



PARENTING PREPARATION EDUCATION IMPROVES SELF EFFICACY IN PREGNANT WOMEN

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Abstract

Background: In Indonesia, 42.3% of pregnant women have low self-efficacy and 68.7% women are not physically and knowledge-wise ready to become mothers. Willingness to become parents is very important to create a better future generation. Education with audio-visual media is preferred and easy to understand. This study aims to determine the effect of education on preparation for becoming parents on the self-efficacy of pregnant women. **Method:** The design of this study was a quasi-experimental design with a pre-test post-test non-equivalent with control group design approach, which was conducted at the Songgon Health Center Banyuwangi, Indonesia in June 2024. The sample size consisted of 36 people selected through purposive sampling. The subjects of this study, pregnant women who met the inclusion and exclusion criteria, were divided into two groups: the intervention group (18 respondents), which received educational animated videos on parenthood preparation, and the control group (18 respondents), which received standard ANC interventions. Self-efficacy was measured using the Maternal Self-Efficacy in Parenting Preparation questionnaire. The statistical analysis was conducted using *the Mann-Whitney and Wilcoxon* tests. **Result:** The average increase in self-efficacy in the intervention group was greater than in the control group ($10.72 > 5.50$). The results of the statistical test showed a p-value of 0.019 ($p < 0.05$), namely there was an effect of education on preparation for becoming parents on the self-efficacy of pregnant women. **Conclusion:** Education about preparing to become parents using animated videos can be applied during pregnancy classes or during antenatal care.

keyword: education; parenting preparation; self-efficacy; pregnancy

INTRODUCTION

Parenthood is a journey that requires thorough psychological, emotional, and physical preparation. (Raphael-Leff, 2018; Sanders et al., 2022) This preparation is not only important for couples who will have children, but it is also very crucial for pregnant women who will experience significant changes in their lives. (Alizadeh-Dibazari et al., 2024; Bäckström et al., 2021) One of the important factors that affect the readiness of pregnant women is the level of self-efficacy, which is self-confidence in managing the role of a mother and overcoming challenges in caring for the baby. (Amaliya et al., 2023; Permatasari et al., 2021) High self-efficacy can make it easier for mothers to cope with stress, improve parenting skills, and support the welfare of mothers and babies during pregnancy

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and postpartum.(Tognasso et al., 2022) The study showed that as many as 42.3% and 63.7% of the 383 mothers were not physically and knowledgeably ready to be mothers-to-be. Meanwhile, as many as 68.7% of mothers are not physically and knowledgeable to become mothers-to-be.(Nedra et al., 2016) Another study conducted by Fitria et al. stated that 41.3 – 54% of mothers have low self-efficacy in parenthood.(Fitria et al., 2021)

Low self-efficacy in pregnant women shows that mothers are not ready to become parents, while from the beginning of pregnancy they need to prepare themselves to become parents. Many pregnant women tend to lack confidence in being able to take care of their babies and are not sure that they can be good mothers for their babies.(Oktaviani et al., 2022; Wardani et al., 2017) The low self-efficacy of pregnant women is one of the reasons for a lack of knowledge.(Shorey & Lopez, 2021) The lack of classroom intervention for pregnant women in health services in antenatal examinations is suspected to cause a lack of knowledge of pregnant women. Pregnant women with high knowledge allow them to have high self-efficacy so that later they will have better abilities in doing their duties as parents.(Márk-Ribiczey et al., 2016; Shorey and Lopez, 2021) Lack of awareness of motherhood and inadequate care for mothers and babies are two of the most important factors in maternal rejection.(Bojczyk et al., 2018)

In this era, technology offers many opportunities to expand knowledge and skills. Animated videos are one of the effective media to convey information and education. Animated videos have the advantage of conveying messages in an attractive, interactive, and easy-to-understand manner, especially for those who need a simple but meaningful presentation of information.(Aisah et al., 2021; Julita and Purnasari, 2022) The use of animated videos as an educational tool in preparation for parenthood is expected to increase pregnant women's understanding of various important aspects related to pregnancy, childbirth, baby care, and their role as parents.(Haryanti et al., 2023; Virani et al., 2021)

Various studies show that good education can strengthen the role of pregnant women in caring for themselves and their babies, as well as reduce anxiety and stress levels.(Çankaya and Şimşek, 2021; Downer et al., 2020) Animated videos, with their attractive and informative designs, have the potential to improve pregnant

women's self-efficacy by providing a clear and realistic understanding of what to expect during pregnancy and after childbirth.(Asih et al., 2023; Çankaya and Şimşek, 2021) This helps pregnant women be more confident in undergoing pregnancy and welcome the birth of their baby.(Wallace et al., 2023) However, although a lot of information about pregnancy is available in various media, in fact there are still limitations in how to communicate this information in order to effectively reach all levels of society, namely the lack of education about preparing to become parents in the form of animated videos. Therefore, it is important to further explore the effect of animated video-based education on increasing the self-efficacy of pregnant women. This study aims to determine the effect of parenthood preparation education with animated videos on the self-efficacy of pregnant women, which in turn can support their readiness to undergo the role of mother.

METHOD

This type of research was a quasi-experiment with a *pre-test and post-test approach non-equivalent with control group design*, which was conducted at the Songgon Health Center Banyuwangi, Indonesia in June 2024. The sample of this study consisted of primigravida pregnant women who met the inclusion and exclusion criteria through purposive sampling. The inclusion criteria included primigravida pregnant women who were willing to be respondents and follow the research process until completion by signing *informed consent*, owned a *smartphone*, had access to *WhatsApp* and *YouTube*, were pregnant from a legal marriage, and had a living husband. Meanwhile, the exclusion criteria included pregnant women with mental disorders, blindness/speech impairment, those who were multigravida. The sample size formula in this study used a power test of 90% ($Z\beta = 1.28$), a confidence level of 95% for the two-way hypothesis ($Z\alpha = 1.96$), a combined standard deviation of 0.7, and an *effect size* ($X1-X2$) of 0.8, and a 10% drop out anticipation for two groups of independent (numerical) data. As a result, 18 pregnant women were included in each group, making a total of 36 pregnant women.



Figure 1. Animated Video "Parenting Preparation"

The subjects of this study were divided into two groups: the intervention group (18 respondents), which received an intervention in the form of educational animated videos on parenthood preparation, and the control group (18 respondents), which received standard ANC interventions. The educational animation video on parenthood preparation was developed by researchers in collaboration with experts and consisted of three themes: physical preparation for pregnancy, child care, and basic children's rights, with a duration of 10 minutes. In the intervention group, on the first day, participants took a pre-test. On the third day, they were given an educational video link via WhatsApp. On the fifth day, the researcher reminded the pregnant women to watch the educational video again. On the seventh day, the video was played offline, followed by a questions-and-answers (feedback) session, and finally, a post-test was conducted. Meanwhile, the control group received standard ANC interventions and also underwent both pre-tests and post-tests.

Self-efficacy measurements were conducted before the intervention (pre-test) and after the intervention (post-test) in both the intervention and control groups using the *Maternal Self Efficacy in Parenting Preparation* questionnaire. The questionnaire was developed by the researcher and consisted of 20 statement items. The questionnaire had three indicators: the degree of task difficulty (*magnitude*) in statement items 1-8, strength in statement items 9-14, and generality in statement items 15-20. Each statement item had four answer choices: strongly disagree (score 1), disagree (score 2), agree (score 3), and strongly agree (score 4). The total score from the 20 statement items represented the self-efficacy level of pregnant women, categorized as good (61-80), moderate (41-60), and poor (<40). The validity test

results showed that all 20 statement items were valid, as the calculated r-value was greater than the table r-value. Meanwhile, the reliability test revealed that Cronbach's alpha for this variable was higher than the baseline value ($0.9 > 0.60$), confirming that all 20 items were reliable. The data normality test results indicated that the data were not normally distributed; therefore, the statistical analysis was conducted using the *Mann-Whitney* and *Wilcoxon* tests. Statistical analysis was performed using SPSS version 25 software.

RESULT AND DISCUSSION

Based on table 1, the two research groups were mostly 20-35 years old, the youngest subject was 18 years old and the oldest was 35 years old. At that age, a person has begun to reach maturity in the thinking process so that it will increase his or her efficacy. Based on education level, both groups are mostly high school, while in terms of employment, most are not working and daily do work as housewives, teachers, and private employees.

Table 1. Characteristics of the Research Subject

Characteristic	Intervention n = 18 (%)	Control n = 18 (%)
Age (years)		
<20	1 (5,6)	0 (0)
20-35	17 (94,4)	18 (100)
>35	0 (0)	0 (0)
Education		
Elementary-Junior High School		
High school	0 (0)	4 (22,2)
College	17 (94,4)	14 (77,8)
	1 (5,6)	0 (0)
Work		
Work	1 (5,6)	1 (5,6)
Not working	17 (94,4)	17 (94,4)

Source: Primary Data May 2024

The results of data analysis (table 2) showed that between the intervention group and the control group before the intervention was given, comparable data was obtained, namely p-value 0.787 ($p > 0.05$), based on a comparison of the average self-efficacy pre-test of the intervention group and the control group. The comparison of each group showed that there was a difference in the average self-

efficacy between before and after the provision of parenthood preparation education, which was a *p-value* of $<.001$. Meanwhile, in the control group, it was also found that there was a difference in the average self-efficacy between before and after the administration of the ANC standard, which was a *p-value* of $<.001$. However, the average increase in self-efficacy in the group that received the parenthood preparation education intervention with animated videos was higher than that of the group of mothers who did not receive education or only the ANC standard ($10.72 > 5.50$). The results of the statistical test comparing the average self-efficacy after providing education to the intervention and control groups were $p=0.019$ ($p < 0.05$) showing that there was an effect of providing education to prepare for parenthood with animated videos on the self-efficacy of pregnant women.

Self-efficacy	Groups		<i>p-value*</i>
	Intervention n=18	Control n=18	
Pre-Test			
Mean (SD)	45.28 (9.19)	44.67 (8.87)	0.787
Median	48.50	46.00	
Min-Max	34-62	34-62	
Post-Test			
Mean (SD)	56.00 (7.76)	50.17 (7.76)	0.019
Median	55.00	51.50	
Min-Max	39-65	36-64	
Increased self-efficacy	10.72	5.50	
<i>p-value**</i>	<.001	<.001	

Table 2. Self-efficacy in both groups

Source: Primary data processed May 2024

*Mann Whitney, **Wilcoxon

Description: SD = Standard Deviation

During the 7 days of the intervention, both in the intervention group and the control group, there were no respondents who dropped out. In this study, the provision of parenthood preparation education to pregnant women in the third trimester 3 times for 7 days was proven to increase self-efficacy by 10.72. The increase in self-efficacy in this study is more than the research of Suratmi, et al. that self-efficacy in pregnant women after providing parenthood readiness education in primigravida increased by 7.47 from 34.29 to 41.76. This result can be caused by differences in the questionnaires used and the method of providing education. In

this study, the questionnaire used was *Maternal Self Efficacy in Parenting Preparation*, while in the Suratmi study, et al. used the *Maternal Self Efficacy* questionnaire. In addition, the method of providing education in this study uses animation and face-to-face video media, while in Suratmi's research, et al. use face-to-face and discussion methods.(Suratmi and Mariani, 2023)

The influence of providing education to prepare for parenthood with animated videos supports the statement that one of the strategies to change behavior (self-efficacy) is to provide information to increase knowledge so that awareness can arise and finally a person will behave according to his knowledge. Knowledge is gained by sensing something. Sensing occurs through the five senses, namely sight, hearing, smell, taste and touch.(Darsini et al., 2019; Farmer et al., 2022) In addition, audio-visual media received a very good category in providing health education.(Aisah et al., 2021) Exposure to parenthood preparation education using animated videos can affect the readiness of primigravida mothers in preparing to become parents from the time of pregnancy. This is because animated video media is more effective in providing a deeper understanding of what will happen during pregnancy, how to maintain health, and how to take care of the baby after birth as a parent.

This research has several advantages. As far as the researcher's knowledge, this is the first research that uses animated video media on the topic of preparing to become a parent and is in line with the current 4.0 and 5.0 era in the use of information technology. However, there are some limitations to this study. First, an educational video has been given to the respondents, but in the second iteration the researcher could not confirm that the respondents actually saw the video. Nevertheless, the researcher still reminded respondents to access the animated video. In addition, the sample size for this study was limited, and all participants were from one location, so it may not be accurate in reflecting its benefits in a wider population (in other areas).

CONCLUSION AND SUGGESTION

The provision of intervention in the form of education to prepare for parenthood with animated videos is one of the efforts to increase the self-efficacy of pregnant women. Providing educational classes to prepare for parenthood with animated



videos can increase the self-efficacy of pregnant women better than the provision of standard ANC. Health workers, especially midwives, can educate on preparation for parenthood with animated videos to be able to increase the self-efficacy of pregnant women. To get better validity of research results, it can provide education by extending the repetition of giving (videos are actually given together starting from the beginning, middle, to the end).

DECLARATION

Conflict of Interest

There is no conflict of interest in this research.

Authors' Contribution

All authors contributed to research and writing of the manuscript. The first author contributed more to the preparation of the manuscript and data collection. The second author contributed more to the preparation of the manuscript and review of the manuscript. The third author contributed more in reviewing the preparation of the manuscript, data analysis, and finalizing the manuscript.

Ethical Approval

Ethical approval of this research by ethics committee of STIKES Banyuwangi No. 167/01/KEPK-STIKESBWI/V/2024).

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Data Availability

If further study is conducted on this topic in the future, the researcher is open to being contacted, and we are prepared to assist with this.

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