
Development of the Si PaPa Gasi Module (First Aid for Preeclampsia/Eclampsia) with a Family Approach in the Archipelago Region

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ABSTRACT

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Maternal deaths in the Riau Islands Province in 2020 are still dominated by direct causes, namely hypertension in pregnancy (around 39%), known as preeclampsia and eclampsia. The Community Health Center also does not have a particular module regarding first aid in emergencies if preeclampsia or eclampsia occurs. This research aims to determine the effectiveness of the Si PaPa Gasi Module (First Aid in Preeclampsia/Eclampsia emergencies) with a family approach in island areas. The research design is a quasi-experiment with a pre-posttest and control group design. The population is all pregnant women in the Berakit Health Center working area. The total sample was 47 in the intervention group and 47 in the control group. The research instrument is a questionnaire. Statistical analysis uses the computer program by looking at the increase in the average (mean) and the influence of the independent variable on the dependent variable using the t-test. The results of the Si PaPa Gasi module research were Si PaPa Gasi module could increase knowledge regarding First Aid for Preeclampsia/Eclampsia Emergencies and increase the attitudes and motivation of pregnant women to perform First Aid for Preeclampsia/Eclampsia Emergencies. Health facilities can use the PaPa Gasi module as a health education media in efforts to prevent preeclampsia and eclampsia.

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INTRODUCTION

The Maternal Mortality Rate (MMR) for the Riau Islands Province in the last 3 (Three) years, namely from 2020 to 2022, is still fluctuating and tends to decline in the previous 3 (three) years. In 2022, the MMR for Riau Islands Province was 38 per 100,000 live births, while in Bintan Regency, it was 108 per 100.000 live births. This figure exceeds the MMR of Riau Islands Province and is ranked fourth after Tanjungpinang Regency. Maternal deaths in the Riau Islands Province in 2020 were still dominated by direct causes, namely hypertension in pregnancy (around 37%) and bleeding (about 13%). Hypertension in pregnancy that begins to appear at 20 weeks of gestation is called preeclampsia and can progress to eclampsia (Dinas Kesehatan Provinsi Kepri, 2022).

Preeclampsia is a group of symptoms that arise in pregnant, parturient, and postpartum women consisting of hypertension, edema, and proteinuria that appear at 20 weeks of pregnancy until the end of the first week after delivery. Preeclampsia is a severe problem and has a high level of complexity. The magnitude of this problem is because preeclampsia impacts mothers during pregnancy and childbirth and causes postpartum problems due to endothelial dysfunction in various organs, such as the risk of cardiometabolic disease and other complications (Muzalfah et al., 2018).

A preliminary survey at the Community Health Center in Berakit, Bintan Regency, on May 10, 2022, with pregnant women as respondents provided information that 100% of respondents did not understand about preeclampsia, eclampsia, and how to provide first aid in an emergency if preeclampsia or eclampsia

occurs. The Community Health Center also does not have a special module regarding emergency first aid in the event of preeclampsia or eclampsia, so there is a need for a module as a medium to provide information to pregnant women and their families. The husband is one of the most essential parts of a family. Therefore, the husband should be involved as a family component in providing health education. A family approach is critical in carrying out effective and efficient health education (Virdasari et al., 2020).

From previous research, it is known that there is a significant influence between knowledge and preeclampsia in pregnant women at the Banyuanyar Community Health Center, Surakarta. Several factors, including education, age, information, social culture, environment, and experience, influence the level of knowledge. The dominant factor in the results of this research is information, where the more information obtained, the higher the level of knowledge about preeclampsia. Pregnant women who know about early detection and prevention of preeclampsia apply it to themselves so that mothers with good knowledge do not experience preeclampsia. Apart from that, previous research on the family approach stated that managing hypertension sufferers needs a good family role because family members support the management of hypertension treatment. Having direct involvement of family members to help hypertensive patients is a form of support so that hypertension treatment management can run well and patients can maintain normal blood pressure. So, it is essential to prevent the incidence of preeclampsia and eclampsia by providing health education to pregnant women using appropriate media and a family approach (Virdasari et al., 2020).

The aim of the research is to determine the increase in knowledge regarding First Aid for Preeclampsia/Eclampsia emergencies and improving attitudes as well as motivation for pregnant women to carry out First Aid in Preeclampsia/Eclampsia emergencies.

METHOD

The research design is a quasi-experiment with a pre-posttest and control group design. In this study, the population was all pregnant women in the Berakit Community Health Center working area.

There are two groups, namely an intervention group of 47 respondents and a

control group of 47 respondents, who will be given questionnaires before and after the intervention. Researchers will measure knowledge, attitudes, and motivation in the intervention group and control group. Measurements were taken before and after health education using modules in the intervention group and health education without modules in the control group. This study calculated the number of samples based on research by Aminin et al. (2022). Sample calculation uses computer assistance (sample size application). The number of samples in the intervention group was 18, the average was 18.6, and the standard deviation was 0.5, while the samples in the control group were 17, with an average of 18.29 and a standard deviation of 0.77. Type 1 and type 2 errors are set at 5%, so the Z_{α} and Z_{β} values are 1.65. The S_{gab} value obtained was 0.52. The sample size obtained for each group was 42 people. It is estimated that 10% will drop out, so the sample for each group is 47 people. Respondent data came from secondary data on pregnant women at the Community Health Center, where the research was conducted. The research was conducted from June to September 2023.

The control group was pregnant women who did not receive health education using the PaPa Gasi module. In contrast, the intervention group consisted of pregnant women and their husbands, who did not receive instruction.

The intervention group was given intervention in the form of the Si PaPa Gasi Module within 30 minutes, while the control group received health education without the module for 30 minutes. Measurements were carried out again after seven days using the same questionnaire sheet (post-test) to determine changes in knowledge, attitudes, and motivation. Statistical analysis uses the computer program by looking at the increase in the average (mean) and the influence of the independent variable on the dependent variable using the t-test. This research has received ethical permission from the Stikes Patria Husada Blitar Ethics Commission with number 06/PHB/KEPK/159/07.23.

RESULTS

Table 1 shows that in the intervention group, the mean (average) knowledge score before the intervention was 16.0, and the score after the intervention was 19.8. In the control group, the mean (average) knowledge score before intervention was 14.9, and the score after

intervention was 15.2. This means that between the two groups, both control and treatment experienced an increase in the mean score. However, the highest growth in the mean score was in the intervention group, namely 3.8.

Table 1 shows that in the intervention group, the mean (average) attitude score before the intervention was 33.5, and the score after the intervention was 45.9. In the control group, the mean attitude score before intervention was 31.4, and the score after intervention was 32.8. This means that between the two groups, both control and treatment experienced an increase in the mean score. However, the highest growth in the

mean score was in the intervention group, namely 12.4.

Table 1 shows that in the intervention group, the mean (average) motivation score before the intervention was 34.9, and the score after the intervention was 45.7. In the control group, the mean (average) motivation score before intervention was 32.1, and the score after intervention was 34.5. This means that between the two groups, both control and treatment experienced an increase in the mean score. However, the highest growth in the mean score was in the intervention group, namely 10.7.

Table 1. Effectiveness of modules on knowledge, attitudes, and motivation

Variable	n	Mean		Increase in mean	p*
		Pre	Post		
Intervention group					
Knowledge	47	16.0	19.8	3.81	0.00
Attitude		33.5	45.9	12.4	0.00
Motivation		34.9	45.7	10.7	0.00
Control Group					
Knowledge	47	14.9	15.2	0.28	0.44
Attitude		31.4	32.8	1.4	0.07
Motivation		32.1	34.5	2.38	0.08

*T-test

The results of data analysis based on the T-test, which we can see in Table 1, state that in the intervention group, the value I was p 0.00, meaning there was an influence of the module on the knowledge, attitudes, and motivation of respondents. Meanwhile, in the intervention group, the p-value for understanding was 0.44 > 0.05, the p-value for attitude was 0.07 > 0.05, and the p-value for motivation was 0.08 > 0.05, which means there was no effect of health education without module media on knowledge, attitudes, and basis of respondents.

DISCUSSION

Knowledge

The research results have shown an influence of the module on pregnant women's knowledge regarding First Aid for Preeclampsia/Eclampsia emergencies). This is in line with previous research that most mothers' knowledge before and after being given counseling media education (module) is in a suitable category, and there is an increase in learning (Yunus et al., 2021).

This research is in line with the study entitled "Differences in Pregnant Women's Knowledge About the Nutritional Needs of

Pregnant Women Before and After Counseling." The results of the analysis show that respondents' knowledge before counseling compared to after counseling increased by 18 respondents (100%) with a significance level (σ)=0.000 ($\sigma \leq 0.05$). It can be concluded that H_a is accepted, which means there is a difference in the knowledge of pregnant women before and after the intervention (Yunus et al., 2021).

Educational media functions to mobilize as many senses as possible to an object, making perception easier. Educational media makes it easier for someone to understand information or material that is considered complicated. The use of media will help clarify the information conveyed because it can be more interesting and interactive and can overcome the limitations of space, time, and human senses. So that the information conveyed can be more transparent and more accessible to understand the objectives to be achieved, the data needs to be packaged according to the characteristics of each media used (Handayani et al., 2020). Efforts to provide health education that minimize travel or distance traveled are effective and accessible are needed for equality in the provision of health education. Someone who can easily access information will gain knowledge more quickly (Kasjono & Suryani, 2020).

The module given to respondents provides access to health knowledge about anemia, its prevention, and assistance to pregnant women consuming iron tablets. Health literature, such as modules, can accommodate a person's achievements in understanding health promotion, prevention, and management of diseases, including anemia in pregnant women. Previous research stated that treatment in the form of health education programs is one of the factors that can increase knowledge about disease, and a guide is needed to advance understanding of disease prevention (Manli et al., 2018). This guide can be in the form of a module that respondents can read, including a guide to assist pregnant women in consuming iron tablets. So, with this module, there is an increase in respondents' knowledge.

The Si PaPa Gasi module provides information on the role of the family in first aid for preeclampsia/eclampsia emergencies. The family's ability to provide health care influences the family's health status (Friedman, 2010). According to researchers' assumptions, families who understand the health of their members will always provide support, especially to family members undergoing treatment. In this way, patients who undergo treatment feel more cared for emotionally and will easily practice the rules during the treatment period as they think that their entire family supports and practices these rules, including following a hypertension diet. This module can also be studied together by pregnant women and their families so that the knowledge they form is also strengthened by their families (Nita & Oktavia, 2018).

Attitude

The research results have shown an influence of the module on the attitudes of pregnant women regarding First Aid for Preeclampsia/Eclampsia emergencies). This research is in line with a study titled "The Effect of Health Education on Mothers' Knowledge and Attitudes. The results of the research show that the average pretest attitude regarding nutritional needs in pregnant women is 1.44, while the post-test average is 1.82. The effects of statistical tests using the t-test show a p-value of $0.005 < \alpha < 0.05$, so there is an influence of health education on attitudes (Yunus et al., 2021).

The results of the Aminin et al.'s research showed significant differences in stunting attitudes before and after the intervention. The results of this research are showed that there is a significant influence of health promotion on

knowledge and attitudes with stunting prevention measures by Integrated Healthcare Center cadres in the experimental group a and experimental group b with $p\text{-value} < 0.05$ and none significant effect in the control group with a $p\text{-value} > 0.05$ (Aminin et al., 2019, 2022).

An attitude is a form of readiness, willingness to act, or a person's behavioral predisposition (action) (Devi et al., 2021). Knowledge is a critical domain for the formation of a person's attitudes. Knowledge is needed to support growing self-confidence as well as daily attitudes and behavior, so it can be said that knowledge is a fact that supports a person's actions. Knowledge is one of the factors that influence health behavior (Rosdiana et al., 2018)

Health education is a long-term behavioral investment to change a person's behavior. In a short time (immediate impact), health education produces changes or increases in knowledge. Knowledge is a decisive factor in changing attitudes. Knowledge and attitudes will be the basis for the formation of adolescent behavior so that, ideally, there is harmony between knowledge and attitudes, where attitudes are formed after a process of knowing first. Previous research stated that Android educational applications were practical in increasing teenagers' knowledge and attitudes towards stunting with a $p\text{-value} < 0.05$ (Putra et al., 2021).

In previous research families can help pregnant women avoid hypertension, including managing healthy eating patterns, encouraging them to exercise together, accompanying them, and reminding them to check their blood pressure regularly and have a healthy pregnancy. The Si PaPa Gasi module provides information on the role of the family in first aid in preeclampsia/eclampsia emergencies, so this information is expected to support positive attitudes and family participation in strengthening the perspective of pregnant women in providing first aid in preeclampsia/eclampsia emergencies (Basri et al., 2018).

Motivation

The research results have shown that there is an influence of the module on the motivation of pregnant women regarding First Aid for Preeclampsia/Eclampsia emergencies. This is in line with Aminin et al.'s research, which shows that the module can increase respondents' motivation to prevent disease (Aminin et al., 2022).

Educational media functions to mobilize as many senses as possible to an object, making

perception easier. Educational media makes it easier for someone to understand information or material that is considered complicated. Media use will help clarify the information conveyed because it can be more interesting and more interactive and can overcome the limitations of space, time, and human senses. So that the information obtained can be more transparent and more accessible to understand the objectives to be achieved, the data needs to be packaged according to the characteristics of each media used (Handayani et al., 2020). The module is one of the media used to provide information regarding First Aid for Preeclampsia/Eclampsia emergencies.

Health education often involves changes in attitudes and values so that it can give rise to beliefs that motivate a person to learn and apply education about the facts provided. Motivation is a drive (in the form of an idea, emotion, or physical need) that causes someone to take action. Motivation can come from social, task, or physical motives, as well as the motivation of pregnant women to prevent stunting after receiving information through the First Aid module for Preeclampsia/Eclampsia).

The Si PaPa Gasi module provides information on the role of the family in first aid for preeclampsia/eclampsia emergencies. The family is expected to act as the closest support

system for pregnant women because there are strong emotional ties within the family, and pregnant women will feel more confident, happier, and ready to undergo pregnancy, childbirth, and the postpartum period. Family support given to pregnant women with love and attention will motivate them to pay attention to their pregnancy because they feel cared for, loved, or appreciated. The attention given by the family can build emotional stability for pregnant women and serve as motivation to carry out pregnancy checks and monitor blood pressure according to a predetermined schedule. Based on the family support variable, it was found that there was an influence on the incidence of hypertension in pregnant women. Family support motivates pregnant women to carry out First Aid for Preeclampsia/Eclampsia emergencies if such cases occur (Ary et al., 2022; Wardani et al., 2020).

CONCLUSION

This research concludes that the Si PaPa Gasi module can increase knowledge about First Aid for Preeclampsia/Eclampsia emergencies and increase the attitudes and motivation of pregnant women to carry out First Aid for Preeclampsia/Preeclampsia emergencies.

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