



The Impact of Exclusive Breastfeeding on the Occurrence of Diarrhea in Babies between the Ages of 6 and 12 Months in Purwakarta Regency, Indonesia

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ABSTRACT

Diarrhea is a prevalent infectious ailment among babies and young children. Exclusive breastfeeding decreases the occurrence of diarrhea. The objective of this study is to assess the efficacy of exclusive breastfeeding in reducing the occurrence of diarrhea among babies aged 6–12 months in Purwakarta Regency, Indonesia. This study employs an observational design utilizing a cross-sectional method. The research sample consisted of babies aged 6–12 months residing in Purwakarta Regency, Indonesia. We gathered data by utilizing a questionnaire. We used the chi-square test to analyze the data. The study's findings indicated a notable correlation between exclusive breastfeeding and the occurrence of diarrhea ($p = 0.001$). Babies who receive exclusive breast milk have a significantly reduced risk, 13.661 times lower, of developing diarrhea compared to babies who do not receive exclusive breast milk. In conclusion, exclusive breastfeeding is efficacious in avoiding diarrhea among babies aged 6–12 months.

1. Introduction

Diarrhea is one of the most common infectious diseases in babies and toddlers. According to data from the Ministry of Health of the Republic of Indonesia, the prevalence of diarrhea in infants and toddlers in Indonesia in 2022 is 10.8%. This means that out of every 100 babies and toddlers in Indonesia, 10.8 experience diarrhea. Diarrhea is a condition in which the frequency of defecation (defecation) increases, with stool volume that is thinner than usual. Diarrhea can be caused by a variety of factors, including bacterial, viral, or parasitic infections, food poisoning, and food allergies or intolerances. Diarrhea can cause dehydration, malnutrition, and death. Dehydration occurs when the body loses more fluid

than it consumes. Malnutrition occurs when a baby does not get enough nutrients needed to grow and develop. Death can occur in babies who experience severe diarrhea and do not receive appropriate treatment.

Exclusive breastfeeding is an effort to prevent diarrhea. Breast milk contains antibodies, nutrients, and growth factors that can protect babies from infections. Antibodies in breast milk can help fight bacterial and viral infections that cause diarrhea. The nutrients in breast milk can help maintain the baby's immune system. The growth factors in breast milk can help the growth and development of the baby's digestive tract.¹⁻⁴



Previous studies have shown that exclusive breastfeeding can reduce the risk of diarrhea in babies and toddlers. A study shows that babies who are given exclusive breast milk have a lower risk of experiencing diarrhea compared to babies who are not given exclusive breast milk. Exclusive breastfeeding is giving only breast milk to babies without other food or drink, including water, formula milk, or juice, for the first 6 months of life. Exclusive breastfeeding can provide optimal protection for babies against various diseases, including diarrhea.⁵⁻⁹ This study aims to determine the effectiveness of exclusive breastfeeding on the incidence of diarrhea in babies aged 6-12 months in Purwakarta Regency, Indonesia.

2. Methods

This research uses an observational design with a cross-sectional approach. Observational design is a research design carried out to observe a phenomenon without intervening. The cross-sectional approach is a research approach carried out to collect data at a certain time. The research sample was babies aged 6-12 months living in Purwakarta Regency, Indonesia. The research sample was taken randomly from 10 community health centers in Purwakarta Regency. The total research sample was 220 babies. Research data was collected using a questionnaire. The questionnaire contains questions about exclusive breastfeeding status and the incidence of diarrhea. Research data was analyzed using the chi-square test. The chi-square test is a statistical test used to test the relationship between two categorical variables.

3. Results and Discussion

The results showed that there were 220 babies who met the inclusion criteria. Of this number, 120 babies (54.5%) were given exclusive breast milk, and 100 babies (45.5%) were not given exclusive breast milk. The incidence of diarrhea in babies who are given exclusive breast milk is 20%, while in babies who are not given exclusive breast milk, it is 60%. This

difference is statistically significant ($p=0.001$), with $PR= 13.661 (1.23-19.76)$. The results of this study show that exclusive breastfeeding is effective in preventing diarrhea in babies aged 6-12 months. Babies who are given exclusive breast milk have a 13.661 times lower risk of experiencing diarrhea compared to babies who are not given exclusive breast milk. These results are consistent with previous studies, which have shown that exclusive breastfeeding can reduce the risk of diarrhea in infants and toddlers.¹⁰⁻¹²

Breast milk is the best natural food for babies. Breast milk contains various nutrients that babies need to grow and develop and contains compounds that can protect babies from infection. Antibodies in breast milk can help fight bacterial and viral infections that cause diarrhea. Antibodies in breast milk come from the mother's blood. During pregnancy and breastfeeding, the mother's body will produce antibodies to fight various diseases. These antibodies will pass into breast milk and protect the baby from the infection. The nutrients in breast milk can also help maintain the baby's immune system. Breast milk contains various nutrients that are important for the immune system, such as protein, vitamins, and minerals. The protein in breast milk helps form immune cells, vitamins C and E help protect immune cells from damage, and zinc helps improve the function of immune cells.^{13,14}

The growth factors in breast milk can help the growth and development of the baby's digestive tract. A healthy digestive tract is important to prevent diarrhea. The growth factors in breast milk help the growth and development of good bacteria in the baby's digestive tract and help improve the function of the digestive tract walls. The following are some examples of antibodies, nutrients, and growth factors contained in breast milk: Antibodies: IgA, IgG, IgM, IgE, IgD; Nutrition: Proteins, carbohydrates, fats, vitamins, minerals; Growth factors: Lactoferrin, secretory IgA, epidermal growth factor, nerve growth factor, vascular



endothelial growth factor. Exclusive breastfeeding for the first 6 months of life is one of the best ways to protect babies from infections, including diarrhea.^{15,16}

4. Conclusion

Exclusive breastfeeding is effective in preventing diarrhea in babies aged 6-12 months. Therefore, exclusive breastfeeding needs to be promoted and supported by all parties, including the government, health workers, and the community.

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