SUPPORTING FACTORS FOR IMPLEMENTING EARLY BREASTFEEDING IN CHILDREN AGE 0-24 MONTHS (2017 IDHS DATA ANALYSIS)

*Dyah Silviananda Widhiastuti¹, Lutfi Agus Salim¹

¹Faculty of Public Health, Universitas Airlangga, 60115 Surabaya, East Java, Indonesia

*Corresponding Address: Dyah Silviananda Widhiastuti ; Email: dyahsilviananda@gmail.com

Published by Fakultas Kesehatan Masyarakat Universitas Airlangga

ABSTRACT

Early Initiation of Breastfeeding (IMD) is an important step in early life and achieves the goals of Sustainable Development Goals (SDGs) in preventing infant mortality by 2030. Providing Early Initiation of Breastfeeding is also the first step in achieving the success of exclusive breastfeeding up to 6 months of age. The mistake of providing IMD and exclusive breastfeeding can lead to nutritional deficiencies which will affect the intellectual decline of infants and threaten human potential in the future, especially in Indonesia. This research aims to analyze the supporting factors for the implementation of Early Breastfeeding Initiation (IMD) in children aged 0-24 months. The method in this research is a cross-sectional study to analyze the relationship between all the variables studied using secondary data from the 2017 Indonesian Demographic and Health Survey (IDHS) collected from 6,291 children who had received breastfeeding and women aged 15-49 years who had done birth during the last 5 years. The results showed that the factors supporting the successful implementation of early initiation of breastfeeding in children aged 0-24 months were maternal education (p=0.0009) and wealth quintile factors (p=0.037). Meanwhile, place of birth and area of residence factors showed that there was no relationship with the successful implementation of early initiation of breastfeeding in children aged 0-24 months.

INTRODUCTION

Early Breastfeeding Initiation or Inisiasi Menyusui Dini (IMD) is an activity in providing breast milk that is carried out by mothers as soon as possible to their newborn babies. The process of giving IMD is done by letting the baby get direct skin-to-skin contact with the mother within one hour after birth. This process is also followed by searching for the nipple and sucking breast milk by the baby assisted by the baby’s sense of smell, taste,
hearing, and vision. Through the process of giving early initiation of breastfeeding, babies will learn about the coordination between sucking, swallowing, and breathing as well as getting colostrum. IMD is a form of activity to provide quality food for newborns (1).

Breastfeeding immediately after birth is good for both mother and child. The benefits that babies get from giving IMD are in the form of protection against the transmission of infectious diseases. This is due to the high nutritional content of colostrum and antibodies in breast milk obtained during the IMD process. Meanwhile, the benefits obtained by the mother are in the form of increasing milk production for the continuity of exclusive breastfeeding and creating a strong bond between mother and child (2). In addition, the increase in nutritional status and immunity of infants is also influenced by the presence of protective ingredients and nutrients in breast milk. The content in breast milk can also affect the reduction in morbidity and mortality in infants. According to World Health Organization (WHO) and UNICEF, breastfeeding through IMD activities can prevent morbidity and prevent death in newborns by protecting 22% of infant lives. This is reinforced by the Sustainable Development Goals (SDGs) goals in the global action plan by stopping deaths in neonates and under-fives until 2030. The neonatal mortality rate is targeted to drop to 12 per 1,000 births and as low as 25 per 1,000 births in children under five. Early breastfeeding continued with exclusive breastfeeding until the age of 6 months be one way to prevent high rates of neonatal and child mortality (3).

The Ministry of Health through Minister of Health Regulation Number 39 of 2016 concerning Guidelines for the Implementation of the Healthy Indonesia Program with a Family Approach states that IMD counseling can be an effort to reduce infant mortality (4). The Ministry of Health Regulation Number 43 of 2016 concerning Minimum Service Standards in the Health Sector states that every newborn is required to receive essential neonatal services, one of which is IMD services (5). Besides being able to reduce infant mortality, giving IMD is also an early stage to achieve success in exclusive breastfeeding. The probability of early breastfeeding in neonates to achieve successful exclusive breastfeeding is eight times that of mothers who do not do IMD (6). Breastfeeding through IMD activities can stimulate the milk production process and increase the baby's ability to suck milk. The ability to suck milk in the early stages of a baby becomes the strongest ability during the first hour after birth and prolongs the length of time the baby can breastfeed (7).

The process of giving breast milk through IMD to newborns requires the role of various parties. The success of giving IMD is influenced by the willingness of pregnant women to check their pregnancy conditions regularly at health service facilities. Mothers who regularly perform prenatal check-ups with health workers have a success rate of 52% in carrying out IMD and can achieve success in exclusive breastfeeding of 62% (7). In addition, mothers who have a higher educational background and are well knowledgeable about IMD tend to be more likely to do IMD (8). Success in breastfeeding during the first two months of a baby's life can be achieved by mothers who have a history of higher education, good knowledge, husbands who provide active support, and have good breastfeeding practices (9). Based on this description, a study was conducted with the aim of analyzing the supporting factors for the implementation of IMD in children aged 0-24 months through data analysis of the Indonesian Demographic and Health Survey (IDHS) in 2017.

METHODS

The research method applied is secondary data analysis in the 2017 Indonesian Demographic and Health Survey with a cross-sectional study design. A cross-sectional study design was used to analyze the relationship between all the variables studied. Data were collected from 6,291 children who had been breastfed and women aged 15-49 years in Indonesia who had given birth in the last 5 years. Based on this definition, children and women are included in the study if: the last child born during the 2 years prior to the survey activity, both living and dead children and women aged 15-49 years who have marital status and gave birth during the last 5 years before the survey.

The limitation used to determine the implementation of early breastfeeding initiation is if the child receives breast milk for 1 hour after birth. The determinant factors studied were the place of delivery which consisted of health...
facilities and non-health facilities (home and others), the area of residence consisting of urban and rural areas, maternal education consisting of higher education (high school and college graduation) and low education (not attending school, not completing elementary school, and not graduating from high school), and wealth quintile consisting of the upper quintile (middle, upper middle, and top) and the lower quintile (lower and lower secondary). The statistical test used is the Chi-square test to obtain the p value. The p value is used to see the relationship between the variables of place of birth, place of residence,

RESULT

Overview of Early Initiation of Breastfeeding and Prelactation Food

IMD is the mother's initial activity in providing breast milk to newborn babies. The percentage of giving early initiation of breastfeeding and giving pre-lactational feeding to newborns is presented in Figure 1.

Figure 1. Percentage of children aged 0-24 months who have ever received breast milk, started being breastfed within 1 hour of birth, started being breastfed within 1 day after birth, and received pre-lactational food

![Figure 1](image1.png)

**Source:** IDHS 2017

**Figure 2.** Percentage of Children Age 0-24 Months Who Have Been Breastfed by Province in Indonesia

Figure 1 shows the percentage of children under five who had ever received breastfeeding in 2017 of 95.1%, which was lower than in 2007 of 95.2% and in 2012 of 95.8%. Children who are breastfed 1 hour after birth amounted to 45.9% of children in 2007 to
49.3% in 2012 and increased again in 2017 by 56.5%. Children who started breastfeeding within 1 day after birth in 2007 were 61.5%. Meanwhile, it became 66.3% in 2012 and increased by 73.7% in 2017. Children who received pre-lactational food for 3 days after birth experienced a decrease, namely in 2017 by 43.9% compared to 2007 which was 64.6% and in 2012 it was 60.3%.

Overview of Early Breastfeeding Initiation by Province in Indonesia

The percentage of children born last during the 2 years prior to the survey who had been breastfed or breastfed for 1 day after birth by province is presented in Figure 2. Figure 2 shows the percentage of children aged 0–24 months who have ever been breastfed by province. There are as many as 34 provinces included in the survey spread throughout Indonesia. The highest percentage of mothers who practice early initiation of breastfeeding in neonates is in East Kalimantan Province at 99.3%, Gorontalo Province at 98.9%, and West Nusa Tenggara Province at 98.7%. Meanwhile, mothers who gave the practice of early initiation of breastfeeding to neonates with the lowest percentage were in Central Kalimantan Province at 91.9%, Riau Islands Province at 88.3%, and West Papua Province at 87.7%.

Relationship between Place of Birth and Early Initiation of Breastfeeding

Early breastfeeding or IMD for newborns according to the place of delivery, it was found that children born in health facilities and children born not in health facilities and given IMD ≤1 hour, as many as 2,893 children (56.4%) and 673 children (57.9%) higher than children who were given IMD >1 hour, which were 2,236 children (43.6%) and 489 children (42.1%). The results of statistical test analysis stated that there was no relationship between the place of delivery and the implementation of early initiation of breastfeeding as indicated by the p value, which was 0.365 which was more than the value of (0.365 > 0.05).

Relationship between Residential Area and Early Initiation of Breastfeeding

For early breastfeeding initiation for newborns according to the exact area of residence, it was found that children who live in urban areas and children who live in rural areas are given IMD ≤1 hour, as many as 1,726 children (56.8%) and 1,832 children (56.3%) higher than children who were given IMD >1 hour, namely as many as 1,312 children (43.2%) and 1,421 children (43.7%). The results of the statistical test analysis stated that there was no relationship between the area of residence and the implementation of early initiation of breastfeeding as indicated by the p value, which was 0.710 which was more than the value of (0.710 > 0.05).

Relationship between Wealth Quintile and Early Breastfeeding Initiation

Early breastfeeding or IMD in newborns according to the mother’s education showed that mothers with higher education and mothers with low education and giving IMD within 1 hour, namely as many as 1,620 mothers (54.4%) and 1,940 mothers (58.6%) higher than children who were given IMD >1 hour, which was 1,358 mothers (45.6%) and 1,372 mothers (41.4%). The results of statistical test analysis stated that there was a relationship between maternal education and early initiation of breastfeeding as indicated by the p value, which was 0.0009 which was less than the value (0.0009 < 0.05).

DISCUSSION

Early Initiation of Breastfeeding is an activity of giving breast milk for 30 minutes to 1 hour which is carried out immediately after
Table 1. Statistical Test between Background Characteristics and Early Initiation of Breastfeeding

<table>
<thead>
<tr>
<th>Background Characteristics</th>
<th>1 hour</th>
<th>&gt; 1 hour</th>
<th>Total</th>
<th>%</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of Birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical facility</td>
<td>2,893</td>
<td>673</td>
<td>5,129</td>
<td>81.53</td>
<td>0.365</td>
</tr>
<tr>
<td>Not a health facility</td>
<td>2,236</td>
<td>489</td>
<td>1,162</td>
<td>18.47</td>
<td></td>
</tr>
<tr>
<td>Residential Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>urban</td>
<td>1,726</td>
<td>1,312</td>
<td>3,038</td>
<td>51.71</td>
<td>0.710</td>
</tr>
<tr>
<td>rural</td>
<td>1,832</td>
<td>1,421</td>
<td>3,253</td>
<td>51.71</td>
<td></td>
</tr>
<tr>
<td>Mother’s Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tall</td>
<td>1,620</td>
<td>1,358</td>
<td>2,978</td>
<td>47.34</td>
<td>0.0009</td>
</tr>
<tr>
<td>Low</td>
<td>1,940</td>
<td>1,372</td>
<td>3,312</td>
<td>52.66</td>
<td></td>
</tr>
<tr>
<td>Wealth Quintile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>2,073</td>
<td>1,665</td>
<td>3,738</td>
<td>59.41</td>
<td>0.037</td>
</tr>
<tr>
<td>Lower</td>
<td>1,485</td>
<td>1,069</td>
<td>2,554</td>
<td>40.59</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6,291</td>
<td>5,814</td>
<td>6,291</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Results

giving birth. Breastfeeding in this IMD practice can provide mothers and children with many benefits, especially to form protection for neonates from disease and increase milk production. In the 2017 IDHS data analysis, 95.1% of children aged 0-24 months received breast milk during IMD practice. This percentage is actually lower than the previous years, namely 95.2% in 2007 and 95.8% in 2012. Although most children have received IMD practices, there are still children who have not received IMD practices at birth. This needs attention considering the benefits of breastfeeding for the first time are very good for the health of babies and mothers.

Breastfeeding through the practice of IMD aims at skin-to-skin contact which makes mother and baby in a calmer condition and can increase affection (10). In addition, the good bacteria found in the mother's skin that is ingested by the baby during the IMD practice can form self-protection by forming colonies on the baby's skin and intestines, reducing the occurrence of bleeding in the mother after childbirth, and reducing the occurrence of anemia in the mother. The baby who is placed on the mother's chest will learn to coordinate sucking, swallowing, and breathing while getting high nutrition from colostrum and can form an immune system that functions to protect the baby from disease (11).

Pre-lactational food is given to the baby before the milk comes out or before breastfeeding starts. According to the 2017 IDHS data, it shows that children aged 0-24 months who received pre-lactational food were 43.9% which was lower than the previous years, which was 64.6% in 2007 and 60.3% in 2012. Failure to provide exclusive breastfeeding is motivated by many factors, one of which is giving pre-lactational food to babies until they are 6 months old (12).

Research conducted in Bogor in 2012 stated that newborn children should be given breast milk as soon as possible to prevent the baby from dying and be the first step that can determine the success rate of mothers to breastfeed their children for 6 months (13). An article stated that mothers who carry out the process of providing immediate breastfeeding have 2 to 8 times the chance to be successful in exclusively breastfeeding their children until they are 4 months old than mothers who do not carry out the process of immediate breastfeeding for newborns. (14). In addition, pre-lactational feeding and drinking from the first 3 days of life can lead to failure in exclusive breastfeeding to children.

The IMD program for newborns is a program being intensively carried out by the Indonesian government. The success rate of the IMD program is influenced by many factors. Family is one such, especially at the level of knowledge. This knowledge relates to the practice of giving IMD to neonates specifically for the baby's mother. The knowledge possessed by a person will affect the understanding of something.

The higher the educational history that has been obtained by a person, then the ability obtained by a person to receive and absorb information will also be higher, which will affect a person's level of knowledge and insight.
Based on the results of statistical testing, it was found that there was a relationship between mother's education and IMD \((p=0.0009)\) (15). Among children aged 0-23 months, the highest proportion of IMD is in households with education graduating from high school by 60.5% and completing Diploma 1/2/3 or bachelor degree at 63.1% (16). This is in line with Raharjo's statement that mothers with the right insight regarding IMD have a tendency to carry out IMD on babies born (8). Other studies that support this statement show that there is a relationship between maternal education and the provision of IMD (17). In addition, research shows that there is a relationship between education and the implementation of IMD (18). The amount of the contribution of the level of education to the implementation of the IMD according to the Phi test is 29.51 or 29.5%. The study also states that the higher the level of education a person gets, the higher the reasoning power of any information obtained. This will make it easier for someone to take every action according to their reasoning power, especially for mothers in giving IMD to neonates. Mothers who have a good education will be easier to absorb information and can realize the physiological and psychological benefits of giving IMD to newborns.

The success of the IMD program is also related to the place of delivery. In the 2017 IDHS data analysis, children under 2 years who get the most IMD practices were born in health facilities. However, based on the results of statistical test analysis it showed that there was no relationship between the place of delivery and the implementation of IMD \((p=0.365)\). This statement is in line with a research (19) which said that there was no relationship between the location of delivery and the implementation of IMD. This statement is inconsistent with a research which stated that a significant relationship was found between the place of delivery and the implementation of IMD (20).

Mothers who gave birth in medical institutions had a 15.167 times higher chance than mothers who gave birth in non-medical institutions to give early breastfeeding. Healthcare providers provide health services that are equipped with health facilities. This can encourage people to take advantage of health services, including delivery services. Adequate place of delivery and delivery process assisted by competent health personnel in their field can support the successful implementation of early initiation of breastfeeding (19). Competent health workers will facilitate mothers to give hugs as soon as possible and also give breast milk to their newborn babies as soon as possible.

The area of residence factor in the results of the 2017 IDHS data analysis where children under 2 years who get the practice of IMD was mostly living in rural areas compared to urban areas. Meanwhile, based on the analysis of statistical tests, it was found that there was no relationship between the area of residence and the implementation of IMD \((p=0.710)\). This statement is in line with another research which shows that the percentage of IMD is relatively low in respondents who live in downtown areas because the majority of mothers are career women (19). Thus, mothers do not have plans to breastfeed their children and also as a reason for not giving IMD to newborns. The wealth quintile factor in the results of the 2017 IDHS data analysis shows that children under 2 years who get the most IMD practices in the lower wealth quintile are 58.15%. Based on the analysis of statistical tests, it was found that there was a relationship between wealth quintiles and the implementation of IMD \((p=0.037)\). This statement does not support the another research which shows that there is a significant relationship between the level of family income and IMD failure (21). However, this statement is not in line with a research which explains that there is no relationship between family income and the practice of IMD (22). The level of income in the family can have an influence on the mother in breastfeeding. This is because it is related to the level of purchasing power of formula milk products. In addition, the price of formula milk can also be a consideration for mothers in giving breast milk to their babies (23).

CONCLUSIONS AND SUGGESTIONS

Conclusion

Early breastfeeding or IMD according to the 2017 IDHS data shows that the majority of mothers give early breastfeeding within a short period of time \(\leq 1\) hour after delivery. The success of early breastfeeding is supported by the role of several factors. Factors that are
related or as supporting factors in the success of giving early initiation of breastfeeding to children aged 0-24 months are mother's education ($p=0.0009$) and wealth quintile ($p=0.037$). The mother's education factor is related to the mother's knowledge obtained from the process of receiving and absorbing information about the importance of implementing IMD in newborns and meeting the basic needs of children to optimize the child's growth and development process. Meanwhile, the wealth quintile factor is related to purchasing power and the price of formula milk consumed by children.

**Suggestion**

The practice of early breastfeeding for children aged 0-24 months needs to get attention and support from the government through the implementation of health empowerment programs. This is intended so that all newborns get nutrition from colostrum through the first milk that comes out in order to increase the baby's immune system and increase the success of exclusive breastfeeding until the baby is 6 months old. In addition, it is important in providing education and health knowledge about the benefits of early initiation of breastfeeding in neonates to mothers and babies' families so that they can play an active role in providing support to achieve the successful practice of early initiation of breastfeeding.

**ACKNOWLEDGEMENTS**

The researcher would like to thank the Central Statistics Agency (BPS), the National Population and Family Planning Agency (BKKBN) and the Ministry of Health who have carried out the 2017 Indonesian Demographic and Health Survey (IDHS). The researchers also thank all those who have contributed to this journal.

**REFERENCES**


