IMPACT OF EXCLUSIVE BREAST MILK ON GROWTH AND DEVELOPMENT OF CHILDREN AGED 6-24 MONTHS

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ABSTRACT

Introduction: Exclusive breastfeeding for infants aged 0-6 months is fundamental because nutrition in breast milk can increase the growth and development of children. Malnutrition in early life results in failure to thrive so the baby grows short, as well as impact on cognitive development, infant morbidity and mortality.

Purpose: The purpose of this study was to examine the relationship between exclusive breastfeeding and non-exclusive breastfeeding on the growth and development of children aged 6-24 months.

Methods: This research is an analytic research type with a cross sectional research design. The population of this study is mothers who have children aged 6-24 months, the samples used are 33 children with a history of exclusive breastfeeding and 33 children with non-exclusive breastfeeding. The analysis of this research is

Results: The results of the Univariate study showed normal growth of 89.4% and appropriate development of 62.1%. The results of the Bivariate study showed that there was no relationship between exclusive breastfeeding and the growth of children aged 6-24 months (P = 0.451), but there was a relationship between exclusive breastfeeding and the development of children aged 6-24 months (P = 0.000).

Conclusion: In this study, it is seen that the growth and development of children aged 6-24 months is still not appropriate

Suggestion guidance and counseling should be carried out to mothers to carry out early detection of growth and development by weighing.

Keywords: Exclusive Breastfeeding, Growth, Development
INTRODUCTION

Health development is directed at enhancing health degrees for development and improving the quality of Indonesian human resources (HR), as capital for the implementation of Indonesian human development as a whole and the development of all Indonesian society as mandated by the 1945 Constitution of the Republic of Indonesia (Ministry of Health, 2009).

Individual nutritional requirements vary according to genetic and metabolic differences. However, for infants and young children, the basic goal is satisfactory growth and preventing deficiency states. Good nutrition helps prevent acute and chronic diseases and develop physical and mental abilities; nutrition should also provide reserves for stress. (Richard, et al 2015)

Exclusive breastfeeding for infants aged 0-6 months is crucial because it can increase Human Resources (HR) in the future. In addition, exclusive breastfeeding will ensure the achievement of the potential development of children's intelligence optimally (Arini, 2011). UNICEF estimates that exclusive breastfeeding until the age of 6 months can prevent the death of 1.3 million children under five years of age, however in Indonesia only about 8% of mothers give exclusive breastfeeding to their babies until the age of 6 months and 4% of infants who breastfed by his mother within the first hour after birth (Sujayatini, et al, 2010)

Exclusive breastfeeding coverage in the world is only 39% of children under 6 months who receive exclusive breastfeeding, while the country that has a drastic increase is Cambodia from 11.7% to 74% in 2010 and some of the lowest figures in the world are Somalia, Chad and South Africa (UNICEF, 2013)

Percentage coverage of exclusive breastfeeding for infants 0-6 months in 2013 was 54.3%, a slight increase compared to 2012 which was 48.6%. The highest exclusive breastfeeding was in West Nusa Tenggara at 79.74%, followed by South Sumatra at 74.49% and East Nusa Tenggara at 74.37%, while the lowest exclusive breastfeeding was in Maluku province at 25.21%, followed by by West Java by 33.65% and North Sulawesi by 34.67% (Ministry of Health RI, 2014)

Referring to the program target in 2014 of 80%, nationally the exclusive breastfeeding coverage of 52.3% has not reached the target. According to the provision, there is only one province that has succeeded in achieving the target, namely West Nusa Tenggara province with 84.7%, West Java province 21.8%, West Papua 27.3% and North Sumatra 37.6% which are the three provinces with the lowest achievement (Indonesian Ministry of Health, 2015)

The strategic plan target in 2015 was 39%, so nationally the coverage of exclusive breastfeeding for infants aged less than 6 months of 55.7% has reached the target. By province, the range of exclusive breastfeeding coverage for infants aged 0-6 months is between 26.3% (North Sulawesi) to 86.9% (West Nusa Tenggara). Of the 33 provinces that reported it, 29 of them (88%) succeeded in achieving the 2015 strategic plan target, while the SDG’s (sustainable Development Goals) target by 2030 is to end all forms of malnutrition, including achieving the 2025 international target for reducing stunting and wasting in children under five, and address the nutritional needs of adolescent girls, pregnant and lactating women, and the elderly (Kemenkes RI, 2016)

So it can be concluded that the coverage of exclusive breastfeeding in Indonesia in 2013 48.6% and 2014 54.3% there was an increase of 5.70%, in 2014 54.3% and 2015 52.3% there was a decrease of 2%, while in 2015 52.3% and 2016 55.7% so that there was an increase again in 2016 to 3.4%. Growth and development disorders in Indonesia are nutritional status, malnutrition rates and malnutrition in children under five according to BB/U in 2007 amounted to 18.4%, in 2010 decreased by 17.9% and in 2013 there was an increase of 19.6%.

Babies who were given exclusive breastfeeding were 23% for boys and 25.6% for women from 227 Primary Health Care in Banten Province in Banten with a total of 182,965 babies. While the results of exclusive breastfeeding coverage according to Tangerang health data always increase every year, from 2012 to 2014, the number in 2012 was 42.36%, in 2013 it was 44.92% and in 2014 it was 47%. Nutritional status in the province of Banten with higher nutrition was in the Serang City area of 1.17% and the lowest was 0.8 in the Tangerang Regency Primary Health Care, the highest good nutrition data was in Cilegon City 93.61% and the lowest was in Tangerang City 83.0%, the highest malnutrition data was in Tangerang City 10.5% and the lowest was in South Tangerang City with 3.1% while the highest malnutrition data was in the district. Serang 1.19% and the lowest in the city of Serang 0.2% (Banten Health Office, 2012)
In an effort to increase the coverage of exclusive breastfeeding in accordance with the Regent's Regulation Number 95 of 2014 concerning exclusive breastfeeding, various strategies have been carried out, starting from increasing the capacity of officers and promoting exclusive breastfeeding as well as preparing a regulatory framework. In 2013 training on breastfeeding counseling, infant and child feeding was carried out for 43 nutrition workers at the puskesmas. The results of exclusive breastfeeding coverage in 2012 were 42.36%, in 2013 it was 44.92% and in 2014 it was 47% (Tangerang District Health Office, 2015).

Diseases that occur in toddlers are usually caused by lack of nutrition, therefore breastfeeding needs to be given as the best source of nutrition. Optimal growth and development requires proper and adequate nutritional intake, parenting and stimulus. Nutrition is one of the factors that determine the success of achieving growth and development in infancy. Malnutrition in early life can lead to failure to thrive so that the baby will grow into a child that is shorter than normal. Malnutrition can also affect cognitive development, infant morbidity and mortality (Fikawati, et al, 2015).

If the growth and development of infants and toddlers is disturbed during the golden period (1,000 days of life-2 years), it will cause irreversible growth and development disorders and the first thousand days of life, starting from the fetus in the womb until the child is 2 years old, very rapid growth. This period is a Window Of Opportunity which is a golden period of growth. Damage in this period is irreversible, meaning that it cannot be repaired in the next phase of life and will affect health outcomes in childhood and adulthood (Fikawati, et al, 2015).

The results of Atiqa's research (2016), show that the growth and development of children has a significance value of \( P < 0.05 \), namely, weight \( P = 0.007 \), height \( P = 0.001 \) and development \( P = 0.001 \) so it can be concluded that there are differences in growth and the development of children who are exclusively breastfed and non-exclusively breastfed in the working area of the Tamalanrea Primary Health Care Sub-District, Makassar Province of South Sulawesi.

The results of the Kolmogorov-Smirnov test showed a significant value of \( P = 0.004 \) and \( P = 0.011 \), because the \( P \) value <0.05, it was stated that there was a significant relationship between exclusive breastfeeding and non-exclusive breastfeeding with growth (weight and height).

While the results of the Kolmogorov-Smirnov test showed a significance value of \( P = 0.060 \), because the \( P \) value > 0.05, it was stated that there was no significant relationship between exclusive breastfeeding and non-exclusive breastfeeding on child development.

Breast milk is the best food for babies. Breast milk is known to contain the most suitable nutrients for the growth and development of infants, both in quality and quantity. Breast milk is divided into three stages, namely colostrum milk, which is breast milk that comes out 1-3 days after giving birth, transitional milk, which is a continuation of colostrum milk that comes out 4-10 days, and mature milk, which is breast milk that is secreted on the 10th day onwards. The first flow or during the first five minutes is called foremilk which is more watery, and contains low fat, high lactose, protein, minerals and water. Furthermore, the milk turns into hindmilk which is rich in fat and nutrients so that the baby is full faster. (Dewi, 2011)

The results of previous studies obtained \( P \) value = 0.000 (\( p <0.05 \)) which showed that there was a statistically significant relationship between exclusive breastfeeding and child growth (Tyas, 2013), while the results of statistical tests with Chi-Square obtained \( P \) value = 0.696 (\( P >0.05 \)) it can be concluded that the relationship between exclusive breastfeeding is not significant with child growth (Fitri, et al, 2014).

Growth is a change that is quantitative, namely the increase in number, size, dimensions at the level of cells, organs, and individuals. Children not only grow physically, but also the size and structure of the organs of the body and brain. For example, the result of brain growth is that children have a greater capacity to learn, remember, and use their minds. So children grow both physically and mentally (Soejiningsih, 2013).

The results showed that the duration of exclusive breastfeeding had a relationship with child development which was obtained \( P-Value \) \( P = 0.000 \) (Triyani, et al, 2014), while the results of the study obtained a \( P \) value = 0.022 (\( p = 0.000 \)) which means that there is a relationship between giving Exclusive breastfeeding with child development (Nurjanah, 2015).

Development is a quantitative and qualitative change. Development is the increase in abilities (Skills) of more complex body structures and functions, in a regular and predictable pattern, as a result of the process of maturation. Development involves the differential process of body cells, body tissues, organs, organ systems that develop in such a way that each can fulfill its function. This includes...
cognitive, language, motor, emotional, and behavioral development as a result of interaction with the environment. Development is a change that is progressive, directed and integrated/coherent. Progressive means that the changes that occur have a certain direction and tend to move forward, not backwards. Directed and integrated shows that there is a definite relationship between changes that occur at this time, before and the next (Soejiningsih, 2013)

Based on information from the administration of the Pasir Nangka Public Health Center, it said that there had been no research examining exclusive breastfeeding on the growth and development of children aged 6-24 months at the Pasir Nangka Public Health Center. While the data for 2016 shows the achievement of Exclusive Breastfeeding in Peti Village, a cumulative 270 babies with an achievement of 31.9%, while the target for 2017 is for ages 6-24 months in Peti Village for 469 males and 382 females (Cohort Toddlers).

So it is deemed necessary to conduct research on exclusive breastfeeding, from the several studies mentioned above about the importance of exclusive breastfeeding, the researchers want to see and know about the impact of exclusive breastfeeding on the growth and development of children aged 6-24 months.

RESEARCH METHODS

The aim of this study was to determine the relationship between exclusive breastfeeding and non-exclusive breastfeeding on the growth and development of children aged 6-24 months at Posyandu RW 05, Pete Village, Tigaraksa Sub-district, Pasir Jackfruit Public Health Center.

RESULT

Table 1. Distribution of the frequency of exclusive breastfeeding and non-exclusive breastfeeding in children aged 6-24 months

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency (F)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>Not</td>
<td>33</td>
<td>50</td>
</tr>
</tbody>
</table>

Of the 66 children, it was known that exclusive and non-exclusive breastfeeding were given at the Pasir Nangka Public Health Center, Peti Village, Kec. Tigaraksa out of 66 respondents were balanced (50%) for exclusive breastfeeding and (50%) for non-exclusive breastfeeding.

Table 2. Distribution of the growth frequency of children aged 6-24 months

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency (F)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>59</td>
<td>89.4</td>
</tr>
<tr>
<td>Thin</td>
<td>7</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Of the 66 children with normal growth 89.4% and lean growth 10.6% there is a tendency that children with normal growth are more than thin growth.

Table 3. Distribution of the developmental frequency of children aged 6-24 months

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency (F)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In accordance</td>
<td>41</td>
<td>62.1</td>
</tr>
<tr>
<td>It is not in accordance with</td>
<td>25</td>
<td>37.9</td>
</tr>
</tbody>
</table>

Of the 66 children with appropriate development, 62.1% and 37.9% inappropriate development, there is a tendency that children with appropriate development are more than inappropriate development.
Table 4.
The relationship of exclusive breastfeeding to the growth of children aged 6-24 months in RW 05, Pete Village, Kec. Tigaraksa, Pasir Nangka Health Center.

<table>
<thead>
<tr>
<th>Exclusive Breastfeeding</th>
<th>Growth</th>
<th>Total</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Thin</td>
<td>N %</td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
<td>4</td>
<td>89.4</td>
</tr>
<tr>
<td>Not</td>
<td>30</td>
<td>3</td>
<td>90.9</td>
</tr>
</tbody>
</table>

Of the 66 children with exclusive breastfeeding, there was a normal growth of 89.4% and a lean growth of 10.6%. Meanwhile, non-exclusive breastfeeding showed normal growth of 90.9% and lean growth of 9.1%. There was a tendency for non-exclusive breastfeeding with more normal growth than exclusive breastfeeding with normal growth. The results of statistical tests obtained a value of $P = 1,000$ alpha (α) 0.05, it can be concluded that Ho is accepted, which means that there is no relationship between exclusive breastfeeding and non-exclusive breastfeeding on the growth of children aged 6-24 months.

Table 5.
The relationship of exclusive breastfeeding to the development of children aged 6-24 months in RW 05, Pete Village, Kec. Tigaraksa, Pasir Nangka Health Center

<table>
<thead>
<tr>
<th>Exclusive Breastfeeding</th>
<th>Development</th>
<th>Total</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In accordance</td>
<td>It is not in accordance with</td>
<td>N %</td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
<td>12.1</td>
<td>33</td>
</tr>
<tr>
<td>Not</td>
<td>12</td>
<td>63.6</td>
<td>33</td>
</tr>
</tbody>
</table>

Of the 66 children with exclusive breastfeeding, there was an appropriate development of 87.9% and an inappropriate development of 12.1%. While the provision of Non Exclusive Breastfeeding there is a development according to 36.4% and development is not appropriate 63.6% there is a tendency of exclusive breastfeeding with development according to more than Non Exclusive breastfeeding with development not appropriate. The results of the statistical test obtained a value of $P = 0.000 < \alpha$ 0.05, it can be concluded that Ho is rejected and Ha is accepted, which means that there is a relationship between exclusive breastfeeding and the growth of children aged 6-24 months.

**DISCUSSION**

The results showed that children who received exclusive breastfeeding with normal growth were 28 children with a presentation of 84.8%, while children who did not receive exclusive breastfeeding with normal growth were 30 children with a presentation of 90.9%.

This is in accordance with the research of Fitrî, et al (2014) the results of statistical tests with Chi-Square obtained $P$ value = 0.696 ($P>0.05$) it can be concluded that the relationship of exclusive breastfeeding is not significant with child growth.

Growth is a change that is quantitative, namely the increase in number, size, dimensions at the level of cells, organs, and individuals. Children not only grow physically, but also the size and structure of the organs of the body and brain. For example, the result of brain growth is that children have a greater capacity to learn, remember, and use their minds. (Soejiningsih, 2013)

There was a normal growth of 84.8% with a history of exclusive breastfeeding and 90.9% with a history of non-exclusive breastfeeding so that there was a difference of 6.1% and it could be concluded that there was no influence on the growth of children with a history of exclusive breastfeeding.

The results showed that children who received exclusive breastfeeding with appropriate development were 29 children with a presentation of 87.9% while children who did not receive exclusive breastfeeding with inappropriate development were 21 children with a percentage of 63.6%. This is in accordance with the research of Triyani, et al. 2014) the results of statistical analysis with the Chi-Square test with a 95% confidence level statistically that the duration of exclusive breastfeeding has a
relationship with child development obtained ( P-Value ) \( P = 0.000 \). Meanwhile, the results of Nurjanah's research (2015) with the Mann-Whitney statistical test, obtained \( P = 0.022 (p = 0.000) \), which means that there is a relationship between exclusive breastfeeding and child development.

The results of isiqomah's research (2012) showed that 89.19% of infants who received formula milk experienced developmental delays, while 67.57% of infants who received exclusive breastfeeding experienced normal developmental stages.

Development involves the differential process of body cells, body tissues, organs, organ systems that develop in such a way that each of them can fulfill its function. This includes cognitive, language, motor, emotional, and behavioral development as a result of interaction with the environment.

The results of the researcher’s analysis from this study are that there is a child development according to 87.9% with a history of exclusive breastfeeding and 36.4% with a history of non-exclusive breastfeeding so that there is a difference of 51.1% and it can be concluded that there is an influence on child development with a history of exclusive breastfeeding.

CONCLUSION

In accordance with the general objectives stated in the previous chapter that this study was intended to obtain information about the relationship between exclusive breastfeeding and non-exclusive breastfeeding on the growth and development of children aged 6-24 months at the Pasir Nangka Public Health Center, Petai Village, Kec. Tigaraksa. The following conclusions can be drawn:

For children aged 6-24 months, 33 were exclusively breastfed and 33 non-exclusively breastfed. 89.4% growth in children aged 6-24 months Normal and 10.6% for thin. Development in children aged 6-24 months was (62.1%) for age-appropriate child development and (37.9%) for children whose development does not match the child’s age. There is no relationship between exclusive breastfeeding and non-exclusive breastfeeding on the growth of children aged 6-24 months at the Pasir Nangka Community Health Care, Tigaraksa District.

Obtained a value of \( P = 1.000 \) so that it can be concluded that \( Ha \) is rejected and \( Ho \) is accepted. There is a relationship between exclusive breastfeeding and non-exclusive breastfeeding on the development of children aged 6-24 months. \( P = 0.000 \) so that it can be concluded that \( Ha \) is accepted and \( Ho \) is rejected.

SUGGESTION

Further research is needed to look at other factors that are closely related to children's growth and development and qualitative studies to explore other factors that may be more related to children's growth and development.

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