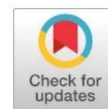




Successful exclusive breastfeeding through “Kiper Si Gizi” to mothers since pregnancy

Sri Hapsari^{1*}, Yuliana Noor SU¹, Dwi Purwanti²



ABSTRACT

Background: One of the important intakes given to infants is exclusive breastfeeding. Training mothers to be ready to breastfeed is done since they are pregnant. Website media makes it easier for mothers to access information online.

Objective: To increase the success of exclusive breastfeeding through website-based nutrition education ‘Kiper Si Gizi’ (*Kelompok Ibu Peduli ASI dan Gizi*) for mothers since pregnancy.

Methods: Quasi-experimental design with two-group pre- and post-test control group design and two-group post-test only control group design. The subjects were 30 pregnant women in trimester 3 at Puskesmas Dempet, Demak Regency, who received ‘Kiper Si Gizi’ education and 30 mothers at Puskesmas Wedung II, Demak Regency, who received Maternal and Child Health (MCH) book education. Statistical tests to determine differences in knowledge, attitudes and differences in breastfeeding practices used Independent sample T-test. Chi Square test to test the difference in exclusive breastfeeding success between the two groups.

Results: The average change in knowledge of pregnant women after being given education using website media (25%) was more effective ($p=0.007$) than using MCH book media (16.33%). The average change in the attitude of pregnant women after being given education using website media ($\Delta=10.20$) is more effective ($p=0.025$) than using MCH book media ($\Delta=7.4$). The breastfeeding practice score of mothers after being educated using the website media (score=9.6) was more effective ($p=0.017$) than using the MCH book media (score=8.5). Mothers who breastfeed exclusively in the website group are more (83.3%) and different ($p=0.001$) than the MCH book group (40.7%).

Conclusion: Education with ‘Kiper Si Gizi’ can improve knowledge, attitudes, breastfeeding practices and more exclusive breastfeeding better than the MCH book.

Keywords : Exclusive breastfeeding; MCH book; ‘Kiper Si Gizi’; website

BACKGROUND

One of the health problems in Indonesia is infant mortality and under-five nutrition. The mortality rate of children under five years of age in Indonesia in 2022 was 21.3 in every 1000 live births and 18.1 of them were infant deaths.¹ This rate still exceeds the Indonesian government's target stated in the Presidential Regulation of the Republic of Indonesia Number 111 of 2022 on the Implementation of Achieving Sustainable Development Goals, which aims to reduce infant mortality to 16 per 1,000 live births by 2030.² In comparison, the infant mortality rate in Central Java in 2020 was 12.77 per 1,000 live births, while in Demak Regency it was slightly lower at 12.40 per 1,000 live births.³

Indonesia is also experiencing a double burden of nutrition problems, based on data from the Indonesian Nutritional Status Survey (SSGI) results in 2022, the percentage of nutrition problems is stunting (21.6%), wasting (7.7%), underweight (17.1%), and overweight (3.5%). Based on this data, Central Java province ranks 20th in the stunting category (HAZ) at 20.8% and wasting toddlers (WHZ) with a percentage of 7.9%, and 18th in the underweight category (WAZ) at 17.6%. Based on the 2022 Indonesian Nutrition Status Survey Data in Demak, the underweight percentage of 22.3% and stunting percentage of 16.2% exceeded the Indonesian prevalence.⁴

The golden period of life is a sensitive period that determines the quality of life of children in the future, where the consequences caused to infants at this time will be permanent and cannot be corrected. Nutrition improvement is carried out through a sustainable approach with a focus on starting from pregnancy until the child is 2 years old.⁵ Feeding infants and toddlers is central to improving survival and promoting healthy growth and development. Optimal breastfeeding and complementary feeding are so important that they can save the lives of more than 820,000 children under the age of 5 each year.⁶ Providing optimal nutrition from infancy is the most effective way to improve child health. Malnutrition during the golden period causes children to grow up short and affects their health and intellectual development.⁷

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Based on data from the Central Statistics Agency in 2022, the percentage of coverage of infants aged 0-6 months who received exclusive breastfeeding in Indonesia was 67.96%, this data has decreased from 2021, which was 69.7%. Data on exclusive breastfeeding coverage of infants aged 0-6 months in Central Java province in 2022 was 78.71%, also a decrease from the previous year, which was 78.93%.⁸ Based on data from the Demak District Health Profile in 2022, the proportion of infants who were not exclusively breastfed was 25.02%. Exclusive breastfeeding coverage in Demak still does not meet the exclusive breastfeeding coverage target in Indonesia set by the Indonesian Ministry of Health, which is 80%.⁴

Failure of exclusive breastfeeding is generally caused by disruption of the lactation process, which can be prevented if mothers prepare early. Factors that influence exclusive breastfeeding include knowledge, motivation, maternal characteristics, access to information, family support, health worker support, and the promotion and marketing of formula milk.⁹ In addition to the above problems, information on how to breastfeed properly has not reached most pregnant women. The breastfeeding process is influenced by the hormones prolactin and oxytocin. Increased oxytocin hormone and proper breastfeeding will facilitate the lactation process and mothers will get good quality and quantity of breast milk.^{10,11} Breastfeeding education for pregnant women before birth can increase the mother's desire to breastfeed and affect the length of time she breastfeeds her baby, which has been proven systematically.¹²

Comprehensive education is one of the efforts that can be made to increase exclusive breastfeeding. The growth of smartphones in Indonesia is dominated by android (90%) and (75%) in the world. Android is also considered easy to use.¹³ Based on WHO guideline recommendations on digital interventions for health system strengthening, the use of digital technology is an effort to improve health services by increasing access to information, access to care, prevention, and health education can be done by integrating mobile technology in health as a strategy in solving existing problems.¹⁴

Research conducted by Maharani, Nuha with titled The Effectiveness of the 'Rumah ASI' website-based application on knowledge and attitudes in exclusive breastfeeding shows that education with the 'Rumah ASI' website and modules is equally effective in increasing knowledge and attitudes in exclusive breastfeeding with a $p < 0.05$, meaning that there is an influence on both.¹⁵ Several media are used in providing education in the current era of development, one of which is the website media. In today's digital era, website-based education techniques are considered capable and effective in changing a person's behaviour. The results of a systematic review study of the effect of educational media (Computers, Websites and Applications) from the results of research published from 2015 - 2018 in 8 countries, showed that of the 8 articles there were 5 articles (62.5%) with the results of website media effectively influencing exclusive breastfeeding.¹⁶

The 'Kiper Si Gizi' website is an application made with various features including written health information, as well as videos related to the readiness of exclusive breastfeeding since pregnancy, the success of exclusive breastfeeding and breastfeeding. website-based education for pregnant women is effective in increasing knowledge, attitudes, and breastfeeding practices later. This is because website media makes it easy for people, especially pregnant women, to access information anywhere and anytime online so that it is flexible and practical. Based on the background description above, the researcher is interested in conducting research on 'Kiper Si Gizi': Comprehensive Website-Based Education for Pregnant Women as an Effort to Increase the Duration of Breastfeeding in Demak.

The research roadmap began at the end of 2010 with the identification of exclusive breastfeeding problems. The main factors causing the failure of exclusive breastfeeding are lack of knowledge since pregnancy, family support, and the existence of inappropriate beliefs. Result of research was conducted to assist pregnant women in the third trimester using E-booklet media to increase breastfeeding duration. The study showed an increase in breastfeeding practices and duration of breastfeeding.¹⁷ Nutrition education using the 'Kiper Si Gizi' website as a strategy to increase the duration of breastfeeding and the success of exclusive breastfeeding is planned to be implemented in 2024. The process of implementing the website as an innovation that will be continued for application development research, which is expected to help overcome the problem of exclusive breastfeeding since pregnant women will be implemented in 2027. The process of evaluation, application development and trials on a wider target will be carried out in 2030. Collaborative application in government institutions will be carried out in 2035.

MATERIALS AND METHODS

This study was a quantitative research using a quasi-experimental design. Two designs were applied: (1) a two-group pre-test and post-test control group design for knowledges and attitudes, and (2) a two-group post-test-only control group design for exclusive breastfeeding practise.¹⁸ The form of this design show in figure 1. The research was conducted at February – December 2024. We used purposive sampling to conduct intervention and control group. The working area of Puskesmas Dempet where the intervention 'Kiper Si Gizi' was given and the working area of Puskesmas Wedung II as a control with the educational media of the MCH book. Puskesmas Dempet and Wedung II are rural type Puskesmas with a distance of about 34 km between them. The sample in this study were all third trimester pregnant women with gestational age >36 weeks in the working area of Puskesmas Dempet and Puskesmas Wedung II.

The sample size taken was 30 pregnant women from Puskesmas Dempet and 30 pregnant women from Puskesmas Wedung II. Using total sampling, all members of the population who meet the criteria will be used as research subjects among February – March 2024. The inclusion criteria set were pregnant women with gestational age > 36 weeks, have Android mobile phones, can operate mobile phones, access the internet well, primigravida or multiplegravida and are willing to be research subjects. The exclusion criteria were subjects who did not give birth in the research work area, did not participate in the study until the end, mother with multiple pregnancy, and the mother or baby died during the delivery process.

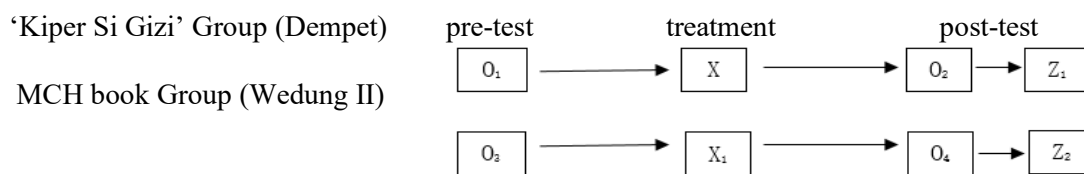


Figure 1. Research Design

Description:

- O₁ = Knowledge and attitudes about exclusive breastfeeding before being given website-based education 'Kiper Si Gizi' in the working area of Puskesmas Dempet Demak Regency.
- X = Treatment by providing nutrition education based on the website and monitoring by WhatsApp Group 'Kiper Si Gizi' in the working area of Puskesmas Dempet Demak Regency.
- O₂ = Knowledge and attitudes about exclusive breastfeeding 30 minutes after receiving education based on the 'Kiper Si Gizi' website in the working area of Puskesmas Dempet Demak Regency.
- O₃ = Knowledge and attitudes about exclusive breastfeeding before being given MCH book education in the working area of Puskesmas Wedung II Demak Regency.
- X₁ = Treatment with nutrition education using the MCH book media and monitoring by WhatsApp Group in the working area of Puskesmas Wedung II Demak Regency.
- O₄ = Knowledge and attitudes about exclusive breastfeeding 30 minutes after being given MCH book education in the working area Puskesmas Wedung II Demak Regency.
- Z₁ = Practice of exclusive breastfeeding for 6 months in the working area Puskesmas Wedung II Demak Regency.
- Z₂ = Practice of exclusive breastfeeding for 6 months in the working area Puskesmas Wedung II Demak Regency.

Data on identity, knowledge, attitude, and breastfeeding practices were collected using a questionnaire with an interview method. Ethical clearance was obtained prior to the implementation of the study. This research was approved by the Health Research Ethics Committee (KEPK) from FIKKES Unimus with number of 703/KE/09/2024. All pregnant women who meet the criteria had explained about the research procedures that carried out. There were 30 pregnant women in the 'Kiper Si Gizi' website group and 30 pregnant women in the MCH book group who were willing to be research subjects and signed an inform consent. The features available on the 'Kiper Si Gizi' website include information related to exclusive breastfeeding, the role of

husbands and families, breastfeeding techniques and problems, strategies for successful exclusive breastfeeding, and online consultations, as shown in Figure 2.



Figure 2. 'Kiper Si Gizi' Features

'Kiper Si Gizi' website design was tested on non-subject pregnant women, breastfeeding material experts and media experts to get suggestions for improvement. Descriptive statistical data analysis in the form of number (n), Mean (r), and Standard Deviation (SD) and Analysis of differences using Paired T Test and Mann Whitney. The difference test in the treatment group and control group used the difference between the pre-test and post-test in each group using the Independent T Test, Chi Square was used to test the success of exclusive breastfeeding in both groups with a significance of 5%.¹⁹

RESULTS

'Kiper Si Gizi' website media test was conducted using construct validity using expert judgement by consulting the website media that has been made by researchers to material experts, media experts and website users. The results of the consultation with the material expert (Lecturer in Nutrition at Unimus) was to provide improvements by adding material such as the capacity of the baby's stomach, the need for breast milk in babies, breastfeeding obstacles and how to overcome them, as well as adding videos to the website media to make it more varied. The media test results from the media expert suggested a bright and unobtrusive colour display and adding an online consultation display feature to the 'Kiper Si Gizi' website. The results of the media test to users stated that the 'Kiper Si Gizi' website was easy to operate. Table 1 shows the results of the 'Kiper Si Gizi' website media test based on user responses. The results show that most users rated the website as "good" or "very good," indicating generally positive acceptance by users. The highest "very good" ratings were mainly for Information provided on the website is accurate and relevant Ease of access on various mobile phone devices and Color of the website.

Pregnant women of 3rd trimester in the working area of Puskesmas Dempet and Puskesmas Wedung II who received nutrition education were the subjects in this study. There were 30 subjects for each working area of the Puskesmas. Subject characteristics are presented in Table 2. Subjects residing in the working area of Puskesmas Dempet had an average age of 29 years. The youngest age was 18 years old while the oldest subject was 40 years old. There was 1 mother (3.3%) of non-reproductive age, and as many as 12 subjects (40.0%) had basic education, namely elementary school and junior high school. Subjects who worked as farmers were 2 mothers (6.7%), 6 subjects (20.0%) worked as private / self-employed, 21 subjects (70.0%) worked as housewives.

Subjects residing in the working area of Puskesmas Wedung II had an average age of 25 years. The youngest subject was 18 years old while the oldest subject was 40 years old. A total of 5 subjects (16.7%) were non-reproductive age, and as many as 11 subjects (36.7%) had basic education, namely elementary school and junior high school. There was 1 subject (3.3%) working as a farmer, 10 subjects (33.3%) working as private/self-employed, 17 subjects (56.7%) as housewives. The minimum value of knowledge in the 'Kiper Si Gizi' website group was as low as the MCH book group, which was 30%. The maximum value of knowledge

in the website group was 70%, while the MCH book group was 60%. Attitude in the 'Kiper Si Gizi' website group received a minimum value of 40% and the MCH book group received a value of 39%. The maximum value of attitude in the 'Kiper Si Gizi' website group was 50%, and the MCH book group was 52%. There was no difference in knowledge and attitude before education was provided using the Kipper Si Gizi website or the MCH Book ($p > 0.05$). Pre-test knowledge and attitudes were the same for both groups, so they did not affect the post-test results.

Table 1. Results of 'Kiper Si Gizi' Website Media Test to Users

Criteria for Assessment	VG	G	GE	NG
Website display	7	3	0	0
Loading speed	8	2	0	0
Information provided on the website is accurate and relevant	10	0	0	0
Ease of access on various mobile phone devices	10	0	0	0
Colour of the website	10	0	0	0
Website is easily accessible in various geographical locations	8	2	0	0
Provides features needed by visitors	8	2	0	0
The language used is easy to understand	8	2	0	0
Image and sound quality (not broken)	8	2	0	0
Easy to read and not boring	8	2	0	0

Description:

VG : Very Good
G : Good

GE : Good Enough
NG : Not Good

Table 2. Characteristics of Subjects

Characteristics	Website 'Kiper Si Gizi'	MCH book	<i>p-value</i>
Age			
Not Reproductive (<20th / >35th)	1 (3.3%)	5 (16.7%)	
Reproductive (20-35th)	29 (96.7%)	25 (83.3%)	
Education			
Primary	12 (40.0%)	11 (36.7%)	
Secondary	17 (56.7%)	19 (63.3%)	
Higher	1 (3.3%)	0 (0 %)	
Occupation			
Farmer	2 (6.7 %)	1 (3.3 %)	
Private / Self-employed	6 (20.0%)	10 (33.3%)	
Housewife	21 (70.0%)	17 (56.7%)	
Teacher	1 (3.3%)	2 (6.7%)	
Total	30 (100%)	30 (100%)	
Pretest Knowledge			
Minimum Value (%)	30	30	
Maximum Value (%)	70	60	
Mean±SD (%)	48.17±9.05	45.50±7.92	^a 0.229
Attitude Pretest			
Minimum Value	40	39	
Maximum Value	50	52	
Mean±SD	43.93±2.89	43.37±3.37	^b 0.290

Description: ^a Independent T Test

^b Mann Whitney

The results in Table 3 show that the average knowledge of subjects during the pre-test in the 'Kiper Si Gizi' website group was 48.17% and in the MCH book group it was almost the same at 45.50%. There was a significant increase ($p < 0.05$) in average knowledge after being given education with the 'Kiper Si Gizi' website media (25%) and the MCH book (16.33%).

Table 3. Changes in Knowledge of Pregnant Women Before and After Education with 'Kiper Si Gizi' Website Media and MCH book

	Mean± SD (%)	Δ Mean± SD (%)	<i>p-value</i>
Differences in Knowledge of the 'Kiper Si Gizi' Website Group			
Pre-test	48.17±9.05		
Post-test	73.17±10.54	25.00±12.93	< 0.001 ^a
Differences in Knowledge of MCH book Group			
Pre-test	45.50±7.92		
Post-test	61.83±9.14	16.33±10.25	< 0.001 ^a
<i>p-value</i>		0.007 ^b	
Description: ^a Paired T Test ^b Mann Whitney			

Table 4. Changes in Attitude of Pregnant Women Before and After Education with 'Kiper Si Gizi' Website Media and MCH book

	Mean± SD (%)	Δ Mean± SD (%)	<i>p-value</i>
Differences in Attitude of the 'Kiper Si Gizi' Website Group			
Pre-test	43.93±2.89		
Post-test	54.13±3.95	10.20±5.46	< 0.001 ^a
Differences in Attitude of MCH book Group			
Pre-test	43.37±3.37		
Post-test	50.77±3.71	7.40±3.80	< 0.001 ^a
<i>p-value</i>		0.025 ^b	
Description: ^a Paired T Test ^b Independent T Test			

Table 4 shows that the average attitude of subjects during the pre-test in the 'Kiper Si Gizi' website group was 43.93 and in the MCH book group was almost the same at 43.37. There was a significant increase ($p < 0.05$) in the average attitude after being given education with the 'Kiper Si Gizi' website media (10.20) and the MCH book (7.40).

The mean score on breastfeeding practices after being given 'Kiper Si Gizi' website nutrition education to 30 subjects at Puskesmas Dempet showed a mean of 9.57 with a standard deviation of 1.832 with a minimum value of 7 and a maximum of 13. The mean score on breastfeeding practices after being given nutrition education with MCH book media to 30 subjects at Puskesmas Wedung showed a mean of 8.50 with a standard deviation of 1.503 with a minimum value of 6 and a maximum of 11 according to Table 5. The results of observations and interviews between the 'Kiper Si Gizi' website group and the MCH book there are several different stages of practice, where in the 'Kiper Si Gizi' website group more respondents apply early breastfeeding initiation correctly when compared to the MCH book group. Respondents in both groups had performed simple breast care and implemented a balanced nutritional diet with more portions than usual. Some respondents in the MCH book group explained that because there were problems during breastfeeding such as nipple blisters, swollen breasts, and difficulty releasing breast milk, some babies had to be given formula milk but they had not added additional foods other than breast milk to their babies.

The forms of family support provided between the 'Kiper Si Gizi' website group and the MCH book were not much different. The forms of support provided include accompanying mothers when the baby is fussy at night, accompanying health controls and helping to provide the economy for the family in providing nutritious food. The types of food consumed in the 'Kiper Si Gizi' website group were more varied when compared to the MCH book group. Based on the results of the interview, the food consumed by the 'Kiper Si Gizi' website group was more varied because the website media had exemplified balanced nutrition menus in the form of pictures and snack dishes compared to the MCH book group. There was a difference in breastfeeding practices of mothers ($p = 0.017$) in the 'Kiper Si Gizi' website group had a higher score (9.57) than the MCH book group (8.5). Mothers who provided exclusive breastfeeding in the website group (83.30%)

were also more than mothers in the MCH book group (59.3%). The 'Kiper Si Gizi' website was more effective in supporting mothers to provide exclusive breastfeeding than the MCH book media ($p=0.001$).

Table 5. Frequency of Breastfeeding Practices After Receiving Nutrition Education on The 'Kiper Si Gizi' Website

Practice	Website 'Kiper Si Gizi'		MCH book		<i>p-value</i>
	Yes (%)	No(%)	Yes (%)	No(%)	
Early Breastfeeding Initiation Practices	100.00	0.00	66.67	33.33	
Colostrum Feeding	100.00	0.00	66.67	33.33	
Breastfeeding	73.33	26.67	70.00	30.00	
Breastfeeding Schedule	23.33	76.67	23.33	76.67	
Breastfeeding Attachment	83.33	16.67	73.33	26.67	
Breastfeeding Position	86.67	13.33	73.33	26.67	
Breastfeeding Problems	50.00	50.00	50.00	50.00	
Burping the Baby	73.33	26.67	63.33	36.67	
Breast Care	70.00	30.00	70.00	30.00	
Supplementary Infant Feeding	13.33	86.67	36.67	63.33	
Additional Feeding Portion	76.67	23.33	56.67	43.33	
Balanced Nutrition	80.00	20.00	46.67	53.33	
Family Support	76.67	23.33	40.00	60.00	
Exclusive breastfeeding	83.30	16.70	40.7	59.3	0.001 ^b
Practice Score (Mean±SD)	9.57±1.83		8.50±1.50		0.017 ^a

Description: ^a Independent T Test

^b Chi Square

DISCUSSION

Based on the results of the study there are still subjects with unhealthy reproductive age (<20 years and > 35 years). The age of women who are at a healthy reproductive age shows that they tend to have a ready and stable attitude to conceive, give birth, care for and breastfeed their babies. so that exclusive breastfeeding is more successful than unhealthy reproductive age. Information that is important in providing exclusive breastfeeding is more important to mothers with unhealthy reproductive age.²⁰ The formation of maternal knowledge is also influenced by the level of education. There are still subjects with elementary school education. The higher a person's level of education, the easier it is for someone to accept and develop science and technology. The mother's level of education affects the formation of an open mind to new things. The more information the mother gets, the higher her level of knowledge.²¹

Maternal knowledge is also influenced by occupation. The average knowledge and attitude of mothers in both the Puskesmas Dempet and Wedung II working areas are both in the less category and less supportive attitude. The results of the analysis of the characteristics of the research subjects showed that the majority of the subjects were housewives. The implementation of socialization activities is influenced by work. The time and opportunity used to socialize is also influenced by the subject's work status.²² Low knowledge can be caused by a lack of exposure to information related to breastfeeding.²³ As stated by the nutritionist at Puskesmas Dempet 'Information on how to breastfeed properly is rarely given to pregnant women'. The 'Kiper Si Gizi' website is effective in increasing knowledge compared to the MCH book. The results of systematic review research there are 14 research results in the world that show that there is an effect of providing information when pregnant women to increase maternal knowledge about exclusive breastfeeding.²⁴

Education using the 'Kiper Si Gizi' website media is more effective in increasing the average knowledge than the MCH book media. This happens because website media can present information faster than other media, flexible and practical because it can be accessed wherever and whenever needed, so that it will make it easier for people to receive learning or information while at the same time avoiding misunderstandings in receiving information. If there are still subjects who do not understand the information provided, the subjects can visit the website again in order to achieve the expected learning outcomes. Based on the results of the test comparing knowledge, attitudes, and practices regarding exclusive breastfeeding, the 'Kiper Si Gizi' website is an effective tool for improving people's understanding or knowledge ($p= 0,007$), attitudes ($p= 0,025$), especially regarding exclusive breastfeeding ($p = 0,001$) than MCH Books. The results of a person's understanding of an object through his five senses. Sensing occurs through hearing, vision, taste,

smell, and touch is the understanding of knowledge.²⁵ In accordance with the results of research by Navisa Seyyedi et al that education using smart phones is more effective in increasing knowledge about exclusive breastfeeding ($p < 0.001$).¹²

The concept of attitude is a closed response person's to an object. Attitude cannot be seen directly, but is explained after closed behaviour. Attitude can also be interpreted as a person's preparation to take action or action against objects in an environment so that the attitude has not carried out certain activities or actions. Attitude can be a positive response or negative response to a stimulus that can come from knowledge or personal experience.²⁶ Factors that influence attitudes include mass media that provide factual information and can be conveyed objectively so as to influence a person's attitude.²¹ The low attitude of the subject can be caused by the low knowledge of mothers about exclusive breastfeeding. In accordance with the results of research that knowledge is related to attitudes ($p < 0.05$) in preparing exclusive breastfeeding in pregnant women.²⁷

Changes in attitude were more in the group given education with the 'Kiper Si Gizi' website media than the MCH book media. There are research results that education in pregnant women is effective in improving attitudes about exclusive breastfeeding.²⁸ Education using website media is more effective in increasing the average attitude than the MCH book media. According to Edgar Dale Theory in describing that a cone of experience aims to understand the role of a medium in the process of obtaining a learning experience. This affects each respondent will have a different character in understanding something. So that if the respondent cannot understand after reading and seeing the writing alone, than the respondent can continue by choosing audio visual media. Respondents who already understand the effectiveness of nutrition will result in a change in attitude towards a better direction.²⁹ The use of the Sik-Asiek application based android can also improve maternal attitudes about exclusive breastfeeding ($p = 0.00$).³⁰ The use of the Sik-Asiek app has not yet shown any impact on breastfeeding practices, while the Website 'Kiper Si Gizi' has measured its impact on exclusive breastfeeding.

The 'Kiper Si Gizi' website media is more effective in breastfeeding practices and exclusive breastfeeding success than the MCH book media. The meta-analysis included six RCTs, one quasi-experimental study, and two cohort studies, mostly from high-income countries. Most studies focused on the use of the app by mothers during pregnancy. One study targeted fathers as app users. Population characteristics such as mode of delivery or infant gender, app content coverage, and components such as number of children or mode of delivery, app content coverage, and active components applied, varied across studies. The main methodological limitations of the studies were differences in baseline between groups and lack of blinding. Compared to the control group, app use tended to increase the likelihood of exclusive breastfeeding.³¹ 'Kiper Si Gizi' website media is more accessible, more interactive, contains various videos and consultation services that can help mothers overcome problems in breastfeeding quickly. The development of the 'Kiper Si Gizi' website needs to be carried out, especially for husband or families, in order to increase the role of families in supporting exclusive breastfeeding.

CONCLUSIONS

'Kiper Si Gizi' website media can be used as a medium for health education, especially in exclusive breastfeeding. The development of the 'Kiper Si Gizi' website needs to be carried out, especially for families, in order to increase the role of families in supporting exclusive breastfeeding.

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