

THE EFFECT OF EXCLUSIVE BREASTFEEDING WITH GROWTH OF BABY AND ILLNESS FREQUENCY IN AGE 6 - 12 MONTHS IN PADANG CITY

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ABSTRACT

Breastfeeding contains a lot of nutrients that need for the growth and development of babies and the growth of various organs in particular. Breast milk also contains antibody substances that function to protect children against disease and death, especially because of infections that have encountered in the first year of life. According to the RI Ministry of Health data, the achievement of Exclusive breastfeeding in 2014 was only 52.3% and slightly increased in 2015 at 55.7%. Exclusive coverage in West Sumatra for the past two years is 73.6% (2014) and 75.0% (2015) of the target set by the government, which is 80%. While in KotaPadang the achievement of exclusive breastfeeding in the last two years is still low at 72.2 % (2014) and this achievement decreased by 70.5% in 2015. The purpose of this study was to determine the effect of exclusive breastfeeding with infant growth and pain frequency in infants aged 6-12 months in the city of Padang. This study was a quasi-experimental post-test only design with control group design with accidental sampling technique. It is a study that aims to determine the effect of giving exclusive breastfeeding to the baby's growth and frequency of pain in infants aged 6-12 months in the city of Padang. The population and sample of this study were infants aged 6-12 with a sample of 20 people who have intervened and 20 people as controls. Data analysis was done by questionnaire and measurement using Chi-Square. The results of the study found that in respondents who have given exclusive breastfeeding there were 15 babies (75%) who had normal growth, 14 babies (70%) who had normal development, there were 15 babies (75%) who had a rare frequency of pain. Chi-Square found that there was no significant relationship between giving exclusive breastfeeding with growth with p value > 0.05 , there was a significant relationship between exclusive breastfeeding and the development and frequency of pain in infants 6-12 months, with p -value < 0.05 . It was expected that health center staff, health workers and independent midwives could apply to counsel and mentor to mothers about exclusive breastfeeding starting from pregnancy, childbirth to the age of 6 months so that the baby's growth is perfect.

Keywords: *Exclusive breastfeeding, Growth, Development, Frequency of illness.*

INTRODUCTION

Breast milk contains many nutrients that are very necessary for the growth and development of babies and the growth of various organs in particular. AS also contains substances that function to protect babies against disease and death, mainly due to infections that have often encountered in the first year of life (Needlman, 2004).

According to the Indonesian Ministry of Health (2016) data, the achievement of Exclusive Breastfeeding has not met the target of 80%. In 2014, it was only 52.3% and slightly increased in 2015 by 55.7%. While for West Sumatra in the last two years, it was 73.6% in 2014 and 75.0% in 2015 (Profil Kesehatan Provinsi

Sumatera Barat 2015).

In the city of Padang, the achievement of exclusive breast milk in the past two years is also still below the target of 72.2% (2014), and this achievement has decreased by 70.5% in 2015 (Profil Kesehatan Kota Padang tahun 2015).

The existence of appropriate protection and nutrient factors in breastfeeding ensures the nutritional status of the baby is good, and the child's illness and death decrease. Studies in epidemiologists state that breast milk protects infants and children from infectious diseases, such as diarrhea, lower acute respiratory tract infections. Colostrum contains immune substances 10-17 times better than mature (mature) milk. Immune

substances found in breast milk include protecting babies from diarrhea diseases and reducing the chances of babies getting ear infections, coughing cold, and allergic diseases (Infodatin, 2018).

Based on preliminary data from 22 Public Health in Padang City, the lowest achievement of Exclusive breastfeeding was in 2014, namely Cold Water in public health 52.6% and, in 2015 <60%. Exclusive breastfeeding also affects the morbidity rate in infants; this can have seen in the visit data at the Cold Water Health Center in 2017 there were 89% of infants aged <6 -12 months who experienced pain such as ARI and Diarrhea.

Based on the background above, the researchers wanted to research to determine the effect of exclusive breastfeeding with infant growth and frequency of pain in infants aged 6-12 months in the city of Padang.

METHODOLOGY

Type of Research

This study was a quasi-experimental design with a post-test only design with a control group with accidental sampling technique. It is a study that aims to determine the effect of exclusive breastfeeding with infant growth and frequency of pain in infants aged 6-12 months.

Population and Samples

Population

The population of this study was infants aged 6 - 12 months in the city of Padang.

Samples

The number of samples to have examined is 20 respondents in each group.

Sampling Techniques

The sampling technique in this study was to use Quota Sampling.

Data Collection Techniques

Data collected through data obtained from respondents using a checklist table that is filled directly by health workers. Data taken is the name of the baby, age, weight, body length, gender, development with the Denver Developmental Screening Test (DDST), frequency of illness, and exclusive breastfeeding

RESULT

Relationship between Exclusive Breastfeeding and Infant Growth 6-12 Months

Table 1: Relationship between Exclusive Breastfeeding and Infant Growth 6-12 Months

Giving Breast Milk	Growth				Total	%	p-value	OR
	Normal		Abnormal					
	f	%	f	%				
Exclusive	15	75	5	25	20	100	0.320	2.455
Not Exclusive	11	55	9	45	20	100		

Based on table 1, it can see that from 20 respondents in the exclusive breastfeeding group there were 15 respondents (75%) had normal growth, while 20 respondents from the exclusive breastfeeding group there were 11 respondents (55%) had abnormal growth. On the results of statistical tests obtained p -value>0.05 so it can conclude that there is no significant relationship given exclusive breastfeeding with the growth of infants 6-12 months. From the results of the analysis, it was obtained OR=2.455, meaning that babies with exclusive breastfeeding had a chance of 2.455 times experiencing normal growth.

The Relationship of Exclusive Breastfeeding with the Development of Infants 6-12 Months

Table 2: Relationship of Exclusive Breastfeeding with the Development of Infant Growth 6-12 Months

Giving Breast Milk	Development				Total	%	p-value	OR
	Normal		Suspect					
	f	%	f	%				
Exclusive	14	70	6	30	20	100	0.027	5.444
Not Exclusive	6	30	14	70	20	100		

Based on table 2, it can see that of the 20 respondents in the exclusive breastfeeding group there were 14 respondents (70%) who had normal development, while 20 respondents from the exclusive breastfeeding group there were 14 respondents (70%) who had Suspect development. On the results of statistical tests obtained p -value <0.05 so that it can conclude that there is a relationship given exclusive breastfeeding to the development of infants 6-12 months. From the results of the analysis obtained an OR value of 5.44 means that babies with exclusive breastfeeding have a chance of 5.44 times experiencing normal development.

Relationship of giving exclusive breastfeeding with a frequency of pain in infants 6-12 months

Table 3: Relationship of giving exclusive breastfeeding with a frequency of pain in infant 6-12 month

Giving Breast Milk	Frequency of pain				Total	%	p-value	OR
	Rarely		Often					
	f	%	f	%				
Exclusive	15	75	5	26	20	100	0.026	0.179
Not Exclusive	7	35	13	65	20	100		

Based on table 3, it can see that from 20 respondents in the exclusive breastfeeding group there were 15 respondents (75%) who had a rare frequency of pain, while from 20 respondents the group did not have exclusive breastfeeding, 13 respondents (65%) had a frequent frequency of pain. On the results of statistical tests obtained p -value <0.05 so it can be concluded that there is a relationship given exclusive breastfeeding with the frequency of pain in infants 6-12 months. From the results of the analysis obtained OR = 0.179 means that babies with exclusive breastfeeding have a chance of 0.179 times experiencing frequent pain.

DISCUSSION

Relationship between Exclusive Breastfeeding and Infant Growth 6-12 Months

Based on the table 1 it found that out of 20 respondents in the exclusive breastfeeding group there were 15 respondents (75%) had normal growth while out of 20 respondents the group did not have exclusive breastfeeding, there were nine respondents (45%) had abnormal growth. On the results of statistical tests obtained p -value <0.05 so that it can conclude that there is no significant relationship given exclusive breastfeeding with the growth of infants 6-12 months. From the results of the analysis obtained OR=2.455, meaning that babies with exclusive breastfeeding have a chance of 2.455 times experiencing normal growth.

The results of this study are comparable to a study conducted by Fitri *et al.* In 2014, that the relationship of breastfeeding was not significant with the growth of infants in the Nanggalo Padang Health Center with $p=0.696$ ($p>0.05$). Infants who received exclusive breastfeeding have experienced growth rapidly at the age of 2-3 months, but slower than babies who get non-exclusive breastfeeding. The results of a retrospective study in Baltimore-Washington DC that in optimal conditions, exclusively breastfeeding supports the growth of infants during the first six months so that nutritional status reaches normal.

The relationship of exclusive breastfeeding is not significant with the growth of the baby probably due to the quantity and quality of breast milk given by the mother who is still lacking and does not meet the needs of the baby, so the weight and length of the baby are not optimal. Also, nutritional factors in mothers during pregnancy and lactation, how to breastfeed that is not right and correct so that the production of breast milk is not perfect.

The Relationship of Exclusive Breastfeeding with the Development of Infants 6-12 Months

Based on the table 2 of developmental examinations in infants aged 6-12 months using the Denver II Method, it can see that from 20 respondents in the exclusive breastfeeding group there were 14 respondents (70%) having Normal development while there were 14 respondents (70% of Normal respondents.) has the development of Suspect. On the results of statistical tests obtained p -value <0.05 so that it can conclude that there is a relationship given exclusive breastfeeding to the development of infants 6-12 months. From the results of the analysis obtained an OR value of 5.44 means that babies with exclusive breastfeeding have a chance of 5.44 times experiencing normal development.

The results of this study are comparable to the research conducted by Ni Made at the Karanganyar Health Center in 2010 that there was a significant relationship between breastfeeding and infant development. Research by Novita *et al.* (2007) in the Cigondewah Community Health Center, Bandung concluded that the cognitive aspects in exclusively breastfed infants gave better results compared to infants who did not receive exclusive breastfeeding. Exclusive IQ is breastfeeding baby IQ 128.3 with IQ range 112-142 while non-exclusive breastfeeding babies averaged 114.4 with IQ ranges 82-137.20.

The content of breast milk has good content for baby development; among others; a turn is a form of egg white which only found in breast milk. Useful for neurotransmitters which play an important role in the development of the brain and retina. Lactose is the main carbohydrate in breast milk, which functions as energy sources for the needs of baby's growth and fats in breast milk contain components of essential fatty acids, namely linoleic acid and Alda linolenic acid which will be processed by the baby's body into AA and DHA.

Breast milk has a higher fat content than formula milk (6:1). High-fat levels are needed to support rapid brain development during infancy. Arachidonic Acid (AA) and Docosahexaenoic Acid (DHA) are long-chain unsaturated fatty acids (long-chain polyunsaturated fatty acids) that not only function for energy sources, but are also very important for the development of brain cells that can affect mental function, infant psychomotor vision, and development. (Khamzah, 2012; Maryunani, 2012).

The relationship of breastfeeding is significant to the development of the baby caused by the quantity and quality of nutrients directly given to the baby can affect brain development. Exclusive breastfeeding until a 6-month-old baby will ensure the achievement of optimal development of children's intelligence potential. Early complementary feeding of breast milk is one of the causes of a baby's developmental disorders (Roesli, 2009).

Relationship of giving exclusive breastfeeding with a frequency of pain in infants 6-12 months

Based on the table 3 of the study, it can be seen that of the 20 respondents in the exclusive breastfeeding group there were 15 respondents (75%) who had a rare frequency of pain, while from 20 respondents the group of exclusive breastfeeding there were 13 respondents (65%) who had a frequent frequency of pain. On the results of statistical tests obtained p -value < 0.05 so it can be concluded that there is a relationship given exclusive breastfeeding with the frequency of pain in infants 6-12 months. From the results of the analysis obtained $OR = 0.179$ means that babies with exclusive breastfeeding have a chance of 0.179 times experiencing frequent pain.

This study is the same as the same study conducted by Lia Kartika (2013). It's known that the statistical test obtained $T = 0.526$, then the p -value is smaller than 0.05. It's evident from the results of the RI count of 8.294a from the RI table of 3.841 with a moderate level of closeness, which is 0.465. It can have interpreted as having an association of exclusive breastfeeding with the incidence of illness in infants aged 6-11 months at the Sayegan Health Center, Saleman Regency, Yogyakarta in 2013.

Further research conducted by Charon, 2015 that there is a relationship between exclusive breastfeeding and the

incidence of pneumonia in the ape area of Pedan Klaten Health Center. From the research conducted, it's known that the results of statistical analysis using Chi-square test showed that the value of $p = 0.014 < 0.05$.

Exclusive breastfeeding has to do with the frequency of illness in infants because infants who do not get exclusive breastfeeding will be more susceptible to disease than breast milk. Because in breast milk there are immunological aspects (immune) that contain anti-infectious substances, immunoglobulin A (Igs) in breast milk high levels that can paralyze *E. coli* bacteria and various viruses in the digestive tract, and white blood cells in breast milk there are antibodies to the respiratory tract. So that the virus that causes pneumonia is difficult to attack the baby's body (Haryono and Setianingsih, 2014).

This study shows that there is a relationship between breastfeeding. Exclusive to the frequency of pain, this is following the theory that the increase in the immune system in infants usually sees from the frequency of babies experiencing pain. In infants who often experience pain can know when the baby is born up to 6 months, whether the baby gives Exclusive breastfeeding or not, where breast milk contains colostrum, which is liquid gold, protection fluid, rich in anti-infective and high protein 10-17 times than breast milk mature.

CONCLUSIONS

The absence of a significant relationship given exclusive breastfeeding with the growth of infants 6-12 months with a p -value < 0.05 . The existence of a significant relationship given exclusive breastfeeding with the growth of infants 6-12 months with p -value > 0.05 . The existence of a significant relationship given exclusive breastfeeding with the growth of infants 6-12 months with p -value > 0.05 .

SUGGESTION

It has expected that puskesmas officers, health workers, and midwives practice independently to apply to breastfeed as early as possible so that the achievement of Exclusive provision of breastfeeding, and also providing counseling and mentoring to mothers about Exclusive Breastfeeding starting from pregnancy, childbirth until the age of 6 months so that the baby develops perfectly.

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