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Web-based family planning education model as a change of behavior for prospective family planning acceptors in the selecting of contraception methods

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Abstract
Background: Family planning is one of the most effective ways to improve the resilience of families, health and safety of mothers, children and women. Various types of contraception that can be used by Fertile Age Couples (PUS), such as pills, injections, implants, intrauterine devices, condoms, and steady contraception (vasectomy and tubectomy). Various types of methods or contraceptives have advantages and side effects that differ according to the individual. Side effects or complications caused by incompatibility of contraception can cause bleeding and even death for users of these contraceptives. One way to provide education or open knowledge about appropriate construction tools is through-based electronic media web.
Method: The type of research used is Quasy Experiment by using a pre post control group design. This study arranged two groups, namely the treatment group that was given the introduction of web-based family planning education model that had been tested by a model design and expert validation, health education and attitudes towards web-based education model, while the control group was given the intervention using the leaflet / flip sheet method. Technique non probability sampling with a purposive sampling method was used to get 34 respondents who were divided into two groups with each group totaling 17 respondents. Results – The results statistical test Mann Withney showed a p value of 0.001 (<0.05) so that it can be concluded that web-based familly planning education model is more effective in increasing the attitude of prospective family planning acceptors compared to flipchart media and leaflets. Conclusion - Web-based family planning education model is feasible and effective in enhancing the behavior of prospective family planning acceptors in the selection of contraceptive methods.

Keywords: Web-based family planning education model, behavior change, family planning acceptors, contraception methods

1. Introduction

Indonesia's population has increased significantly each year. Indonesia is currently the fourth most populous country in the world. Population and high population growth rate is a problem faced by the Indonesian people today. Looking at the data of the population in 2017 as many as 261 million people, an increase compared to the population in 2016 which is as many as 257 million people [1].

The high rate of population growth without being accompanied by good quality human resources complicates efforts to improve and improve people's welfare. The target of Sustainability Development Goals (SDGs) at point 3 is to ensure a healthy life and encourage welfare for all people in all ages, one of them is through the Family Planning program [2].

Family Planning is one of the most effective ways to improve the resilience of families, health and safety of mothers, children and women. Family planning is also a strategy to reduce mortality, especially mothers with 4T conditions, namely giving birth too young (<20 years), giving birth too often (<2 years), giving birth too close (<2 years), and giving birth too old (> 35 years). The family planning program also aims to improve the quality of the family so that a sense of security, peace and hope for a better future in realizing physical and mental well-being will arise [3].

The purpose of family planning programs promoted by the government is very important, one of which is controlling population. Efforts from the government program with the motto "Two Enough Children". Planning and Development of family planning village is a strategic innovation in the realization of the implementation of the activities of the Population Program, Family Planning and Family Development as a whole and integrated. In accordance with the formation of the 2016-2019 family planning village, at the end of 2017 there were 6,409 family planning villages formed from the target of 7,160 family planning villages or as much as 89.5% (as of December 27, 2017) [4].

Based on the 2017 National Population and Family Planning Agency (BKKBN) Program Accountability Performance Survey (BKKBN), the realization of the use of modern methods of contraception is around 57.6% of the target of 60.9% or achievements of 94.58%.[4] various types of contraception that can be used by Fertile Age Couples (PUS), such as pills, injections, implants, intrauterine devices, condoms, and steady contraception (vasectomy and tubectomy) [4].

BKKBN data in 2017 received 5,677,325 EFAs who were new family planning participants, with details of injecting contraceptive users 2,591,214 participants (67.68%), pills 389,711 participants (10.47%), implants 307,799 participants (8.27 participants) %), intrauterine devices 269,116 participants (7.23%), Women's Operating Methods (MOW) 141,829 participants (3.79%), condoms 48,355 participants (1.30%), Male Operations Method (MOP) 21,829 participants (0.59) %) [5].

The various types of contraceptive methods or methods have advantages and side effects that differ according to the individual. Not a few of the contraceptive users who choose contraception based on trial and error or follow the advice

of friends or family who do not understand about these contraceptives. Side effects or complications caused by incompatibility of contraception can cause bleeding and even death for users of these contraceptives [6].

Strategic goals and objectives in order to support the BKKBN policy and strategy direction are found in 5 policy directions, namely to increase equitable and quality access to family planning services; Strengthening KKBPK's advocacy and communication, information and education; Improvement of adolescent endurance development; Increasing family development; Strengthening regulations, institutions and data and information. So it needs extensive knowledge and the right selection method to determine it.[7] Especially for EFA which is still low on family planning knowledge and reproductive health so that unwanted pregnancy can occur. Nationally, of all pregnancies, there are 3.53% of unplanned pregnancies and 6.71% of them try to abort the womb because they do not want the pregnancy to continue [7].

Problems encountered in Banyumas Regency in 2016 in the KKBPK Program include the number of family planning instructors who are inadequate and over 50 years old, public interest in non-long-term contraception methods (MKJP), dropout rates (DO) for family planning participants, unmetneed is still high, and KB program publications are still lacking in the community. Of the total EFA of 324,106 people, 251,696 (77.66%) were active family planning participants. Around 33,662 (10.39%)with EFA sunmetneedintended wereto postpone or ban pregnancy but did not use birth control. The KKBPK also mentioned that therate DO of family planning participants was getting higher, around 22,598 (8.97%) therate DO that occurred.[8] The high number of existing problems is precisely related to the low awareness of the importance of family planning programs. Provision of information from health workers also relates to the selection of contraceptives, health workers have a role in providing information, counseling and explanation of contraceptives.

Determination of contraception used is not uncommon among some prospective family planning acceptors in determining contraception based only on the habits used by their friends, without considering the requirements for determining the use of birth control and the health condition of prospective family planning acceptors. This condition results in errors in the selection of contraceptive methods. This situation is exacerbated by the wrong understanding of the husbands, for example in terms of the use of an intrauterine devices. According to some men, the use of contraceptives makes the husband and wife relationship uncomfortable and sick.

Efforts are needed to overcome these problems, one of which is the existence of information technology systems. Technology plays an important role in the era of modernization as it is today, where technology can be seen as an inseparable part of daily life.[9] Information technology, in this case, is expected to make it easier for prospective family planning acceptors to get education without having to go to health services. Information system technology needed, covers all aspects of contraceptive methods that are expected to provide effective recommendations for family planning acceptors in the selection of contraceptives according to circumstances. In fact, using existing education, such as a flipchart system provided by midwives or health workers, is not enough for prospective family planning acceptors to determine the choice of contraception used. Evidently, prospective family planning acceptors who have never used family planning as well as family planning acceptors who have used family planning have not experienced a number of failures and chose to change methods. The incomplete information provided by midwives or health workers makes the acceptor's lack of knowledge about contraception and assumptions or assumptions in the community about the loss or side effects of contraception to be used less able to be clarified [4].

Inappropriate analysis and consideration, sometimes has the risk of errors in determining the method of contraception. The impact of errors or failures such as fertilization that still occurs or the potential for severe complications after the action is taken. Choosing a contraceptive method, acceptors must consider several factors such as their health status, potential side effects when using, and consequences for unwanted pregnancy. In 2013, the BKKBN recorded 3,287 failures in family planning. The largest number occurred in the intrauterine devices or intrauterine devices contraceptive method with 1,513 (46.03%) failure events, followed by implants with 1,189 (36.17%) failure events. As for severe complications, of a total of 2,548 incidents of severe complications 1,358 (53.3%) occurred in the implant method, followed by an intrauterine devices with 1,025 (40.23%) events [10].

Each method has advantages and disadvantages of each, available contraception still there are difficulties to control fertility or pregnancy safely, effectively, and with methods that are acceptable to the body condition of each individual. Thus, an education and decision support system is needed that can be one way to help overcome these problems [11]. Analysis of the efforts needed to be appropriate in providing recommendations to users, one of them is by creating a system that is education model for prospective family planning acceptors. How to provide education or knowledge openly through-based electronic media web.

Web-based family planning education model in decision making is part of a-based information system web that can be accessed via a computer or smartphone that is used to support decision making or changes in the behavior of prospective family planning acceptors in the selection of contraception. Many methods can be used to assist in the decision making process. One of them can be done with a systematic approach to the problem through the process of gathering information data and coupled with factors that need to be considered in decision making [12].

Based on the identification of the above problems, researchers are interested in researching about " web-based family planning education model as a change of behavior for prospective family planning acceptors in the selecting of contraception methods" as an alternative for prospective family planning users towards the decision making behavior of contraceptive use using a-based expert system web.

2. Methods

This type of research uses research quasy experiment using a pre-test-post-test with control group design. This study arranged two groups, namely the treatment group that was given the introduction of web-based family planning education model that had been tested by a model design and expert validation, health education and attitudes towards web-based education model, while the control group was given the intervention using the leaflet / flip sheet method.

Web-based family planning education model is given once in research. Behavioral measurement for prospective family planning acceptors in the selection of contraceptive methods by using a questionnaire knowledge of contraception. Measuring the level of behavior is done during the pre-test (before treatment) and post-test (after treatment) web-based family planning education model, health education and attitudes towards web-based education model with prospective family planning acceptor respondents.

The population in this study were all prospective family planning acceptors in Banyumas Regency. Determination of the minimum sample size using non- probability sampling techniques with purposive sampling method and is based on inclusion and exclusion criteria as many as 34 respondents divided into two groups with 17 respondents each in the treatment group (web-based family planning education model, health education and attitudes towards the educational model based web) and 17 respondents in the control group (leaflet / flipchart method).

In this study researchers conducted data collection by observation, identification, interviews and filling out questionnaire sheets. The collected data were analyzed through IBM SPSS version 24.0, and followed by a different test that is non-parametric test (Wilcoxon test and Mann witney test). The processed data is used as a basis for discussing statement matters, which are then presented in tabular form so that conclusions can be drawn.

3. Result

Table 3.1: Frequency distribution of prospective family planning acceptors according to age, parity and husband support based on demographic data

Variable	Treatment Group		Control Group		P value
	N	F (%)	N	F (%)	
Age					
<20 years	0	0	0	0	
20-35 years	12	70.6	14	82.4%	0.419
>35 years	5	29.4	3	17.6%	
Parity					
Primipara	6	35.3%	6	35.3%	1.000
Multipara	11	64.7%	11	64.7%	
Husband support					
Less	3	17.6%	2	11.8%	0.628
Enough	14	82.4%	15	88.2%	

*Homogeneous test

Based on the above table, shows that the average age, parity and husband support of prospective family planning acceptor respondents in the treatment group and the control group are absent a significant difference which means the same or homogeneous with a value of p value > 0.05.

Table 3.2: Average score attitudes of prospective family planning acceptor candidates in the treatment group and control group

Statistics	Treatment			Control		
	Pre test	Post test	Δ Difference	Pre test	Post test	Δ Difference
Attitudes of prospective family planning acceptor						
Mean	27.82	27.82	4.53	27.29	29.76	2.47
SD	1.074	1.074	0.861	0.772	0.903	0.131
Min	27	27	3	26	26	0
Max	30	30	6	29	31	2

Based on the table above, shows that the average score attitude of prospective family planning acceptors has increased, in the treatment group increased from 27.82 to 32.35 and the control group increased from 27.29 to 29.76.

Table 3.3: Differences in behavior change in the attitudes of prospective family planning acceptors in the treatment group and the control group

Variable			Mean±SD	Δ difference	p-value
Attitudes	Treatment	Pre	27.82±1.074	4.53	0.001
		Post	27.82±1.074		
	Control	Pre	27.29±0.772	2.47	0.001
		Post	29.76±0.903		

*Wilcoxon test

Based on the table above, shows that the p-value on the attitude of the treatment group is 0.001 (p <0.05) web-based family planning education model is effective in increasing the attitude of candidates family planning acceptor. The score in the attitude of the control group was 0.001 (p <0.05) meaning that the or model was leaflet effective in increasing the attitude of prospective family planning acceptors.

Table 3.4: Analysis of differences in behavior change in the attitudes of prospective family planning acceptors between in the treatment group and the control group

Group			Mean±SD	Δ Difference	P-value
Attitude	Treatment	Pre	27.82±1.074	4.53	0.001
		Post	27.82±1.074		
	Control	Pre	27.29±0.772	2.47	
		Post	29.76±0.903		

*Mann withney test

Based on the above table, it shows that the p-value between treatment and control groups is 0.001 (p<0.05) meaning that web-based family planning education model is more effective in increasing the attitude of prospective family planning acceptors compared to flip sheets and leaflets.

4. Discussion

4.1 Web-Based Education Model

Web-based family planning education model is an innovation in order to change the behavior of acceptors in the selection of candidates for the method. This model was developed from an educational model using flipcharts and leaflets. The-based education model webis expected to

increase the knowledge, attitudes and actions of prospective family planning acceptors, because with this family planning education model prospective family planning acceptors will receive a complete family planning education.

The results of information gathering at the time of the interview concluded that currently the family planning education model for prospective family planning acceptors still uses media leaflet and flipchart. This media can only be obtained when visiting health facilities, during the socialization of health workers at meetings, or the assistance of officers related to the government's family planning program. This is what makes the lack of effectiveness of education for prospective family planning acceptors. Therefore, efforts are needed to develop an educational model that supports changes in the behavior of prospective family planning acceptors in the selection of contraceptives, namely web-based family planning education model. Web-based family planning education model is expected to make it easier for prospective family planning acceptors to determine the appropriate choice of contraceptive methods that can be used. Elies Research (2018), said that the development of education using video is more effective than using leaflets. Because the video media displays moving pictures and sound effects that can make it easier for people to receive the information conveyed.[13] Web-based education model also seeks to provide complete information to the users. The information obtained in full can improve the knowledge, attitudes and actions of prospective family planning acceptors, which will later make it easier for prospective family planning acceptors to make the right contraceptive choice for themselves. This is confirmed by Sulistiyaningsih's research in Elies (2018), which is complete information or education that determines the choice of contraceptive methods chosen [13].

The results of the expert validator research found that the worthiness score was 81.88% with the proper category. The validity results show the p-value = 0.011 (p<0.05), which means that web-based family planning education model is relevant and suitable as an educational medium for prospective family planning acceptors. The expert validation process is important in developing models / products in order to produce models that are useful in improving the quality of education. The development of this model is also very important as a learning media or educational source [14]. In accordance with Elies's research (2018), that health education for example using audio-visual media successfully influences the process of improving education [13].

4.2 Differences in behavior change in the attitudes of prospective family planning acceptors in the treatment group and the control group

The results of the effectiveness of paired t test for attitude variables indicate that the p-value = 0.001 (p <0.05), meaning that web-based family planning education model is effective in increasing the attitude of prospective family planning acceptors in the choice of contraceptive methods.

Attitude enhancement occurs when someone responds after being given information and then considers the actions to be taken in accordance with the information that has been given. According to Ashadi (2017), attitudes can be helped if someone gets information, gives a response and will take action after being given the information.[15] Notoadmodjo (2012), that attitude is someone's readiness or willingness to take action but not yet included in an action (open reaction) or activity [16].

4.3 Analysis of differences in behavior change in the attitudes of prospective family planning acceptors between in the treatment group and the control group

The results of effectiveness test data pairs showed that the p-value between the treatment group and the control group showed a value stance p=0.001 means that the web-based family planning education model more effective in improving the attitude of candidates prospective family planning acceptors compared to flipchart media and leaflets. This is because the use of flipchart media and leaflets can only be obtained during health services or during meetings with health workers or family planning officers. It is different from the use of web-based family planning education model which has advantages by providing access to education that is easier, more practical, and more sophisticated, so that it is expected that a change in the behavior of prospective family planning acceptors in the selection of contraceptive methods.

Behavior change goes through 5 stages, namely awareness (awareness), interest (interested in stimulants), evaluating (evaluating whether or not stimulants), trial (trying), and adoption (the subject has behaved recently). Good knowledge makes a person confident and forms an attitude towards something. It is expected that with good knowledge, it results in someone's attitude towards something to be good too. This is consistent with the theory of Lawrence Green (1984) that attitude is one of the predisposing factors to realize behavior [17].

Web-based family planning education model for prospective family planning acceptors succeeded in changing the behavior of the selection of contraceptive methods.

5. Conclusion

Based on data processing and analysis of web-based family planning education model as an effort to change behavior for prospective family planning acceptors in the selection of contraceptive methods, it can be concluded that:

1.1 Web-based family planning education model is appropriate as a model for selecting contraceptive methods.

1.2 Web-based family planning education model is effective as an effort to change the behavior of prospective family planning acceptors in the selection of contraceptive methods, this is proven by increasing the attitude of prospective family planning acceptors with p-value <0.001.

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