THE EFFECT OF HEALTH EDUCATION USING VIDEO AND LEAFLET ON THE PREGNANT WOMEN'S KNOWLEDGE ABOUT PREECLAMPSIA

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ABSTRACT

There are many causes of maternal mortality, and one of them is preeclampsia, especially in Indonesia. Pregnant women could prevent maternal mortality caused by preeclampsia with understanding the signs and the dangers of preeclampsia. This research aimed to assess the effect health education using video and leaflets on pregnant women's knowledge about preeclampsia. This study was a quasi-experimental study with pretest and posttest without a control group. The respondent did a pretest about preeclampsia and given an intervention and the posttest. The sampling method was quota sampling with 74 respondents. This research provided collected data through questionnaires of knowledge about preeclampsia and education through video or leaflets. The result of the normality test showed normal distribution. Knowledge value of preeclampsia presented in mean and SD (Standard Deviation). The paired average comparison test used a paired sample t-test; meanwhile, the comparison test average unpaired used Independent Sample t-test. The results showed that video and leaflet affected improving pregnant mothers' knowledge about preeclampsia with a p-value of 0.000 <0.05. The work can be seen from the mean before and after being given video education. It has increased from 67,784 to 86,703 and leaflet education, which also increased from 71,135 to 89,514. Videos and leaflets also have the same level of effectiveness in improving maternal knowledge about preeclampsia, with a p-value of 0.854> 0.05. There was an increased level of expertise after the education by video and leaflet on pregnant women about preeclampsia. Besides, the two media also have the same level of effectiveness in improving maternal knowledge about preeclampsia. A suggestion for further research is to use another learning media such as pamphlet, poster, PowerPoint, or flip chart.

Key words: Education Using Video and Leaflet, Hypertension, Pregnant Women, Preeclampsia, Quasi Experimental

Introduction

The Maternal Mortality Rate (MMR) in Indonesia is remain high. The Indonesian Health Demographic Survey in 2015, was recorded at around 305 / 100,000 maternal mortality/live birth rates. More than 25% of maternal deaths are due to hypertension in pregnancy (Kemenkes RI, 2016). Hypertension in pregnancy can lead to preeclampsia, which is a problem during pregnancy. Pregnant women with preeclampsia belong to the category of pregnant women at risk. The number of hypertension cases in pregnancy can be caused by pregnant women who do not know the signs and symptoms and prevention of hypertension. According to Sinsin (2008), a risky pregnancy is a pregnancy that can cause the mother or baby to become sick and even die before childbirth.

According to the Head of the Health Resources Division of the Sumedang District Health Office, 245 out of 1250 pregnant women fall into the high-risk group in Sumedang Regency. This figure is relatively high because of the 35 Puskesmas in Sumedang Regency, including the Jatinangor Community Health Center, who reported that more than 20% of pregnant women belong to the high-risk group (Anonymous, 2017). On February 13, 2018, interviews were conducted with ten pregnant women at the Jatinangor Health Center to determine the extent of pregnant women's knowledge about preeclampsia. The results of the interview showed that most of these pregnant women did not know about preeclampsia. Only one pregnant woman knows the definition of preeclampsia, which states that preeclampsia is high blood pressure during pregnancy but does not know how to prevent complications and recognize the obvious signs and symptoms of preeclampsia. These can contribute to an increased incidence of preeclampsia if mothers cannot recognize early signs of preeclampsia.

Government programs for pregnant women continue to be improved. One of the programs is the distribution of the KIA (Maternal and Child Health) book, which contains material related to pregnant women's health. However, this book only discusses the danger signs of pregnancy in general and does not discuss in detail about preeclampsia. The programs that have been made at the Jatinangor Health Center, namely the Pregnant Women Class, the Toddler Mother Class, and the Pregnant Mother Screening program such as HIV / AIDS, have been implemented very well as good as the village midwives who have the same program. In the preeclampsia prevention program, the health center have monitored mothers who come to the community health centers. However, pregnant women who do not visit an examination at the Puskesmas are less well monitored. Preeclampsia is difficult to recognize, and it can make pregnant women feel healthy, even though blood pressure can suddenly rise without knowing it. For this reason, programs to prevent preeclampsia with increased knowledge need to be carried out so that mothers recognize the early signs of preeclampsia.

Providing education to increase pregnant women's knowledge about preeclampsia using various media that convey messages about health would improve their knowledge (Nursalam, 2008). One of them is providing education through videos or leaflets. Video is the most dynamic and realistic means of delivering information (Purwati, 2014). The leaflet contains dense and short material with simple pictures, and some leaflets are presented in a folded form (Aritonang, 2012 in Melina et al., 2014). In this study, nurses were needed to provide input regarding the number of pregnant women who were at risk of preeclampsia at the Jatinangor Health Center so that it was necessary to provide education related to this to pregnant women. For this reason, the provision of videos and leaflets is expected to help provide optimal education for pregnant women about preeclampsia.

Based on the description above and regarding the role of nurses, especially as educators and collaborators, researchers are interested in conducting research related to the knowledge of preeclampsia. The researchers' decided to conduct this research in Jatinangor, as this area is one of the areas with high-risk pregnant women of more than 20% of the number of pregnant women who carry out the examination. Besides, there is a potential for an increase in pregnant

women with the risk of preeclampsia due to the lack of education about preeclampsia or the absence of a preeclampsia prevention program by local health services because a special program that has just been created at the Jatinangor Puskesmas is about anemia and CED (Chronic Energy Deficiency) which is included in the program. Pregnant Women Class. The lack of discussion of the dangers of preeclampsia in the KIA Handbook that pregnant women usually get makes pregnant women less aware of preeclampsia. Then, complications from preeclampsia that can endanger the mother and fetus and even death are reasons that support researchers to provide education about preeclampsia to pregnant women using video media and leaflets. Both media were chosen because they can provide information in a concise, clear, and practical manner and be watched or read anywhere and anytime. However, the way the message is conveyed in the two media is different in that the video conveys the message via audio and visual. At the same time, the leaflet is presented with material and images loaded on foldable paper. So that with the difference in the delivery of the two media, the effect will be seen on the knowledge of pregnant women about preeclampsia .

Research Methods

The researcher's research design was quasi-experimental, namely pretest and posttest, without a control group design. This study involved two groups (video and leaflet) intervention without a control group, each group having many respondents the same one. From the two intervention groups, a pretest about preeclampsia will be carried out. Intervention with each media is carried out, namely videos with a duration of 04.45 and leaflets that are read by respondents simultaneously as videos. Furthermore, the posttest was carried out on the same day as the pretest and the intervention given. The two media contains the definition of preeclampsia, signs, and symptoms of preeclampsia, risk factors for preeclampsia, prevention of preeclampsia, and complications of preeclampsia.

The population taken in this study were all pregnant women in Jatinangor. The data shows that 269 pregnant women entered the work area and recorded to have checked at the Jatinangor Health Center in January 2018. So that the population in this study was around 269 pregnant women, this study is an experimental study in which the minimum sample size in this study can determine by Federer's formula, namely $t\ (n - 1) \geq 15$ where t = number of groups and n = minimum sample size (Budijanto, 2013). Based on Federer's calculation, the minimum number of each group is nine respondents. However, the researcher will determine the number of respondents/groups 37 to represent the population better because the respondents studied exceed the minimum number of respondents. This research was conducted in two groups, with 37 respondents each, so that the number of samples in this study was 74 respondents.

The instrument used in this study was a questionnaire. The first part of the research instrument is about the respondents' characteristics, which include things related to the risk factors for preeclampsia to see whether the respondent is at risk of preeclampsia. The second part is an instrument on preeclampsia knowledge. The researcher made this instrument following the preeclampsia material given to respondents via video or leaflet. This instrument consists of 25 statement items that contain definitions, signs and symptoms, risk factors, prevention, and complications of preeclampsia, which have tested for validity using the Biserial Point correlation and reliability tests using the Kuder Richardson 20 (KR-20) reliability coefficient. This instrument's assessment is the number of correct answers divided by the number of questions then multiplied by 100 (Arikunto, 2013). The following is an overview of the assessment of knowledge about preeclampsia:

$$\text{Percentage} = \frac{\text{The number of correct values}}{\text{Number of questions}} \times 100\%$$

The tools used to provide education were videos and leaflets about preeclampsia. Both of these media have been consulted with their supervisor about content and design to see whether the media is appropriate and convey messages following the research objectives.

Respondents set the volume setting themselves. The leaflet entitled "Cegah Preeklamsi" contains the same material as the video used with the title Cegah Preeklamsi Om Telolet Om made by Rezkita, BE, Nurhafsyah, LP, and Shalilah, M. M in 2017 and uploaded by Laila Syahdinal with link: //www.youtube.com/watch? v = g9QPwnC8N9Q which lasts 04.45 minutes. Researchers get permission from the video maker via a message sent via the comments column on the video where the video maker allows the uploaded video used for research provided the owner's name included. Researchers have also received an ethical exemption from the Research Ethics Commission with number 254 / UN6.KEP / EC / 2018 and have received permission from the Sumedang District Health Office with number 070/20 / SDK / III / 2018.

Data analysis in this study used a computer program, namely SPSS Statistics 20, with data analysis techniques carried out, namely univariate analysis to determine the frequency distribution and percentage of the respondent's characteristic data, the value of preeclampsia knowledge before and after the provision of education. The bivariate analysis does the research used to analyze differences in pregnant women who were given education about preeclampsia using video and pregnant women who were given education using leaflets. This research aimed to assess the effect health education using video and leaflets on pregnant women's knowledge about preeclampsia.

Research Result

This study found that most respondents were 20-35 years old and were pregnant with their second child. The gestational age was more than or equal to 20 weeks, which was the gestational age at risk of preeclampsia. The majority of respondents had never had a history of miscarriage, and most respondents have normal blood pressure. The following is an explanation of the table (n = 37):

Variable	Leaflet		Video	
	n	%	n	%
Age				
< 20 years or >35 years	**3**	**8.11%**	**8**	**21.62%**
20-35 years	**34**	**91.89%**	**29**	**78.38%**
Pregnancy				
First	**10**	**27.03%**	**15**	**40.54%**
Second or more	**27**	**72.97%**	**22**	**59.46%**
Gestational Age				
≥ 20 weeks	**21**	**56.76%**	**30**	**81.08%**
< 20 weeks	**16**	**43.24%**	**7**	**18.92%**
History of Miscarriage				
Ever	**5**	**13.51%**	**3**	**8.11%**
Never	**32**	**86.49%**	**34**	**91.89%**
Blood Pressure				
Low (≤ 90/60 mmHg)	**3**	**8.11%**	**8**	**21.62%**
Normal (> 90/60 - < 140/90 mmHg)	**34**	**91.89%**	**29**	**78.38%**
High (≥ 140/90 mmHg)	**0**	**0.00%**	**0**	**0.00%**

This study also found that the mean value before video education was 67.784. It was smaller than after education (86.703). The minimum value before education was 40,000, and the maximum value was 88,000. After giving education, a minimum value of 52,000 and a maximum value of 100,000 with a comparison test results using the Paired Samples t-test obtained a p-value of 0.000 <0.05. So this shows a significant difference (meaningful) between the knowledge of preeclampsia pregnant women before and after the provision of video education.

The following is an explanation of the video education media table:

Video	Mean	Median	SD	Min	Max	p-value
Before	**67,784**	**68,000**	**12,109**	**40,000**	**88,000**	**0,000**
After	**86,703**	**92,000**	**12,686**	**52,000**	**100,000**	

Research using leaflets shows that the mean value before education was 71.135 smaller than after education with a mean value of 89.514. The minimum value before education was 44,000, and the maximum value was 96,000. After giving education, a minimum value of 44,000 and a maximum value of 100,000 with the results of calculations using the Paired Samples t-test obtained a p-value of 0.000 <0.05. This research shows a significant difference (meaningful) between preeclampsia knowledge in pregnant women before and after giving the leaflet education.

The following is an explanation of the leaflet educational media:

Leaflets	Mean	Median	SD	Min	Max	p-value
Before	**71,135**	**76,000**	**12,966**	**44,000**	**96,000**	**0,000**
After	**89,514**	**92,000**	**12,013**	**44,000**	**100,000**	

This study also obtained a comparison test results to analyse the difference in the mean knowledge of pregnant women after education using both media using the Independent Sample t-test and obtained a p-value of 0.854> 0.05. This research shows no significant difference (meaningful) between the average increase in knowledge about preeclampsia in the leaflet and video groups. So it can be said that the two media used, namely leaflets and videos, have the same effect or level of effectiveness in increasing pregnant women's knowledge about preeclampsia. The minimum education leaflet value was -20,000, and the maximum value was 48,000. Meanwhile, the minimum value for video education was -12,000, and the maximum value was 48,000.

The following is an explanation of the comparison result between Leaflet and Video:

Leaflets	Mean	Median	SD	Min	Max	p-value
Before	**71,135**	**76,000**	**12,966**	**44,000**	**96,000**	**0,000**
After	**89,514**	**92,000**	**12,013**	**44,000**	**100,000**	

Discussion

Based on the study results on the age range, gravida, history of miscarriage, and the results of blood pressure checks, it shows that the majority of respondents was not in teh risk of preeclampsia. The age range of 20-35 years is a good and mature condition of the body's organs, including the uterus. In gravida, a pregnancy that is not the first child is usually a small risk of developing preeclampsia because the pregnant woman has previously given birth. Usually, the stress that can increase blood pressure when delivered a baby or a history of miscarriage.

Miscarriage would affect the next pregnancy, two times more risky of developing preeclampsia. Therefore, pregnant women who did not experience a miscarriage in a previous pregnancy are not included in the group of pregnant women at risk of preeclampsia. As with blood pressure checks, an increase in high blood pressure in pregnant women will be at risk of preeclampsia after blood pressure checks. The majority of women are not included in the preeclampsia risk group. However, based on gestational age, it shows that most

respondents are included in the risk group for preeclampsia. This result is because, at a gestational age of more than or equal to 20 weeks, it is prone to increase blood pressure, which can cause preeclampsia.

This study's results related to educational media's influence show that video influences increase the knowledge of pregnant women about preeclampsia. When viewing and listening to videos, respondents indirectly capture all the information presented in the video through sound and image movement. According to Daryanto (2011), in Kurniawati (2014), human absorption through the senses of sight and hearing when watching videos is around 93% (Kurniawati, 2014). Apart from that, videos also have many advantages such as being able to be played repeatedly, moving images that can entertain and attract attention. The material presented in the video will be more comfortable for respondents to digest because it is equipped with appropriate music and demonstrations (Saleh et al., 2016).

This study's results related to leaflet media indicate that leaflets' influences on increasing the knowledge of pregnant women about preeclampsia. When reading and viewing the leaflet, the respondent indirectly absorbs all the information in the leaflet. According to Daryanto (2011), in Kurniawati (2014), human absorption through the sense of sight when reading leaflets is around 82% (Kurniawati, 2014). Besides, leaflets also have many advantages, such as more straightforward and more practical because of their thin size and folded. The material presented in the leaflet is also more concise, compact, and well structured (Simamora, 2009).

This study's results are different from the results of Purwati's (2014) study, which shows that VCD (Visual Compact Disks) media are more effective than leaflets. This resulting study is due to several things, including the leaflet group in the Purwati (2014) study, which was only given leaflets without observing whether the pregnant woman read the leaflet that was given or not. Whereas in this study, researchers ensured that pregnant women read the leaflets to the end and explained material about preeclampsia that the respondents did not understand. Besides, this study used the pretest and posttest to compare before and after the auction, while Purwati's (2014) study only used the posttest. Furthermore, this study focuses more on the cognition of pregnant women. In contrast, Purwati's (2014) study is more focused on psychomotor because it looks at pregnant women's participation after being given an education.

The results showed that the provision of education using videos and leaflets had the same effectiveness in increasing knowledge about preeclampsia in pregnant women. That conditions because of the material presented was interesting, easy to understand, the language used was understandable, the writing on the media could read clearly. The material presented is essential to know. Some of these things make it easy for pregnant women to understand the material's contents properly, assuming that the material is essential for pregnancy so that pregnant women listen carefully to the material presented. Therefore, there is an increase in pregnant women's knowledge about preeclampsia after being given an education.

Video and leaflet media useful to capture the health information. Learning media has a considerable influence on forming a person's trust and opinion, which will make it easy for respondents to receive information and apply information obtained in everyday life (Azwar, 2007 in Lukwinata and Wulandari, 2014). Besides, the study results also showed an increase in the knowledge of pregnant women about preeclampsia after education using videos and leaflets. The video media and leaflets can be used by community nurses when providing health education about health either independently or in collaboration with midwives to conduct health education about health for pregnant women. The use of video media or leaflets can make participants more interested in listening or seeing the material presented in both media.

Conclusion

After education using videos and leaflets there were the increase in knowledge of pregnant women about preeclampsia includes definitions, signs and symptoms, risk factors, complications, and prevention of preeclampsia. It hoped that pregnant

women would aware the beginning signs of preeclampsia and prevent preeclampsia.

This findings would be a recommendations for health providers to use video and leaflets for education. Furthermore, it will be more effective if education is carried out individually with conducive environmental conditions. For further research, comparing other media such as pamphlets, posters, power points, or flip charts in health education would improve women's knowledge.

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