

Increasing Knowledge Through Family Planning Education E-Books for Married Women Among Pill and Injection Acceptors in Lebak District, Indonesia

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Abstract—Background: The COVID-19 pandemic has an impact on many aspects including access to contraceptive services. The highest number of pill and injection family planning acceptors in Indonesia, and this method has the highest dropout rate for contraception in Indonesia. Strengthening access to information is necessary to prevent dropout which has an impact on unplanned pregnancies. **Purpose:** This research was to find out how effective the provision of information using e-books in contraception knowledge is. **Method:** This research used a quasi-experimental design. The intervention provided was family planning information using an e-book. The sample of the study was married women who used pills and injections for family planning. The sample size of this study was 45 intervention groups and 49 control groups. Data analysis used in this study is multiple logistic regression. **Result:** Characteristics of respondents in the intervention group and the control group did not differ (P value > 0.05). The results showed that providing information using family planning education e-books was able to increase knowledge after being controlled by variables of age, occupation, and length of the marriage. Increasing age and length of the marriage, as well as the work type of husband, will increase access to information. It will affect the increase in women's knowledge about contraceptive methods. **Conclusion:** During the COVID-19 pandemic, which limits access to contraceptive services to health facilities, it can be diverted to online services, including the provision of family planning information so respondents' knowledge and motivation to use family planning is maintained. However, this requires the assistance of health workers or family planning officers as a source of information who can strengthen knowledge and control so women can continue to use contraception as needed.

Keywords—Family planning, contraceptive information, knowledge, contraceptive use.

I. INTRODUCTION

The COVID-19 pandemic in the world has occurred since the end of 2019. It has an impact on all fields, including family planning services and reproductive health. The pandemic situation requires restrictions on space and movement so that access to family planning and reproductive health services is also limited to prevent the spread of COVID-19 infection. In Indonesia, the pandemic situation has an impact on decreasing access to contraceptive services due to the emergence of public concerns about coming to health facilities or many health facilities such as doctors and midwives who do not practice because of inadequate equipment to prevent the transmission of covid-19 [1].

The use of modern contraception in Indonesia is still low at 57.2% and the most widely used types of contraception are injections and pills, where this contraceptive has the highest dropout rate [2]. Discontinuing contraception can lead to unwanted pregnancy. Based on the achievement proxy for the Program Performance and Accountability Survey in 2020, the number of unwanted pregnancies reached 20.3% [3]. For this reason, efforts are needed to increase or strengthen the use of contraception during this COVID-19 pandemic.

Increasing knowledge through the provision of family planning education is needed so that contraceptive use continues and invites other women who need family planning to use contraception. Couples of childbearing age will use contraception if they know the benefits and want to limit pregnancy, delay pregnancy, or are still unsure about getting pregnant [1,4].

Providing information can increase contraception acceptors in women of childbearing age [5,6]. Information on family planning and health care is a right of individuals and families so that their reproductive life is healthy and safe. Therefore, Government must facilitate information about family planning and reproductive health. The government is also responsible for the availability of information from various sources so that information submitted is also guaranteed to be true [7]. This policy in Indonesia has not been implemented properly where the 2017 IDHS reported that only 29% of women using modern contraception had complete information on family planning [1].

The digital era makes it easier to transfer family planning information to a wider community. Providing information can be done through social media or designing special applications, and all of them have been proven to be effective in increasing public knowledge [8–11].

This study seeks to increase public knowledge and understanding of family planning through family planning education e-books which are designed in such a way to be easily understood by the public. Family planning education e-books are easy to access anytime and anywhere so people are not limited in time and place to access them. Certainly, this requires control by health workers who provide family planning services as the key to correct information so that myths and misunderstandings about contraception can be avoided [12].

II. RESEARCH METHODOLOGY

This study used a quasi-experimental design by providing information using an e-book to the intervention group and providing standardized information to the control group. The

intervention was given through a WhatsApp group by conducting discussions between family planning officers and respondents. The standard information provided is in the form of a flyer created and distributed by the Ministry of Health and the National Family Planning Coordinating Board. Interventions are given regularly every week by family planning officers and conduct discussions about contraception.

The sample of this study was married women aged 15-49 years who used the pill and injection contraception in a work area of Mandala Health Center as the intervention group and Cibadak Health Center as the control group in the Lebak district. The study was conducted in 2021 by providing intervention for 1 month, and then knowledge of the two groups was assessed. The sample size of this study was 45 intervention groups and 49 control groups. Data analysis used multiple logistic regression. This research has obtained ethically appropriate information from the health ethics committee of Health Polytechnic Ministry of Health Semarang with the number 269/EA/KEPK.2021.

III. RESEARCH RESULT

TABLE 1. Characteristics of Respondents Based on Age, Parity, and Length of Marriage in Lebak District in 2021

Characteristics	Information through e-books			Standard information			P value
	n	Mean	SD	n	Mean	SD	
Age	45	31.4	6.3	49	32.7	7.3	0.36
Parity	45	1.8	1.1	49	2.1	0.9	0.12
Length of Marriage	45	10.3	7.1	49	12.7	7.8	0.08

Table 1 shows that the average age, parity, and length of marriage in the group that received information through e-books were lower than the group that received standard information. Statistically, the characteristics of age, parity, and length of marriage were the same in both groups as indicated by $p > 0.05$.

TABLE 2. Characteristics of Respondents Based on Education and Employment in Lebak District in 2021

Characteristics	n	Information through e-books		Standard information		P value
		frequency	%	frequency	%	
Education						
Higher	32	18	40.0	14	28.6	0.48
Secondary	33	15	33.3	18	36.7	
Lower	29	12	26.7	17	34.7	
Occupation						
Working	9	8	17.8	1	2.0	0.01
Don't work	85	37	82.2	48	98.0	
Husband's Education						
Higher	38	23	51.1	15	30.6	0.04
Secondary	28	14	31.1	14	28.6	
Lower	28	8	17.8	20	40.8	
Husband's Job						
Not labor	30	18	40.0	12	24.5	0.16
Labor	64	27	60.0	37	75.5	
Total	94	45	100.0	49	100.0	

Table 2 shows that Respondent's education and husband's education in the group that received information through e-books, were more highly educated than the group that received standard information. Based on occupation, most of the respondents do not work and most of the respondents' husbands work as laborers. The results of statistical tests showed that respondents' occupation and husband's education in the intervention group and the control group were different as indicated by the p -value < 0.05 . Meanwhile, the characteristics of the husband's education and occupation did not differ between the e-book group and standard information group.

TABLE 3. Knowledge Score in the Intervention Group and Control Group

Information Media	Knowledge Score					P value
	n	Mean	SD	Min-Max	Mean Rangk	
E-book	45	5.3	3.7	0 - 9	59.3	0.001
Standard information	49	2.2	3.0	0 - 9	36.6	

Table 3 shows that there is a different average knowledge score in the group that uses e-book, which is almost three times higher than a group that gets standard information.

TABLE 4. Final Model of E-Book Effectiveness Analysis on Contraception Knowledge in Married Women in Lebak District in 2021

Variable	n	% good knowledge	OR	95% CI	P value
Information Media					
E-book	45	57.8	10.41	3.39 – 31.95	0.001
Standard information	49	18.4	1.00		
Age					
More than 35 years	30	46.7	4.33	1.08 – 17.40	0.039
35 years or less	64	32.8	1.00		
Occupation					
Working	9	33.3	0.32	0.06 – 1.71	0.183
Don't work	85	37.6	1.00		
Husband's Job					
Not labor	30	40.0	1.19	0.24 – 2.06	0.53
Labor	64	35.9	1.00		
Long Married					
More than 10 years	49	38.8	1.15	0.16 – 2.05	0.392
10 years or less	45	35.6	1.00		
Constant	94		0.16		0.415

Table 4 shows that the results of multiple logistic regression analysis showed that using family planning education e-books could increase knowledge of contraception 10.4 times higher than using standard information after controlling for variables of age, occupation, husband's job, and length of the marriage. The increasing age and length of the marriage, as well as the type of husband's work, will increase access to information. It will affect the increase of women's knowledge about contraceptive methods.

IV. DISCUSSION

Providing information using e-books regularly with assistance from family planning officers can increase knowledge about contraception. Interventions in form of providing education about contraception can not only increase

knowledge but also affect decision-making in family planning [1,13,14].

Contraceptive education interventions can be carried out with various promotional media such as websites, social media or the internet, television, posters or banners, and other media. The most common source of family planning information in Indonesia is television [15]. This means almost all residents in Indonesia have a television that is used to access the information they need.

Contraceptive promotion media that has a high chance is the internet. The Ministry of Communication and Information of the Republic of Indonesia stated that Indonesia's internet users are number six in the world, and Indonesia is the fourth most smartphone user in the world [16,17].

During the COVID-19 pandemic, all activities especially outside activities are limited. Access to activities is almost completely using the internet, including contraceptive service activities. The current government through the National Family Planning Coordinating Board and Ministry of Health is intensively making programs using the internet to increase knowledge and services on contraception. This requires socialization from officers to reach the community [18].

The results of this study also obtained information that good knowledge of contraception mostly occurs in older women. This is because the length of age is related to the experience of using contraception. Older women also have an increased need for contraception to limit pregnancy. On the other hand, Craig et al stated that young women are still less aware of using contraception due to their limited knowledge of these women [19]. Young women have more access to information through social networks which can lead to believing in myths and misconceptions [12].

The results of other studies indicate that length of marriage affects access to family planning information and knowledge of contraception. Like the age of women, the length of a marriage is also related to the experience of using contraception. The long age of marriage, the better knowledge about contraceptives. The length of the marriage also affects the choice of the type of contraception. The longer duration of the marriage, the higher chances of using long-term or sterile contraception [20].

Occupation is a factor that affects the ability to access information and increase knowledge about contraception. According to Notoatmodjo, work is a factor that affects the level of knowledge. The work environment can make it easier for someone or difficult to obtain information and knowledge either directly or indirectly [21].

V. CONCLUSION

Family planning education interventions that are provided online with the assistance of family planning officers or health workers can increase knowledge of contraception. Knowledge of contraception is the basis for making family planning decisions and choosing the type of contraception to be used. For this reason, in addition to access to family planning information

obtained from the internet, this study emphasizes the assistance of women or their families by health workers or family planning officers to obtain correct and accurate information. Thus, access to family planning information needs to be supported by the role of health workers or family planning officers.

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