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Research Article

Effectiveness of Health Education Using Booklet & Video on Knowledge of Pregnancy Danger Signs Among Primigravida Mothers

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Abstract

Aims : The aims of this study was to see the effectiveness of providing pregnancy danger sign videos and education through KIA books on the knowledge of pregnant women about pregnancy danger signs.

Methods : The study conducted in May-June 2023, involved 180 pregnant women, 90 receiving video intervention on pregnancy danger signs and 90 receiving MCH book education, and used a questionnaire for bivariate analysis.

Results : Mann-Whitney test in the video group are Sig.2-tailed of 0.000 <0.05, then the provision of educational videos is effective in increasing the knowledge of pregnant women about the danger signs of pregnancy and statistically significant.

Conclusions : The Mann-Whitney test showed that educational videos effectively increase pregnant women's knowledge about danger signs of pregnancy, while MCH book education was found to be insignificant. The results suggest that educational videos are effective in raising awareness.

Keywords:

Booklet, Health Education, Pregnancy, Primigravida, Video.

INTRODUCTION

Improving mother and child health is a global concern. It is one of the priorities of the Sustainable Development Goals (SDGs), specifically Goal 3, which aims to ensure healthy lifestyles and promote the well-being of all people of any age. The maternal, infant, and under-five mortality rates are predicted to decrease by 2030. The same is true for the death rate from noncommunicable diseases. By that year, universal access to health services, including sexual and reproductive health, is expected to be ensured (1). According to the World Health Organization (WHO), by 2020, approximately 800 women will die from preventable pregnancy and delivery complications. Maternal fatalities occur about every two minutes, and the maternal

mortality ratio (MMR), or the number of maternal deaths per 100,000 live births, has decreased by approximately 34% globally. According to Profile Indonesian Health, Indonesia's maternal mortality rate (MMR) remains high, with 305 maternal deaths per 100,000 live births. This outcome remains well below the RPJMN's 2020-2024 strategic target of 183 per 100,000 live births (2).

The problems that arise during and after pregnancy and childbirth are the primary causes of maternal mortality. Severe bleeding, most commonly postpartum hemorrhage, infection (mostly postpartum), high blood pressure during pregnancy, and unsafe abortion are the primary consequences that are responsible for about seventy-five percent of all maternal deaths (3). Because of this issue, the government

issued a decree about Maternal and Child Health Books (KIA) in accordance with the decree of the Minister of Health of the Republic of Indonesia 284 / MENKES / SK / III / 2004. The Maternal and Child Health Book (MCH Book) is a tool that is used for the early detection of disorders or health problems that affect mothers and children. It is also a communication and extension tool that contains important information for mothers and families as well as the community regarding maternal and child health services. These services include referrals and packages (standards) of Maternal and Child Health (MCH) services, as well as nutrition, immunisation, and the growth and development of toddlers. In the event that the MCH Book is not utilized in the appropriate manner, it will be challenging to identify early detection in both mothers and youngsters.

In order to assess the health of pregnant women, record their conditions, identify potential dangers, provide guidance, and track their children's development, the Maternal and Child Health Book (MCH) serves as an essential resource for health professionals, families, and communities (4). Until now, the utilisation of the MCH book is still not optimal, especially pregnant women do not really understand and apply the information contained in the MCH book. Based on research conducted by Dewie entitled "Knowledge and Attitudes About Pregnancy Danger Signs Related to the Utilisation of the MCH Book" states that only about 60% of primigravida pregnant women have a MCH book and of these only 10% of pregnant women are able to understand the outline of the contents of the MCH book. In the MCH book there is various information that can prevent complications, namely about danger signs in pregnancy and childbirth. Therefore, the use and understanding of the MCH book is one of the efforts to prevent complications during pregnancy, danger signs that are known early, will be handled more quickly without causing damage or death (5).

In addition to the KIA book, there is one promotive effort that is considered effective in providing education about pregnancy danger signs, namely educational videos, because animations and videos are easier to accept than reading books. Based on research conducted (6) entitled "The Effect of Health Education Through Educational Videos on the Level of Knowledge About Danger Signs of Pregnancy in Pregnant Women" reported that the provision of health education through educational videos about the danger signs of pregnancy has an influence on increasing the knowledge score of pregnancy danger signs and is statistically significant ($p = 0.000$). The purpose of this study was to see the effectiveness of providing pregnancy danger sign videos and education through KIA books on the knowledge of pregnant women about pregnancy danger signs.

METHODS

This is a quasi-experimental quantitative study using a pretest, posttest, and control group design. In this design, the sample receives a pretest (first test) prior to treatment and a posttest (final test) following treatment. This study was conducted from May to June 2023 at multiple locations, including Bekasi Regency Hospital, Kotabaru Community Health Centre, Karawang Regency, and PMB bd.Imas Masturoh Cilamaya Karawang. The sample for this investigation was chosen using the accidental sampling technique (7). The sample size for each research location was 60 pregnant women, for a total of 180 pregnant women. The video intervention on warning indicators was presented to 90 pregnant women, while the remaining 90 pregnant women got MCH book education. The research tool consisted of a questionnaire with 20 questions about pregnancy hazard signals. Before performing the Kolmogorov-Smirnov normality test, the Mann Whitney test was employed in the bivariate analysis of this study.

RESULTS

Table 1. Characteristics of Respondents

Age	Frequency	Percentage
< 20 Years	84	46.7%
20 - 35 Years	80	44.4 %
> 35 Years	16	8.9 %
Total	180	100 %
Education	Frequency	Percentage
Elementary school	24	13.3%
Junior high school	60	33.3%
Completed high school	90	50%
Higher Education	6	3.4%
Total	180	100%
Parity	Frequency	Percentage
Primiparous	94	52.2%
Multiparous	86	47.8%
Total	180	100%
Jobs	Frequency	Percentage
Housewife	102	56.7%
Employee	46	25.6%
PNS	18	10%
Labour	14	7.8%
Total	180	100%

Table 1 shows that the majority of pregnant women in this study were under 20 years old, with 84 (46.7%) being primiparous and 94 (52.2%) having completed high school (SMA). and work as housewives, with 102 replies (56.7%).

Normality Test

In this study, the normality test was used to identify the distribution of data in a group of data or variables, whether the data distribution was normally distributed or not. The normality test is carried out before the comparison test is carried out.

Table 2. Results of Normality Test for Video Group

Test of Normality					
Kolmogrov-Smirnova			Shapiro - Wilk		
Statistic	df	Sig	Statistic	df	Sig
,149	90	,000	,940	90	,000
,185	90	,000	,948	90	,000

The Pretest Sig value is 0.000, indicating that the data is not normally distributed because the Sig value is <0.05 . Similarly, the Posttest Sig value is 0.000, indicating that the data is also not normally distributed because the Sig value is <0.05 . Given that the values of the two variables above are not normally distributed, the Mann Whitney U-Test.Smirnov normality test is performed.

Non-parametric test (Mann-Whitney)

Table 3. Average Knowledge Score of Pregnant Women in the Video Group

Knowledge Score	Mean	Std. Dev	Min	Maks
Before Intervention	8.73	3,12	4	19
After Intervention	13.17	2.78	8	20

Based on the knowledge score distribution table before and after the video intervention, there was an increase in the average score of correct answers from the danger sign questionnaire by 4.44 points. In addition, there was an increase in the maximum and minimum scores.

Table 4. Effectiveness of Before and After Video Provision on the knowledge of pregnant women

Results	Mean Rank before	Z	Mean Rank after	df	P value
Pretest-Posttest	58.20	-8.3	122.8	180	.000

The Mann-Whitney test revealed a significant difference in average knowledge scores between the pretest and posttest interventions (Sig.2-tailed value of $0.000 < 0.05$). Based on the findings in the table above, it is possible to infer that the distribution of educational movies is helpful in boosting pregnant women's understanding of pregnancy danger indicators and is statistically significant.

Table 5. Average Knowledge Score of Pregnant Women in the MCH Group

Knowledge Score	Mean	Std. Dev	Min	Max
Before Intervention	9.11	3.45	4	19
After Intervention	12.38	3.18	5	19

In accordance with the distribution table of knowledge scores before and after education through the MCH book, there was a 3.37-point rise in the average score of correct responses from the danger sign questionnaire. This was determined by comparing the scores before and after education. On the other hand, neither the highest nor the lowest scores showed any signs of improvement.

Table 6. Normality Test Results of MCH Group

Test of Normality					
Kolmogrov-Smirnova			Shapiro - Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,155	90	,000	,932	90	,000
,147	90	,000	,968	90	,000

The Sig value on the Pretest value is 0.000, which indicates that the data is not normally distributed due to the fact that the Sig value is less than 0.05. Similarly, the Sig value on the Posttest is also 0.000, which indicates that the data is not normally distributed due to the fact that the Sig value is less than 0.05. Given that the values of the two variables mentioned above are not normally distributed, the next step is to conduct the Mann Whitney U-Test.

Table 7. Effectiveness of Before and After MCH book education on pregnant women's knowledge

Results	Mean Rank Before	Z	Mean Rank After	Df	P Value
Pretest- Posttest	88.65	0.3	91.34	180	.72

Sig.2-tailed value of $0.072 > 0.05$, it can be concluded that the average difference in knowledge scores at pretest and posttest intervention. Not statistically significant. Based on the results of the table above, it can be concluded that MCH book education is not significant in increasing the knowledge of pregnant women about pregnancy danger signs.

DISCUSSIONS

Video includes media that can provide persuasive health messages or information. This media is a combination of audio signals and moving images (8). In delivering the message using motor movements, facial expressions with a certain environmental atmosphere (9). It can also take the form of entertainment that helps change health attitudes or behaviours by presenting using stories of everyday life or can also use fictional stories (animation) (10). In this study, researchers will use animated video media called Tabayan or pregnancy danger signs. Animation is based on Ancient Greek,

namely "animo" which means desire, interest or desire, which means spirit, soul or life (6). Animation is a science that combines art with technology. Meanwhile, animation in another sense, namely "animation" means to animate or move inanimate objects. According to (11) animation video is an instrument that can support the delivery of information with images that move as if alive. Animation itself can make objects move, change shape, colour and even size (12). Animated videos are found to be more attractive because they have cute, colourful and friendly characters that make the audience feel close and comfortable when listening to the information provided (13). In addition, images that are full of colours and then move are very suitable for groups of children, adolescents and adults with female gender (14). The form of display in the media method that teenagers are interested in is the interesting form of images and videos, so that the information conveyed is easier to understand (15). Media in the form of videos is felt to be more accessible, effective and

efficient, so it is widely used as a means of health promotion and education (16). Several studies have shown significant differences between the use of written media (booklets, leaflets, newspapers), sound/audio (radio), visual/picture (posters, billboards) and audio visual (video) where it was found that the combined audio-visual method showed more significant results in increasing knowledge and the information obtained lasted longer.

In the use of the MCH Book, midwives have an important function to provide health information related to mothers and children with the MCH Book, document the results of observations of postpartum women's examinations, and can bridge the community with health workers if mothers or families have difficulty understanding the MCH Book or health problems (17). According to research (18) According to research (18), midwives who play a good role will increase the utilisation of the MCH Book by mothers so that mothers can understand this knowledge (19). Mothers informed that midwives play an active role in providing health education through the MCH Book and reminding them to read it (20). Cadres are also community mobilisers to be aware of maternal and child health, growth and development delays, high-risk pregnant women and other health problems are often found or screened by cadres early on (21).

CONCLUSIONS

Based on the findings of the Mann-Whitney test, which revealed that the pair of interventions, namely the pre-test intervention and the post-test intervention, yielded a Sig.2-tailed value of 0.000, which is less than the threshold of 0.05, it is possible to draw the conclusion that the provision of educational videos is effective in increasing the knowledge of pregnant women regarding the danger signs of pregnancy, and that this knowledge is statistically significant. Based on the findings of the

Mann-Whitney test, it was determined that the pair of pre-test intervention and post-test intervention had a significance level of 0.072, which is greater than 0.05. According to the findings presented in the table above, it is possible to draw the conclusion that the education provided by MCH books does not significantly contribute to the enhancement of pregnant women's knowledge on the warning symptoms of pregnancy.

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