Differences in the Practice of Breastfeeding Babies 6-11 Months in the Group of Breastfeeding Mothers who Get Moringa Oleifera Intervention and IFA

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Abstract: Background: During 6-12 months the volume of breastfeeding is still large with protection and antibodies, even after 6 months. Aim: The purpose of this study was to analyze differences in the practice of breastfeeding for 6-11 months infants in the group of breastfeeding mothers who received moringa oleifera and IFA interventions. Methods: The design of this study was an experiment followed by a cohort study by taking samples of infants aged 6 to 11 months. The research location was in Jeneponto Regency and was carried out in 2018. The subjects of the study were pregnant women (205) who were grouped into two groups: the group that received Moringa leaf extract (MLE, n = 94) and the group that received iron/folate (IFA, n = 111). Data were analyzed using Chi-square. Results: based on the results of the study showed that infants in the two intervention groups (MLE and IFA) from the age of 6-11 months still giving ASI with>80% presentation but as age increases the percentage of breastfeeding begins to decline, based on the chi-square test there is no difference in breastfeeding the three intervention groups in each month with p-value> 0.05. Conclution: based on the results of the study showed that there was no difference in breastfeeding for infants 6-11 months in the three intervention groups and a higher percentage of IFA compared to the MLE group. It is recommended that further studies provide education regarding the importance of continuing breastfeeding in infants 6-11months.

Keywords: Breastfeeding, Moringa oleifera, infant

I. INTRODUCTION

Breastfeeding is one of the most effective ways to ensure the health and survival of children. Breast milk is the ideal food for babies. Safe, clean and contains antibodies that help protect against many diseases in children. ASI provides all the energy and nutrients a baby needs and provides up to half or more of a baby's nutritional needs during the second half of the first year(WHO).

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The prevalence of exclusive breastfeeding in developing countries is partly below 50%, namely South Asia 64%, East and South Africa 54%, Latin America and the Caribbean 33%, the Middle East and North Africa 33%, East and Pacific Asia 30%,West and Central Africa 30% (UNICEF, 2016). The results of a study that took place in rural Gambia found that thirty-two percent of infants were exclusively breastfed until the age of 6 months (Eriksen et al., 2016). One of the factors that mothers do not provide exclusive breastfeeding is the lack of breast milk volume caused by the food consumed is not sufficient to meet the needs of nursing mothers(Kimani-Murage et al., 2015). Nursing women are more likely to experience micronutrient deficiency than lack of energy or protein. Micronutrient deficiency is also more likely to affect the composition of breast milk and the development and nutritional status of infants. Dietary interventions or supplements can increase the secretion of many nutrients in breast milk and improve the nutritional status ofinfants.

Micronutrient supplements are needed by nursing mothers and Moringa leaf extract influences the volume of breast milk (Zakaria, As, &Bahar, 2015).Pro BF breastfeeding interventions for breastfeeding mothers can extend the duration of exclusive breastfeeding and the timing of appropriate complementary feeding so that it can affect the nutritional status of children in the future (Schwartz, Vigo, De Oliveira, &Giugliani, 2015).

If the breastfeeding is 0-6 months high then the opportunity to continue up to 12 months is also high. Continuing to breastfeed together with the introduction of food not only ensures good nutrition but breast milk helps digestion of other foods. During 6-12 months the volume of ASI is still large with protection and antibodies, even after 6 months.

Although babies start solid food from around 6 months, it is unlikely that the amount of milk needed by babies will drop significantly, they need breast milk as the main component of their food for up to 12 months. Most babies still breastfeed 6-8 times per day, but start drinking a little less milk at eachbreastfeed.

The purpose of this study was to assess the differences in the practice of breastfeeding for 6-11 months infants in the group of breastfeeding mothers who received the MLE and OFA moringa intervention.

II. METHOD

The design of this study was an experiment followed by a cohort study by taking samples of infants aged 6 to 11 months.

The location of the study was in Jeneponto Regency and was carried out in 2018. The subjects were pregnantwomen (205) who were grouped into 2 groups: those who received Moringa leaf extract (MLE, n = 94) and those who consumed iron / folate (IFA, n = 111).Inclusion criteria were pregnant women in the second trimester and one month after giving birth, parity ≤3, a single fetus, willing to take capsules for 4 months and not taking multivitamins and other minerals during the study. The variable in this study is breastfeeding in infants 6-11 months. Mother and baby characteristics were found using a questionnaire. Data were analyzed using Chi-square.The Chi-square test is to see the difference between the variable characteristics of the mother and baby. This research was conducted after obtaining approval from the Medical Faculty Ethics Commission of the University of Hasanuddin with number1071909130.

III. RESULT

Table 1. Distribution Based on Parent Characteristics

Variable	MLE (n= 94)		IFA (n=111)		TOTAL (N=205)		ρ value
	n	%	N	%	n	%	
Mother's age							
<26 yo	33	35.1	39	35.1	72	35.1	1.000
>=26 yo	61	64.9	72	64.9	133	64.9	
Mother's Education							
Low (< 12 yo)	64	68.1	75	67.6	139	67.8	1.000
High (>= 12 yo)	30	31.9	36	32.4	66	32.2	
Mother's Occupation							
Not working	80	85.1	89	85.1	169	82.4	0.460
Working	14	14.9	22	14.9	36	17.6	
Father's Education							
Low (< 12 tahun)	64	68.1	70	63.1	134	65.4	0.545
High (>= 12 tahun)	30	31.9	41	36.9	71	34.6	
Father's Occupation							
Farmer/fisherman	40	42.6	48	43.2	88	42.9	0.960
Civil Servant/private	16	17.0	19	17.1	35	17.1	
Driver/ laborers	21	22.3	23	20.7	44	21.5	
Entrepreneur	14	14.9	19	17.1	33	16.1	
Others	3	3.2	2	1.8	5	2.4	
Income							
<2 million	64	68.1	78	70.3	142	69.3	0.852
≥ 2 million	30	31.9	33	29.7	63	30.7	
ANC							
< 4 times	61	64.9	67	60.4	128	62.4	0.601
>= 4 times	33	35.1	44	39.6	77	37.6	
Place of Birth							
Home	8	8.5	5	4.5	13	6.3	0.376
Health insurance	86	91.5	106	95.5	192	93.7	

Table 1. shows that the characteristics of parents consisting of the most maternal age ≥ 26 years were 133 (64.9%), the most maternal education level was as low as 139 (67.8%), the most occupational mothers were not working as much 169 (82.4%), the highest level of education of fathers is as low as 134 (65.4%), the most fathers' occupations are farmers/fishermen 88 (42.9%), the most income is <2 million, 142 (69.3%), the highest frequency of ANC was> 4 times 128 (62.4%) and the most birthplaces were health facilities as many as 192 (93.7%).

Table 2 Distribution based on characteristic of Infants

Variable	MLE (n=94)		IFA (n=111)		TOTAL (N=308)		p-value
	n	%	n	%	n	%	
Sex							
Male	47	50.0	60	54.1	107	52.2	0.661
Female	47	50.0	51	45.9	98	47.8	
Birth Process							
SC	7	7.4	8	7.2	15	7.3	1.000
Normal	87	92.6	103	92.8	190	92.7	
PNC							
Yes	22	23.4	32	28.8	54	26.3	0.472
No	72	76.6	79	71.2	151	73.7	

Infant Weight							
BBLR	3	3.2	9	8.1	12	5.9	0.232
Normal	91	96.8	102	91.9	193	94.1	
Infant Length							
>= 48 cm	81	86.2	89	80.2	170	82.9	0.068
<48 cm	13	13.8	22	19.8	35	17.1	
Breastmilk							
Exclusive Breastmilk	50	53.2	60	54.1	110	53.7	1.000
Not- Exclusive Breastmilk	44	46.8	51	45.9	95	46.3	
Parity							
1	28	29.8	40	36.0	68	33.2	0.425
>1	66	70.2	71	64.0	137	66.8	

Table 2 shows that the sex of infants with the most males was 107 (52.2%), the most normal birth processes were 190 (92.7), which did not do the most PNC which was 151 (73.7%), normal birth weight the most is 193 (94.1%), birth length ≥ 48 cm at most is 170 (82.9%), the most exclusive breastfeeding is 110 (53.7%) and parity> 1 is more that is 137 (66.8%).

Table 3. Distribution of Breastfeeding to Three Intervention Groups

Breastfeeding	MLE		IFA		Total		ρ value
	n	%	n	%	n	%	
6th month							
Yes	90	95.7	109	98.2	296	96.1	0.534
No	4	4.3	2	1.8	12	3.9	
7th month							
Yes	859	90.4	103	92.8	280	90.9	0.720
No		9.6	8	7.2	28	9.1	
8th month							
Yes	78	83.0	98	88.3	261	84.7	0.376
No	16	17.0	13	11.7	47	47	
9th month							
Yes	771	81.9	95	85.6	256	83.1	0.602
No	7	18.1	16	14.4	52	16.9	
10th month							
Yes	771	81.9	94	84.7	254	82.5	0.732
No	7	18.1	84.7	15.3	54	17.5	
11th month							
Yes	761	80.9	93	83.8	252	81.8	0.715
No	8	19.1	18	16.2	56	18.2	

Based on table 3, it shows that infants in the three intervention groups starting at 6 months of age still breastfeed with> 90% presentations but as the age of presentation increases breastfeeding starts to decrease to 11 months but still> 80%. Based on the chi-square test there was no difference in the prevalence of breastfeeding in the two intervention groups with p value> 0.05, but the percentage of breastfeeding was 6-11 months higher in the IFA group than in the MLE group.

IV. DISCUSSION

Based on the results of the study showed that the sex of infants with the most males was 107 (52.2%). There is a difference in growth rate in height and weight of infants in boys and girls from the womb until birth, this is influenced by prenatal factors (nutritional status of pregnant women) and postnatal (inadequate infant feeding (including early cessation of breastfeeding)). The most normal birth process is 190 (92.7%). The technique of giving birth will affect nursing mothers in the first 1 hour postpartum. Normal childbirth provides a great opportunity for immediate breastfeeding compared to sectioncaesarian.

Research in Calgary shows that the planned c-section is associated with reduced breastfeeding success in the first 4 months postpartum when compared with vaginal birth. Women who give birth through a c-section are more likely to report breastfeeding difficulties when compared to women who have had vaginaldeliveries. Based on the results of the study showed that most do not do PNC (Post Natal Care) at 151 (73.7%) meaning that there are still many mothers who do not realize the importance of doing PNC. Regardless of the place of birth, mothers and newborns spend most of the postnatal period (the first six weeks after birth) at home. The postnatal care program (PNC) is the weakest of all reproductive and child health programs in the region(Warren, Daly, Toure, &Mongi, n.d.). The most normal birth weight in this study is 193 (94.1%) meaning that the baby's growth will be potentially normal. One that affects normal birth weight is maternal anemia status during pregnancy. In this study all mothers were given multivitamin interventions so that they were not anemic. Anemia in pregnancy contributes to one-fifth of maternal deaths worldwide and is a major factor causing low birth weight (Prashant, Jaideep, Girija, &Mallapur, 2017). Based on the results of the study showed that the length of birth of babies ≥ 48 cm at most is 170 (82.9%) meaning that babies are born with no potential for stunting if in the course of not suffering from an infectious disease. Inadequate growth is usually manifested by the failure of linear growth with a low age-long Z-score(LAZ).

According to the World Health Organization (WHO) data on linear growth failure in low resource communities usually begins in the early to mid-infancy with a progressive decline in linear growth rates reaching a plateau at low levels around the age of two years(Development, n.d.). Research in Guatemala shows that documentation of birth length among the many variables included in the analysis is an extraordinary predictor of LAZ at 3 months and 6 months, respectively(Berngard et al.,2014).A similar initial slowdown in linear growth has been observed in Malawi, where small birth size is found to be the strongest predictor of severe stunting at 12 months of birth(Espo et al., 2002). These findings suggest that fetal linear growth or the factors affecting fetal linear growth, at least in this population, continue to have a prominent role in linear postnatalgrowth.

Parity> 1 more is 137 (66.8%) which means that the mother has experience in babysitting. Another study in Bengkulu found that of 42 mothers who did not give exclusive breastfeeding, most 25 mothers with primiparous parity.This condition shows the high number of breastfeeding mothers with primiparous parity, namely mothers who have only had their first child because the pattern of care for the first child can affect the mother's psychic is giving milk to her baby, as well as the mothers lack of experience in consuming good food to facilitate breast milk, and several cases also found a lot of health problems that occur such as a little milk, and putting does not come out. as well as many mothers who are preoccupied with activities outside the home such as (Rahmawati, Taliah, 2018).Breastfeeding continues to make an important nutritional contribution far beyond the first year of life. The nutritional effects of breastfeeding are most evident during the period of illness when the child's appetite for other foods is reduced but breastfeeding milk intake is maintained(WHO, 2001). Thus breastfeeding plays a key role in preventing dehydration and providing the nutrients needed for recovery frominfection.Based on the results of the study showed that there was no difference in continued breastfeeding at>6 months in the twointerventiongroupsineachmonthduetotopp-value>0.05.

Nevertheless, breastfeeding>6 months in the two intervention groups was good with a percentage of>70%. This is because exclusive breastfeeding in the two intervention groups is also high> 70%. This is expected in the provision of interventions during breastfeeding for 30 days after delivery is expected to increase the duration of breastfeeding. The results of this study are in line with studies in Vietnam which showed that there were no significant differences in ABF (Any Breastfeeding) at 1 year (p = 0.1690) between groups. More than 80% of babies are given ABF at 12 months, while ABF at 24 months has dropped to less than 12(Zhang et al., 2018).Another study in Guatemala underlined that the importance of combining nutrition programs (high energy supplement supplementation (2.14 MJ / d, HES) and low energy (0.50 MJ / d, LES) were distributed 6 d / week from the 5th to 25th lactation week) for nursing mothers who are malnourished by programs that promote exclusive breastfeeding at the age of 4-6 months (Gonza, Habicht, & Rasmussen, 1998)(Islam et al., 2008).Studies show that thereareclearopportunitiestoimprovetheperformanceofbreastfeeding mothers with malnutrition by properly designing and targeting nutrition programs.

V. CONCLUTION

Based on the results of the study showed that there was no difference in breastfeeding for infants 6-11 months in the three intervention groups and a higher percentage of IFA compared to MLE but not much different.This means that giving multivitamins to nursing mothers can increase the time for breastfeeding longer. Breastfeeding in 6-11 months plays an important role in preventing dehydration and providing nutrients needed for recovery from infection, so it is recommended that further research provide education regarding the importance of continuing breastfeeding in infants 6-11 months.

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