


Original Research Paper

The effect of using the soppa application on cognitive and psychomotor improvement of breastfeeding mothers

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Abstrak

Breast care during the puerperium can flex and strengthen the nipples, stimulate milk production, and keep the breasts clean, especially the nipples. The process of lactation, or breastfeeding, is the process of forming breast milk, which involves the hormones prolactin and oxytocin. Breastfeeding needs to be learned, among other things, by learning how to hold the baby so that he can suckle properly and adjust the body position so that he feels comfortable during breastfeeding. Often, breastfeeding failures are caused by incorrect positioning and attachment of the baby. The nipples become chafed so that the mother is reluctant to breastfeed, milk production decreases, and the baby becomes too lazy to suckle. The aim is to find out the effect of using the Soppa application (Simulation Oxytocin Planned Parenthood by Android) on the cognitive and psychomotor improvement of breastfeeding mothers. This type of research is quantitative with a quasi-experiment research design. The research design used a pre- and post-test without a control group design. This study wanted to know about cognitive and psychomotor changes in breastfeeding mothers and family planning using the SOPPA application. The results of the Wilcoxon test obtained a p-value of 0.0001, so H₀ was rejected, which means that there is an effect of using the Soppa application (Simulation Oxytosin Planned Parenthood by Android) on the cognitive and psychomotor improvement of breastfeeding mothers.

Keywords: breastfeeding mothers, breastfeeding, knowledge, Application SOPPA

1. Introduction

Exclusive breastfeeding is very beneficial and important for the growth and development of babies, but the scope of exclusive breastfeeding is still low. According to WHO, only 32.6% of the 136.7 million babies born worldwide are exclusively breastfed (Senghore et al, 2018). The World Health Assembly (WHA) affirms that children have the principle of getting optimal growth and development. As we know that the main source of food for children immediately after birth is breast milk. Breast milk has many benefits, especially for babies or for mothers. One of the benefits of breast milk for babies is as the main food source and can prevent from various infectious diseases. As for the mother herself, one of the benefits of breast milk is that it can reduce breast cancer risk factors (M. M. Dewi et al., 2019).

Several efforts have been made to support exclusive breastfeeding in Indonesia. Exclusive breastfeeding is included in one of the indicators of household Clean and Healthy Living Behavior (PHBS) (Fitriami & Galaresa, 2021). Efforts have been made, such as the Breastfeeding Care Community Movement, the policy of Increasing the Use of Breast Milk (PP-ASI) and the National Movement for Increasing the Use of Breast Milk (GNPP-ASI) (Nurlinawati & Sahar, 2016). However, the program did not work as expected because the coverage of exclusive breastfeeding in Indonesia is still low. The low achievement of the exclusive breastfeeding program occurs due to several factors that influence this, such as the low knowledge that mothers have about exclusive breastfeeding (Elvira &

Gitayanti, 2021). The percentage of deceased mothers who give birth aged under 20 years and over 35 years is 33% of all maternal deaths, so that if the family planning program can be implemented properly again by conducting health education, it is likely that 33% of maternal deaths can be prevented through the use of contraception (Indonesian Health Profile, 2020). The coverage of active family planning participants in Central Java Province in 2020 was 72.9%, a decrease compared to the achievement in 2019, which was 73.5%. The district or city with the highest coverage is Banjar negara which is 73.5%. Followed by Wonosobo 78.8%, and Rembang 77.9%. The district or city with the lowest coverage is Tegal, which is 67.7%, followed by the city of Pekalongan at 67.7%, and Sukoharjo at 68.1% (Central Java Health Profile, 2020).

Dependent on health services, clients must return every 30 days for injections. Weight gain is common and can have serious side effects such as heart attack, stroke, blood clots in the brain and does not protect against transmission of sexually transmitted infections, hepatitis B, or HIV virus. The hormonal factor contained in breast milk is the hormone prolactin produced by the front pituitary gland of the brain. Prolactin stimulates the glands of milk production. While injectable birth control for 3 months there are estrogen and progesterone hormones where these hormones in breast milk production do not affect but can also improve milk production (Abdulahi et al., 2018).

The low percentage of exclusive breastfeeding occurs due to several influencing factors, such as the low knowledge that mothers have about exclusive breastfeeding. The low knowledge that mothers have about exclusive breastfeeding, support from family has a big influence on mothers in providing exclusive breastfeeding. To increase knowledge about exclusive breastfeeding, it is necessary to provide health education to breastfeeding mothers (Rosa, 2022). Health education is the first step that can be taken to prevent a health problem (Mulyani & Subandi, 2020). Health counseling can be carried out by implementing a learning system that is in accordance with respondents (Waryana, 2018). Teaching aids or learning systems used during counseling are diverse such as using pocket books, posters, back and forth sheets, videos, advertisements on TV and other electronic media (Hanulan et.al, 2017). Today the use of android is not only as a tool to communicate, but also used as a learning medium in health promotion (Alnasser, Almasoud, Aljohni, Almised, & Alsuwaine, 2018). Health promotion using Android-based applications is now often used to convey information and education. The role of midwives in breastfeeding expenditure is to provide health education about the importance of exclusive breastfeeding, the composition of breast milk, the benefits of exclusive breastfeeding, the difference between breast milk and formula milk, signs that the baby is breastfed enough, the impact if the baby does not get exclusive breastfeeding, breastfeeding position and the right breastfeeding steps (M. Dewi et al., 2019).

One of the android applications that can be used to provide education that contains materials and simulations through the SOPPA Application. The SOPPA application is a web-based application so that it is easier to access and can be opened anytime and at any time anywhere as long as there is an internet network. Respondents who have participated in this study and experienced significant cognitive and psychomotor changes related to breastfeeding need to be maintained by regularly opening the SOPPA Application website.

From a preliminary study conducted at the Permata Hati clinic Karanganyar, it was found that 2 mothers breastfed their babies aged 2 months with 3-month injectable contraceptives, 1 breastfeeding mother whose babies were 3 months old with 3-month injectable contraceptives, and 1 breastfeeding mother whose babies were 4 months old with 1-month injectable contraceptives and currently their babies have eaten milk porridge because it seems that not enough milk is given. Based on the background above, the researcher is interested in conducting a study entitled "The Effect of Using the Soppa Application (Simulation Oxytocin Planned Parenthood by Android) on Cognitive and Psychomotor Improvement of Breastfeeding Women at the Permata Hati Clinic Karanganyar". This

study aims to determine the cognitive and psychomotor improvement of breastfeeding mothers at Permata Hati Clinic Karanganyar.

2. Method

This study uses a type of quantitative research with a Quasy Experiment research design. This research design uses pre and post-test research without control group design. This study wanted to determine the cognitive and psychomotor changes of breastfeeding mothers about breast milk and family planning using the SOPPA application. The SOPPA application can be accessed anywhere and by anyone, as long as the respondent has an internet quota to access the SOPPA application. The SOPPA application is a web-based application so that it is easier to access and can be opened anytime and at any time anywhere as long as there is an internet network. Respondents who have participated in this study and experienced significant cognitive and psychomotor changes related to breastfeeding need to be maintained by regularly opening the SOPPA Application website. Psychomotor in breastfeeding will decrease when respondents are unable to maintain consistency in carrying out practices in accordance with the correct SOP. The population in this study was all breastfeeding mothers who had babies 0-6 months at the Permata Hati Clinic Karanganyar as many as 35 respondents. The bivariate test in this study used the Wilcoxon test because the data scale is ordinal. This research has passed the ethical clearance test at KEPK Universitas Kusuma Husada Surakarta with EC No: 070 / UKH. L.02/EC/IX/2022

3. Result and Discussion

3.1. Characteristics of the Research Subject

Table 1. Cognitive and psychomotor distribution of breastfeeding mothers about breast milk and birth control before administration of Soppa Application (*Simulation Oxytocin Planned Parenthood by Android*)

Cognitive	Frequency	Percent
Enough	5	14.3
Good	24	68.6
Excellent	6	17.1
Total	35	100.0

Source: Primary Data, 2023

The cognitive distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 24 people (68.6%).

Table 2. Psychomotor distribution of breastfeeding mothers about breast milk and birth control before administration of Soppa Application (*Simulation Oxytocin Planned Parenthood by Android*)

Psychomotor	Frequency	Percent
Enough	5	14.3
Good	24	68.6
Very Good	6	17.1
Total	35	100.0

Source: Primary Data, 2023

The psychomotor distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 24 people (68.6%).

3.2. Cognitive and psychomotor of breastfeeding mothers about breast milk and birth control after administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*)

Table 3. Cognitive and psychomotor distribution of breastfeeding mothers about breast milk and birth control after administration of the Soppa Application (*Simulation Oxytosin: Planned Parenthood By Android*)

Cognitive	Frequency	Percent
Good	20	57.1
Excellent	15	42.9
Total	35	100.0

Source: Primary Data, 2023

The cognitive distribution of breastfeeding mothers about breast milk and birth control after giving the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 20 people (57.1%) and very good as many as 15 people (42.9%).

Table 4. Psychomotor distribution of breastfeeding mothers about breast milk and family planning after administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*)

Psychomotor	Frequency	Percent
Enough	1	2.9
Good	18	51.4
Very Good	16	45.7
Total	35	100.0

Source: Primary Data, 2023

The psychomotor distribution of breastfeeding mothers about breast milk and family planning after the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 18 people (51.4%) and very good as many as 16 people (45.7%).

3.3. The effect of using the Soppa application (*Simulation Oxytocin Planned Parenthood by Android*) on cognitive and psychomotor improvement of breastfeeding mothers

Table 5. The effect of using the Soppa application (*Simulation oxytocin Planned Parenthood by Android*) on cognitive and psychomotor improvement of breastfeeding mothers

Variable	Z	P Value
Cognitive Pre-Post	3,742	0,0001
Psychomotor Pre-Post	3,742	0,0001

Source: Primary Data, 2023

The results of the Wilcoxon test obtained a p value of 0.0001, then H0 was rejected which means there is an effect of using the Soppa application (*Simulation Oxytosin, Planned Parenthood by Android*) on cognitive and psychomotor improvement of breastfeeding mothers.

The cognitive distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 24 people (68.6%). The psychomotor distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by 'good' with 24 people (68.6%).

Factors that influence exclusive breastfeeding, one of which is maternal knowledge (Abuidhail et al., 2019). Good knowledge influences mothers in toddler parenting to give breast milk only until the age of 6 months to their babies. Knowledge about exclusive breastfeeding is the basis needed so that mothers know and understand the right actions in exclusively breastfeeding so that they will realize a good attitude in accordance with the knowledge they have. This is in line with research conducted by Ilhami there is a meaningful relationship between maternal knowledge and exclusive breastfeeding. So that mothers who have high knowledge about exclusive breastfeeding will influence mothers in providing exclusive breastfeeding to their babies (Alnasser, Almasoud, Aljohni, Almisned, Alsuwaine, et al., 2018).

The higher a person's level of education, the easier it is to receive information so that the more knowledge they have (Notoatmodjo, 2012). The results of this study are in line with research conducted by Jalal (2017) which states that the level of education is closely related to the ability to absorb and receive information. So the higher the mother's level of education, the higher the number of mothers who breastfeed their babies.

Technology cannot be separated from our lives that are already in the digital era like now, it is not easy to eliminate or without being known by children, because technology is available everywhere both family, relatives and the environment including schools already use technology. Seeing the rapid development of technology as many tutorials or education related to the right way to breastfeed so that when mothers have the motivation to learn, they will try to find applications or videos about how to breastfeed correctly (Farijah, 2021).

The results of research by Setiawan, Setiyaningsih & Triwibowo (2018) show that the use of Android-based mobile applications can support psychomotor and cognitive abilities. Multimedia accessed on Android will make it easier for someone to learn something and can increase interest in learning something new. Applications accompanied by simulations can provide a clear picture of how to do things in accordance with existing procedures (Nugraha & Wahyono, 2019).

The cognitive distribution of breastfeeding mothers about breast milk and birth control after giving the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by good with 20 people (57.1%) and very good as many as 15 people (42.9%). The psychomotor distribution of breastfeeding mothers about breast milk and family planning after the administration of the Soppa Application (*Simulation Oxytocin Planned Parenthood By Android*) was dominated by good with 18 people (51.4%) and very good as many as 16 people (45.7%). The use of videos or simulations as a means of health counseling is now starting to be developed along with current technological advances. Health counseling through video or simulation media has advantages in terms of providing good visualization so as to facilitate the process of absorbing knowledge. Video or simulation is included in audio-visual media because it involves the sense of hearing as well as the sense of sight (Kholisotin and Prasetyo, 2019).

Several studies have shed light on the positive impact of videos or simulations in an individual's cognitive improvement of health. Video or simulation is the media most often used by health promoters as a medium that facilitates the development of cognitive aspects to individual skills and community scope (Cascone et al., 2019). The massive use of mobile phones is an opportunity used by health promoters as a medium of health information education. Video delivery via mobile phone is more effective and more cost-effective compared to extension activities. Sending videos or simulations to mobile phones can be done at one time and includes segmentation to the community at large at one

time. The use of videos or simulated health information is a potential aspect of message recipients with low literacy levels. The delivery of information through videos or simulations increases interest in learning and is easily accepted by message recipients (Kholisotin and Prasetyo, 2019).

The results of the Wilcoxon test obtained a p value of 0.0001, then H_0 was rejected which means there is an effect of using the Soppa application (*Simulation Oxytosin, Planned Parenthood by Android*) on cognitive and psychomotor improvement of breastfeeding mothers. The use of the Soppa Application (*Simulation Oxytosin: Planned Parenthood By Android*) provides a clear picture of the material on how to breastfeed properly and demonstration videos containing how to breastfeed properly and correctly.

The cognitive and psychomotor changes of breastfeeding mothers are very significant with a p value of 0.0001 which indicates that breastfeeding mothers can absorb and understand the material easily and can practice directly the correct way of breastfeeding based on the simulation video displayed in the SOPPA Application.

4. Conclusion

The cognitive distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (Simulation Oxytocin Planned Parenthood By Android) was dominated by good with 24 people (68.6%). The psychomotor distribution of breastfeeding mothers about breast milk and birth control before the administration of the Soppa Application (Simulation Oxytocin Planned Parenthood By Android) was dominated by good with 24 people (68.6%). The cognitive distribution of breastfeeding mothers about breast milk and birth control after giving the Soppa Application (Simulation Oxytocin Planned Parenthood By Android) was dominated by good with 20 people (57.1%) and very good as many as 15 people (42.9%). The psychomotor distribution of breastfeeding mothers about breast milk and family planning after the administration of the Soppa Application (Simulation Oxytocin Planned Parenthood By Android) was dominated by good with 18 people (51.4%) and very good as many as 16 people (45.7%).

The results of the Wilcoxon test obtained a p value of 0.0001, then H_0 was rejected which means there is an effect of using the Soppa application (Simulation Oxytosin, Planned Parenthood by Android) on cognitive and psychomotor improvement of breastfeeding mothers. The cognitive and psychomotor changes of breastfeeding mothers are very significant with a p value of 0.0001 which indicates that breastfeeding mothers can absorb and understand the material easily and can practice directly the correct way of breastfeeding based on the simulation video displayed in the SOPPA Application.

The results of this study can be used as a reference for mothers in providing complementary foods for breast milk that are correct and appropriate, not too early because it has bad consequences, and can be used as an intervention for cadres in providing optimal health education to the community and improving the quality of services at posyandu. The SOPPA application can be developed again by further research by adding history and registry features for members.

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