

Participatory Action Research: Maternal and Child Health System

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Abstract- The birth of a child is basically very much awaited in every family. In order for the mother to be safe and the child to be born healthy, she must perform antenatal care routinely to the obstetrician or to the midwife. The longer the gestational age, the fetus will also grow and develop, so if not carried out proper supervision can cause problems both during pregnancy, at the time of delivery, even childbirth, and the worst can result in death of mother and baby. Pregnancy screening is also an effort to reduce maternal mortality. The frequency of antenatal care is used to assess the use of antenatal services in quantity. The higher the coverage of antenatal care, the more likely the process of pregnancy and childbirth can be carried out properly. So that the examination of the womb during pregnancy is something that should not be missed and underestimated. In the obstetric examination the doctor or midwife will tell about the health of the fetus, fetal development, nutrition or any good food consumed during pregnancy, how to set a healthy diet for pregnant women, various exercise tips and healthy life that supports fetal growth and counting estimated date of birth of the baby. The estimated date of birth of a baby is not always the same as the birth. Not a few who turned out to give birth before the estimated date and not a few also gave birth after the estimated date. From the problems, the solution to overcome this is that an Android-based application can be made that can connect between midwives and expectant mothers and can search for the nearest midwife. With this application, it is expected to help make it easier for mothers and midwives to find out the growth record of the fetus while in the womb and facilitate the mother in the process of giving birth, especially during emergencies so that the mother will be immediately addressed by the nearest midwife and is expected to minimize the maternal mortality rate and baby during childbirth. Based on acceptance tests conducted on several users, it can be concluded that 84.3% of users agree that the application of "Sehati" is useful to support the health of pregnant women and children with an easy-to-understand appearance. Other statements include 9.1% neutral, and 6.6% disagree.

Keywords— *Obstetrician; Midwife; Pregnancy; Antenatal Care*

I. INTRODUCTION

The birth of a child is basically very much awaited in every family, especially by a husband and wife. Prospective mothers and fathers will crave children born healthy and normal. In order to get healthy and normal children, aside from praying, prospective parents must also support it with effort. Efforts must be made to maintain the health of the mother and maintain the health of the womb. One of them is by controlling

pregnancy regularly to the obstetrician or to the midwife or commonly referred to as antenatal care. Antenatal care (ANC) is a service provided to pregnant women on a regular basis to improve the health of the mother and her baby [1].

The duration of pregnancy is approximately 280 to 300 days or 39-40 weeks, so during this period pregnant women need proper supervision [2]. The longer the gestational age, the fetus will also grow and develop, so if not carried out proper supervision can cause problems both during pregnancy, during childbirth and even childbirth, and the worst can result in death of mother and baby. Pregnancy examination is an examination to optimize the mental and physical health of pregnant women, so that they are able to face childbirth, childbirth, preparation for breastfeeding and the initial return of health [2]. Pregnancy screening is also an effort to reduce maternal mortality. The frequency of antenatal care is used to assess the use of antenatal services in quantity. The higher the coverage of antenatal care, the more likely the process of pregnancy and childbirth can be carried out well [4]. So that the examination of the womb during pregnancy is something that should not be missed and underestimated because by regularly controlling the obstetrician or midwife, we can find out how the condition of the mother and fetus, so as to prevent undesirable things happening to the baby and the mother which is carrying it. Research also proves that mothers who do not have a pregnancy check are three times more likely to give birth to babies with a low weight and babies five times more likely to die, than babies born to mothers who regularly check the womb during pregnancy. In the obstetric examination the doctor or midwife will tell about the health of the fetus, fetal development, nutrition or any good food consumed during pregnancy, how to set a healthy diet for pregnant women, various exercise tips and healthy life that supports fetal growth and counting estimated date of birth of the baby.

The estimated date of birth of a baby is not always the same as the birth. Not a few who turned out to give birth before the estimated date and not a few also gave birth after the estimated date. Therefore there are some special mothers who give birth on the road and some even give birth in the car. As a result, mothers who give birth can have a shortage of blood because it cannot be treated immediately so that more blood will come out.

Midwives are professions that are recognized nationally and internationally by a number of practitioners throughout the world. The definition of midwife according to the International

Confederation of Midwife (ICM) of 1972 is someone who has completed a midwife-recognized education program that is recognized by the state and is qualified and given permission to carry out midwifery practices in the country, midwives must be able to provide supervision, care, and provide advice that is women are needed during pregnancy, childbirth, and the postpartum period, leading the delivery of their own responsibilities and care for babies born and children [3].

According to the International Federation of Gynecological Obstetrics, pregnancy is defined as fertilization or union of spermatozoa and ova and continued with nidation or implantation [15].

Antenatal Care (ANC) is a health service provided by professionals (obstetricians, general practitioners, midwives, and nurses) to pregnant women during pregnancy in accordance with antenatal care standards applied in the Midwifery Service Standards (SPK). Antenatal care visits should be done at least 4 (four) times during pregnancy, with the provisions of the time, namely: 1 time in trimester 1, 1 time in trimester 2 and 2 times in trimester 3 [5].

Data is the result of researchers' records, whether in the form of facts or numbers [16]. Data is also raw material that still needs to be processed to produce information or information, both qualitative and quantitative that shows the facts [17]. Data collection instruments are tools that are selected and used by researchers in collecting activities so that these activities become systematic and facilitated by them [16].

According to Yoland Wadworth, Participatory Action Research (PAR) is a term that contains a set of assumptions that underlie the new paradigm of science and is contrary to the paradigm of traditional or ancient knowledge. These new assumptions underline the importance of social and collective processes in reaching conclusions about "what is the case" and "what are the implications of the change" that are considered useful by different people in problematic situations, in delivering research [18].

II. METHODS

A. Research Instrument

According to Muchson [10], research instruments are tools for retrieving data. In quantitative research, research instruments can be in the form of tests, questionnaires or questionnaires, interview guidelines, observation guidelines and combined (tringulation). Sugiono [9] explained, the research instrument was used to measure the value of the studied variables with the aim of producing accurate quantitative data. The tool used by researchers as a data collection tool is an interview guide and a questionnaire or questionnaire.

1. Interview Guidelines

Interview guidelines are used to find out when pregnant women do antenatal care (ANC) and what data needs to be reported when they finish antenatal care (ANC) in the form of questions such as:

- During pregnancy how many times should a woman do antenatal care (ANC)?
- What is the length of time for further antenatal care (ANC) after initial antenatal care (ANC)?
- What aspects are reported when pregnant women finish antenatal care (ANC)?
- How long is the normal gestational age experienced by a mother?

2. Questionnaire

Questionnaires are used to find out how effective and efficient this application is if applied to midwives and pregnant women. Questionnaire sheet or questionnaire contains a list of types of activities observed, in the process of filling out the questionnaire or questionnaire the correspondent only needs to give a sign (√) in the available value column. In this study using a questionnaire.

III. RESULTS AND DISCUSSION

A. Application Implementation and Testing

System implementation and testing is the process of executing a system that has been designed to determine whether the application system is suitable and is running as intended. Testing is done by running the application and observing whether the results are in accordance with the desired process. As for what is tested in the testing process are:

1. Midwife Registration Form



Fig. 1. Midwife registration form

Figure 1 is the display of the account registration form for midwives. Midwives must register in advance to be able to use this application by filling out the form as shown above.

2. Pregnant Women Registration Form

Fig. 2. Pregnant women registration form

Figure 2 is the account registration form for pregnant women. Pregnant women must register in advance to be able to use this application by filling out the form as shown above and must be from the midwife's recommendation because at the registration of this pregnant woman requires a midwife ID to be able to connect with the midwife who is handling it.

3. Login

Fig. 3. Login

Figure 3 above is the display to log in. Before using this application, midwives and pregnant women must log in first to be able to access the features contained in this “sehati” application.

4. Profile

Fig. 4. Profile

Figure 4 is the profile display for midwives and pregnant women. On this page midwives and pregnant women can see their account name and photo, besides that on this page there is also a profile edit menu, edit password, terms and conditions, privacy policy and about.

5. Edit Profile

Fig. 5. Edit profile

Figure 5 is the profile edit view for midwives and pregnant women. Midwives and pregnant women can complete their profile by adding a photo, full name, telephone number and address on this page.

6. Homepage

Fig. 6. Homepage

Figure 6 is the display on the homepage when it has successfully logged in. On this part of the homepage there are menus and a number of tips and information articles about pregnancy.

7. List of Data on Pregnant Women

Figure 7 is a display list of names of pregnant women who are patients of the midwife. So, when there are pregnant women who register as patients, the data of pregnant women will automatically automatically enter the list of pregnant women patients.

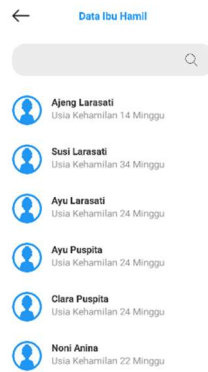


Fig. 7. List of data on pregnant women

8. Messages

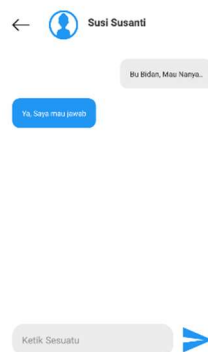


Fig. 8. Messages

Figure 8 on the bag is the display on the message page. On this page, pregnant women can request or consult online with the midwife who is handling it without the need to come to the midwife's place.

9. Add Posts



Fig. 8. Add Posts

Figure 9 is the form page to add posts in the forum. This page is only available for the midwives section. Midwives who want to add posts must fill in the title, image, and text fields as the contents of the post.

10. Forum



Fig. 10. Forum

Figure 10 is the forum page. On this forum page pregnant women can see tips and information about pregnancy that have been posted by midwives.

11. Notification for Pregnant Women



Fig. 11. Notification for pregnant women

Figure 11 is the notification page for pregnant women. All notices for pregnant women will appear on this page in terms of midwife assistance, schedule of examinations, examination reports, and forum notifications.

12. Inspection Report

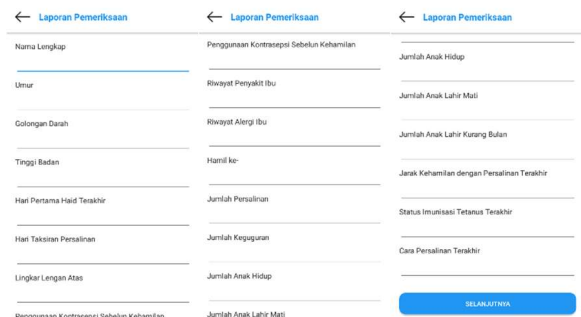


Fig. 12. Inspection Report

Figure 12 is a form to report the results of antenatal care (ANC) or pregnancy checks. This form must be filled out by the midwife who handles the pregnant woman and the data can be seen only by the midwife and the pregnant woman concerned.

B. Research Result

In this study data were obtained by giving questionnaires to respondents. Respondents intended in this study are midwives and pregnant women who use "sehati"

application. Each questionnaire is given to the respondent and it is hoped that the respondent can fill in the questions raised on the questionnaire in accordance with the actual situation. The following are questionnaires distributed to respondents.

User Acceptance Test

#	Question	Mark					Avg
		A	B	C	D	E	
1	Is the information provided by "Sehati" easy to understand?						
2	Is the use of the menu or the feature easy to use?						
3	Is "Sehati" comfortable to use?						
4	Overall, is the use of "Sehati" satisfying?						
5	Is "Sehati" as needed?						
6	Can "Sehati" be easily learned?						
7	Is "Sehati" easy to operate?						
8	Can you easily avoid mistakes using "Sehati"?						
9	Is "Sehati" useful for users?						
10	Is the menu display in "Sehati" easy to recognize?						
11	Does "Sehati" have the ability and function as expected?						

In data processing, the statements are given a score that indicates the level of agreement of respondents in choosing answers with a score of 1 to 5. These questions relate to the level of usability of "sehati" application to the users. From 130 questionnaires distributed to all respondents can be processed into data that is useful for the continuation of this research. From 130 responses, here is the result.

User Acceptance Test

#	Question	Mark					Avg
		A	B	C	D	E	
1	Is the information provided by "Sehati" easy to understand?	74	38	10	5	3	Good
2	Is the use of the menu or the feature easy to use?	67	10	20	28	5	Good
3	Is "Sehati" comfortable to use?	70	45	5	3	7	Good
4	Overall, is the use of "Sehati" satisfying?	65	30	32	3	0	Good
5	Is "Sehati" as needed?	67	40	5	10	8	Good
6	Can "Sehati" be easily learned?	79	47	4	0	0	Good
7	Is "Sehati" easy to operate?	80	21	25	3	1	Good
8	Can you easily avoid mistakes using "Sehati"?	75	6	40	9	0	Good
9	Is "Sehati" useful for users?	66	64	0	0	0	Good
10	Is the menu display in "Sehati" easy to recognize?	77	49	3	0	1	Good
11	Does "Sehati" have the ability and function as expected?	60	41	5	12	12	Good

Based on the results of the questionnaire above conducted to the respondents, it can be concluded that 84.3% of users agree that the application of "Sehati" is useful to support the health of pregnant women and children with an appearance that is easily understood. Other statements include 9.1% neutral, and 6.6% disagree.

IV. CONCLUSIONS

The conclusion of this study entitled: "Participatory Action Research: Maternal and Child Health System" is as follows:

1. This application can be a liaison between midwives and pregnant women.

2. This application can be utilized by midwives and pregnant women so that the antenatal care (ANC) or pregnancy check up during pregnancy can be carried out smoothly without delay.
3. Provides convenience in storing inspection reports so that they are not easily lost.
4. Providing convenience to pregnant women when consulting with midwives.

Based on the results of the questionnaire, many users who agreed that the application of "Sehati" is useful to support the health of pregnant women and children with an appearance that is easy to understand.

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