

The effectiveness of the self-care management model in midwife care through android application as an effort to increase the ability of pregnant mothers in early detection of pregnancy at risk during the COVID-19 pandemic



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ABSTRACT

Introduction: The ability of pregnant women to detect early-risk pregnancies is still low, which is one of the causes of complications that can endanger the welfare of the mother and fetus. This research analyzed the effectiveness of the Self Care Model in Midwifery Care through an Android Application on the Ability of Pregnant Women to Early Detection of Risky Pregnancy During the Covid-19 pandemic.

Methods: The data of this study of pregnant women who conducted examinations at PMB Ika Mardiyanti in Maret-May 2021 involved a sample of 100 obtained by simple random sampling. This study uses an analytic design with a cross-sectional design. Data analysis using the Wilcoxon Signed Rank Test.

Results: The results show that Asym. Sig. (2-tailed) obtained $< (0.0001 < 0.05)$, this means that the Self Care Model in Midwifery Care through the Android Application is effective for increasing the ability of pregnant women in early detect risky pregnancies during the COVID-19 pandemic.

Conclusion: The research conducted to analyze the self-care model in midwifery care through the android application contributes to increasing the efforts of pregnant women to care for their care during pregnancy to prevent the dangers of pregnancy.

Keywords: *Self-care, pregnancy, risk, covid.*

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INTRODUCTION

The principle of early detection of pregnancy risk factors is very necessary, although it is evidence-based according to several studies conducted, that all women during the reproductive period, especially during pregnancy, are always at risk, even though we know that pregnancy is physiological, meaning that all women are healthy and married will experience the process of pregnancy.

The ability of pregnant women to detect early-risk pregnancies is still low, which is one of the causes of complications that can endanger the welfare of the mother and fetus. During the pandemic, the contact of pregnant women with health workers

is also reduced, coupled with the inability of pregnant women and their families to recognize the condition of pregnancy, and the lack of knowledge in recognizing the danger signs of pregnancy during the COVID-19 pandemic can result in low utilization of health care facilities, and delays in access to health services. which ends in complications.

During pregnancy, there is a partial decrease in immunity, making pregnant women more susceptible to viral infections. The physiological and immunological changes that occur as a normal component of pregnancy can have systemic effects that increase the risk of obstetric complications from respiratory

infections in pregnant women.¹ This puts the mother at risk of complications during pregnancy in the form of respiratory disorders such as decreased lung capacity and cardiovascular system such as tachycardia, and even nutritional deficiencies.

Pregnant women should have good knowledge and understanding of how to protect themselves from Covid-19 and pregnancy complications. However, the ability of pregnant women in early detect high-risk pregnancies is still lacking which causes complications for both mother and fetus and contributes directly and indirectly to maternal and infant mortality.² Adequate knowledge

about early detection of risky pregnancies through the development of self-care models in midwifery care through android during this pandemic is considered important because it can improve the ability of pregnant women, especially in early detection of risky pregnancies. So based on this phenomenon, the authors are interested in conducting research on “Development of a Self Care Model in Midwifery Care through an Android Application as an Effort to Improve the Ability of Pregnant Women in Early Detection of Risky Pregnancy During the Covid-19 Pandemic.”

During the pandemic, there were significant changes in health services, especially for pregnant women. For this reason, it is necessary to have a Self Care Management Model in Midwifery Care through Android Applications so that pregnant women have more knowledge and adequate abilities about early detection of risky pregnancies so that pregnant women hope not to experience pregnancy complications.

Results of studies conducted show the factors that influence family empowerment, including caregiver's age, social support, minimal child care burden, frequent use of home services, use of child care, household income, and strong family ties.³ Health workers can conduct a more detailed assessment of the level of family empowerment, and caregivers based on education level, economic status, care burden, and family ties.

This study aims to analyze the effectiveness of the family empowerment model on the ability to detect early pregnancy at risk during the COVID-19 pandemic. In this study, researchers combined the Self Care Management Model in Midwifery Care through Android Applications so that pregnant women have more knowledge and adequate abilities about early detection of risky pregnancies so that pregnant women hope not to experience pregnancy complications.

METHODS

Study Design

This study was a quantitative study used a data obtained from pregnant women who examined at PMB in the Sidoarjo area.

Data Collection

Sampling was obtained by simple random sampling, with a sample size of 100 pregnant women who examined the PMB in the Sidoarjo area, namely PMB Ika Mardiyanti and PMB Nanik Handayani. With the inclusion criteria of pregnant women in trimesters I, II, and II who have an Android cellphone.

Interventions in the form of a self-care model are given with Standard Operational Procedures, carried out 7 times carried out for 7 consecutive days, and conducted routinely every 1 hour before activity.

Data Analysis

Quantitative data processing techniques are carried out through an editing process for the completeness of research data, followed by scoring and coding. Analyze the data using Wilcoxon test with $\alpha=0.05$.

RESULTS

From table 1 above, it can be seen that most of the respondents are 20-35 years old (of childbearing age), half of the respondents are pregnant primigravida (first pregnancy), most of the respondents are not working/not working, most of the

respondents have secondary education.

Table 2 shows that self care is effective in improving ability for early detection of high risk pregnancy for pregnant women. Evidenced by improved good ability from 35% just before intervention to 78% after intervention. The results of the Wilcoxon sign rank test with SPSS for Windows with a significance level of $\alpha = 0.05$ obtained a value of $\rho = 0.01$ ($0.01 < 0.05$). That means there self care model is effective in improving ability for early detection of high risk pregnancy for pregnant women by android.

DISCUSSION

Pregnant women have more knowledge of the danger signs of pregnancy than their husbands but do not have the opportunity to make decisions on access to health services. They still follow their husband's decisions.⁴ Support from partners is very influential in making decisions to seek delivery assistance and handling obstetric complications.⁵

Support to recognize the symptoms and the response felt by pregnant women is very important given both husbands, families including health workers in this

Table 1. The distribution of respondents based on age, work, education and parity.

Characteristics	Category	Amount	%
Age	<20 years	10	10
	20-35 years	66	66
	>35 years	24	24
Parity	Primigravida	50	50
	Multigravida	40	40
	Grandemulti gravida	10	10
Work	employee	43	43
	unemployee	57	57
Education	Basic	13	13
	Middle	67	67
	High	6	6

Table 2. The frequency distribution of ability before and after giving self care model with instrument by android.

	Category	Frequency (n)	(%)	ρ value
Before intervention	Good	35	35	0.01
	low	65	65	
Total		100	100,0	
After intervention	Good	78	78	
	low	22	22	
Total		100	100,0	

case are midwives.⁶ Midwives as health service providers need to optimize the ability of families through health promotion efforts.⁷ Appropriate support from health workers to improve the family's ability to carry out effective care.⁸

These results indicate that the introduction of high-risk factors for pregnancy, decision making, care for high-risk pregnant women with comorbidities and poor pregnancy history (BOH/Bad Obstetric History), and utilization of health care facilities are also based on previous experience.⁹ Previous experience is needed to be able to recognize discomfort in both emotional and physical conditions as well as the changes that occur during pregnancy.¹⁰ Resource factors that affect the ability of families to carry out early detection of high-risk pregnancies are a form of involvement of family members with one another.¹¹ The need for continuous collaboration and capacity building for families to improve care for family members who are pregnant and at high risk.⁸

Pregnant women have more knowledge of the danger signs of pregnancy than their husbands but do not have the opportunity to make decisions on access to health services. They still follow their husband's decisions.¹² Support from partners is very influential in making decisions to seek delivery assistance and handling obstetric complications.¹³ Compliance with husbands for prenatal care needs, low bargaining position in the family system, lack of independence of women in making decisions, women are more involved in decision making with a low level of risk, women who do not work feel they do not have autonomy and decisions against themselves when experiencing problems in their lives. 90% of pregnancies are outside the individual woman.¹⁴

The empowerment of pregnant women, husbands, and families, has a huge impact and benefits on reducing maternal and infant mortality. Carrying out a pro-active approach/contact since early pregnancy with pregnant women, family husbands, visits to pregnant women's homes, and during a pandemic like this it will be more

optimal to use Android in providing care through pregnancy monitoring.

CONCLUSION

The self-care model is effective for making participants feel more responsive, and alert, pay attention to self-care, and immediately check with health workers if there are danger signs. For healthworkers, this method is very useful in reducing pregnancy, childbirth, and postpartum complications and can reduce maternal and infant mortality rates.

DISCLOSURE

Author Contribution

All authors have contributed to this research process, including conception and design, analysis and interpretation of the data, drafting of the article, critical revision of the article for important intellectual content, final approval of the article, collection and assembly of data.

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Conflict of Interest

There is no conflict of interest for this manuscript.

Ethical Consideration

This research was approved by Ethics Commission of Nahdlatul Ulama University Surabaya, Indonesia No 172/EC/KEPK/UNUSA/2021.

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