not Breastfeeding (n = 300)	a. > 2 years old	114	38.0
	b. refuse breastfeeding	31	10.3
	c. working mother	6	2.0
	d. prefer formula milk	52	17.3

Based on the results of this research it is known that the breastfed children today are 97 people (67.7%). The frequency of breastfeeding in general is 5-8 times in 24 hours of 36 people (12%). The reason for those who stopped breastfeeding during the study was because children were> 24 months or 2 years old.

Determinant analysis of factors against all variables that are strongly suspected is a stunting risk factor . Variable groups consisted of household factors, child factors and MP-ASI, breastfeeding factors, hygiene and sanitation, infectious diseases, child care, feeding style, and caring practices.

Breastffeeding and stunting risk factor

Table 3 . Analysis of Determinants of Buginese Ethnic Stunting Factors

Determinant Factor	Code Variable *	P. Value	OR **	95.0% CIfor EXP (B)	
				Lower	Upper
Factors of breastfeeding	FM25	.013	1909	1,148	3,173

**) variable code, you can see the attached question list.*

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

Based on the results of risk factor analysis various variables that influence stunting are breastfeeding factors (frequency of breastfeeding), p = 0.013, OR 1.99 (1.148-3.173). Factors breastfeeding by reference are 1-4 times, above 4 times a day be a protective factor against stunting.

Discussion

The prevalence of ethnic *Buginese* stunting is 22.7%, where this percentage is still above the threshold set by WHO as a threshold for health problems with a prevalence of <20%[9] Based on these parameters, it can be proven that the ethnic *Buginese* made a significant contribution to the percentage of stunting in South Sulawesi in 2018. The province of South Sulawesi ranks the fourth highest percentage of stunting in Indonesia. Various factors were analyzed in this study in accordance with the conceptual framework published by Unicef in 2006[10].

In this research, it is known that breastfeeding habit is a positive factor that is able to provide prevention to children not to stunting. The most critical period is 0-24 months. In this period if the child is breastfed completely and supported by quality additional food after the age of 6 months to 24 months, then the child's nutritional status is good. If the child is not perfectly breastfed then the risk, stunting becomes greater[11,12,13,14,15,16].

Buginese ethnic habit is the same as other ethnic groups, where the marketing of formula milk which is quite large in the community causes the practice of breastfeeding to decrease. Indonesia's experience in regulating the marketing of formula milk is not good. There is no strict supervision of formula milk sellers at small kiosks throughout the region not only in cities but also in villages. Buginese are ethnic peddlers and busy working outside the home. This causes the position of the child can be left out while working outside the home. Parenting practices entrusted to neighbors are not common except for close relatives [17,18] .

The breastfeeding factor theoretically determines the quality of macro and micro nutrient intake, especially in the period of 1000 HPK[19] . 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 examines the variables of lack of frequency breastfeeding is risk factors 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 frequency[20].

Conclusion

The practice of breastfeeding children aged 0-24 months in ethnic *Buginese* is able to prevent stunting. It is recommended that social marketing of breastfeeding practices be carried out at all levels, so as to strengthen the community that breast milk is the best food for children aged <6 months and continued until the child is 24 months old.

Conflict-of-Interest Statement

Between researchers and investigated there was no conflict of interest in the conduct of this study.

Source of Funding: The funding in this study came from the overseas collaboration research scheme through the Makassar Health Polytechnic based on the operational costs of state universities in 2019.

Ethical Clearance: The Makassar Health Polytechnic Health Research Ethics Committee has issued research ethics under number 1123 / KEPK-PTKMKS / X / 2019.

References

1. Paknawin-Mock J., Jarvis L., Jahari a B., Husaini M a., Pollitt E. Community-level determinantsof child growth in an Indonesian tea plantation. Eur J Clin Nutr. 2000; 54 Suppl 2: S28-42.
2. Lahsaeizadeh A. Sociological analysis of food and nutrition in. 2001; 31 (3): 129-36.
3. Alan Haddad, Endang Achadi, Mohamed Ag Bendech, Meaning Ahuja, Komal Bhatia, Zulfiqar Bhutta, Monika Blossner EB. Global Nutrition Report Actions and Accordability to Accelerate The Wordlds Progress on Nutrition. 2014.
4. Balitbangkes. Basic Health Research Report 2010. Jakarta; 2010.
5. Balitbangkes. National Report on Basic Health Research 2018. 2018: 582.
6. Titaley CR., Ariawan I., Hapsari D., Muasyaroh A., Dibley MJ. Determinants of the stunting of children under two years old in Indonesia: A multilevel analysis of the 2013 Indonesia basic health survey. Nutrients. 2019; 11 (5), doi: 10.3390 / nu11051106.
7. Mahmudiono T., Nindya TS., Andrias DR., Megatsari H., Rosenkranz RR. Household food insecurity as a predictor of stunted children and overweight / obese mothers (SCOWT) in Urban Indonesia. Nutrients. 2018; 10 (5), doi: 10.3390 / nu10050535.
8. Rachmi CN., Agho KE., Li M., Baur LA. Stunting, underweight and overweight in children aged 2.0-4.9 years in Indonesia: Prevalence trends and associated risk factors. PLoS One. 2016; 11 (5): 1-18, doi: 10.1371 / journal.pone.0154756.
9. Danaei G., Andrews KG., Sudfeld CR., Fink G., McCoy DC., Peet E., et al. Risk Factors for Childhood Stunting in 137 Developing Countries: A Comparative Risk Assessment Analysis at Global, Regional, and Country Levels. PLoS Med. 2016;

13 (11), doi: 10.1371 / journal.pmed.1002164.

10. de Onis M, Garza C, Onyango AW et al. WHO Child Growth Standards. Acta Paediatr. 2006; 95 (450): 106, doi: 10.1037 / e569412006-008.
11. JRTLPI Demirci: AGTStudy. Breastfeeding The Late Preterm Infant. 2012.
12. Beyene MG., Geda NR., Habtewold TD., Assen ZM. Early initiation of breastfeeding among mothers of children under the age of 24 months in Southern Ethiopia. Int Breastfeed J. 2017: 1-9, doi: 10.1186 / s13006-016-0096-3.
13. Rebecca F Black, Leasa Jarman JS. The Support of Breastfeeding. Boston: Johanes Bartlet; 1998.
14. Moraes de Oliveira M., Camelo JS. Gestational, perinatal, and postnatal factors that interfere with the practice of exclusive breastfeeding by six months after birth. Int Breastfeed J. 2017; 12 (1), doi: 10.1186 / s13006-017-0132-y.
15. Kronborg H., Kok G. Development of a Postnatal Educational Program for Breastfeeding Mothers in Community Settings: Intervention Mapping as a Useful Guide. 2011, doi: 10.1177 / 0890334411422702.
16. Menon P., Nguyen PH., Saha KK., Khaled A., Kennedy A., Tran LM., Et al. Impacts on Breastfeeding Practices of At-Scale Strategies That Combine Intensive Interpersonal Counseling, Mass Media, and Community Mobilization: Results of Cluster-Randomized Program Evaluations in Bangladesh and Viet Nam. PLoS Med. 2016; 13 (10), doi: 10.1371 / journal.pmed.1002159.
17. Ammarell G. Bugis Migration and Modes of Adaptation to Local Situations. Ethnology. 2002; 41 (1): 51-67.
18. Ammarell G. Bugis migration and modes of adaptation to local situations. Ethnology. 2002: 51-67, doi: 10.2307 / 4153020.
19. Young MF., Nguyen PH., Gonzalez Casanova I., Addo OY., Tran LM., Nguyen S., et al. Role of preconception nutrition in offspring growth and risk of stunting across the first 1000 days in Vietnam. PLoS One. 2017; 71 (Supplement 2): 538, doi: 10.1159 / 000480486.
20. Zaragoza Cortes J., Trejo Osti LE., Ocampo Torres M., Maldonado Vargas L., Ortiz Gress AA. Poor breastfeeding, complementary feeding and Dietary Diversity in children and their relationships with stunting in rural communities. Nutr Hosp. 2018, doi: 10.20960 / nh.1352.