

Evaluation Of The Use Of Digital Booklets On Increased Knowledge And Motivation Of Pregnant Women In Exclusive Breastfeeding

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Abstract.

Background: The main focus of the Indonesian Ministry of Health is to reduce the stunting rate, the Maternal Mortality Rate (MMR) and the Infant Mortality Rate (IMR). Based on health profile data for 2019, there were 20,244 children aged 0-28 months who died, with the main cause of death being diarrhea. Exclusive breastfeeding has been shown to be effective in preventing stunting and reducing the risk of diarrhea. However, only 34% of babies at the Tirtamulya Health Center received breast milk, and far below the target of 48%. To increase awareness of the importance of breastfeeding, it is recommended to use a booklet containing information about the benefits of breastfeeding. The digital booklet is a version that can be accessed via mobile devices to make it easier to access information. Purpose of Writing: Describe the effect of digital booklets on the level of knowledge and motivation of third trimester pregnant women regarding exclusive breastfeeding at the Tirtamulya Health Center. Research Method : This study used a quasi-experimental design with pre-test and post-test with the control group. A total of 15 pregnant women in the third trimester were selected as samples for each group. Purposive sampling method was used for sampling. The independent variable in this study was the provision of digital booklets and videos, while the dependent variable was the level of knowledge and motivation about exclusive breastfeeding in third trimester pregnant women. Data collection is done through Google Form. Data analysis was performed using the Wilcoxon test and the Mann-Whitney test. Research results: Wilcoxon test of knowledge of the treatment group (p-value = 0.004), the control group (p-value = 0.008), the motivation of the treatment group (p-value = 0.002), the control group (p-value = 0.007). Mann Whitney test of knowledge (p-value = 0.017), motivation (p-value = 0.83). The treatment group had a mean value of knowledge and motivation that was greater than the control group. Conclusions and Suggestions: Digital booklets have a more significant effect on increasing the level of knowledge about exclusive breastfeeding among third trimester pregnant women compared to videos.

Keywords: Exclusive breastfeeding, Digital Booklet, Knowledge and Motivation.

I. INTRODUCTION

In 2019 the Indonesian Ministry of Health set priorities to reduce the stunting rate in maternal mortality and newborn mortality, along with various other health problems. 1 The goal is to reduce the infant mortality rate to 24 deaths per 100 live births, reduce the malnutrition rate in toddlers by 17% and reduce the stunting rate in under-fives by 28%. 2 Based on the 2019 health profile, a total of 20,244 children aged 0-28 months died. 3 Diarrheal disease is one of the main causes of death, accounting for 746 deaths in Indonesia, 11.4% of infants and adolescents aged 0-23 months suffer from malnutrition. 3 Based on data for 2019 in Karawang, there were 181 infant deaths. This figure is still far from the target of the Sustainable Development Goals (SDG), which is 12 per 1000 live births. The government has taken various steps to reduce infant mortality. For this reason, UNICEF and WHO recommend exclusive breastfeeding for babies 0-6 months. Research proves that babies aged <6 months if exclusively breastfed have a lower risk of developing diarrhea. 4 Another study shows that malnutrition in children of low-income families can be treated by breastfeeding. 5 From the time the baby is born to the age of six months, exclusive breastfeeding is giving breast milk (ASI) without the addition of other fluids or food additives. Until now, 41% of babies in the world are exclusively breastfed, which has not reached the target of 70%. In 2022, 47% of babies in Karawang are exclusively breastfed, this is still below the target of 48%. Exclusive breastfeeding provides a vital role in the growth and development of toddlers.

The success of exclusive breastfeeding has an impact on various factors, including the mother's motivation and the mother's perception of the adequacy of breast milk which can influence the mother's belief that the milk produced is sufficient. 3,6,7,8 Knowledge can increase the perception of pregnant women on the adequacy of breast milk, because perceptions of the adequacy of breast milk correlate with knowledge. The level of knowledge of pregnant women about breastfeeding affects the choice of method and

duration of breastfeeding. 9 Booklets containing information on exclusive breastfeeding can help provide education for mothers. 10,11,7 Booklets are a form of print media used by health workers for health education and promotion. Digital booklets are paper booklets that have been converted into electronic reading devices.

13 The Exclusive Breastfeeding Program provides many benefits for mothers and children, as well as the adequacy of breastfeeding can be learned by reading the booklets distributed. Digital booklets make it easy for mothers who are looking for information. Preparation for lactation can be started in the third trimester of pregnancy. The sooner a mother knows about breastfeeding, the better she can assimilate herself with the information and prepare mentally and physically so that mothers are more confident when they are going to breastfeed their children. Therefore, the introduction and cultivation of perceptions about breast milk and the adequacy of breast milk during the third trimester of pregnancy is very good. Motivation affects the readiness of breastfeeding mothers. The Tirtamulya Health Center has carried out various actions to increase the rate of exclusive breastfeeding, namely by providing verbal education to pregnant women when interacting with health workers at the posyandu as well as counseling about prenatal lactation knowledge during third trimester ANC control. Various activities have been carried out to identify the factors and characteristics of exclusive breastfeeding coverage in Parakan Village, Tirtamulya Health Center. However, the breastfeeding coverage rate at Tirtamulya Health Center has only reached 34%, still far below the target of 48%. Therefore researchers are interested in knowing the impact of digital booklets on the level of knowledge and motivation for exclusive lactation in Parakan Village (Tirtamulya Health Center).

II. METHODS

This study is a quantitative research in the category of intervention research with a quasi-experimental design, namely a type of experimental research that seeks to identify the effects of a particular treatment or experiment without strict limitations, applies a randomization system and can control validity threats. In this study, the effect of digital booklets on third trimester pregnant women was seen. The research design was carried out using a pre-test and post-test with a control group design. A pre-test was carried out, then an intervention was carried out to the experimental and control groups which were then given a post-test to both groups. Data collection uses a questionnaire via Google Form. Data analysis used the Wilcoxon and Mann Whitney tests.

III. RESULT AND DISCUSSION

1.1. Characteristics of Respondents

Characteristics		Treatment group		Control Group	
		n	%	n	%
Age of Respondents	< 20 years	1	6,7	2	6,7
	20 – 34 years	11	73,3	9	60,0
	>35 years	3	20,0	5	33,3
Amount		15	100,0	15	100,0
Respondent Parity	Nullipara	8	53,3	8	53,3
	Primipara	2	13,3	3	20,0
	Multipara	4	26,7	4	28,7
	Grandemultipara	1	6,7	0	0
Amount		15	100,0	15	100,0
Respondent Education	Basic	0	53,3	0	60,0
	Intermediate	8	46,7	9	40,0
	High	7	0	6	0
Amount		15	100,0	15	100,0
Respondent's Occupation	Doesn't work	11	73,3	11	73,3
	Work	4	26,7	4	26,7
Amount		15	100,0	15	100,0

The respondent for this research is 30 people. Most of the respondents in the treatment group were 11 people (73.3%) aged 20-34 years, 8 people (53.3%) parity in the treatment group's respondents were nulliparous. Respondent education in the treatment group, a large proportion of 8 people (47.6%) were

intermediate. Respondent age in the treatment group of 9 people (60.0%) was 20-34 years old. A total of 8 people (53.3%) parity in response to the control group were nulliparas. Respondent education in the control group, a total of 9 people (40.0%), was low. In the response characteristic in the form of work, each of the treatment and control groups was 11 people (73.3%) did not work.

1.2. Increased Knowledge and motivation of 3rd Trimester Pregnant Women Before and After Intervention

1) Behavioral group

Category	Pretest		Posttest	
	n	%	N	%
Knowledge				
Good	14	93,3	15	100,0
Enough	1	6,7	0	0
Not enough	0	0	0	0
Amount	15	100,0	15	100,0
Motivation				
High	11	73,3	15	100,0
Intermediate	3	20,0	0	0
Low	1	6,7	0	0
Amount	15	100,0	15	100,0

Responding to the treatment group with a level of interest, 14 people (93.3%) had a good level of knowledge, 1 person (6.7%) had a good level of knowledge. After the intervention with the digital booklet was carried out, the level of knowledge at post-test was completely responsive (100%) in the treatment group included in the good category. Responding to the treatment group before the intervention was carried out as many as 11 people (93.3%) had high category motivation, 3 people (20.0%) had moderate motivation and 1 person (6.7%) had low motivation. After the intervention with the digital booklet was carried out, the motivation during the post-test was completely responsive (100%) to the good category of treatment.

2) Control group

Distribution Increases Knowledge and Motivation of Respondents Before and After the Video is Given

Category	Pretest		Posttest I	
	n	%	N	%
Knowledge				
Good	14	93,3	15	100,0
Enough	1	6,7	0	0
Not Enough	0	0	0	0
Amount	15	100,0	15	100,0
Motivation				
Good	11	73,3	14	93,3
Enough	4	26,7	1	6,7
Not Enough	0	0	0	0
Amount	15	100,0	15	100,0

Respondents in the control group before the intervention was conducted were 15 people (93.3%) had a good level of knowledge, 1 person (6.7%). After the intervention with Videoio was conducted, the level of knowledge at post-test was full of responses (100%) in the treatment group in the good category. In the response to the control group before the intervention was carried out, 11 people (73.3%) had high motivation, 4 people (26.7%) had moderate motivation. After conducting the interview with Videoio, the motivation during the post-theist as many as 14 people (93.9%) had a high category and 1 person (6.7%) had low motivation.

1.3. Bivariate Analysis

Data from the research results were subjected to a normality test, i.e. using the Shapiro Wilk test, the result would be a p-value <0.05 or the data would not be normally distributed. Hypothetical test through computer software to find out whether there is an influence on the provision of information through Digital Booklet and videos on the level of knowledge and motivation of third-term pregnant women. 3. The hypothesis test in this study has a level of confidence of 95% and an error rate of 5%.

1) Reirata Increases Knowledge and Motivation in the Experiment Group and the Control Group.

Knowledge measurement was carried out in the treatment group and the control group. The Wilcoxon test was used to intuitively compare response knowledge through pretest and posttest in each group with the following results:

Group		Mean	Mean difference	p-value
Knowledge				
Treatment	Pretest	91,52		
	Posttest	100,00	8,48	0,004
Control	Pretest	92,17		
	Posttest	97,79	5,62	0,008
Motivation				
Treatment	Pretest	82,00		
	Posttest	94,87	12,87	0,002
Control	Pretest	87,40		
	Posttest	92,67	5,27	0,007

The table above shows that the average value of the knowledge pretest in the treatment group is 91.52, while the posttest average score is 100.00. The difference in the average score of pre-theist and post-theist is 8.48. The results of the statistical test p-value = 0.004 (p-value <0.05) showed that there was a difference in the average value of prior knowledge (pretest) and contention (posttest) given a digital booklet. The average score for the control group was 92.17, while the mean score for the post test was 97.76. There is a difference in the average pre-test and post-test scores, namely 5.62. The results of the statistical test obtained p-value = 0.008 (p-value <0.05). This shows that there is a difference in the level of knowledge between pre-tested and post-tested students given video. The average score for the pretest motivation in the treatment group was 82.00, while the posttest was 94.87. The difference in the average score for pre-test and post-test is 12.87. The results of the statistical test showed that there was a p-value = 0.002 (p-value <0.05) indicating that there is a difference in motivation between seibeilum (pre-test) and post-test with digital booklets. The average prei theist score for the control group was 87.40, the post theist mean score: 92.67. The difference in the average value of pre-theist and post-theist is 5.27. The results of the statistical test p-value = 0.007 (p-value <0.05) showed that there was a discrepancy in knowledge between pre-test and post-test with the video provided.

The results of the Mann Whitney test are as follows:

Mann Whitney Test Knowledge and Motivation of Treatment Group and Control Group

Group	n	Mean±SD	Mean Difference	p-value
Knowledge				
Treatment	15	100,00±0,000		
			2,21	0,017
Control	15	97,79±3,538		
Motivation				
Treatment	15	94,87±5,012		
			2,2	0,083
Control	15	92,67±4,363		

The average value of knowledge in the treatment group was 100.00 and in the control group was 97.79. The difference in differences is 2.21. The p-value in the table is 0.017 or p-value <0.05, meaning that there is a difference between the knowledge of the treatment group and the control group. When seen the average value of the treatment group is higher than the control group, and it is statistically significant. The average value of motivation in the treatment group was 100.00 and that of the control group was 97.79. The average difference difference is 2.2. The p-value in the teirseibuit table is 0.083 or p-value > 0.05, which means that there is no difference between the knowledge of the treatment group and the control group. When seen the average value of the treatment group is higher than the control group.

Discussion

Based on the results of the study, the research respondents consisted of the treatment group and the control group were third trimester pregnant women, the average respondent was 20-34 years old. 36 Parity of

the treatment group respondents and the control group were mostly nullipara. Lactation experience in pregnancy has a correlation with the initiation and duration of breastfeeding. 24 This is because there is a difference in physical and emotional maturity so that mothers under age are vulnerable to being a group of survivors who fail in exclusive breastfeeding, but young mothers have five better nursing skills than mothers with older seniors. 36 The final education response to the treatment group is mostly high school. In the control group, most of the students who received the response were low. Mothers with higher education generally have quality knowledge, so mothers with higher education know more about exclusive breastfeeding so that it increases the possibility of mothers to give exclusive breastfeeding to their babies. Based on the results of the response study in the treatment group and the control group were pregnant women who were not working. Mother's work has an impact on exclusive breastfeeding, this is because housewives absolutely have a lot of time and opportunity with their babies, so they can provide exclusive breastfeeding. 38 However, the fact is that working mothers can still give exclusive breast milk to their babies by expressing breast milk either with a pump or manually by hand then storing and giving it to the baby while the mother is working. 37.

Based on the results of statistical testing of motivational data using the Wilcoxon test, a p-value of 0.02 (< 0.05) was obtained in the treatment group and 0.007 (> 0.005) in the control group. This shows that there is a difference between the original motivation and after the intervention was carried out by using digital booklets. Meanwhile, the p-value in the control group was 0.007 (< 0.05), meaning that there was a difference between the motivation of the equivalent and the intervention using video. So it was concluded that the provision of digital booklet media and videos increases knowledge and motivation of exclusive breastfeeding. In line with the research conducted by Katmawati et al (2021) that the exclusive breastfeeding booklet is effective in increasing mother's knowledge about exclusive breastfeeding. Booklet is one of the media that provides knowledge about breastfeeding management which is very useful for mothers to be able to breastfeed exclusively exclusive for 6 months. Based on the results of the Mann Whitney test, the variables of knowledge and motivation showed a significant difference between the level of knowledge of the treatment group compared to the control group after being given intervention. The difference between the pretest and posttest scores in the treatment group was greater than the average score in the control group. However, if we look at the motivational variables, it is known that the p-value is more than 0.05, which means there is no significant difference. Motivation is an encouragement that arises from internal or external stimuli so that a person has a natural desire to change behavior or activities that are perceived to be better than their previous state. In this study there were no significant differences, this could be caused by intrinsic factors or extrinsic factors. The results of the statistical test prove that the provision of digital booklets in research has a significant effect on the level of knowledge of exclusive breastfeeding in pregnant women.

This is in accordance with the theory of the learning process and the factors that influence it, according to J. Guilbeirt in Notoatmodjo, that media influence on the learning process will influence knowledge which is the result of learning. A digital booklet is a booklet in digital form that can be read through gadgets such as smartphones, laptops, tablets and computers. The digital booklet contains comprehensive information about exclusive breastfeeding, such as the need for breastfeeding, content, benefits, adequacy of breastfeeding, how to breastfeed, preparation for breastfeeding, milk expressing, motivation for breastfeeding. Apart from that, the digital booklet is also equipped with illustrations regarding the position of the nursing staff. Because it is breastfed and designed in such a way that it becomes a learning medium for exclusive breastfeeding which is interesting and easy to understand by third-trimester pregnant women. Achievement of knowledge through the sense of sight is 75%, through the sense of hearing 13% while through other senses such as speech, touch, sense, knowledge is only achieved by 12%. The more concrete the learning media used, the better the information conveyed will be received. The results in this study are in line with the theory that has been explained that there is a change in the average increase in knowledge in the treatment group favoring digital booklets. This is caused by the fact that digital booklets contain writing, tables and graphic illustrations that rely on the sense of sight which can achieve 75% knowledge. Based on Eidgar Daley's theory, as much as 10% of information is absorbed by reading and by looking at pictures as much as 30% of information can be memorized. Another research result that is in

accordance with this research is research by Katmawati in 2021 which stated that the exclusive ASI booklet was effective in increasing mother's knowledge about exclusive breastfeeding.

IV. CONCLUSION

Based on the results and discussion of the results of the research, it can be concluded that:

1. In this study, the distribution of digital booklets had a significant effect on the knowledge and motivation of third-trimester pregnant women regarding exclusive breastfeeding, compared to the provision of videos.
2. The majority of respondents in the experimental and control groups were aged between 20-34 years, had never given birth, had secondary education, and did not work.
3. Before being given treatment, the majority of respondents in both the experimental and control groups had a good level of knowledge and motivation. After receiving the intervention, each participant in the experimental group had better knowledge and motivation. In contrast, only a small portion of the control group had good knowledge and high motivation.
4. There is a significant difference between the mean value of knowledge and motivation in the pretest and posttest of digital booklets that are distributed.
5. There are significant differences between the treatment and control groups in terms of knowledge. There was no significant difference in the motivation of the treatment and control groups. However, the mean value of the treatment group is greater than the mean value of the control group.

V. SUGGESTION

1. Specifically for third trimester pregnant women at Posyandu Melati 3 and Posyandu 7 Parakan Village (Tirtamulya Health Center)

Respondents who were given digital booklets and videos were expected to read again and again and again so that third-trimester pregnant women at Posyandu Melati 3 and Posyandu 7 Parakan Village (Tirtamulya Health Center) could understand all the information related to exclusive breastfeeding and breastfeeding so as to obtain complete knowledge about exclusive breastfeeding.

2. For the Head of the Tirtamulya Health Center

Can make digital booklets as additional or alternative media for counseling pregnant women regarding exclusive breastfeeding in the service area of the puskesmas.

3. For Other Researchers

Other researchers are anticipated to recall respondents more frequently and ensure timely completion of the online questionnaire if the research is conducted online. Conical Edgar Dale suggests combining digital booklet content with other, more concrete media, such as discussions, role playing, and game simulations, because these methods can foster broader knowledge.

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