

ORIGINAL ARTICLE

Development of Mappanretemme' Qur'an Media Module to Increase Knowledge and Attitude of Prospective Bridal Couples regarding Exclusive Breastfeeding

Sabrina Utami Yasin¹, Citrakesumasari² , and Burhanuddin Bahar³

Affiliation

1 Master Student of Nutrition Science, Faculty of Public Health, Hasanuddin University, Indonesia. 90245

2,3 Department of Nutrition Science, Faculty of Public Health, Hasanuddin University, Indonesia. 90245

Correspondence

sabrinautami1990@gmail.com

Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Abstract

The Mappanretemme' media module is a development of the previous module, which was developed into a website-based application that adapted the previous Mappanretemme' module and enriched it with a food menu for breastfeeding mothers. This application was introduced under the name "SUN 4 Catin". This study assessed the increase in knowledge and attitudes of prospective bride and groom couples after using the Mappanretemme' Plus module. The quasi-experimental study used a one-group pre- and post-test research design, and sampling was conducted using simple random sampling. This study was conducted on 46 prospective brides and grooms in KUA Soreang District, Parepare City. The knowledge variable showed an increase in the good category before and after, with a percentage of 21.74%, and the less category experienced a decrease after, with a percentage decrease of 28.26%, and the Wilcoxon test results obtained p-value 0.005 ($p < 0.05$), indicating that there was an increase in the prospective bride and groom's knowledge before and after education using the SUN 4 Catin application. For the attitude variable, there was an increase in the positive attitude category before and after, with a percentage of 11.22%, whereas, for the negative attitude category, there was a decrease in the attitude category before and after, with a percentage of 15.67%. The Wilcoxon test results showed a p-value 0.127 ($p > 0.05$), indicating that there was no difference in the attitudes of prospective bride and groom couples regarding exclusive breastfeeding and lactation management using SUN 4 Catin application.

Keywords

Development, Exclusive Breastfeeding, Lactation Management, Module Application, Bridal Couple

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1 | INTRODUCTION

The global coverage of breastfeeding remains concerning, as can be seen from the result that the prevalence of breastfeeding remains low. Based on data from the United Nations Children's Fund (UNICEF) in 2018-2020, less than 50% of babies under six months of age were exclusively breastfed throughout the world. Countries with a low prevalence of exclusive breastfeeding include low-income and developed countries. For example, Tunisia, a low-income country, has provided bad news in the past ten years, where the percentage of exclusive breastfeeding has decreased drastically from 45.6% to 6.2%. Other low-income countries that also report low coverage of exclusive breastfeeding include Somalia, Chad, and the South (BPS, 2022) Developed countries have also reported low success rates in providing exclusive breastfeeding; for example, the United States, New Zealand, and the United Kingdom had a prevalence of 19% in the United States and 16% in New Zealand in 2018 (Alianmoghaddam et al., 2019). However, some countries have reported success in drastically increasing the rate of exclusive breastfeeding for children under six months of age over a decade, namely Cambodia, which reported coverage of exclusive breastfeeding from 11.7% in 2000 to 74% in 2010 (BPS, 2022)

According to Riskesdas in 2018, the prevalence of breast milk in the proportion aged 0-23 months increased from 2013 to 2018, from 34.5% in 2013 to 58.2% in 2018; (Riskesdas Kab/kota, 2018) According to the Indonesian Health Profile in 2021, the success of exclusive breastfeeding will only reach 56.9%; (Kemenkes RI., 2021) For South Sulawesi, According to the Central Statistics Agency, the prevalence of exclusive breastfeeding is still fluctuating from to 2019-2022, where it was reported in 2019 with a prevalence of 70.52% and in 2022 with a prevalence of 75.88% (Statistik, 2022) For South Sulawesi, the prevalence only increased by 5.36% over 4 years. The average prevalence of exclusive breastfeeding in the 24 regencies/cities of the South Sulawesi Province was 42%. The districts with the highest target achievement were Soppeng District (81.9%) and Pare City (48%) (Dinas Kesehatan Provinsi Sulawesi Selatan, 2018). The prevalence of exclusive breastfeeding is still very low compared to the 2024 RPJNM target of 80% (Widodo, 2014)

The 1000 HPK movement (the first 1000 days of life) emphasizes collaboration among various policy parties (Wardoyo et al., 2023). The Office of Religious Affairs (KUA) provided premarital counseling to convey information on 1000 HPK. It is important to provide premarital counseling for prospective brides and grooms (*Catin*) in order to educate them on physical and mental preparation while navigating households (Robinson, 2024). Every prospective bride and groom in Indonesia who is getting married must participate in premarital counseling organized by the Office of Religious Affairs (KUA). Premarital counseling is usually based on religious principles (Rahmawati, 2018). The premarital counseling efforts carried out at the KUA aimed to provide education and end the cycle of stunting in Indonesia through women's groups. One educational course on premarital counseling contained information on exclusive breastfeeding and lactation management. After premarital counseling, it is hoped that the husband will have full support to help the prospective bride prepare herself to become a full mother. Therefore, before fertilization of the fetus occurs, 1000 HPK education sessions are provided during bride-and-groom couples or during the preconception period.

Apart from that, the prospective bride should be aware of the importance of 1000 HPK to prevent stunting in babies in the future, one way is by providing exclusive breastfeeding (Al-Rahmad, 2017). The success of counseling for prospective brides and grooms' understanding of nutrition can be increased by more than 70% by using nutrition education poster media (Utami et al., 2021). Ramlan and Margawati's research in Muna Regency, Southeast Sulawesi concluded that intensive nutritional and lactation counseling could increase mothers' knowledge and attitudes regarding exclusive breastfeeding. However, support was a confounding factor. According to Imdad et al., postnatal counseling has an impact on breastfeeding for up to 4-6 weeks only, while counseling given prenatally and postnatally has an impact on exclusive breastfeeding for up to 6 months, meaning that counseling will be more effective if carried out intensively (Al-Rahmad, 2017).

Being a mother plays an important role in families (Erfina et al., 2019, 2022; Sriyasa et al., 2016). Generally, they face difficulties in providing exclusive breastfeeding, wherein the mother later finds her most sensitive point when breastfeeding. She was sensitive when faced with a new role as a mother for the first time. A husband also plays a new role as a father and must fully support his wife in continuing to strive to provide exclusive breast milk to the baby for the sake of the baby's continued growth and development (Fox, 2001; Machado & Jaspers, 2023). Several studies have shown that the success rate of exclusive breastfeeding can reach almost 100% with support from the husbands (Agunbiade & Ogunleye, 2012; Brown & Davies, 2014; Tan, 2011). However, if the husband did not care, the success rate was only 30%. Therefore, it is important to provide knowledge about the importance of exclusive breastfeeding for prospective brides and grooms so that the success of exclusive breastfeeding reaches 100% and can create a healthy and intelligent next generation in the future (Al-Rahmad, 2017). Desmawati's research shows that providing education about exclusive breastfeeding again immediately after the baby is born has been proven to help increase the knowledge of mothers and their families and can increase the motivation of mothers and families to provide breast milk for babies. Psychological comfort, avoiding stress, anxiety, and restlessness in increasing breast milk production in breastfeeding mothers (Desmawati et al., 2020).

Herman's (2021) study showed a positive relationship between knowledge, attitudes, and practice of exclusive breastfeeding. This illustrates that increasing mothers' knowledge and attitudes regarding exclusive breastfeeding can improve the practice of providing exclusive breastfeeding to their babies. Nutrition education, especially knowledge about the definition and benefits of exclusive breastfeeding. Providing exclusive breastfeeding to mothers' babies and increasing support that all mothers can provide exclusive breastfeeding instinctively without requiring special training (Herman et al., 2021).

Print media has been commonly used in several studies. Examples of media that have often been used in previous research include booklets, flipcharts, feedback sheets and posters. Several studies have shown that the use of media to educate prospective brides and grooms gives different results compared to poster and booklet media regarding knowledge and attitudes in preparing for a healthy pregnancy and exclusive breastfeeding. Kadatua et al. (2022) stated that there is a difference between the knowledge and attitudes of prospective brides and grooms in preventing the risk of pregnancy and providing exclusive breastfeeding, which is provided in the form of counseling using lecture methods and booklet media. Each medium has weaknesses, including not increasing bride-and-groom activities in educational activities (Irawati et al., 2019). Other studies have also shown that the media used thus far are conventional, such as booklets, leaflets, posters, and flip charts, which cannot be used if the audience is large in number, with constraints in the form of bride-and-groom with limited time to meet face-to-face with health workers and print media. considered less interesting and less practical in the process of providing education, so several studies agree that there is a need for innovation in the development of digital media that can be used as educational media for prospective brides and grooms (Jatmika et al., 2019).

The development of educational media modules involves a series of processes or activities carried out to produce educational media, based on existing development theories. In developing health promotion media, one must first be able to understand potential problems. Potential problems have also been identified (Jatmika et al., 2019). According to Internet and social media trend data in 2020, the total population is 272.1 million, Internet users are 175.4 million, and 160 million active social media users. From this data, it is clear that Indonesians have a very good ability to use digital technology (Tarsikah & Wullandari, 2022).

Media are an important component of health promoting activities. Media creation must be tailored to the target audience, who will be the subjects of education. Regarding prospective bride and groom targets, apart from considering the obstacles that have been identified, it is also necessary to consider that the current bride and groom are part of the Z generation, who prefer to search for information and communicate digitally. It is hoped that digital media can be created to accommodate all the limited understanding related to preconception care, preparation for

pregnancy, and exclusive breastfeeding, which can be accessed easily by prospective brides or WUS without being limited by space and time. Digital media that can be easily accessed by users are an effort to empower women's potential to prepare quality generations for their small families (Tarsikah & Wullandari, 2022).

Most breastfeeding mothers today turn to smartphone apps for help. The digital breastfeeding app allows mothers to obtain exclusive breastfeeding information and to connect with other mothers who have practiced exclusive breastfeeding. Several studies have shown that the use of e-technology based on mobile applications and the Internet has proven effective in increasing early breastfeeding initiation, knowledge, attitudes, and practices of exclusive breastfeeding at four weeks and six months. Although health applications have great potential to disseminate health information to the public, research proving the effectiveness of health applications, especially their impact on health, is still under debate. Therefore, it is necessary to test the effectiveness of android-based applications in increasing the knowledge and practice of exclusive breastfeeding (Juhanida Lestari et al., 2020).

Research on Mappanretemme' Qur'an was carried out by Fadhilah and Citrakesumasari with results showing that the interpersonal communication practices of the religious leader to bride-and-groom couple when carrying out Mappatemme' Qur'an were considered to have conveyed all the contents of the module regarding exclusive breastfeeding and lactation management correctly. There was also an increase in bride-and-groom couples knowledge after receiving information from the religious leader who implemented the Mappatemme' Qur'an (Suriah et al., 2018). However, this research still uses modules in the form of booklets, leaflets, and posters and the Mappanretemme' module does not provide education regarding food menus that are good for consumption during breastfeeding, which is the background for us to develop media modules based on Android applications that previously used booklet, poster, and leaflets media. We wish to enrich the bride-and-groom couple's knowledge regarding food menus that are good for breastfeeding mothers to consume while providing exclusive breast milk to their babies. This website-based application development is called "SUN 4 Catin" (support up nutrition for the prospective bride).

The development of the application SUN 4 Catin is based on the hope that it will become educational material in conveying exclusive breastfeeding and lactation management to prospective bride and groom couples in Parepare City. It was carried out in Parepare City because the coverage of exclusive breastfeeding was only 48% in 2018; the majority of the population embraced Islam, and knowledge of prospective brides and grooms in this city was still minimal regarding nutritional education. This was demonstrated by Firdayanti's research, which showed that 62.5% of respondents had poor knowledge, and only 37.5% had good knowledge of nutrition education in Parepare City.

2 | METHODS

Quasi-experimental research was conducted using a one-group pre-test and post-test research design (Olowoyeye et al., 2019). In this study, a pre-test (initial observation) was also given before the intervention was given, after the intervention was given, a post-test (final observation) was given. In this study, a pre-test was conducted before the education of prospective bride and groom couples in KUA, Soreang District. Next, the post-test was conducted weeks after the prospective bride and groom's education. The sampling technique was performed using a simple random sampling method, with a sample size of 46 prospective bride-and-groom couples.

Data collection technique involved collecting primary data based on the results of the pre-and post-test knowledge and attitudes of prospective bride and groom couples regarding exclusive breastfeeding and lactation management. the following research instrument is used, namely the android application "SUN 4 Catin". The technique for implementing this was to provide education for prospective brides and grooms through bride and groom courses (*suscatis*). Education was conducted twice a week on Tuesdays and Thursdays, following the *suscatin* schedule of KUA Soreang. The education provided is in the form of face-to-face and discussion. Before the



education is carried out, the prospective bride and groom will download the SUN 4 Catin application on each of their Android cellphones by opening the website sun4catin.my.id. After downloading, the researcher provided the time to fill in the respondent and pre-test data in the application module.

The prospective bride and groom were given a pretest to ensure that the researchers knew the extend of the knowledge of exclusive breastfeeding education and lactation management. Furthermore, researchers were given approximately ± 20-25 minutes to provide education to prospective bride and groom couples regarding exclusive breastfeeding and lactation management as well as how to use the SUN 4 Catin application module. After providing education, the researcher conveyed to the prospective bride and groom that a post-test would be held in the 3rd week after the intervention and the researcher conveyed that the content in this application could be read again at home. In the 3rd week, the researchers will give a post-test to prospective brides and grooms, who have been educated at each prospective bride and groom's home. Statistical analyses were performed using SPSS for Windows ver.25. The level of significance was set at $P < 0.05$. Wilcoxon test was used for normality tests if the data were abnormally distributed.

3 | RESULTS AND DISCUSSION

3.1 | Distribution of Characteristics of Prospective Bridal Couples

This study was conducted in KUA Soreang District, Parepare City. KUA is used as a place to provide education about exclusive breastfeeding and lactation management to prospective bride and groom couples registered with KUA. The following are the results of the distribution of the characteristics of prospective bride and groom couples in KUA, Soreang District, Parepare City.

Table 1 shows the characteristics of respondents according to age group, occupation, and latest education. Based on the research results, it shows that the highest age of prospective bridal couples is 25-27 years old, with as many as 23 participants (50%), while the lowest age of prospective bridal couples is 19-21 years old, 8 participants (17.4%). Work also determines the fate of the prospective bride and groom's household. From the results of this research, it was found that the majority of work was carried out by the prospective bride and groom, namely private employees as many as 24 participants (52.2%), prospective bride and groom couples who had not worked as many as 13 participants (28.3%), BUMN/BUMD, self-employed and workers/farmers, 3 participants, respectively (6.5%). Furthermore, the most recent education of prospective bride and groom couples is senior high school for as many as 16 participants (34.8%), bachelor for as many as 13 participants (28.3%), junior high school for as many as 7 participants (15.2%), diploma as many as 5 participants (11%) and elementary for 3 participants (10.9%). The results of the research showed that the number of prospective male and female brides who took part in this research each amounted to 23 participants (50%).

Table 1. Distribution of Characteristics of Prospective Bridal Couples Registered at the KUA, Soreang District, Parepare City, 2024

Respondent Characteristics	n = 46	%
Age Group		
19-21 Years	8	17,4
22-24 Years	15	32,6
25-27 Years	23	50
Work		
Unemployment	13	28
BUMN/BUMD	3	6.5

Private Sector Employee	24	52
Self-Employed	3	6.5
Farmers	3	6.5
<hr/>		
Education		
<hr/>		
Elementary School	5	11
Junior High School	7	15
Senior High School	16	35
Diploma	5	11
Bachelor	13	28
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Gender		
<hr/>		
Men	23	50
Woman	23	50

Source: Primary Data, 2024

3.2 | Prospective Couples' Level of Knowledge Regarding Exclusive Breastfeeding and Lactation Management

Table 2 and Fig. 1 show that the knowledge of respondents in the lower category was 25 participants (54.35%) at the time of the pre-test reduced to 12 participants (26.09%) during the post-test. In the sufficient knowledge category, there were 20 participants (43.48%) in the pretest and 30 (65.22%) in the post-test. Similarly, the good knowledge category increased from one participant (2.17%) in the pre-test to four participants (8.70%) in the post-test with a sample of 46 participants for the respondent's knowledge category regarding exclusive breastfeeding using the SUN 4 Catin application module.

Table 2. Respondents' knowledge before and after education regarding exclusive breastfeeding and lactation management using the "SUN 4 Catin" application module (n = 46)

Category	Pre-Test		Post-Test		p-value
	n	%	n	%	
Not Enough	25	54.35	12	26.09	0.005*
Enough	20	43.48	30	65.22	
Good	1	2.17	4	8.70	

Source: Primary Data, 2024 *Wilcoxon Test

The respondents' knowledge can be categorized to be good if the respondent can correctly answer more than 81% of all the questions. The respondents' knowledge can be categorized to be sufficient if the respondent can answer 60-80% of all questions. The respondents' knowledge was lacking if the respondent could correctly answer less than 60% of all the questions. To obtain the percentage of respondents, the total respondent score was divided by the number of questions to A1-A20 (20 questions). For example, Mrs. Nindya's total score is 12, with a percentage of 60%, so her knowledge category is said to be sufficient (60-80%). To assess the significance of using the "SUN 4 Catin" application module, a Wilcoxon test was carried out with a p-value of 0.005 ($p < 0.05$), which

means that there was a significant difference in knowledge increase among prospective brides and groom couples regarding exclusive breastfeeding and lactation management compared to the use of the module "SUN 4 Catin" application.

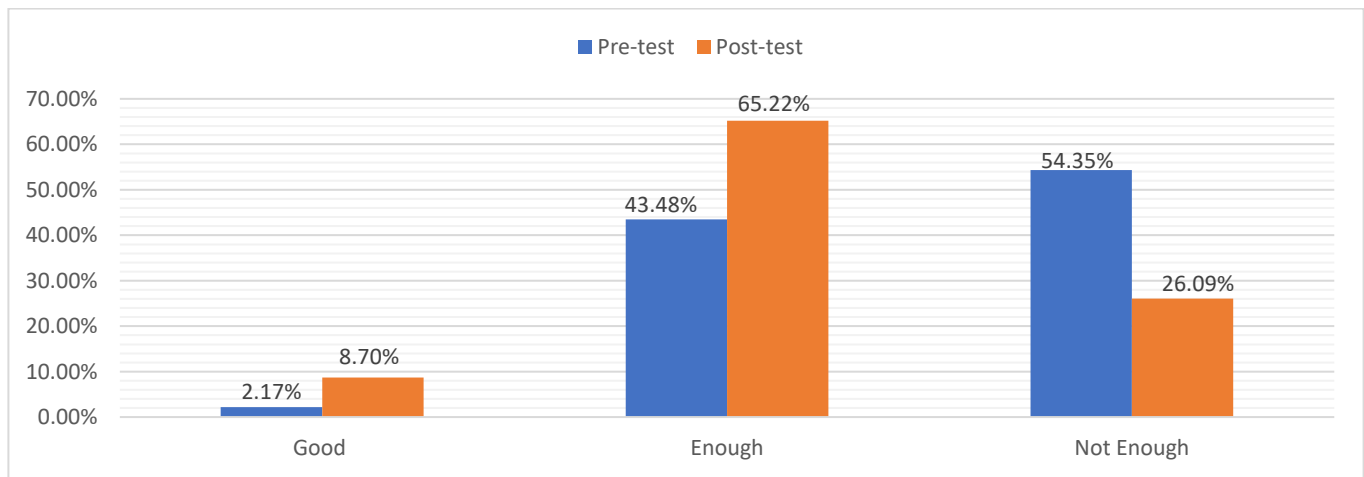


Fig. 1. Respondents' knowledge before and after education regarding exclusive breastfeeding and lactation management using the "SUN 4 Catin" application module (n = 46)

3.3 | Attitude of Prospective Couples Regarding Exclusive Breastfeeding and Lactation Management

As shown in Table 3 and Fig. 2, for the attitude category of respondents regarding exclusive breastfeeding using the SUN 4 Catin application module, the results showed that the difference in attitudes of prospective bride and groom couples in the negative attitude category was 22 participants (47.83%) during the pre-test and reduced to 15 participants (32.61%) during the post-test, while for the positive attitude category of prospective bride and groom couples, there were 24 participants (52.17%) during the pre-test, increasing to 31 participants (67.39%) during the post-test.

The scores of all respondents indicated a negative attitude if the respondent's score was \leq the mean of all respondent's scores, and the respondent's score was said to be positive if the respondent's score was said to be negative if the respondent's score was \geq the mean of all respondent's scores. The mean result at the pre-test was 23.35 and the mean result at the post-test was 25.28. For example, Mr. Nizam obtained a score of 26 after the intervention, with a mean of 25.28, so it was categorized as having a positive attitude. To assess the significance of using the "SUN 4 Catin" application module, a Wilcoxon test was carried out and the result was p-value = 0.127 ($p > 0.05$), which means there is no significant difference in attitudes between prospective bride and groom couples regarding exclusive breastfeeding and lactation management regarding the use of the module. "SUN 4 Catin" application.

Table 3. Respondents' attitudes before and after education regarding exclusive breastfeeding and lactation management using the "SUN 4 Catin" application module (n = 46)

Category	Pre-Test		Post-Test		p-value
	n	%	n	%	
Negative	22	47.83	15	32.61	0.127*
Positive	24	52.17	31	67.39	

Source: Primary Data, 2024 * Wilcoxon Test

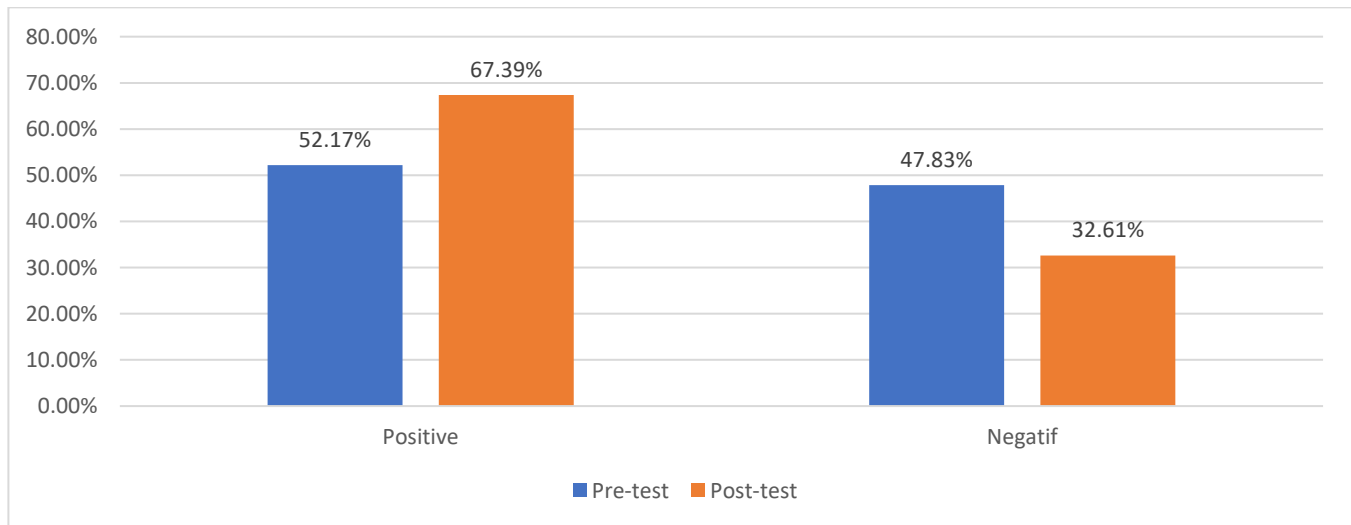


Fig. 2. Respondents' attitudes before and after education regarding exclusive breastfeeding and Lactation Management using the "SUN 4 Catin" Application Module (n = 46)

3.4 | Analysis of Knowledge and Attitudes Before and After Education Regarding Exclusive Breastfeeding and Lactation Management using the "SUN 4 Catin" Application Module (n = 46)

Based on the data in Table 4 and Fig. 3, shows that the knowledge variable shows that the median before and after the educational intervention using the SUN 4 Catin application has increased, whereas before the intervention it was 57.5 and after the intervention, it was 65. The Wilcoxon Test results showed a value of $p=0.005$ ($p<0.05$), which means that there was an increase in the prospective bride and groom's knowledge before and after education using the SUN 4 Catin application. For the attitude variable, the median value before and after the educational intervention using the SUN 4 Catin application experienced a change in attitude before it was 23.35 and increased after the intervention to 25.28. Even though the Wilcoxon test results show that the $p\text{-value} = 0.127$ ($p>0.05$), which means there is no significant difference in attitude between prospective bride and groom couples regarding exclusive breastfeeding and lactation management using SUN 4 Catin application, there is a change in attitude, which is shown by the increase in the media value. for the pre-and post-intervention tests, respectively.

Table 4. Analysis of Knowledge and Attitudes Before and After Education Regarding Exclusive Breastfeeding and Lactation Management using the "SUN 4 Catin" Application Module (n = 46)

Variable	Pre-test	Post-Test	<i>p-value</i>
	Median	Median	
Knowledge (SUN 4 Catin Application)	57.5	65	0.005*
Attitude (SUN 4 Catin Application)	24	25.28	0.127*

Source: Primary Data, 2024 * Wilcoxon Test

This research was conducted from November to December 2023. It was conducted at the Office of Religious Affairs (KUA) of Soreang Sub-district, Pare City. In this study, the education on exclusive breastfeeding and lactation management was provided using the SUN 4 Catin application, with a sample size of 46 respondents. Respondents referred to in this study were prospective couples registered at the KUA of Soreang District, Parepare City. Data on the distribution of respondent characteristics according to age group, occupation, and latest education. Based on the research results, the highest age of prospective bridal couples was 25-27 years old, with as many as 23

participants (50%), while the lowest age of prospective bridal couples was 19-21 years old, with eight participants (17.4%). Work also determines the fate of the prospective bride and groom's household. From the results of this study, it was found that the majority of the work was carried out by the prospective bride and groom, namely, as many as 24 participants (52.2%), prospective bride and groom couples who had not worked as many as 13 participants (28.3%), BUMN/BUMD, self-employed, and workers/farmers for every three participants (6.5%). Furthermore, the most recent education of prospective bride and groom couples was senior high school, with as many as 16 participants (34.8%), bachelor's degree as many as 13 participants (28.3%), SMP as many as seven participants (15.2%), D3 as many as five participants (11%), and elementary school as many as three participants (10.9%). The results showed that the number of prospective male and female brides who participated in this research was 23 participants (50%).

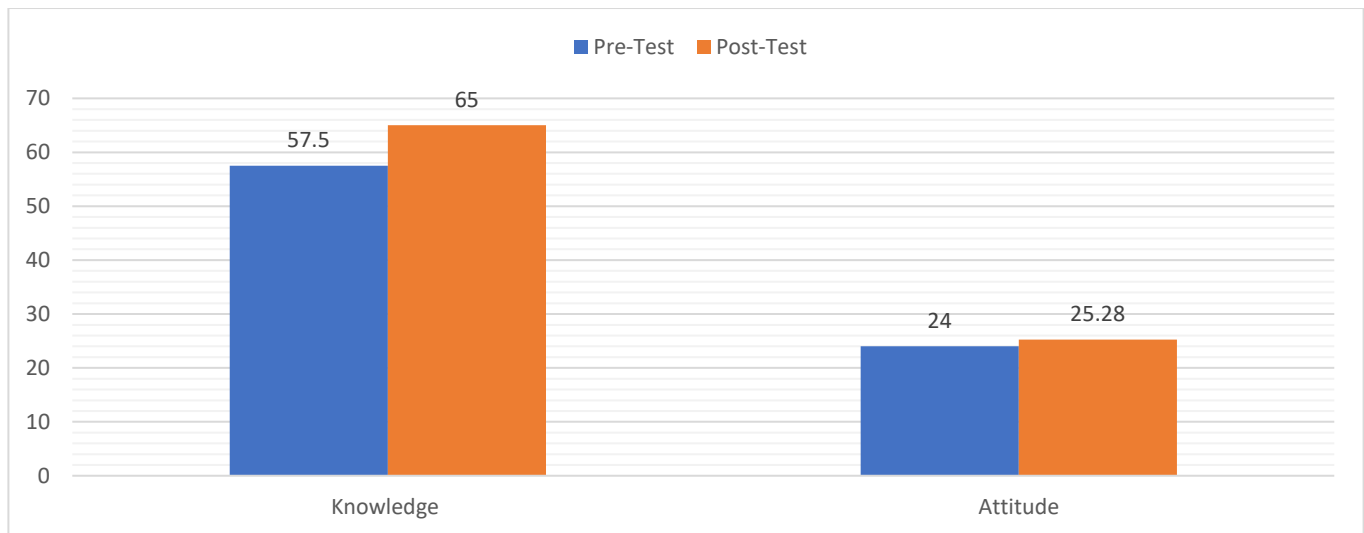


Fig. 3. Analysis of Knowledge and Attitudes Before and After Education Regarding Exclusive Breastfeeding and Lactation Management using the "SUN 4 Catin" Application Module (n = 46)

This study discusses increasing knowledge among prospective bride and groom couples about exclusive breastfeeding and lactation management by increasing knowledge before and after educational intervention. The results showed that there was an increase in the knowledge of prospective bride and groom couples, with a significance value of $p=0.005$ ($p<0.05$), indicating that there was an increase in the knowledge of prospective bride and groom couples regarding exclusive breastfeeding and lactation management using the SUN 4 Catin module. Providing information, especially on health issues, to the community is very important; the intensive information that individuals hear or obtain can improve the knowledge of prospective couples, especially regarding exclusive breastfeeding and lactation management (Suriah et al., 2018b) Changes in the knowledge of prospective bride and groom couples are largely determined by innovative and creative counselors who communicate well with their clients. For example, creating counseling modules; using appropriate media and communication tools; and mastering information, knowledge, and technology are necessary. The existence of materials/modules and media supports changes in knowledge and the success of educational activities.

This argument is supported by Rahmad (2018) which shows that the success of a training or extension activity is largely determined by operational and process activities, such as media development, the process of implementing activities, the need for other supporting facilities such as module development and the need for evaluation so that participants become more proficient and faster in making better decisions, because technical skills, human skills and managerial skills increase. The use of media supports changes in knowledge, according to Farudin (2019) the provision of booklet and leaflet media can increase knowledge scores. In addition, the use of Kadarzi poster media is effective in increasing knowledge through nutrition education. Several studies are in line

with the results of this research, such as who developed android-based educational media to change maternal behavior towards nutrition. The results of this study showed that in the Android group, the combination of Android and website groups and the control group increased significantly. The nutritional education intervention increased knowledge of balanced nutrition, for example, the lowest increase was in the control group, and the largest was in the Android and website treatments (McKay et al., 2018). Mitton et al. (2007) and Grimshaw et al. (2012) stated that a comprehensive program can influence increased knowledge. Android is a comprehensive medium, so it is an effective medium in nutrition education about stunting in improving maternal nutritional behavior. Lestari et al. (2021) and Risti et al. (2021) also conducted educational research using Android media on behavior regarding balanced nutrition in elementary school children and stated that there was a significant difference in behavioral improvement by providing Android treatment media compared to the group that did not receive treatment.

Attitude refers to a person's research towards a stimulus or an object. Once the stimulus or object is known, the next process is to assess or behave towards a stimulus or health object. The results of attitudes regarding exclusive breastfeeding and lactation management using the SUN 4 Catin application module are known to have increased, with the category supporting exclusive breastfeeding and lactation management being 24 participants (52.2%) in the pre-test and 31 participants (67.4%) in the post-test. In addition, the number of those who did not support it decreased from 22 (47.8%) in the pre-test to 15 (32.6%) in the post-test. For the attitude variable, the average prospective bride and groom increased before and after the educational intervention using this application. The results show that the attitude before was 24 and increased after the intervention to 25.28. The results of the paired t-test showed a p-value of $p=0.127$ ($p>0.05$), which means there was no difference in attitudes shown by prospective bride and groom couples regarding exclusive breastfeeding and lactation management using SUN 4 Catin application. The increasing attitude of prospective bride and groom couples indicates that they support their future mothers by providing exclusive breast milk to their children. To provide exclusive breastfeeding, prospective mothers and fathers must be ready and committed. Readiness is a condition in which both individuals and bodies prepare themselves both mentally and physically to achieve desired goals. The condition said to be ready includes several aspects. According to Kyllonen et al. (2014), three aspects influence readiness: conditions (physical, mental, and emotional), needs or motives, goals, skills, knowledge, and other understandings were learned. A mother's readiness to face the lactation period can be influenced by several factors, one of which is knowledge. Breastfeeding readiness is not only prepared during pregnancy; even before pregnancy, a mother can also prepare it, for example, by discussing with her husband and family to get support for exclusive breastfeeding, sharing with breastfeeding mothers and pregnant mothers where they live regarding breastfeeding issues, and often seeking information from various media, both print, electronic, and social networks, about matters relating to how to achieve successful exclusive breastfeeding.

The results of this research are in line with research conducted by Prasetyo et al. (2023) and Seyyedi et al. (2021) showing the results of a positive influence on the attitudes of mothers who use Android-based application media as educational outreach media in increasing the knowledge and attitudes of breastfeeding mothers about exclusive breastfeeding and the Android-based application media "BuSui Smart" as an effective educational outreach media to increase breastfeeding mothers' knowledge about exclusive breastfeeding in the working area of the Ponjong I Gunung Kidul Health Center, Yogyakarta. The time or duration of providing education to prospective bride and groom couples is limited to only 20-25 minutes. This is because several presenters want to fill in the material on bride-on-groom couples, namely BKKN, Puskesmas, and Religious Counselors. The network is neither conducive nor unstable, which means that prospective bride and groom couples cannot access the SUN 4 Catin application. Further research should be conducted to compare the SUN 4 catin module with the Indonesian Ministry of Religion module as additional educational time is required for prospective brides and grooms.

4 | CONCLUSION

The SUN 4 Catin application module can increase knowledge and positive attitudes of prospective bride and groom couples regarding exclusive breastfeeding and lactation management at the Pare City Religious Affairs Office. The development of the Mappanretemme' media module which was integrated into the web-based application "SUN 4 Catin" succeeded in increasing prospective brides' knowledge regarding the importance of exclusive breastfeeding and lactation management. The research results showed a significant increase in the adequate and good knowledge categories after using this module, which was supported by the Wilcoxon test with a p-value of 0.005 ($p < 0.05$). This increase shows that educational interventions through this application are effective in educating prospective brides and grooms.

However, even though there was an increase in knowledge, the results of the attitude test showed that there was no significant difference in the attitudes of prospective brides and grooms towards exclusive breastfeeding after the intervention, with a p-value of 0.127 ($p > 0.05$). This indicates that although knowledge increases, changes in attitudes may require a more in-depth approach or longer time to show significant differences. The use of digital media such as the "SUN 4 Catin" application which can be accessed easily anytime and anywhere is an effective solution for providing health education for the younger generation, especially prospective brides and grooms. The application not only makes it easier to access information but also helps increase awareness of the importance of exclusive breastfeeding in supporting healthy child development. In the future, it is hoped that further development of this module and its wider use can make a greater contribution in increasing public awareness and knowledge, especially prospective brides and grooms, regarding the importance of exclusive breastfeeding and healthy pregnancy preparation, in order to create an intelligent and healthy next generation.

Acknowledgements

We are grateful to all the respondents who invested their time and energy to share their expertise and information about the exclusive breastfeeding. This study was approved by the Hasanuddin University Health Research Ethics Committee (Approval Number: 5748/UN4.14.1/TP.01.02/2023). Participation in this study was voluntary and those who agreed to participate provided informed consent.

Disclosure Statement

The authors declare that has no relevant or material financial interests that relate to the research described in this paper.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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