

## **Relationship between Maternal Knowledge about Complementary Food and Incidence of Diarrhea in Toddlers Aged 6-8 Months In Calungbungur Village, Pajagan 2023**

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### **Article Info**

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### **Abstract**

**Background:** Diarrhea disease is one of the infectious diseases of the digestive tract that is a health problem in the world including Indonesia. Behavioral factors can influence the spread of enteric germs and reduce the risk of diarrhea. Referring to the Pajagan Health Center MTBS register book in 2023, toddlers aged 6-8 months in Ciuyah Village who experienced diarrhea based on gender were 13 boys and 11 girls. **Research Objective:** To determine the effect of maternal knowledge about complementary feeding (MP-ASI) with the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center in 2023. **Research Methods:** This study used quantitative research methods. The research design used a case control design. The total sample was 15 respondents. Case and control samples were taken in an unmatched case control with a ratio of 1: 2. The sampling technique used was simple random sampling. **Research Results:** The results of the Chi Square Test showed that there was no significant relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in toddlers ( $p$  value 1.000). The results of the OR calculation show that mothers with less knowledge about complementary feeding 1.556 times to experience the incidence of diarrhea in toddlers compared to good knowledge (95% CI 0.165-14.654). **Conclusion and Suggestion:** Health promotion on Clean and Healthy Living Behavior (PHBS) should be carried out regularly so that people in Calungbungur Village understand how to maintain environmental health. Mothers of infants aged 6-8 months should understand the importance of complementary feeding, so as to maintain infant health and reduce the risk of diarrhea.

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## Introduction

According to WHO and UNICEF, approximately 2 billion cases of diarrhea occur and 1.9 million children under five die from diarrhea worldwide each year. Of these deaths, 78% occur in developing countries, mainly in Africa and Southeast Asia.

Diarrhea outbreaks are still common with a high Crude Fatality Rate (CFR). Data from the Ministry of Health of the Republic of Indonesia (Kemenkes RI), in 2008 outbreaks occurred in 69 sub-districts with a total of 8133 cases, of which 239 people died (CFR 2.94%). In 2009 there were outbreaks in 24 subdistricts with a total of 5,756 cases and 100 deaths (CFR 1.74%). In 2010 there were diarrhea outbreaks in 33 subdistricts with 4204 patients and 73 deaths (CFR 1.74%) (Ministry of Health, 2011).

The 2018 Basic Health Research states that the prevalence of diarrhea for all age groups is 8% and the prevalence rate for toddlers is 12.3%, while in infants, the prevalence of diarrhea is 10.6%. Meanwhile, in

the 2018 Sample Registration System, diarrhea remains one of the main causes of death in neonates at 7% and in infants aged 28 days at 6%. Data from Komdat Kesmas for the January-November 2021 period, diarrhea caused 14% of postneonatal deaths. The latest data from the results of the Indonesian Nutrition Status Survey in 2020, the prevalence of diarrhea is at 9.8% (Ministry of Health, 2022).

Diarrhea is closely related to the occurrence of stunting. Recurrent diarrhea in infants and toddlers can cause stunting. Based on data from the 2020 Indonesian Health Profile, infectious diseases, especially diarrhea, are a contributor to deaths in the 29-day - 11-month age group. Just like the previous year, in 2020, diarrhea is still a major problem that causes 14.5% of deaths. In the toddler group (12 - 59 toddlers), deaths due to diarrhea amounted to 4.55% (Kemenkes RI, 2022).

The trend of diarrhea incidence in children under five in 2023 tends to decrease even though the dry season is

still ongoing. Based on data from the Ministry of Health, diarrhea cases in May 2023 amounted to 212,576 cases. The number dropped to 182,260 cases in June 2023 and dropped again to 177,780 cases in July 2023, while the increase in cases occurred in August 2023 to 189,215 cases (Indonesian Ministry of Health, 2023).

Based on the Performance report of the Directorate of Infectious Disease Prevention and Control in 2022, the percentage of treatment of diarrhea cases according to standards was achieved 89.65% of 50% with a performance of 179.3%. Diarrhea is one of the infectious diseases of the digestive tract that is a health problem in the world, including Indonesia.

Referring to the Pajagan Puskesmas MTBS register book in 2023, children under 6-8 months of age in Ciuyah Village who experienced diarrhea based on gender were 13 boys and 11 girls. As for children aged 6-8 years in the past month who experienced diarrhea, there were 3 boys and 2 girls.

Diarrhea can occur due to infection or non-infection. Infectious causes can be caused by bacteria, viruses or protozoa. Non-infectious causes can be caused by injury/inflammation, inflammatory bowel disease and irritation of the intestine (Sumampouw, 2017).

According to the Indonesian Pediatric Association (IDAI), a child or toddler is declared to have diarrhea when his or her bowel movements are "thinner" and "more frequent" than usual. Other accompanying symptoms are fever and vomiting. Sometimes the symptoms of vomiting and fever precede the symptoms of diarrhea (Nurhayati, 2020).

Susilawati (2023) in a study entitled "The Influence of Maternal Environmental Factors on the Incidence of Diarrhea in Toddlers in Coastal Areas" states that the cause of diarrhea in toddlers is dominated by sanitary conditions, Sewerage (SPAL) and one of the mother's personal hygiene, namely Washing Hands with Soap (CTPS) which is not good. Good

HWWS is using soap and running water when washing hands. Therefore, improving sanitation, SPAL and implementing good HWWS is one way to minimize the incidence of diarrhea. In addition, advocacy, social support and community empowerment influence community participation in the prevention of diarrhea in toddlers in the Tomuan Puskesmas working area (Maryanti, et al, 2023).

Based on the results of preliminary studies (direct interviews and observations) conducted to 9 mothers who have toddlers aged 6-8 months at UPT Puskesmas Pajagan, 55.55% of mothers know about complementary feeding and 66.66% of toddlers who experienced diarrhea one month ago.

Based on this background, the authors are interested in conducting research on "The Relationship between Maternal Knowledge of MP-ASI Feeding with the Incidence of Diarrhea in Toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center in 2023".

This problem focuses on the relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in children under 6-8 months of age in Calungbungur Village which is located in the Pajagan Health Center area in 2023. Thus, the formulation of the problem in this study is how the relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center in 2023?

This research question is intended to determine whether there is a relationship between maternal knowledge about complementary feeding (MP-ASI) with the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center in 2023.

1. How high is the mother's knowledge about complementary feeding in children under 6-8 months of age in Calungbungur Village, Pajagan Health Center in 2023?

2. How much is the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village Pajagan Health Center Year 2023?

3. Is there a relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in children under 6-8 months of age in Calungbungur Village, Pajagan Health Center 2023?

The general objective of this study is to determine the effect of maternal knowledge about complementary feeding (MP-ASI) with the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center in 2023.

while the specific objectives are as follows:

1. Knowing the frequency distribution of respondents based on the incidence of diarrhea in Calungbungur Village, Pajagan Health Center, 2023.

2. Knowing the frequency distribution of respondents based on maternal knowledge about complementary

feeding in Calungbungur Village, Pajagan Health Center in 2023.

3. Knowing the relationship between maternal knowledge about complementary feeding (MP-ASI) with the incidence of diarrhea in toddlers aged 6-8 months in Calungbungur Village, Pajagan Health Center, 2023.

This study will provide a valuable contribution to the scientific literature related to the relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in toddlers aged 6-8 months and can be a reference for other researchers who are interested in continuing similar studies or developing the concept of maternal knowledge and toddler health.

The practical benefits of this research are:

1. For Health Service Agencies Pajagan Health Center can concretely improve diarrhea prevention efforts in toddlers through improving child health services, developing educational materials, preparing

intervention programs and developing collaborative networks so that they have a positive impact on the health and welfare of toddlers in Calungbungur Village Pajagan Health Center in 2023.

2. For mothers of toddlers. Mothers who have toddlers can use the knowledge they gain to take appropriate action in providing complementary foods to their toddlers, thus helping to prevent diarrhea and improve the health and well-being of toddlers.

3. For Midwifery Study Program By utilizing the results of this study, the STIKES Abdi Nusantara Midwifery Undergraduate Study Program can improve the relevance and quality of education provided to students. In addition, the study program can also contribute to the development of midwifery knowledge and practice, as well as establishing useful collaborations with related parties in improving the health of mothers and toddlers.

4. For Researchers, By utilizing the opportunities and practical benefits offered by this study, researchers can increase their competence and contribution to midwifery research in health and child welfare.

The subjects of this study were mothers who had toddlers aged 6-8 months in Calungbungur Village. This study involved researchers as research implementers, mothers as respondents. This research was conducted in Calungbungur Village which is a research location located under the working area of the Pajagan Health Center. This research was conducted in 2023 in accordance with the research title. This study was conducted to understand the relationship between maternal knowledge about complementary feeding and the incidence of diarrhea in toddlers aged 6-8 months. This study uses a quantitative research approach with a case control design. Data will be collected through questionnaires that will be given to mothers of toddlers aged 6-8 months in

Calungbungur Village. Data on maternal knowledge about complementary feeding and incidence of diarrhea will be analyzed using statistical methods to identify the relationship between these variables.

Normal newborns are babies born from 37 weeks to 42 weeks of pregnancy and birth weight of 2500 grams to 4000 grams. LBW are very susceptible to infection with microorganisms that are exposed or contaminated during the labor process and some time after birth (Ibrahim, 2023).

Neonatal adaptation (newborn) is the process of functional adjustment of neonates from life in the uterus to life outside the uterus. This physiological adaptability is called homeostasis. If there is a disruption in adaptation, the baby will get sick (Ibrahim, 2023).

The ability of full-term BBL to ingest and digest external food sources is limited. Most of these limitations require various digestive enzymes and hormones that are found in all parts of

the digestive tract from the mouth to the intestines. BBL are less able to digest protein and fat than adults. The ability of BBL, especially efficiency in absorbing monosaccharides, such as glucose, as long as the amount of glucose is not too much. The cardiac sphincter, the connection between the lower esophagus and the stomach, is not perfect which causes regurgitation of large amounts of stomach contents in BLL and young babies. The baby's stomach capacity is quite limited. Less than 30 cc for full-term BBL (Ibrahim, 2023).

Toddlers or toddlers or more popularly known as children under the age of five are children who have reached the age of over one year. Toddlers are grouped into two large groups, namely children aged 1-3 years (toddlers) and preschoolers (3-5 years). Toddlers (aged 1-3 years) are a passive group, which means that children are still fully dependent on parents or other people who care for them to carry out important activities such as bathing, toileting and eating.

Children begin to enter the active group when they reach the age of 4 years. It is said to be an active group because dependence on parents or caregivers begins to decrease and changes to its desire to release many things such as bathing and eating alone even though it is still limited (Lestari, 2017 in Harwijayanti, 2023).

The nutrition that toddlers get must be related to vitamins, proteins, carbohydrates, minerals, fats so that the nutrition consumed by toddlers can fulfill balanced nutrition for toddlers. Children under five can meet their fluid needs from breast milk, MP-ASI and the water they drink. Breast milk is no longer sufficient for toddlers' needs because in line with the development of toddlers, the needs required for toddlers must be more nutritious and have good nutritional value (Noordiati, 2018).

Cleaning the body by bathing is mandatory for toddlers. Because if you don't clean it immediately, your toddler can get irritated in the genital area (Noordiati, 2018).

A toddler who is dressed needs a lot of clothes because when the toddler starts to crawl, slide and creep he will always get his clothes dirty (Noordiati, 2018).

Diarrhea is an excessive loss of fluid and electrolytes that occurs due to the frequency of defecation more than once with watery or liquid stools (Nadia, et al., 2022).

There are three factors that influence the incidence of diarrhea in children. The first factor is environmental. Diarrhea can occur because a person does not pay attention to environmental hygiene and considers that hygiene problems are trivial. Environmental hygiene is an optimum environmental condition that can have a positive influence on good health status. The scope of environmental hygiene includes housing, disposal of human waste, provision of clean water, garbage disposal, and disposal of dirty water (waste). The dominant environmental factors in the spread of diarrheal disease in children are fecal disposal

and drinking water sources. Poor fecal management coupled with rapid population growth will accelerate the spread of fecal-borne diseases such as diarrhea, which is an environmentally-based infectious disease. Indiscriminate disposal of feces will also lead to the spread of diseases. The spread of fecal-borne diseases can be through a variety of ways, including through water, hands, and soil contaminated by feces and transmitted through food and drink through insect vectors (flies and cockroaches). In addition, muddy yards due to poor sewerage facilitate the transmission of diarrhea, especially those transmitted by worms and parasites (Utami. 2016).

The second factor is sociodemographic factors. Sociodemographic factors that influence the incidence of diarrhea in children are parents' education and occupation, as well as the child's age. Educational level plays an important role in public health. A person's high education makes it easier for that person to receive information, both

from other people and the mass media. The amount of incoming information will increase knowledge about diarrheal diseases. There is a significant relationship with a strong correlation between the mother's education level and diarrhea prevention behavior in children. The higher the level of education one has, the better the prevention behavior against diarrheal disease will be. A person's high level of education will make that person more oriented towards preventive measures, have better health status and know more about health problems. Income, social status, education, socioeconomic status, risk of injury, or health problems within a population group may reflect a person's job characteristics. Diarrhea occurs more often in babies and toddlers whose family economic status is low. A good level of income means that their health facilities will also be good, such as providing guaranteed clean water, providing their own latrine, and if they have livestock, they will be provided

with good cages and keep them clean. Another sociodemographic factor that can influence the incidence of diarrhea is age. The younger the child, the higher the tendency to develop diarrhea. Low immune system causes a high incidence of diarrhea (Utami. 2016).

The third factor that can influence the incidence of diarrhea is behavioral factors. Exclusive breastfeeding and hand washing habits are behavioral factors that influence the spread of enteric germs and reduce the risk of diarrhea. Apart from breast milk, there is also personal hygiene, namely a person's efforts to maintain personal hygiene and health to achieve physical and psychological health. The habit of not washing hands with soap after defecating is a habit that can harm children, especially when the mother cooks food and feeds her child, the food can be contaminated by germs which can cause diarrhea. Behavior that can reduce the risk of diarrhea is washing vegetables and fruit before consuming them, because one way of

spreading diarrhea is through serving undercooked or raw food (Utami. 2016).

Knowledge is the result of "knowing" and this occurs after people have sensed a certain object. Sensing of objects occurs through the five human senses, namely sight, hearing, smell, taste and touch by themselves. At the time of sensing to produce knowledge is greatly influenced by the intensity of attention to the perception of the object. Most human knowledge is obtained through the eyes and ears (Notoatmodjo, 2003 in Wawan, et al, 2011).

Knowledge itself is influenced by formal education factors. Knowledge is closely related to education, where it is hoped that with higher education, the person's knowledge will become broader. However, it needs to be emphasized that this does not mean that someone with low education has absolutely low knowledge. This is because increasing knowledge is not absolutely obtained from formal education alone, but can

be obtained through non-formal education. A person's knowledge about an object contains two aspects, namely positive aspects and negative aspects. These two aspects will determine a person's attitude. The more positive aspects and objects that are known, the more positive the attitude will be and the objects that are known, will give rise to a more positive attitude towards certain objects. According to the World Health Organization (WHO) quoted by Notoatmodjo (2007), one form of health object can be described by knowledge obtained from one's own experience (Wawan, et al, 2011).

Knowledge or cognitive is a very important domain for the formation of a person's actions (oevent behavior). From experience and research, it turns out that behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge. Sufficient knowledge in the cognitive domain has 6 (six) levels, namely: (Notoatmdjo, 2003 in Wawan, et al, 2011).

Complementary feeding is baby food that accompanies breastfeeding, given after the baby is 6 (six) months old because breast milk can no longer fulfill the baby's nutritional needs. Complementary feeding contains nutrients that are given to infants during the weaning period (complementary feeding), when other foods or drinks are given with breastfeeding.

Some of the purposes of providing MP-ASI include:

1. Meet the baby's nutritional needs
2. Develop the baby's ability to accept a variety of foods with various tastes and textures so that they are able to accept family food
3. Develop the baby's ability to chew and swallow (oromotor skills)

(Hardinsyah, 2016)

There are two types of MP-ASI, namely household or factory-made food and food that is usually eaten by families, but modified so that it is easy for babies to eat and meets their nutritional needs. The texture of the food starts from

smooth/watery (soft food). The following are things that must be considered when giving MP-ASI:

1. Choose main food ingredients with high sources of iron
2. Choose rice as a source of carbohydrates because it is hypoallergenic
3. Eggs can be given at one year of age.

## Research Methods

This research uses quantitative research methods. Quantitative research methods are survey research methods used to obtain data that occurred in the past or present, about beliefs, opinions, characteristics, behavior, variable relationships and to test several hypotheses about sociological and psychological variables from samples taken from certain populations, data collection techniques with observations (interviews or questionnaires) that are not in-depth, and research results tend to be generalized (Sugiyono, 2020). The research design used is a case

control design, which is a research design that compares the case group with the control group to determine the proportion of events based on the history of exposure. This research design is known for its retrospective nature, namely the wake-up design by looking back from an event related to the incidence of the disease under study (Hidayat, 2019). The research location is in the working area of UPT Puskesmas Pajagan. The population in this study were all toddlers recorded in the infant outpatient register book and sick toddlers in the Pajagan Puskesmas UPT work area, totaling 187 respondents. To determine the number of samples taken in the study using case control ratio. The number of cases who had diarrhea was 5 toddlers in Calungbungur Village, Pajagan Health Center in 2023 and all were used as case samples, with a ratio or ratio of 1:2 then the control group or babies who did not have diarrhea were 10 toddlers. So that the total sample was 15 respondents. Case and control samples were taken in an unmatched case

control. The sampling technique (sampling technique) used in this study is simple random sampling because taking sample members from the population is done randomly without regard to the strata that exist in that population and is done when members of the population are considered homogeneous (Sugiyono, 2020). Inclusion criteria are criteria in which research subjects represent research samples that qualify as samples (Hidayat, 2019), namely: a. Toddler age with an age range between 6-8 months, b. Only mothers who live in the Calungbungur Village area, c. Toddlers who do not have a history of or are suffering from diseases that can affect nutritional conditions, growth, or general health, d. Only mothers who are the primary caregivers of toddlers will be included in the research sample. Exclusion criteria are criteria where the research subject cannot represent the sample because it does not meet the requirements as a sample (Hidayat, 2019), namely: a. Age of toddlers outside the 6-8 month range,

b. Mothers who live outside Calungbungur Village, Pajagan Health Center, c. Severe health conditions of toddlers, d. History of significant food allergy or intolerance, e. Developmental disorders or physical disabilities that affect feeding patterns, f. Toddlers who are not given complementary feeding willing to be a respondent. This research uses a questionnaire as a data collection technique. The questionnaire is a data collection technique that is done by giving a set of questions or written statements to respondents to answer (Sugiyono, 2020). The technical analysis used univariate analysis and bivariate analysis. Chi-square distribution is used to see if two classifications of the same data are independent of each other. Chi-square analysis can also be done to test the interval of a population and check whether a data collection is well described by a normal distribution (Usman, 2020). In research, many things must be considered, not only methods, design and other aspects, but

there are very important and serious things that must be considered by researchers, namely "Ethical Principles". This is indeed a consideration and an absolute thing that must be obeyed by researchers in any field, including the fields of health, nursing, midwifery, medicine, and others. The following describes the ethical principles in research (Polit and Beck, 2003), namely: 1. Respecting the autonomous capacity of research participants, participants must be free from negative consequences due to the research they participate in. 2. Preventing and minimizing harmful things. 3. In research, research should not only respect participants, but also respect their families and other relatives. 4. Ensure that the benefits and burdens of research are equitably distributed. 5. Protect the privacy of participants as much as possible. 6. Ensure the integrity of the research process. 7. Make reports on matters that are suspected, alleged, or known incidents

of scientific misconduct in research. (Swarjana, 2015).

## **Research Result**

Based on univariate results showed that toddlers aged 6-8 months who suffered from diarrhea were 33.3% and those who did not suffer from diarrhea were 66.7%. Likewise, mothers of toddlers who have good knowledge about complementary foods are 66.7% more when compared to mothers of toddlers who have less knowledge about complementary foods, which is 33.3%. Based on the bivariate results show that toddlers who suffer from diarrhea are more (40%) experienced by mothers of toddlers who have less knowledge about complementary foods when compared to those who do not suffer from diarrhea (30%). The Chi Square test results show that there is no significant relationship between maternal knowledge about complementary feeding with the incidence of diarrhea in toddlers (p value 1.000). The results of the OR

calculation show that mothers with less knowledge about complementary feeding are 1.556 times more likely to experience diarrhea in children under five than those with good knowledge (95% CI 0.165-14.654).

## Discussion

The results of the research that have been conducted by this researcher are in line with research conducted by Putra, et al (2020) that there is no relationship between the level of maternal knowledge about MP-ASI and the incidence of diarrhea in children aged 6-24 months in Padukuhan Pugeran Maguwoharjo Depok Sleman Yogyakarta. In the study Putra, et al (2020) explained that the level of education affects the mother in the ease of absorbing and receiving information obtained and being able to apply it in everyday life. In the theory put forward by Utami (2016) that diarrhea is caused by three factors, namely environmental factors, sociodemographic factors and behavioral factors. Diarrhea can occur

because a person does not pay attention to environmental hygiene and considers that hygiene problems are trivial problems. Environmental hygiene is an optimum environmental condition that can have a positive influence on good health status. A person's high education makes it easier for that person to receive information, both from other people and the mass media. The amount of information that enters will make knowledge about diarrhea disease increase. The habit of washing hands is a behavioral factor that influences the spread of enteric germs and reduces the risk of diarrhea. The researcher also believes that the minimal incidence of diarrhea in children under 6 - 8 months of age in Calungbungur Village, Pajagan Health Center Working Area is a result of health promotion activities on Clean and Healthy Living Behavior (PHBS) which are carried out regularly so that people in Calungbungur Village understand how to maintain environmental health. This study also needs to be developed further

considering that there are several things that are very limited by the researcher, such as (1) data collection with questionnaires is subjective, so that the answers to the questionnaire depend on the personal opinions or views of the respondents, (2) determination of the incidence of diarrhea is not a definite diagnosis with macroscopic examination, only in accordance with existing theories, (3) limited time and energy with a large number of subjects studied so that only guided questionnaire filling was carried out and did not conduct direct interviews, (4) documentation of questionnaire filling in this study was carried out by the researcher himself and had difficulty taking photos for documentation.

### **Summary**

Based on the research that has been conducted by researchers with the title "The Relationship between Maternal Knowledge of MP-ASI Feeding with the Incidence of Diarrhea in Toddlers aged 6-7 months

in Calungbungur Village, Pajagan Health Center in 2023", the researchers draw the following conclusions:

1.Toddlers aged 6-8 months in the Pajagan Health Center working area who suffered from diarrhea were 33.3% and those who did not suffer from diarrhea were 66.7%.

2.Mothers of toddlers aged 6-8 months with good knowledge are more (66.7%) when compared to respondents who are less knowledgeable (33.3%).

There is no relationship between mother's knowledge about complementary food with the incidence of diarrhea in toddlers aged 6 - 8 months.

### **Advice**

The following are suggestions that researchers can convey:

#### **1.For Health Service Agencies**

Hopefully, the results of this study can be a reference for the Pajagan Health Center in carrying out

counseling activities at the posyandu. It is desirable that mothers of infants aged 6-8 months can understand the importance of complementary feeding, so as to maintain the health of infants and reduce the risk of diarrhea.

#### 2. For mothers of toddlers

This study is expected to reveal the relationship between early complementary feeding and the incidence of diarrhea in infants. The results are expected to increase awareness of the importance of providing complementary foods at the right time, the right type, and with the right method, while still paying attention to hygiene.

#### 3. For the Midwifery Study Program

It is hoped that the findings from this study can be a valuable source of reading and information for STIKes Abdi Nusantara students, so as to increase their understanding of the incidence of early complementary feeding.

#### 4. For Researchers

Hopefully, the results of this study can be a valuable contribution as

input for the development of further research.

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