

The influence of toddler mothers class application on maternal behavior in complementary breastfeeding

Desy Setiawati¹, Kharisma Virgian², Suprida³

^{1,2,3}Health Polytecnic the Ministry of Health, Midwifery, Palembang, Indonesia

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ABSTRACT

An important period in a child's growth and development is the period under five years (toddlers), because this period is a period of basic growth that will affect and determine the child's subsequent development. During toddlerhood, children experience rapid growth and development and are often referred to as the golden period as well as the critical period. Health workers have a role in promoting knowledge about the health of toddlers to parents. The toddler mother class is a form of activity that provides knowledge to mothers about the health of their toddlers. This study analyzes the influence of android applications for mothers under five on maternal behavior in providing complementary foods for breast milk to toddlers 1-2 years old at the Palembang City Independent Practice Midwifery. The research method uses a Quasi experiment research design using a one-group pretest and posttest design approach. Based on the results of the statistical test using the McNemar statistical test, a p value of 0.000 ($\alpha < 0.005$) was obtained, a meaningful difference was obtained between the behavior of mothers before and after using the Mother of Toddler Class application through the android application. This research is expected to be useful for mothers of toddlers and can be used as input material for midwives as an alternative method of implementing classes for mothers under five years old.

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Corresponding Author:

Kharisma Virgian,
Health Polytechnic Palembang the Ministry of Health,
Midwifery Program,
Jend. Sudirman Komp. RSMH, Palembang, 30126, Indonesia,
Email: kharismavirgian@poltekkespalembang.ac.id

INTRODUCTION

The golden period can be realized if at this time the child receives the appropriate nutritional intake for optimal growth and development (Budiati, Hardiany, et al., 2021). The growth and development of children during the golden period greatly determines the quality of life in the future of a child. This period must be used as well as possible which includes proper mental, intellectual, emotional, moral and social development. Some of the efforts that can be made include various aspects such as health maintenance, nutrition, intellectual stimulation, social and emotional stimulation. This lifestyle habituation can be done regularly and repeatedly gradually according to the child's continuous growth and development (Uce, 2017).

Complementary breastfeeding should be given when the baby is at the age of 6 months, while the baby must get exclusive breastfeeding from birth to 6 months of age. After 6 months, the baby must continue breastfeeding plus complementary foods. According to WHO, less than half of babies under 6 months of age receive exclusive breastfeeding. The coverage of exclusive breastfeeding in Indonesia is still low at only 67.96%, down from the previous year of 69.7% (World Health Organization, 2023). The coverage of 6-month-old babies who have received exclusive breastfeeding in 2022 in Indonesia is 61.5%, while in South Sumatra Province it is 56.9%. Although it has reached the national target of 45%, this coverage figure is still low (Kementerian Kesehatan RI, 2023). The provision of complementary foods for breast milk that is too early or less than 6 months is still high at 33.1%, the types of food given are in the form of formula milk (81.4%), water (13.9%) and honey plus water (13.5%). And the most age group that has been given food other than breast milk is in the age group of 0-5 months by 33.3% and the most pre-lactating food given is formula milk (84.5%) (Kementerian Kesehatan RI, 2019).

Improper breastfeeding will have a long-term impact on children's growth and development. The introduction of complementary foods to breast milk before the age of 4 – 6 months can pose a greater risk to the baby's well-being. Complementary foods can increase all health risks such as diarrhea, cough, cold and fever (Phyllis L.F. Rippey et al., 2020). Giving complementary food breast milk too quickly can make the breastfeeding process not optimal so that milk production can decrease. Long-term risks can result in obesity, hypertension, arteriochlorosis and food allergies. Late administration of MP breast milk causes malnutrition, stunting, anemia and even learning ability (Sudarto, 2023).

The proportion of time for introduction of complementary foods to breast milk in toddlers before 6 months is around 60.9%. The time period of introduction of complementary foods for breast milk is closely related to the number of child births and household economic status. Education or increasing knowledge about nutrition in pregnant women, especially in primigravids from poor households. A program is needed to improve maternal readiness in the practice of complementary breastfeeding. The proportion of inappropriate introduction of complementary foods to breast milk is worrying and is mainly explained by the birth rate of children and the economic status of households which shows the importance of targeting nutrition education to first-time mothers and poor households (Puspitorini et al., 2021).

The fulfillment of nutrition in children is a very crucial factor in ensuring optimal growth and development and intelligence of children. The toddler period is the period of formation of brain structure and the development of all organs of the body. The nutritional coverage at this time will have a very long impact if not provided optimally (Danu Ramadityo, 2023). The problem that occurs in the community is that many mothers under five do not know about how to give complementary foods for breast milk, how to portions and doses, content or composition, and how to process and serve complementary foods for breast milk properly and correctly. The community also does not know the right type of nutritious nutrition to support the growth and development of toddlers (Nurlaila et al., 2020).

Knowledge is a very important domain in shaping a person's actions. Information, education and communication about nutrition provided to parents can increase maternal knowledge. Health workers have a role in promoting knowledge to parents about healthy nutrition for toddlers, including correcting wrong parental habits in preparing food for their toddlers (Patimah, 2022), (Sukraniti et al., 2018). Knowledge, attitudes, family support, health worker support, and socio-cultural support have an effect on early MP-ASI in infants <6 months of age (Fitriani et al., 2022).

The toddler mother class is a form of activity that provides knowledge to mothers about the health of their toddlers, including information about nutrition, growth and development and health of toddlers. The toddler mother class is a group learning activity in a classroom with members of several mothers who have children under five (aged 0-5 years) under the guidance of

one or several facilitators (teachers) using the Maternal and Child Health (KIA) book as a learning tool. The purpose of the toddler mother class is to improve the knowledge, attitudes and behaviors of mothers about the health of toddlers, nutrition and stimulation of children's growth and development, so that optimal growth and development of toddlers is realized and can reduce the risk of pain and death in children (Kemenkes RI, 2015).

Knowledge modules for increasing the knowledge of mothers under five have been widely developed in Indonesia and are combined in the activities of the Mother of Toddler Class. One of the most popular is the KIA Book which is a guide for pregnant women from pregnancy to 6 years old. This book is expected to increase knowledge and understanding of maternal and child health so that the public can find adequate health services, practice a healthy way of life, understand how to care for infants and children under five, especially regarding nutritional fulfillment and growth and development monitoring (Andriani et al., 2023).

The implementation of the toddler mother class does not go well in several places due to many things, including inadequate places and facilities, the implementation of the toddler mother class which is carried out at the same time as the posyandu so that the implementation of the toddler mother class is not effective, the provision of material only uses the lecture method so that the activity becomes less fun, the mother's inability to come to the toddler mother class because she has to take care of the child, as well as working mothers who cannot come to the scheduled classes of mothers under five (Sulisnadewi et al., 2020).

In this study, an application has been developed for the Toddler Mother Class which contains knowledge education for mothers under five about complementary foods for breast milk. This application is made in the form of an android-based application. Android is an operating system intended for mobile phones or mobile phones. Developers who want to create applications are greatly helped by this operating system, because android provides an open platform to build applications according to the developer's wishes.

RESEARCH METHOD

This study uses a Quasi experiment research design using a one group pretest and posttest design approach. According to (Jasmin et al., 2023) , experimental research is a research by conducting experimental activities that aim to find out the symptoms or effects that arise, as a result of certain treatments or experiments.

This study uses non-random sampling with the Purposive Sampling technique with a sample size of 45. Sampling is based on a certain consideration made by the researcher himself, based on previously known characteristics or characteristics of the population. The sample in this study is 45 mothers who have toddlers aged 1-2 years.

This research was conducted at Independent Midwifery Practice Teti Herawati, Meli Rosita and Misni Herawati in Palembang city. The android application media for toddler mothers is one of the media developed to increase the insight and knowledge of mothers under five about breastfeeding. In it there are several menus about the administration of complementary food and recipes on how to make it. Data collection through the provision of intervention through the media of android applications for mothers under five classes. Toddler mothers are explained directly about the Toddler Mother Class Application through a link sent to their handphone. Then you can register by logging in to the application and filling in the required biodata. Mothers of toddlers can use this application every day easily, to see menus or videos explaining exclusive breastfeeding, the right time and way to give complementary foods, the right time to give complementary foods according to the age of the toddler and equipped with recipes to make complementary foods. After logging in, mothers can fill out the pre-test questionnaire on the application menu. To find out how mothers behave in feeding complementary breastfeeding. After doing the pre-test, mothers can use the application themselves easily. In the application, there is an explanation of how to use the application and several other menus such as breast milk, complementary foods, immunization,

balanced nutrition and toddler growth and development. The mothers are gathered in whatsapp groups as a media of communication and to monitor the use of the application. After 1 month of using the application, mothers can fill out the Post-test menu to find out the change in behavior after using the application.

Data analysis was carried out through univariate and bivariate analysis. The data analysis uses the McNemmar Test because it is a categorical comparative analysis in paired groups where the category is 2 x 2.

RESULTS AND DISCUSSIONS

Respondents characteristic data consisted of maternal age, parity, education, occupation, breastfeeding history and breastfeeding plan. Data on respondent characteristics can be seen in the table below:

Table 1. Characteristics of respondents

Characteristic	Category	Frequency (n)	Percentage (%)
Mother's age (years)	< 20	2	4,4
	20-30	24	53,3
	>30	19	42,2
Parity	1	19	42,2
	2	11	24,4
	3	7	15,6
	4	6	13,3
	5	2	4,4
Education	Elementary school	1	2,2
	Junior High School	2	4,4
	High School	25	55,6
	Diploma/Bachelor	17	37,8
Occupation	Housewife	30	66,7
	Working mothers	15	33,3
Total (N)		45	100

From table 1, it is known that of the 45 respondents, most of them are in the age range of 20-30 years (53.3%), the highest parity is in parity 1 (42.2%), the most education is in high school education (55.6%) and most of the respondents are not working (66.7%). Maternal behavior is categorized into the good and less categories. Mother's behavior before and after using the Toddler Mother Class Application can be seen in the table below:

Table 2. Distribution of frequency of mother's behavior before and after using the toddler mother class application

Behaviour	Before		After	
	n	%	n	%
Less	33	73,3	4	8,9
Good	12	26,7	41	91,1
Total (N)	45	100	45	100

From table 2, it is known that before using the Mother of Toddler Class Application from 45 respondents, there were 33 respondents with poor behavior (73.3%) and 12 respondents with good behavior (26.7%). After using the Mother of Toddler Class Application from 45 respondents, there were 41 respondents with good behavior (91.1%) and only 4 respondents had less behavior (8.9%). This means that after using the Mother Toddler Class Application through the android application, most of the respondents experienced an increase in behavior from less behavior to good behavior in providing complementary foods.

Bivariate analysis was carried out to determine the relationship between two variables, independent variables and dependent variables. The statistical test used for it was the McNemar

Test with a significance level of $\alpha < 0.05$ and a CI of 95%. The bivariate analysis table is presented in the table below:

Table 3. The effect of the application of mothers of toddlers class on the behavior of mothers of toddlers

		Behavior after using the Mother Toddler Class application				N	%	p
		Poor		Good				
Behavior before using the Mother Toddler Class application		n	%	n	%			
Class application	Poor	4	0,12	29	87,8	33	100	0,000
	Good	0	0	12	100	12	100	
Total		4	0,09	41	91,1	45		

Based on the results of the bivariate analysis in table 3, it can be seen that before and after using the Mother of Toddler Class application, there were 12 respondents who had good behavior and 4 respondents with poor behavior. Meanwhile, of the 33 respondents with poor behavior during the pretest, there were 29 respondents whose behavior improved to good after using the Mother of Toddler Class application.

The statistical test used is the McNemmar Test because it is a categorical comparative analysis in paired groups where the category is 2 x 2. Based on the results of the statistical test using the McNemar statistical test, a p value of 0.000 ($\alpha < 0.005$) was obtained. This means that there is a meaningful difference between the behavior of mothers before and after using the Toddler Mother Class application through the android application.

This study is an experimental research with one group pre post test design. Maternal behavior was measured using a questionnaire. The intervention carried out was in the form of the use of the Toddler Mother Class android application which also contained a knowledge menu about breast milk, MP-ASI, Immunization, Balanced Nutrition and Toddler Growth and Development. From the analysis of univariate data, it can be found that of the 45 respondents, most of them are in the age range of 20-30 years (53.3%), the highest parity is at parity 1 (42.2%), the most education is in high school education (55.6%) and most of the respondents are not working (66.7%). Before using the Mother of Toddler Class Application from 45 respondents, there were 33 respondents with poor behavior (73.3%) and 12 respondents with good behavior (26.7%). After using the Mother of Toddler Class Application from 45 respondents, there were 41 respondents with good behavior (91.1%) and only 4 respondents had poor behavior (8.9%). This means that after using the Mother Toddler Class Application through the android application, most of the respondents experienced an increase in behavior from poor behavior to good behavior in providing complementary foods.

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Nutrition or nutrition plays a very important role in supporting the growth and development of an early childhood. Nutritional components are needed and by the body, especially in the process of physical growth and development, nervous system and brain as well as the level of intellect and intelligence. Fulfillment of nutritional needs is the main factor to achieve growth and development results in accordance with genetic potential. Fertility is associated with

an increase in body size physically and structurally, while the development of abilities in structure and body functions is more complex. A child must get nutrients according to his age level. Where after 6 months, in addition to getting breast milk, a toddler must also get complementary foods for breast milk as they get older. The right nutrients are needed from the amount and type of nutrients needed (Mayar et al., 2021).

Breastfeeding in toddlers is influenced by the knowledge and attitude of mothers under five. Complementary breastfeeding is a nutritional supplement as a child ages. The older they get, the more nutrients they need. Complementary foods can develop a child's ability to receive a variety of foods with various flavors and shapes, thereby improving the ability to chew, swallow and adapt to various types of new foods (Lestiarini & Sulistyorini, 2020).

Several studies have developed an android application for breast milk companion foods to improve the knowledge and behavior of mothers under five. The use of education through the complementary application is 1.4 times more effective than education through leaflets in increasing the Height (TB) of babies by ≥ 1.9 cm. The provision of education and nutrition education about MP-ASI is one of the efforts to prevent stunting or short toddlers (Andriani, 2022). There is a positive influence of the use of android-based application media as an educational medium for counseling in increasing the knowledge of breastfeeding mothers about exclusive breastfeeding and the android-based application media "BuSui Cerdas" as an educational media for counseling is effective in increasing the knowledge of breastfeeding mothers about exclusive breastfeeding (Elvina & Suryantara, 2022). Health education affects good knowledge in mothers under five in breastfeeding (Arlis et al., 2024) (Amalia Wijaya et al., 2022).

Educational media is very effective in increasing the knowledge of mothers under five about complementary foods for breastfeeding. The media can display very attractive images and sounds so that it does not cause boredom and information can be conveyed well. With increasing knowledge, it will eventually be able to change the behavior of mothers under five in providing complementary foods to their toddlers (Kaimarehe et al., 2024). Educational media is one of the factors that can increase the effectiveness of providing education directly or indirectly can generate interest and motivation in receiving educational messages. Education that is well packaged in a media can attract the attention of the target, and greatly clarify the material presented (Lestari, 2021).

The class for mothers of toddlers as a means to increase knowledge and change behavior is very effective. With increasing knowledge, it can affect the behavior of mothers under five for the better. With good behavior, it tends to meet the nutritional needs of toddlers in accordance with the nutritional needs and types of nutrition recommended by WHO. Good behavior from mothers under five is very effective in helping the optimal growth and development of toddlers (Kostania & Rahayu, 2018).

There is a relationship between the class of mothers under five and the attitude of mothers about complementary foods for breastfeeding. Mothers of toddlers consider complementary foods to be very good for their children's growth and development. Because respondents have known information about MP ASI from class activities for mothers under five with various methods such as counseling and exchanging experiences and various media such as audio-visual media. With a variety of information sources, it can improve the attitude and behavior of mothers to be better (Russiska et al., 2024).

Health education can increase a mother's knowledge and ultimately change behavior for the better. The most effective type of education is one that involves the senses of hearing and sight by utilizing audio-visual media, for example with videos, short films, social media where mobile phones have various features that can be used as health education media. The toddler mother class application is one of the educational media with various interesting menus and features so that it can increase knowledge and change behavior (Muharram et al., 2021).

Nutrition education using the app can significantly improve mothers' knowledge, attitudes and skills in preparing complementary foods. Especially for mothers who have toddlers for the first time. With the deployment of the application, mothers become more aware of how to prepare MP breast milk and are very motivated to make homemade complementary foods to be healthier and more maintained for toddlers. The varied menus make toddlers not bored in eating their first food (Sugiyanto et al., 2023).

The mother toddler class can increase the knowledge of mothers under five whether it is carried out directly or offline or online using the mother of toddler class application. The knowledge and behavior of mothers of toddlers in the care of toddlers has improved well (Yusniarita et al., 2019). The application for toddler mothers class has also been widely applied in the community. Classroom activities for mothers under five can not only increase maternal knowledge, but also increase the spirit of entrepreneurship in mothers under five (Wardhani et al., 2022). The use of the "Friends of Toddlers" application can be applied in Posyandu activities, especially in monitoring the growth and development of toddlers (Susilawati et al., 2017). Feeding education for infants and children has a significant influence on the practice of complementary breastfeeding and weight gain in underweight toddlers (Sahroni et al., 2023). The attitude and behavior of mothers under five have also improved with the implementation of interprofessional education in the class of mothers under five using the help of maternal and child health books (Juaeriah & Susanti, 2022). The use of the mother toddler application can support the improvement of maternal and child health, especially the improvement of maternal knowledge, skills and attitudes and behaviors so that toddlers can grow and develop optimally.

CONCLUSION

The statistical test using the McNemar, a p value of 0.000 ($\alpha < 0.005$) was obtained, this means that there is a meaningful difference between the behavior of mothers before and after using the Toddler Mother Class application through the android application. The Mother Toddler Class application can improve the behavior of mothers under five in providing complementary breastfeeding. The use of the Toddler Mother Class android application which also contains a knowledge menu about breastfeeding, immunization, balanced nutrition and toddler growth and development can improve the behavior of toddler mothers in providing the best complementary foods for toddlers. The limitation of this study is that there is no supporting menu to ask and answer or chat with health workers so that it still uses the help of WhatsApp group media. It is recommended in future research to be able to develop other menus in this application so that they are more interesting, communicative, educational and interactive. This application can be used as a media tool in the implementation of classes for mothers under five at Pukesmas or Posyandu, which is generally only in the form of printed media such as booklets or pamphlets. It is hoped that a policy can be made in the use of this media in the implementation of classes for mothers under five in the community.

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