

FACTORS RELATED TO THE EARLY FEEDING OF COMPLEMENTARY FOOD TO INFANT AGED 0-6 MONTHS

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ABSTRACT

Complementary foods is a complementary food which is given after the baby 6 months old, but some mothers have given complementary foods to their babies before they are 6 months old. Giving complementary foods to baby before age of 6 months old can cause short-term risks such as diarrhea and long-term risks such as obesity. The purpose of study was describe the correlation between maternal knowledge with early complementary feeding in infants aged 0-6 months. The variables in this research are mother's knowledge, education, and occupation. This type of research is descriptive. The research sample is 35 people with the sampling technique that is total sampling. The results showed that for the mothers with good knowledge category were 25 respondents (71.43%) and in the less knowledge were 10 respondents (28.57%). The results of research fot the mothers in the elementary school education level were 5 respondents (14.29%), junior high school education were 7 respondents (20.00%), high school education were 16 respondents (45.71%), and college was 7 respondents (20.00%). The results of the research on the level of maternal employment with the category of civil servants was 7 respondents (20.00%), self-employed was 9 respondents (25.71%), and housewives was 19 respondents (54.25%). Based on the results of this research, it can be concluded that there is a correlation between maternal knowledge with early complementary feeding in infants aged 0-6 months.

Keywords : *complementary foods; infant; knowledge*

INTRODUCTION

Breast milk is the first natural food for baby. Breast milk provides all the energy and nutrition a baby needs for the first months of life. Breastfeeding is an excellent way of providing the ideal food for the healthy growth and development of babies. In order to reduce infant morbidity and mortality, UNICEF and WHO recommend that babies should only be breastfed for at least 6 months, and breastfeeding should be continued until the babies 2 years old (WHO, 2018).

The introduction of complementary foods to infants is an important milestone that affects nutritional status, development, and health. According to World Health Organization (WHO), exclusive breastfeeding is given until 6 months of age and introduction of complementary foods after 6 months. Feeding complementary foods is beneficial to fulfil the nutritional needs and growth and development of infants. Incorrect complementary feeding can lead to stunted growth, delayed motor and mental development, immune deficiency, and a high risk of infectious diseases such as diarrhea (Gain, *et al.*, 2020)

Early complementary feeding can cause health problems in infants, such as increasing the risk of diarrhea, food allergies, and causing weight gain on infants and childrens (Kramer and Kakuma, 2012; Pluymen et al, 2018) especially if given before 4 months of age with high protein foods (Matvienko-Sikar et al, 2019). The gastrointestinal microbiome in exclusive breastfeeding may provide a protective effect on intestinal colonization when complementary feeding is started (Oddy, 2019).

WHO research (2017), asserts that only 40% of babies in the world are exclusively breastfed. While 60% of others babies have received complementary food at the age of less than 6 months. Giving complementary food before the babies are aged enough is still high, the result of the 2017 Indonesian Demographic and health survey showed that the highest early supplementary drink were given at the age of 2-3 months by 24,7% of 506 samples of children samples and the highest giving of solid or semi solid food was at the age of 4-5 months by 32,7% of 488 samples of children (BPS, 2018). In additional of basic health research (2018), asserts that babies who received exclusive breastfeeding amounted 30,2% while babies who had been given complementary food were 69,8% of the total babies in Indonesia. It shows that there are still many mothers who had given complementary food for their babies before the right time (WHO, 2017).

Early complementary feeding (<6 months) in Indonesia according to the 2018 Indonesian Demographic Health Survey for babies who receive complementary feeding at 0-6 month of age (9,6%), at 2-3 months (16,7%) and 4-5 months (43,9%). One of the risk factors that is the main cause of death in toddlers caused by diarrhoea (25,2%) and upper respiratory infection (15,5%) is early complementary feeding (SDKI, 2018). In West Java (2018), the coverage of exclusive breastfeeding for infant 0-6 months was 37,29% and Bogor city in 15th place out of 27 districts / cities in West Java for the highest coverage exclusive breastfeeding, and in Bogor district is only 45,5% (West Java Health Office, 2019).

The efforts to improve the health and nutritional status of infants or children through improving people's knowledge and behaviour in providing complementary feeding are an integral part of efforts to improve a whole nutrition. But in reality there are still many mothers who had given food early and not on time. So it takes very good knowledge about how to give complementary food so that the delivery goes well, the better knowledge and skills of mothers in giving complementary food, the better nutritional status of children. Efforts to increase this knowledge could be provided through counseling and health education. Education about giving complementary food to mothers could increase mother's knowledge. According to research by Aprillia et al. (2019) with the topic effectiveness of 4 classes education of complementary food. In increasing knowledge of babies' mothers, the result obtained were an increase in knowledge before and after being educated. Knowledge raising activities are carried out so that mothers and families could provide complementary feeding well and understand the dangers, impacts and risks of inappropriate complementary feeding to babies.

METHOD

The design used in this research is descriptive, the approach used is cross sectional. The population in this research is all mothers who give complementary food to babies before 6 months of age amount 35 mothers. The sample in this research was part of the population of mother who give complementary food to babies before the age 6 months amount 35 people.

RESULTS AND DISCUSSION

The sample in this research was 35 mothers who gave complementary foods to infants aged less than 6 months. This research aims to describe the correlation between maternal knowledge with early complementary feeding in infants aged less than 6 months at E Midwife Clinic, Bogor City.

Table.1
Frequency Distribution of The Correlation Between Age and Mother's Knowledge About Early Complementary Feeding In Infants 0-6 Months In E Midwife Clinic

Age of Mother	Mother's Knowledge			
	Good		Less	
	f	%	f	%
19-25	7	28,0	3	30,0
26-32	16	64,0	7	70,0
33-38	2	8,0	0	0,0
Total	25	100	10	100

This research shows that out of 35 respondents who became the research sample, the highest percentage of respondents with good knowledge were mothers aged 26-32 years old was 16 respondents (64%), and less knowledge were 7 respondents (70%). The results of this research that there was no correlation between age and mother's knowledge ($p= 0,654$). One of the factors that motivates mothers to provide early complementary foods is because mothers felt that their breastmilk intake was insufficient.

This research didn't across as Kostecka et al, (2020) research, the results showed that mothers aged 30-40 years or older had significantly lower knowledge of nutrition and were able to provide early solids ($P=0.0031$). According to Wijndaele et al, younger mothers also tend to give early complementary food to their babies (Wijndaele, *et al.* 2009).

Table. 2
Frequency Distribution of The Correlation Between Education and Mother's Knowledge About Early Complementary Feeding In Infants 0-6 Months In E Midwife Clinic

Education	Mother's Knowledge			
	Good		Less	
	f	%	f	%
Company	5	20,0	2	20,0
Junior and Senior High School	18	72,0	6	60,0
Elementary High School	2	8,0	2	20,0

Total	25	100	10	100
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This research shows that out of 35 respondents who became the research sample, the highest percentage of respondents with good knowledge are most in the Junior and Senior high school education were 18 respondents (72%), and less knowledge were 6 respondents (60%). The results of this research that there was no correlation between education and mother's knowledge ($p= 0,592$). Maternal education level has a direct positive impact on infant growth (Salem, *et al.* 2014; Imdad, *et al.* 2011).

This research is across to Wang et al. (2019) and Rebhan et al. (2009) research in Europe and Austria, where low education was a major factor in complementary feeding before 6 months of age. Complementary feeding is also affected by the baby's readiness to consume solid food. Mothers with higher education know when to give complementary foods. Discontinuation of exclusive breastfeeding is a major problem in early complementary feeding.

Table. 3
Frequency Distribution of The Correlation Between Occupation and Mother's Knowledge About Early Complementary Feeding In Infants 0-6 Months In E Midwife Clinic

Age of Mother	Mother's Knowledge			
	Good		Less	
	f	%	f	%
Civil servant	5	20,0	2	20,0
Self-employed	6	24,0	3	30,0
Housewife	14	56,0	5	50,0
Total	25	100	10	100

This research shows that out of 35 respondents who became the research sample, the highest percentage was found in mothers in the housewife category were 14 respondents (56%) and those with less knowledge were 5 respondents (50%). The results of this research that there was no correlation between occupation and mother's knowledge ($p= 0,929$).

The results of this research didn't across as Paramashanti and Benita's research (2020), which stated that mothers who work in agriculture provide more complementary foods earlier, and this may cause the babies to be at 4 times greater risk of developing growth disorders compared to non-working mothers. This is because mothers spend more time outside the home and less time interacting with their children, which may result in

eating patterns disturbed.

Early complementary feeding is affected by several factors, one of them is the level of knowledge. Yu et al, 2019 research in China said that maternal age, education level, employment and economic level are factors that affect early complementary feeding. The results of the study, almost all infants (94%) had been given complementary foods before 6 months of age, (90%) infants had been given water before 4 months and the most common complementary foods introduced before 6 months of age were baby cereal, fruit juice or vegetable juice.

Mother's education level was significantly correlated with early complementary feeding. Highly educated mothers gave more early complementary foods than low-educated mothers. Highly educated and working mothers will have more responsibilities at work. Early complementary feeding has been proven to affect the composition of the gastrointestinal microbiome and causing dysbiosis (Voreades et al, 2014). This contradicts with WHO and the American Academy of Pediatrics, which recommend complementary feeding after 6 months of age.

The results of Magarey et al, 2016 research showed that exclusive breastfeeding failure was correlated with early complementary feeding. Mothers who were younger, had less education, and were having their first child were more give early complementary foods. This is affected by young mothers feeling that they do not produce enough breastmilk and doubting their milk supply. This lack of confidence affects the mother's psychological state, which leads to inconsistent breastfeeding and impacts the duration and exclusivity of breastfeeding in Australia.

CONCLUSION

Based on the results of this research, it can be concluded that there was no correlation between maternal knowledge about early breastfeeding in infants aged 0-6 months. Therefore, it is expected that Clinic will provide counseling about complementary food. This is to support the progress of programs related to maternal and child health.

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