



EFFECTIVENESS OF USING THE PREGNANCY COMPLICATIONS MODULE MEDIA (KOMI) IN HEALTH PROMOTION FOR EARLY DETECTION OF COMPLICATIONS IN PREGNANT WOMEN IN THE TANJUNGPINANG CITY AREA

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ABSTRACT

One of the efforts to overcome pregnancy complications is by providing knowledge and health education, one of which is by using module media containing pregnancy complications (KOMI), because modules are one of the means for the public to get information. Module media can provide professional and reliable information and promotion of health services about health services, especially pregnant women with pregnancy complications. The Batu X Health Center is a health center with cases of pregnant women with pregnancy complications in Tanjungpinang city. Therefore, it is necessary to make efforts to prevent pregnancy complications, one of which is by providing information media using modules. The purpose of this community service is to increase the knowledge of pregnant women through learning using modules. The method of community service activities in the form of health promotion regarding efforts to prevent pregnancy complications by delivering material directly to pregnant women and equipped with module media. This research is a quasi-experiment with pre-posttest with control group design. The population total of 60 through social media totaling 30 people per group. Data collection was carried out twice, namely pre-test and post test. The data analysis used univariate analysis. Before analyzing bivariate data, a data normality test was carried out. The test used was the Shapiro-Wilk test, because the number of respondents in this study was less than 50 people in each group. The parametric test used is the Independent Samples T-Test. The results of the study found that the medium of the complication module (KOMI) with a p value of 0.005 was more effective for increasing knowledge with early detection of complications in pregnant women. There is a difference in pregnant women's knowledge about complications in pregnancy before education and after education. The average increase in knowledge after education with Module media. This module media is more effective in the implementation of Health Promotion for pregnant women regarding the early detection of complications.

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1. INTRODUCTION

Pregnancy is a natural process that can cause complications for the mother and fetus if it cannot be managed properly. Pregnancy is a time when a woman's body will undergo significant changes as well as her emotions. Physical and psychological changes in pregnant women are not always the same for every pregnancy between one woman and another. Pregnancy is a period full of emotional stress for some women, some welcome with happiness, some welcome with anxiety, fear and even sadness. Many women say how happy they are to be a mother, but it is not uncommon for women to feel worried if something goes wrong in their pregnancy¹. About 75% of maternal deaths are due to complications, which are caused by heavy bleeding, preeclampsia, high blood pressure infections during pregnancy and complications from childbirth and unsafe abortions.

Most pregnancies generally go well and smoothly until the delivery process. However, in some cases there may be disturbances. Usually, disorders are in the form of health problems that pregnant women are susceptible to experience and can often threaten the lives of the mother, baby, or both. Therefore, it is important for mothers-to-be to know what health problems are vulnerable to experience during pregnancy in order to take preventive steps as early as possible. A high-risk pregnancy is a pregnancy in which the pregnant woman and the fetus are at risk of death or pain during pregnancy, childbirth or after birth. Then there are several medical conditions that can cause high-risk pregnancies. This medical condition can occur during pregnancy or before pregnancy. Pregnant women at high risk include chronic lack of energy, lack of blood (anemia), hypertension, getting pregnant at a too old or too young age, and the distance between pregnancies that is too close and giving birth too much.

Every pregnancy can have potential and bring risks to the mother. Risk is an unwanted emergency in the future, which is a prediction of complications that can cause death or pain to the mother or her baby, where the life of the mother or baby can be threatened before and after childbirth⁴. The WHO estimates that about 15% of all pregnant women will develop pregnancy-related complications that can be life-threatening⁵. Complications can occur at any time during pregnancy and childbirth, which can affect the overall health and survival of the mother and fetus⁵. This complication can be prevented through the identification of high-risk pregnancies early in pregnancy.

The World Health Organization (WHO) stated that in 2020 the Maternal Mortality Rate (AKI) was very high, the number of women who died due to complications that occurred in pregnancy or childbirth worldwide every day reached around 810 women and around 295,000 women died during and after pregnancy and childbirth. The maternal mortality rate in developed countries is 11/100,000 live births, while in developing countries it reaches 462/100,000 live births

The Maternal Mortality Rate (MMR) in the Riau Islands province in 2019 was 41 per 100,000, and in 2020 it was 38 per 100,000. The achievement of AKI in 2020 is better than that of AKI in 2019. Meanwhile, the city of Tanjungpinang has experienced a significant decrease, namely from 5 cases of maternal deaths in 2019 to 4 cases of maternal deaths in 2020. Likewise, the Infant Mortality Rate (AKB) of Riau Islands Province in 2020 is 229 per 1,000 live births. The achievement of the AKB in 2020 is better when compared to the AKB in 2019 which was 279 per 1,000 live births. Meanwhile, the Infant Mortality Rate (AKB) in the city of Tanjungpinang has decreased significantly from 23 cases of infant mortality in 2019 to 17 cases of infant mortality in 2020⁷. Based on the results of a survey in the Batu X health center area in May 2024, data was obtained that there were 42 pregnant women.

According to L. Green's theory, knowledge is one of the predisposing factors that is important for the formation of health behavior. Pregnant women who have good knowledge about the high risk of pregnancy are likely to think about preventing, avoiding or overcoming the problem of pregnancy risk, and mothers have the awareness to check their pregnancy, so that it can be handled early and appropriately by health workers. Knowledge about treatment, prevention efforts, complications or complications during pregnancy, as well as high-risk pregnancy is very necessary for pregnant women during pregnancy.

Health promotion is an activity or effort to convey health messages to the community, group or individual. With this message, it is hoped that the community, group or individual can gain knowledge about better health. This knowledge is finally expected to have an effect on behavior. In other words, the promotion is expected to have an effect on changing the behavior of the target by using media: social media, modules, booklets and whatApp groups.

The use of social media can have both positive and negative impacts on pregnant women. Result

Research has found that pregnant women use social media for several purposes, such as emotional support, social support, and increasing health literacy, especially information related to pregnancy, so that pregnant women can certainly benefit from the use of social media¹⁰. One of the benefits of social media is providing social support, which can be very helpful in preventing pregnancy-related anxiety and keeping a positive mindset during pregnancy.

Based on the background mentioned above, the researcher is interested in conducting a study entitled "The Effectiveness of Pregnancy Complications Module Media (KOMI) in Health Promotion for Early Detection of Complications in Pregnant Women in the Tanjungpinang City Work Area in 2024".



2. RESEARCH METHOD

Research Design

The research will be carried out in the Tanjungpinang city area. The research will be carried out in 2024. The research design is a quasi experiment with pre-posttest with control group design. Before collecting data, a research preparation meeting was held. The instrument used in the data collection process is a structured questionnaire to find out the characteristics of respondents, knowledge, attitudes and motivations. Before being used, the questionnaire was tested for validity and reliability.

Data collection was carried out twice, namely during the pre test and post test. The population in this study is all pregnant women with pregnancy complications in the Tanjungpinang city area.

Study Participants

The sample in this study was pregnant women with pregnancy complications in the Tanjungpinang city area, a total of 30 treatment respondents and 30 control respondents. The data analysis used univariate analysis to describe the characteristics of the respondents, such as mother's education and work, pregnancy history and pregnancy complications. Each variable is calculated by means (mean), standard deviation, median and range. Before analyzing bivariate data, a data normality test was carried out. The test used was the Shapiro-Wilk test, because the number of respondents in this study was less than 50 people in each group. The parametric test used is the Independent Samples T-Test.

Variable, Instrument, And Data Collection

The independent variables consisted of age, gender, occupation, religion, economic status, marital status.

3. RESULT AND ANALYSIS

The data was collected using primary data. The analysis used to test the difference the 2 categorical variables, the test used was the statistical test "Independent Sample T Test" with a significance level of 95%. Ho is rejected if the p value ≤ 0.05 and Ho fails to be rejected if the p value ≥ 0.05 . (Hastono, 2007)

Results

Table 1. Characteristics of Research Respondents

Characteristic	Module		Control		Total	
	N	%	N	%	N	%
Age						
< 25 year	14	47	17	56	31	51.7
≥ 25 year	16	53	13	44	29	48.3
Age Pregnancy						
Quarterly I	13	43	9	30	22	36.7
Quarterly II	17	57	21	70	38	64.3
Education						
Elementary/Middle School	20	67	16	53	36	60
High School/College	10	33	14	47	24	40
Work						
Work	10	33	9	30	19	31.67
No Work	20	67	21	70	41	68.33
Experience Miscarriage						
Yes	5	17	2	7	7	11.67
No	25	83	28	93	53	88.33
Own History Complications And Complications						
Yes	14	47	12	40	26	43.33
No	16	53	18	60	34	56,67

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Descriptive Analysis of Pretest in Module Groups

Table 2. Results of the Descriptive Test of Pretest Knowledge in the Module Group

	N	Minimum	Maximum	Mean	St. Deviation
Knowledge Group Module	30	65	90	77.60	8,107

Table 3. Results Test Descriptive Knowledge Post test On Group Module

	N	Minimum	Maximum	Mean	St. Deviation
Knowledge Group Booklet	30	70	100	81.50	9,333

Descriptive Analysis Of Control Group

Table 4. Results of the Descriptive Test of Pretest Knowledge in the Control Group

	N	Minimum	Maximum	Mean	St. Deviation
Knowledge Group Control	30	50	95	71.50	7,109

Knowledge of Pregnant Women Before Intervention

Table 5. Distribution of Respondents Based on Pregnant Women's Knowledge Before Intervention

Health Promotion	Knowledge						Total	%
	Good		Enough		Not enough			
	N	%	N	%	N	%		
Module	21	70	9	30	0	0	30	100

As seen in the table above, respondents who before the Health Promotion intervention on Early Detection of Complications in pregnant women using the Media Module, had good knowledge 21 (70%).

Knowledge of Pregnant Women After Intervention

Based on the table above, respondents who after a Health Promotion intervention on Early Detection of Complications/Complications in Third Trimester pregnancy using Module media, good knowledge 24 (80%) and those who did not intervene, good knowledge 15 (50%).

Table 6. Distribution of Respondents Based on Pregnant Women's Knowledge After Intervention

Promotion Health	Knowledge						Total	%
	Good		Enough		Not enough			
	N	%	N	%	N	%		
Module	24	80	6	20	0	0	30	100
Control	15	50	12	40	3	10	30	100

Bivariate Analysis

Table 7. The Effectiveness of Health Promotion on Early Detection of Complications in Pregnant Women Between Modules and Non-Interventions.

Promotion Health	Knowledge						Total	p value
	Good		Enough		Not enough			
Module	24	80%	6	20%	0	0%	30	0.007
No done intervention	15	50%	12	40%	3	10%	30	

Based on the table above, the results of the Independent T Test, obtained a p value = $0.007 \leq \alpha = 0.05$ which means that there is a significant difference in the knowledge of the respondents between those given the module compared to those who did not intervene. This illustrates that being given a module on health promotion can increase the knowledge of pregnant women about early detection of complications in pregnant women.

Table 8. Effectiveness of Health Promotion Regarding Early Detection of Complications in Pregnant Women Media Module

Promotion Health	Knowledge						Total	p value
	Good		Enough		Not enough			
Module	24	80%	6	20%	0	0%	30	0,007

Based on the table above, the results of the Independent T Test with Booklet media were obtained with a p value of 0.007 and Whatsapp Group media with a p value of 0.005. Based on these results, the p value of the Module (0.007), the Media Module is effectively used as a medium to provide health promotion about Early Detection of Complications in pregnant women.

4. DISCUSSION

Based on the results of the study, it was found that the respondents' knowledge after health promotion was carried out about Early Detection of Complications/Complications in Third Trimester Pregnancy using a module that had good knowledge of 80% and a p value



of 0.007. On this basis, it can be seen that Module media is more effectively used in health promotion (Kristianto et al., 2018).

In the implementation of the study, 2 stages were carried out, namely pretest and posttest, before health promotion interventions were carried out on Early Detection of Complications in Third Trimester Pregnancy using the Module, pretest was carried out first on both groups of respondents, in the Module group with an average score of 77.60 and in the control group with an average score of 71.50. After that, health promotion interventions were carried out using Module media for approximately 1 week. After that, a posttest was carried out in both intervention groups, in the module media group obtained an average score of 81.60. On this basis, health promotion on Early Detection of Complications in Pregnancy in the third trimester using modules can increase the knowledge of pregnant women. As the results of Rosmadewi's research revealed that WhatsApp and booklets can be a medium for improving health-based education. Social media is a communication facility between health educators and learners with a discussion system (Rosmadewi & Mugiati, 2022).

Increasing respondents' knowledge about Early Detection of Complications in Third Trimester Pregnancy through health promotion using module media. The current situation is in the covid-19 pandemic, the government has established 5 health protocols in order to prevent the transmission of the covid-19 disease, namely washing hands with soap, maintaining distance, using masks, staying away from crowds and reducing mobility (Ministry of Health of the Republic of Indonesia, 2020).

This is in line with the results of Rosmadewi's research, 2022 It was found that Whatsapp Group Media was more effective in implementing Health Promotion for pregnant women regarding the early detection of complications/complications compared to booklet media. The reason for the research review is to make efforts to prevent the occurrence of pregnancy complications that may occur, education can be carried out by utilizing social media. In addition, it is also in line with the research of Yusuf Kristianto, et al. (2018) that there is a difference in the improvement of dental and oral hygiene between the group that was given WhatsApp intervention and the group that was not given WhatsApp, where $p = 0.001 < 0.05$ (Kristianto et al., 2018) and the research of Ari Rahmat Aziz, et al. (2019) that the provision of health information using Whatsapp social media has a significant effect on adolescent knowledge with a p value of 0.000 (Ari Rahmat Aziz, Cecep Eli Kosasih, 2019).

Based on the results of the analysis, it was shown that there was a difference in the knowledge value of pregnant women and after being given health counseling about pregnancy danger signs ($p=0.000$). This is evidenced by the average value of knowledge before being given health counseling is 78.1 with a standard deviation of 14.5 and in the post-test it is 89.2 with a standard deviation of 10.1. The average result of the increase in the value of the respondents' knowledge was quite large, reaching 11.1. The increase in the average value of this knowledge shows that interventions in the form of counseling using educational videos have a positive impact on increasing respondents' knowledge.

WhatsApp is an internet-based application that is one of the most popular impacts of information technology developments. This internet-based application has great potential to be used as a communication medium, because it makes it easier for its users to communicate and interact with each other without spending a lot of money on its use, because WhatsApp does not use credit, but uses internet data. (Pranajaya, 2018)

According to Larasati, et al. (2013), WhatsApp is an application for sending messages to each other instantly, and allows us to exchange images, videos, photos, voice messages, and can be used to share information and discussions. Larasati concluded that the use of the WhatsApp application as a means of learning discussion is included in the effective category. (Aulia, 2020)

The use of the Whatsapp program is very effective with the support of its features compared to other instant messaging applications. Message speed without long to delayed, able to operate in weak signal conditions, large capacity for sending text, voice, photo and video data, without advertising interference, the nature of its dissemination makes WhatsApp one of the alternative media in providing information and improving performance. (Miladiyah, 2017)

Jumiatmoko (2016) said, WhatsApp Messenger is adaptable to the social culture of its users, including manners in communicating without reducing the quantity, quality, and modernity of how to communicate. WhatsApp Messenger is an application that is able to reach the dimensions of up-to-date, usefulness, and civility. Whatsapp can also be used to exchange information and disseminate information. WhatsApp can send and receive not only in the form of text but also in the form of images, videos, audio, office files or an unlimited number of others. (Jumiatmoko, 2016)

Generally, Whtsaap users say that the reason for choosing this application is because of the availability of various conveniences in it besides not spending money, aka free. However, behind the various conveniences that exist, it turns out that it is not only the positive effects obtained from this application. If its use is not controlled and supervised, it can cause various negative things which in the end can often reduce the quality of life. (Pranajaya, 2018)

The impact of health protocols on staying away from crowds and reducing mobility, health promotion about early detection of complications in third trimester pregnancy cannot be done face-to-face. Meanwhile, the health promotion is considered necessary to be carried out to pregnant women from the beginning of feeling pregnant until before delivery in order to increase the knowledge of pregnant women so that there is no delay in recognizing complications during pregnancy and immediately go to health workers. Complications in pregnancy are conditions that can contribute to the death of pregnant women and childbirth. (Tandu-Umba et al., 2014) As research conducted in Pati district shows that the results of the study there are three main causes of maternal mortality in Pati

Regency, namely heart disease, preeclampsia/eclampsia, and hemorrhage. (Aeni, 2013)

In this study, the author used primigravida pregnant women respondents who were between 20-35 years old, which is the largest group of smartphone application users. In fact, all respondents have smartphones that have WhatsApp application features and are actively using the application. At the time of the intervention, respondents were given material on early detection of complications, which was also given to the control group respondents.

Therefore, the author advises health workers who provide health services to pregnant women to continue to carry out health promotion about the early detection of complications in pregnant women even during the covid-19 pandemic where pregnant women are prohibited from gathering in accordance with health protocols in order to prevent the transmission of covid-19 disease. (Mita R. S. Kurniawansyah S. I., 2018)

Health promotion can be done using social media, namely by creating a WhatsApp Group whose group members consist of pregnant women and health workers who are in charge of providing health promotion. Furthermore, the WhatsApp Group is used to provide information related to the early detection of complications in pregnancy so that these pregnant women are exposed to complications during pregnancy, especially in the third trimester of pregnancy. If pregnant women experience complications in the third trimester of pregnancy, they can detect independently and immediately to ask for help from health workers so as to avoid delays in handling complications that can cause pain and death of the mother. (Erim et al., 2012).

5. CONCLUSION

There is a difference in pregnant women's knowledge about complications in pregnancy before education and after education. The average increase in knowledge after education with Module media. This module media is more effective in the implementation of Health Promotion for pregnant women regarding the early detection of complications.

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