

## Effectiveness Of Mobile Website-Based SIPALING KB On The Selection Of Contraceptive Methods

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### ABSTRACT

Counseling is a very important aspect of family planning (KB) services. By doing counseling, it means that the officer helps in choosing and deciding the type of contraception to be used according to the client's choice. An estimated 225 million women in developing countries wish to delay or terminate fertility but do not use any contraceptive method due to limited choice of contraceptive method and experience of side effects. The SIPALING KB Mobile Website is a development of a family planning counseling method that can be accessed easily anytime and anywhere by prospective family planning acceptors using only a smartphone. In its design, SIPALING KB has a knowledge base for a particular domain and is designed based on a problem-solving model from an expert, making it easier for users to obtain information and determine early on which contraceptive method to use. The purpose of this research is to develop a counseling system through a mobile website with the name SIPALING KB which will assist prospective acceptors in determining which contraception to use. The research method used in this study was an experimental method with a randomized control group pretest-posttest design. With the group that was given the mobile website for family planning and the group that was given counseling using leaflets.

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## 1. INTRODUCTION

Family planning is a government program that aims to balance the population. The main activities of the family planning program are counseling and contraceptive services. Counseling in Family Planning (KB) is a process of exchanging information and positive interaction between clients and staff to help clients identify contraceptive needs, choose the best solution and make contraceptive decisions that will be used and are most appropriate to the conditions being faced by couples of childbearing age. Family planning counseling greatly influences a person in deciding which contraception to use.<sup>1</sup> According to the data and information center of the Indonesian Ministry of Health in 2017, the prevalence of contraceptive use in Indonesia is 60%. Contraceptives that are widely used are the injection method (47.96%), PIL (22.81%), implants (11.20%), IUD (10.61%), condoms (3.23%), MOW (3.54%), MOP (0.64%).<sup>2</sup>

Information about contraception needs to be provided through counseling. Many women experience difficulties in determining the choice of type, contraception. This is due to the limited available methods and their ignorance of the requirements and safety of these contraceptive methods. So far, the use of ABPK has been used to provide correct and clear information about postpartum contraception so that pregnant women and their husbands are able to understand the need for their reproductive rights and are able to make decisions about using quality postpartum contraception.<sup>3</sup> The need for accurate, precise and up-to-date information is increasingly needed along with the rapid development of information technology. Initially, counseling was only limited to face-to-face meetings between patients and health workers, but now counseling can also be carried out using various media that allow remote counseling.<sup>4</sup> Information systems as part of technological developments are needed to help organizational performance. Arrangement of information that is carried out regularly, clearly,

precisely, and quickly and can be presented in a report certainly greatly supports the smooth running of the organization's operational activities and making the right decisions.<sup>5</sup>

One of the information that can be accessed easily and quickly is the website which is a collection of pages that displays various kinds of information text, data, still or moving images, animated data, sound, video or a combination of all of them, both static and dynamic.<sup>6</sup> Currently, the website can not only be accessed using a desktop browser, but can also be accessed via a smartphone. This website is not just reducing the screen size and minimizing text, but also unifying the web appearance so that it feels like an application on a mobile.<sup>7</sup>

Objective of this research is to develop a counseling system through a mobile website with the name SIPALING KB which will assist mothers in determining which contraception to use. In everyday life, prospective family planning acceptors often visit midwives or doctors to consult about family planning. However, there are often obstacles such as limited work practice hours and the large number of patients waiting in line so that the counseling provided is also limited by time. Mobile Website SIPALING KB is a computer program that imitates the thoughts and knowledge of an expert to solve a problem. Thus SIPALING KB can be used to help prospective KB acceptors determine the selection of contraceptives to be used. The SIPALING KB system will be developed for a maximum of 2 months using the principle of a mobile website, namely using internet access via a mobile browser which can be accessed easily. The SIPALING KB system adopts an expert system to solve contraception selection problems as done by experts. Expert system is a computer program that has a knowledge base for a particular domain and is designed based on a problem-solving model from an expert. In preparing the expert system combines the rules of drawing conclusions with a certain knowledge base provided by one or more experts in a particular field. The SIPALING KB system adopts an expert system to solve contraception selection problems as done by experts. Expert system is a computer program that has a knowledge base for a particular domain and is designed based on a problem-solving model from an expert. In preparing the expert system combines the rules of drawing conclusions with a certain knowledge base provided by one or more experts in a particular field. The SIPALING KB system adopts an expert system to solve contraception selection problems as done by experts. Expert system is a computer program that has a knowledge base for a particular domain and is designed based on a problem-solving model from an expert. In preparing the expert system combines the rules of drawing conclusions with a certain knowledge base provided by one or more experts in a particular field.

## 2. METHODS

This study used an experimental method with a randomized control group pretest-posttest design, the subjects in this study were taken from a certain population and randomly grouped into two groups, namely the intervention group that provided counseling via the website and the control group that provided face-to-face counseling, then this group The same measurements were taken and the results compared. This research was conducted at Aminah Amin Clinic Samarinda.

The variables in the study are divided into two, namely the dependent variable and the independent variable. The independent variable in this study was Web Mobile SIPALING KB, while the dependent variable in this study was the decision to choose a contraceptive method.

The research design is as follows:

O1	-----	X	-----	O2
O3	-----	C	-----	O4

Information :

- X : intervention using the SIPALING KB website
- C : Intervention using ABPK
- O1 : The intervention group before being given the SIPALING KB website intervention
- O2 : The intervention group after being given the intervention was in the form of the SIPALING KB website
- O3 : The control group before being given Leaflet counseling
- O4 : The control group after being given counseling using leaflets

### 3. RESULTS AND DISCUSSION

#### a. Univariate analysis

##### 1) Characteristics of respondents based on age

Table 1. Distribution of Respondents by Age

age	F	%
<21 years	9	41
21-35 years	11	50
>35 years	2	9

Based on table 1. Obtained data on respondents based on age, namely age <21 years were 9 respondents, ages 21-35 were 11 respondents, and age > 35 years were 2 respondents. Age can affect the decision to use contraception. In the age range of 21-35 years is the period when a person has matured personality. Someone who is too young will generally influence someone in determining the selection and use of contraceptives, they will tend to choose the contraceptives that most people use. Meanwhile, the more mature the level of maturity and strength of a person, the more mature in thinking logically.

##### 2) Characteristics Respondents Based on Education Level

Table 2. Distribution of respondents based on educational level

Level of education	F	%
SD	-	-
JUNIOR HIGH SCHOOL	1	4,6
high school	15	68,1
BACHELOR	6	27,3
<b>Total</b>	<b>22</b>	<b>100.0</b>

Based on table 2. Respondent data were obtained based on education level, namely junior high school was 1 respondent (4.6%), high school age was 15 respondents (68.1%), and undergraduate was 6 respondents (27.3%). Education is a benchmark for someone to know information and knowledge about health, for example contraceptives that are needed by a woman for a long time, namely choosing contraceptives.

##### 3) Characteristics Respondents by Occupation

Table 3. Distribution of respondents by occupation

Work	F	%
IRT	13	59
Self-employed	9	41
<b>Total</b>	<b>22</b>	<b>100.0</b>

Based on table 3. Obtained data on respondents based on work, namely IRT were as many as 13 respondents (59%), and Entrepreneurs were as many as 9 respondents (41%). Economic factors are a factor to be considered in making family planning decisions, most of the respondents have jobs as housewives (IRT). Conditions of economic level will affect their ability to implement family planning programs.

##### 4) Characteristics Respondents Based on Parity

Table 4. Distribution of respondents based on parity

Parity	F	%
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<2	14	63,6
>2	8	36,4
<b>Total</b>	<b>22</b>	<b>100.0</b>

Based on table 4. Obtained data on respondents based on occupation, namely respondents who gave birth <2 times were 14 respondents (63.6%) and respondents who gave birth >2 times were 8 respondents (36.4%). Respondents who have less than or equal to 2 children will be more at risk of experiencing unmet need for family planning than those who have more than 2 children, the more children they have, the greater a person's tendency to use certain contraceptive methods.

### 5) Appropriateness of the Use of SIPALING KB Based on Mobile Website for the Selection of Contraceptive Methods for the Intervention Group

Table 5. Appropriateness of the use of mobile website-based SIPALING family planning for the selection of contraceptive methods

<b>suitability</b>	<b>F</b>	<b>%</b>
In accordance	9	82
It is not in accordance with	2	18
<b>Total</b>	<b>11</b>	<b>100.0</b>

Based on table 5. Shows the suitability of the use of mobile website-based SIPALING KB for the selection of contraceptive methods. In the intervention group there was conformity after using this program, namely as many as 9 respondents or 82% compared to respondents who did not comply, namely as many as 2 respondents. SIPALING KB is a contraceptive guide designed in the form of a mobile website that can be accessed via a smartphone and helps provide recommendations for decision making in starting to use contraception according to the needs of prospective acceptors and helps choose contraceptives when clients experience health problems before using contraception.

### 6) Appropriate Use of Leaflets Against the Selection of Contraceptive Methods Against the Control Group

Table 6. Appropriateness of Leaflet Use for Contraceptive Method Selection

<b>suitability</b>	<b>F</b>	<b>%</b>
In accordance	4	36,4
It is not in accordance with	7	63,6
<b>Total</b>	<b>11</b>	<b>100.0</b>

Based on table 6 . Demonstrates the suitability of the use of mobile website-based SIPALING KB for the selection of contraceptive methods. In the intervention group there was conformity after using this program, namely as many as 4 respondents or 36.4% less than the respondents who did not comply, namely as many as 7 respondents or 63.6%. Leaflets are printed materials in the form of printed sheets that are printed. Leaflets are designed using simple language, short and easy to understand. The advantages of leaflets are that they can be used as learning media, the presentation of leaflet media is simple and concise, but behind all this, the disadvantages of leaflets themselves are that the information presented is limited and less specific, the essay used must highlight the specific focuses desired.

## b. BIVARIATE ANALYSIS

Table 7. Analysis of the Effectiveness of SIPALING KB based on the mobile website and the use of leaflets

Group	Wilcoxon sign rank test	Wilcoxon Mann Whitney U Test
Intervention	0.003	0.000
Control	0.003	

From table 7. The results of the analysis of the effectiveness of the use of SIPALING KB based on the mobile website on the selection of contraceptive methods based on the results of the Wilcoxon sign rank test obtained a p value of 0.003, which means that there are differences in the choice of contraceptive methods in post partum mothers before and after using the mobile website. Whereas for the control group the value of P Value was 0.003 which means there were differences in the choice of contraceptive methods before and after being given counseling using leaflets.

From the analysis of the difference in effectiveness between the use of mobile website-based SIPALING KB and the use of leaflets for choosing family planning methods using the Wilcoxon Mann Whitney U Test results obtained a value of 0.000, which means there is a difference in effectiveness between the use of the SIPALING KB mobile website and the use of leaflets for choosing family planning methods.

Counseling can be interpreted as a helping relationship in which one party (counselor) aims to improve the mental abilities and functions of the other party (client), in order to be able to better deal with conflict issues. Providing assistance also includes the counselor's willingness to listen to the client's life journey, both his past, hopes, unfulfilled desires, failures experienced, trauma, and conflicts that the client is currently facing.<sup>8</sup>Counseling is a face-to-face meeting between two parties, where one party helps the other party to make the right decision for himself and then act according to his decision.<sup>9</sup>

Contraception is a tool, medicine or method that is used to prevent conception or the meeting between the egg and sperm cells in the womb/uterus. The purpose of contraception is to avoid/prevent pregnancy as a result of the meeting of a mature egg with sperm.<sup>10</sup>

*Mobile web* is an internet access application using browser-based mobile devices that aims to access data services wirelessly. This mobile web can be accessed on mobile devices such as cell phones, PDAs (Personal Digital Assistants) and portable devices connected to a cellular telecommunications network. The function of the mobile web depends on the application, the attractive appearance of the software, credibility, the rating obtained from the application, and there is no clear way of evaluating the use of a mobile application.<sup>11</sup>

An expert system is a computer-based application that is used to solve problems as the expert thinks. Expert System is a computer program that has a knowledge base for a particular domain and is designed based on the problem-solving model of an expert. In preparing the expert system combines the rules of drawing conclusions with a certain knowledge base provided by one or more experts in a particular field. The main purpose of an expert system is not to replace the position of an expert or experts. But only to popularize the knowledge and experience of experts.<sup>12</sup>Expert systems usually deal with complex problems that require expert interpretation and are used to solve problems with computers with human reasoning models and reach the same conclusions reached by an expert when dealing with a problem.<sup>13</sup>

## 4. CONCLUSION

The SIPALING KB Mobile Website has the effectiveness of assisting postpartum mothers in choosing the method of contraception to use. This research can be used as a reference to assist postpartum mothers in choosing the method of contraception to be used, so that the goals of the family planning program can be achieved properly.

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