

# Artikel 15

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# Relationship Exclusively Giving Mother's Milk with Growing Baby

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## ABSTRACT

Breast milk is the best nutrient for infant especially for the newborn. Nutrition in breast milk has benefits for improving infant's growth and development. The infant are expected to be the successor of the nation that has competitiveness and high productivity by getting the best nutrition in the breastmilk. This research aims to determine the relationship of breastfeeding with infant's growth and development in Sudiang Raya District Makassar City. This research is an analytic with cross sectional study design. The population were all the infant aged 6-12 months in Sudiang Raya distric as many as 192 infants. Total sample were 78 infant. The results showed that the exclusive breast feeding was high (66,7%) compared to the non-exclusive breast feeding (33,3%). Based on data analysis found that there were a significant relationship between breastfeeding and infant's growth based on BB/U index with  $p: 0,000$ , PB/U index with  $p: 0,001$  and BB/PB index with  $p: 0,010$ . There were also a significant relationship between breastfeeding and infant's development with  $p: 0,000$ . Giving breast milk to the infant can increase growth and development so that it can improve their health status.

**Keywords:** breast milk, infant, growth, development

## Introduction

Based on data from the 2013 basic health research for the city of Makassar, breastfeeding <1 hour was 63.6%, breast milk for the past 1-6 hours was 20.5%, who gave breast milk for the last 7-23 hours was 1.5%, breastfeeding for the last 24-47 hours was 7.7% and the last  $\geq 48$  hours was 6.8%<sup>2,5,9</sup>.

Growing and developing are two things that have different meanings. Growth and development is a continuous process that occurs since conception and continues into adulthood. Therefore, in the process of reaching this age the child must go through various stages of growth and development<sup>15,16,18</sup>.

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Data from the Ministry of Health of the Republic of Indonesia (2006) in Kholifah (2014), there are 16% of children under five in Indonesia who experience general developmental disorders. Whereas UNICEF (2011) data in Fauzia (2015), there are 27.5% or 3 million children under five who experience motor development disorders. This shows an increase in the number of toddlers who experience general developmental disorders which include gross motor development disorders, fine motor skills, hearing loss, intelligence and delayed speech.

Based on the description of the low rates of exclusive breastfeeding, the importance of the benefits of exclusive breastfeeding and the number of patients with growth disorders in Indonesia which continues to increase, the authors are interested in examining the "relationship between breastfeeding and infant growth in the Sudiang Raya area of Makassar City".

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## Material and Method

This study is an analytical study with a cross sectional study design. This research was conducted in the Sudiang Raya Urban Village in February-June 2017.

The population in this study were 192 infants aged 6-12 months. The sample was chosen by random sampling method and selected 78 babies. The instrument used was the Pre Development Screening Questionnaire, digital scales and fixation boards<sup>12</sup>.

The type of data collected consists of two types, namely primary data and secondary data. Primary data is data obtained from respondents through observation and interview activities.

The primary data collected is as follows:

1. Respondent and family characteristics including name, age, date of birth, parent's name, address of parents, work of parents, education of parents, tribes of parents and religion of parents obtained through interviews.
2. Providing breast milk to babies obtained through interviews directly with the mother of the baby.
3. Baby growth which includes data on body weight and body length of the baby. Body weight data was measured using weight scales and body length data was measured using a fixation board conducted directly by the researcher towards the respondent.
4. Development of infants is assessed based on the suitability of development based on the age of the baby at that time. Developmental screening uses the form of the Pre Development Screening Questionnaire conducted by researchers on parents, closest people or baby caregivers.

Meanwhile, secondary data obtained in the form of the number of babies, schedules and locations of posyandu were obtained through the Sudiang Raya Health Center in Makassar City.

Data on body weight and body length were processed using the WHO Antro application that displays the nutritional status of the sample<sup>2,3,5,14,15</sup>.

Data from the sample development interviews were assessed manually based on scoring from the Pre Development Screening Questionnaire form<sup>7,9,10</sup>. Data analysis using SPSS with the chi square test

## Findings

### Characteristics of Respondents

**Table 1: Characteristics of Respondents**

Characteristics	n <sup>1</sup>	%
Baby age		
6-8 month	56	71,9
9-12 month	22	28,1

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Baby Gender		
women	41	52,6
administration of breast milk		
Exclusive	52	66,7
Father's age		
19-30 years	43	55,1
Mother's age		
19-30 years	58	74,3
Fathers's education		
Graduated from high school	52	66,7
Mother's education		
Graduated from high school	50	64,1
Father's occupation		
private employees	29	37,2
Mother's occupation		
housewife	70	89,7

n<sup>1</sup> = 78

Based on age, it was found that infants who were sampled were generally aged between 6-8 months as many as 56 infants (71.9%). According to gender, it is known that babies are generally female, as many as 41 babies (52.6%) and exclusively breastfed as many as 52 babies (66.7%)

It is known that mothers of babies generally aged between 19-30 years are 58 people (74.3%). While the baby's father is generally aged 19-30 years as many as 43 people (55.1%). The majority of parents' education is graduating from high school. The mother of a baby with high school education graduated as many as 50 people (64.1%) and father of a baby with high school education as many as 52 people (66.7%). Mother's work as a housewife is 70 people (89.7%), while the baby's father works as a private employee as many as 29 people (37.2%).

### Administration of Breast Milk

**Table 2: History of Administration of Breast Milk to Infants Aged 6-12 Months**

Administration of breast milk	Total	
	n <sup>1</sup>	%
Exclusive	52	66,7
Non Exclusive	26	33,3

Based on the results of research conducted in the Sudiang Raya area of Makassar City in infants aged 6-12 months, it was found that 52 infants (66.6%) received exclusive breastfeeding and 26 exclusive breastfeeding (33.4%).

### Relationship between Giving Breast Milk with Baby Growth

**Table 3: Relationship between Giving Breast Milk with Baby Growth**

Good nutritional status	Administration of breast milk				p
	Exclusive		Non Exclusive		
	n	%	n	%	
good nutritional status	51	73,9	18	26,1	0,000
body length according to age	50	74,6	17	25,4	0,001
body weight according to body length	52	70,3	22	29,7	0,010

The chi-square test results of the relationship between breastfeeding and infant growth based on index body weight according to age and body length according to age with a value of  $p = 0,000$ , body length according to age index with a value of  $p = 0.001$  and index body weight according to body length with a value of  $p = 0.010$ . According to the results of the study, infants who were exclusively breastfed had normal nutritional status based on the body weight according to age index of 51 infants (98.1%) and those who were not exclusively breastfed 18 infants (69.2%) had good nutritional status. Based on body length according to age index, 50 infants (96.2%) had normal body length and were given exclusive breastfeeding and 17 babies (65.4%) had normal body length but were not given exclusive breastfeeding. Meanwhile, based on the body weight according to body length index all infants fed exclusively breastfed had normal nutritional status while 22 infants who were not given exclusive breastfeeding (84.6%) had normal nutritional status and 4 infants (15.4%) among them were thin.

### Relationship between Breastfeeding Mother and Baby Development

**Table 4: Relationship between Breastfeeding Mother and Baby Development**

Baby development	Administration of breast milk				p
	Exclusive		Non Exclusive		
	n	%	n	%	
Corresponding	49	84,5	9	15,5	0,000
Not corresponding	3	15	17	85	

The results of statistical analysis prove that there is a significant relationship between breastfeeding and infant development in the Sudiang Raya area of Makassar City with a value of  $p = 0,000$ . Infants who were exclusively breastfed were 52 babies (66.7%), 49 infants (94.2%) of whom had development according to their age and 3 babies (5.8%) had inappropriate developments. Meanwhile, of the 26 babies (33.3%) who were not given exclusive breastfeeding as many as 17 babies (65.4%) had inappropriate development and 9 babies (34.6%) had the appropriate development.

### Discussion

Mother's milk (ASI) is the best food for newborns, breast milk should also be given as early as possible when the new baby is born. Breastmilk given to babies after birth until the fourth or seventh day contains colostrum which is a liquid that is rich in protein and functions to fight infection, thereby reducing morbidity and even mortality. The provision of ASI can also help the survival of babies, especially families from low socio-economic groups by helping to alleviate the family's economic burden and improve the quality of life for babies from poorly maintained sanitation environments.

Based on the results of research conducted in the Sudiang Raya area of Makassar City in infants aged 6-12 months, it was found that 52 infants (66.6%) received exclusive breastfeeding and 26 exclusive breastfeeding (33.4%). The provision of exclusive breastfeeding to infants is higher than that of infants who are not given exclusive breastfeeding according to previous studies. Previous research conducted in the working area of the health center in Tamalanrea, Makassar, also stated that more groups were given exclusive breastfeeding, namely 29 respondents (56.9%) compared to non-exclusive breastfeeding groups, namely 22 respondents (43.1%)<sup>19,20,21</sup>. Growth is a quantitative change in the form of an increase in the number, size, dimensions of cells, organs and individuals. Not only changes in physical size of the body but also the structure of organs and brain<sup>18,19</sup>.

Based on the results of statistical analysis states that there is a significant relationship between breastfeeding and infant growth in the Sudiang Raya area of Makassar City based on the index body weight according to age, body length according to age and body weight

accordi<sup>1</sup> to body length. The chi-square test results of the relationship between breastfeeding and infant growth based on index body weight according to age with a value of  $p = 0,000$ , body weight according to age index with a value of  $p = 0.001$  and index body weight according to body length with a value of  $p = 0.010$ .

<sup>8</sup> This is in accordance with previous research where there was a significant relations<sup>14</sup> between exclusive breastfeeding and the growth of 6-month-old infants in the Working Area of Berseri Pangkalan Kerinci Health Center, Pelalawan Regency. Likewise with the research which states that exclusive breastfeeding affects the nutritional status of infants<sup>9,10,11,14</sup>.

Giving intake other than breast milk for infants under 6 months of age can increase the risk of infectious diseases and trigger malnutrition. This is because the provision of intake other than breastmilk cannot be properly digested by the intestines of the newly developing baby and the non-sterile manufacturing process can mediate the entry of infectious disease-causing bacteria<sup>4</sup>.

Development is a change that occurs quantitatively and qualitatively, increasing the ability of the body's function to be better and predictable which is an interpretation of maturation or maturity. Changes in development occur in gross motor function, fine motor, cognitive, language, emotional and behavioral development as a result of development that is influenced by the environment<sup>1,3,4</sup>.

The results of statistical analysis prove that there is a significant relationship between breastfeeding and infant development in the Sudiang Raya area of Makassar City with a value of  $p = 0,000$ . Infants who were exclusively breastfed were 52 babies (66.7%), 49 infants (94.2%) of whom had development according to their age and 3 babies (5.8%) had inappropriate developments. Meanwhile, of the 26 babies (33.3%) who were not given exclusive breastfeeding as many as 17 babies (65.4%) had inappropriate development and 9 babies (34.6%) had the appropriate development.

<sup>10</sup> The results of this study are in line with research conducted in July (2015) where there was a significant relationship between exclusive breastfeeding and exclusive breastfeeding on the development of children aged 3-12 months in which 25 infants (41.7%) who were exclusively breastfed had normal development.

Optimal child growth is influenced by three basic needs. The three basic needs are ASUH in the form of fulfilling children's basic needs in the form of intake such as breastfeeding and monitoring growth, ASIH in the form of fulfilling children's emotional needs such as love and treatment from people around their environment and ASAH obtained through the learning process<sup>20,21</sup>.

## Conclusion

1. Based on the body length according to age index, 96.2% had normal body length exclusively breastfed and 65.4% had normal body length but were not given exclusive breastfeeding. Meanwhile, based on the body weight according to body length index all infants who were given exclusive breastfeeding had normal nutritional status (100%) while 84.6% of infants who were not given exclusive breastfeeding had a normal nutritional status and 15.4% were thin.
2. Infants aged 6-12 months who are given exclusive breastfeeding in the Sudiang Raya area of Makassar City have a development that is in accordance with their age of 62.8%. Meanwhile, infants who were not given exclusive breastfeeding and had an inappropriate development of 65.4%.
3. Giving breast milk to infants aged 6-12 months in the Sudiang Raya area of Makassar City has a significant relationship to the growth of infants with  $p: 0,000$  for index body weight according to age,  $p: 0,001$  for display body according to age index and  $p: 0,010$  for index body weight according to body length index.
4. Giving breast milk to infants aged 6-12 months the Sudiang Raya area of Makassar City has a significant relationship to the development of infants with  $p: 0,000$ .

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**Ethical Clearance:** Before the research was conducted, researchers obtained ethical clearance from the ethics commission of health research at the Makassar Health Polytechnic.

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