Implementation of the Use of Website Media for High Risk Delivery Planning Towards Healthy Mothers and Babies in the Gondangwetan Health Center Area

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Abstract. Health problems that are a priority are maternal and child health problems due to high maternal and infant mortality rates in Indonesia. The attention of pregnant women and their families to implement the Childbirth Planning and Complications Prevention Program is quite low. This study aims to create an integrated service media in the form of the Sehati Mobile Inscription Website (High Risk Delivery Planning Towards Healthy Mothers and Babies). The method used is by using Research and Development media. Data were collected using a questionnaire. The Sehati Mobile Inscription Media can be used easily and helps health workers to find pregnant women with high risk for immediate follow-up treatment. In addition, the Sehati Mobile Inscription provides a lot of information to pregnant women regarding the preparation for childbirth that must be done to prevent complications and even death for the mother and baby.

Keywords: health education · website · planning for delivery · high risk delivery · mother's health · baby's health

1 Introduction

Maternal and child health problems in Indonesia are one of the main problems in the health sector due to the high maternal mortality rate and infant mortality rate in Indonesia [1]. The reference for the 2015–2019 RPJM framework related to maternal and child health is one of the goals that must be achieved in health development, which initially targeted the maternal mortality rate of 346 per 100,000 population in 2010 to 306 per 100,000 population in 2019 and reducing the infant mortality rate. From 32 per 1000 live births in 2013 to 24 per 1000 births in 2019 [2]. Maternal and infant mortality is also an indicator in the Sustainable Development Goals (SDGs) in the third goal, which is related to a healthy and prosperous life. The SDGs target a maternal mortality rate of 70 per 100,000 live births and 12 per 1000 live births in 2030 [3].

According to the World Health Organization (WHO), the maternal mortality rate in the world is 306 per 100,000 live births. The maternal mortality rate (MMR) in Indonesia

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in 2019 was 4221 cases of death and East Java took the second position contributing to the highest maternal mortality cases in Indonesia with 520 cases [4]. The maternal mortality rate in East Java in 2020 has increased by 98.38 per 100,000 live births compared to the previous year which reached 89.81 per 100,000 live births [5]. Meanwhile, the Infant Mortality Rate (IMR) in Indonesia in 2022 is still at the highest value of 28,158 with 72% (20,266 deaths) occurring after 0–28 days, 19.1% or 5,386 deaths occurring at the age of 29 days. 11 months and 8.9% or 2,506 deaths that occurred at the age of 12–59 months [6]. The infant mortality rate in East Java was high from 2012 to 2016 which was still relatively high despite a decline in which the infant mortality rate had not yet reached the SDG's criteria, which was 20 per 1000 live births [7].

The number of maternal deaths in 2018 in Pasuruan Regency was 28 cases and in 2019 there were 21 cases. The number of infant deaths in 2018 was 134 cases and in 2019 infant mortality cases were 134 cases [8]. High-risk pregnancy is a cause of greater danger and complications to the mother and the baby-to-be during pregnancy, childbirth or the puerperium. As many as more than 90% of maternal deaths are caused by obstetric complications and as many as 15% of pregnant women will experience high risk conditions and obstetric complications that can endanger the mother and the future baby [9]. In addition, the most basic thing is that there are events that are not expected during pregnancy such as high risk conditions for pregnant women, namely the level of knowledge and awareness of pregnant women in maintaining the health of mothers and prospective babies, as well as planning for childbirth to welcome a prospective baby [10].

Cases at the Gondangwetan Health Center in 2019 there were 1 case of maternal death and 4 cases of infant death [11]. According to the profile of the Gondangwetan Health Center, in 2020 there was indeed a decline in the maternal mortality rate, there was 1 case and infant mortality was 1 case. Conditions in the working area of the Gondangwetan Public Health Center pregnant women do not have adequate preparation for childbirth such as not having savings for childbirth, rarely doing prenatal care, having less knowledge in maintaining the health of mothers and prospective babies, and not knowing that many pregnant women experience risk conditions. Pregnancy which can endanger the life of mother and baby.

These problems can occur because there is no system established to detect and monitor the risk of pregnancy in pregnant women and the mother's lack of knowledge about the risks of pregnancy and planning for childbirth with risks. Thus, it is necessary to have an integrated service that can be combined with technological developments in the form of the Prasati Sehati Mobile website (Planning for Healthy Mother and Baby High Risk Delivery) so that the services provided are more optimal and suppress the presence of pregnant women with high risk.

2 Method

This study uses the Research and Development (RND) method which is clarified with several frameworks presented in Fig. 1. The initial stage is to determine the potential and problems that exist in the Gondangwetan Health Centre area, the problem that exists is that there are still many pregnant women who do not implement the program. Delivery

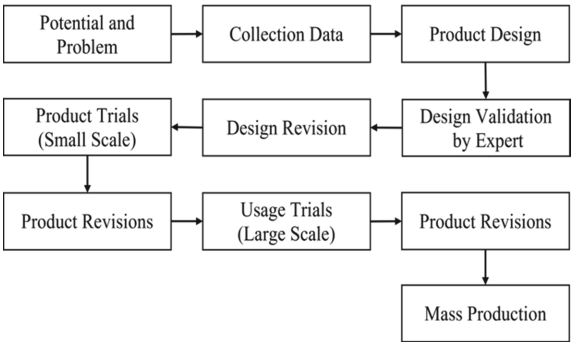

Fig. 1. Framework of problem-solving methods

Planning and Complication Prevention. Data collection was carried out by recapitulating data on cases of maternal and child deaths that had occurred at the Gondangwetan Health Centre.

Product design is based on target needs, this research creates a mobile website that can be accessed at any time. Then the design is validated by a product development design expert in the form of material and layout whether it is feasible before product testing. The stage after validation is to revise the design in accordance with the suggestions and inputs given by the experts. Small-scale trials were conducted on 5 health workers and large-scale trials were conducted on 40 health cadres' respondents. Mass production was carried out after the revision of the media usage assessment on a large-scale trial.

Data was collected using self-administered questionnaires and questionnaires developed by researchers using closed-ended questions. Before being given to respondents, the questionnaire was tested for validity. The data were analyzed using logistic regression with the help of the SPSS application.

3 Results

Based on the research that has been done, the following results were obtained.

3.1 Data Needs Analysis

Analysis there are 10 questions that will be asked through a questionnaire filled out by 25 respondents. Based on the results of the needs analysis data presentation in Table 1, as many as 68% have received educational media related to planning for delivery of high-risk pregnant women and 32% have never. Respondents from 25 respondents agreed that education related to planning for delivery of high-risk pregnant women uses the website. In addition, the response stated that the desired media had a diverse display of 91.7% and the delivery of information desired by the respondents was 32% short and clear and 68% wanted the delivery of information in a concise, concise, and clear manner. Ease of accessing the website, 4% of respondents said it was easy, 28% said it was easy and fast, and 68% said it was easy, fast, and simple.

3.2 Media Expert Validity Test Data

Assessment of the validity of the material was carried out by experts in material related to topics regarding pregnancy. The purpose of the material validity test is to find out whether the material in the media is worthy of being educational material, especially related to planning for delivery of high-risk pregnant women.

Based on the assessments Table 2, that have been given by material experts through several aspects, it can be seen that all website media validation values as many as 5

Table 1. Needs analysis data

No	Question	Answer Choice	Number	Percentage
1	Have you ever received a media about planning for high-risk delivery for pregnant women?	Yes	17	68
		No	8	32
2	If, Answer Yes to question number 1. What media have you received?	Lecture	7	41.2
		Manual	4	23.5
		Poster	3	17.6
		TV/Radio	3	17.6
		Apps/Websites	0	0
3	Is the media easy to access?	Yes	17	68
		No	0	0
4	How does the media convey information?	Very Informative	0	0
		Informative	3	17.6
		Quite Informative	14	83.4
		Not Informative	0	0
5	Is online-based media easy for you to use nowadays?	Yes	25	100
		No	0	0
6	Do you agree that the website media is used as a medium for planning high-risk deliveries towards healthy mothers and babies?	Yes	25	100
		No	0	0
7	If, Answer Question No. 6 Yes. In your opinion, what kind of appearance do you want?	Monotone	22	91.7
		Varied	2	8.3
8	If, Answer Question No. 6 Yes. In your opinion, what kind of information is conveyed on the website?	Long and Clear	0	0

(*continued*)

Table 1. (*continued*)

No	Question	Answer Choice	Number	Percentage
		Short and Clear	8	32
		Short, Solid and Clear	17	68
9	If the answer to Question No.6 is Yes. In your opinion, what kind of image and color combination do you want?	Diverse	24	96
		Monotony	1	4
10	If the answer to Question No.6 In your opinion, how do you access the media website that you want?	Easy	1	4
		Easy and Fast	7	28
		Easy, Fast and Simple	17	68

indicators from 3 aspects get the maximum value. A total of 3 indicators from 3 aspects of which get a good score, so that the media made is suitable for use in terms of material.

3.3 Material Expert Validity Test Data

The Media validity test was carried out by experts in the media field. The purpose of the media validity test is to find out whether the media is worthy of being an educational medium for the target, especially related to planning for delivery of high-risk pregnant women.

Based on the assessment that has been carried out by media experts through several aspects, it can be seen that as many as 12 indicators from 5 aspects get the maximum value. A total of 1 indicator from 12 aspects got a good score. So that the media is made suitable for use in terms of appearance or design (Table 3).

3.4 Test Result Data

Small Scale Trial

Assessment of the use of media to the target, namely health workers as many as 5 people. The results of the assessment on a small scale are presented in Table 4. Based on the results of the assessment of media use carried out using the Guttman method with a "Yes or No" scale in order to get a firm and definite answer. There are 4 assessment criteria used, namely very easy, easy, quite easy and not easy. The results of the assessment of the use of media respondents gave the answer "Yes" to all questions.

Large Scale

Trial The trial of the use of large groups in the assessment of media use was carried out on all targets as many as 40 respondents. The results of large group trials are presented in Table 5. Based on the results of the assessment of media use conducted using the

Table 2. Material expert validity test data

No	Aspect	Indicator	Max Value	Validation Value
1	Content Quality	Conformity of the material with the literature	4	4
2	Serving Quality	Systematic presentation of material	4	4
3	Linguistic Qualities	The presentation of the typeface can be clearly seen and legible	4	4
		Presentation of citations with clear sources	4	3
		The appropriateness of the use of good Indonesian sentences and easy-to-understand language of the target	4	3
		Explanation of difficult terms	4	3
		Sentence structure accuracy	4	4
		Compliance with the target level of education	4	4

Guttman method with a "Yes or No" scale in order to get a firm and definite answer. There are 4 assessment criteria used, namely very easy, easy, quite easy, and not easy. The results of the assessment of respondents' media use gave the answer "Yes" to almost all questions. And there are 2 respondents who stated No in the question of the ease of accessing likes, and there was 1 person who gave the answer "No" in the question of the use of language in the media. At this stage there are no suggestions and input from the response for the improvement of the lack of media.

3.5 Evaluation of Media Implementation

Evaluation of the implementation and media. Inscription Sehati mobile was carried out by all respondents, namely health workers and health cadres with a total of 45 respondents. Evaluation is done to find out how far the level of success of the program that has been carried out. The evaluation assessment was carried out using the rating scale method with an assessment of 5–1 indicated by Table 6.

Based on the results of the evaluation of the implementation and the media of Prasati Sehat Mobile, it almost got a score of 5 out of 10 statements. However, there are respondents who give a value of 4 and 3. So it can be stated that the innovation program that has been carried out is very good in application and the media presented for the target.

Table 3. Media expert validity test data

No	Aspect	Indicator	Max Value	Validation Value
1	Use of Media	Ease of using media	4	4
		Ease of selecting program menus	4	4
		Ease of accessing links	4	4
		Programs can be closed and opened easily	4	4
2	Cover Design the Media	Appearance of layout elements on the main page is balanced	4	4
		Not using too many letter combinations	4	4
		Color and background	4	4
3	Content illustration	Clarity of material with images	4	4
		Images with appropriate material	4	4
4	Content Design Media	Consistent placement layout with spacing between paragraphs and spacing	4	3
		Do not use too many fonts	4	4
5	Quality Media	Website is very accessible and contains a lot of information	4	4

4 Discussion

Based on the results of the material expert validity test conducted by the final value of the material feasibility on the media of 90.62%. This can be categorized as material on the media that has been prepared very well. Thus, the suitability and feasibility of the material can be used in accordance with the purpose of making the media. The final value of media eligibility is 97.91%. This can be categorized as a media display that has been prepared very well. The appearance of the media greatly affects the target's interest in understanding the material presented. So, it can be concluded that the appearance of the Sehati Mobile Inscription as a means of health education in the Gondangwetan Health Center area is very feasible.

Ease of use of media has a final score obtained in the assessment of media use on a small scale of 98% with a very easy category. The ease of using a media is the most important thing to facilitate and attract attention from the target to be more effective as well as in gaining insight and knowledge related to high-risk delivery planning. Meanwhile, the final score obtained in the assessment of media use on a large scale is

Table 4. Small group media usage assessment data

No	Question	Scale	Result
1	Are you easy to use the Sehati Mobile Inscription media?	Yes	5
		No	0
2	Do you find it easy to choose the program menu?	Yes	5
		No	0
3	Is it easy for you to access the Sehati Mobile Inscription link?	Yes	5
		No	0
4	Can the Sehati Mobile Inscription Media be accepted as a medium for planning high-risk deliveries towards healthy mothers and babies?	Yes	5
		No	0
5	Can you understand the language used in the Prasasti Sehati media?	Yes	5
		No	1
6	Can Prasasti Sehati media help you in planning preparations before giving birth?	Yes	5
		No	0
7	Does the Sehati Mobile Inscription make it easy to identify high-risk pregnant women for action?	Yes	5
		No	0
8	Is using the Sehati Mobile Inscription media more effective and efficient in getting information?	Yes	4
		No	1
9	Is the use of web-based media the right choice?	Yes	5
		No	0
10	Can the Sehati Mobile Inscription media be easily maintained?	Yes	5
		No	0

99.25% with a very easy category. Assessment of media use carried out in large groups has the aim of knowing how to use media if it has been given to the wider community, especially in the Gondangwetan Health Center area.

Determining the success of the implementation of the applied media needs to be evaluated. Based on the results of the evaluation conducted by 45 respondents from health workers and cadres, it can be obtained that the maximum score is 2250 with the total score obtained is 2138. Then the final score obtained is 95% with a very good category. So, it can be concluded that the implementation and media of the Sehati Inscription is very good.

Table 5. Large group media usage assessment data

No	Question	Scale	Result
1	Are you easy to use the Sehati Mobile Inscription media?	Yes	40
		No	0
2	Do you find it easy to choose the program menu?	Yes	40
		No	0
3	Is it easy for you to access the Sehati Mobile Inscription link?	Yes	38
		No	2
4	Can the Sehati Mobile Inscription Media be accepted as a medium for planning high-risk deliveries towards healthy mothers and babies?	Yes	40
		No	0
5	Can you understand the language used in the Prasasti Sehati media?	Yes	39
		No	1
6	Can Prasasti Sehati media help you in planning preparations before giving birth?	Yes	40
		No	0
7	Does the Sehati Mobile Inscription make it easy to identify high-risk pregnant women for action?	Yes	40
		No	0
8	Is using the Sehati Mobile Inscription media more effective and efficient in getting information?	Yes	40
		No	0
9	Is the use of web-based media the right choice?	Yes	40
		No	0
10	Can the Sehati Mobile Inscription media be easily maintained?	Yes	40
		No	0

5 Conclusion

The Sehati Mobile Inscription Media can be used very easily in accessing the website from the target based on an assessment of the use of small group media by health workers and large groups by health cadres. The Sehati Mobile inscription is also very worthy of being an educational medium in preventive efforts for cases of high-risk pregnancy for pregnant women.

Table 6. Assessment of the implementation of the inscription media of sehati mobile

No	Statement	Number of Ratings				
		5	4	3	2	1
1	Display of the Sehati Mobile Inscription	38	6	1	0	0
2	Information presented in the Sehati Mobile Inscription	30	14	1	0	0
3	Ease of accessing the Sehati Mobile Inscription	35	10	0	0	0
4	Ease of understanding	34	11	0	0	0
5	Ease of use	34	8	3	0	0
6	Accuracy in choosing the type of media	33	12	0	0	0
7	Use of appropriate language	36	8	1	0	0
8	Appropriateness of the material presented	36	8	1	0	0
9	Directs to have high knowledge	36	8	1	0	0
10	In accordance with the formulated objectives	39	6	0	0	0

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