DEVELOPMENT OF A PREECLAMPSIA EDUCATION MODEL USING MANGGARAI REGIONAL LANGUAGE VIDEOS ON KNOWLEDGE ABOUT PREECLAMPSIA PREVENTION BEHAVIOR IN PREGNANT WOMEN

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ABSTRAK : PENGEMBANGAN MODEL PENDIDIKAN PREEKLAMPSIA MENGGUNAKAN VIDEO BAHASA DAERAH MANGGARAI TENTANG PENGETAHUAN PERILAKU PENCEGAHAN PREEKLAMPSIA PADA IBU HAMIL

Latar Belakang Preeklamsia tercatat sebagai penyebab kematian ibu kedua di Indonesia setelah perdarahan maternal. Preeklamsia terjadi pada ibu hamil setelah mencapai usia kehamilan lebih dari 20 minggu yang ditandai dengan hipertensi, proteinuria dan edema. Preeklamsia pada ibu hamil menimbulkan risiko serius bagi ibu dan janin,terutama terjadi pada ibu hamil dengan faktor risiko seperti usia tua,primigravida,jarak kehamilan kurang dari 2 tahun,riwayat preeklamsia sebelumnya,riwayat hipertensi dan kelebihan gizi. Data preeklamsia selama 9 tahun terakhir di di BLUD pada RSUD dr. Ben Mboi Kabupaten Manggarai pada tahun 2014 terdapat 186 kasus, periode Januari-Oktober 2015 tercatat 250 kasus dan pada tahun 2018, RSUD Ben Mboi mencatat 490 kasus preeklamsia pada ibu hamil yang melahirkan atau dirawat. Data ibu hamil DI Puskesmas Kota beresiko preeklamsia hingga Agustus 2023 tercatat sebanyak 165 kasus. Melihat masalah yang ada ditempat penelitian maka team melakukan riset edukasi menggunakan vidio bahasa daerah Manggarai, sehingga diharapkan dapat meningkatkan pengetahuan ibu hamil dalam mengatasi masalah preeklampsi karena mayoritas masyarakat di Kabupaten Manggarai lebih cenderung menggunakan bahasa daerah sebagai bahasa sehari-hari.

Tujuan penelitian ini untuk mengetahui efektivitas edukasi menggunakan vidio bahasa daerah Manggarai terhadap pengetahuan tentang perilaku pencegahan preeklamsia.

Metode dalam Penelitian ini menggunakan media video Bahasa daerah Manggarai sebagai sarana pendidikan kesehatan, serta mengumpulkan data pengetahuan tentang perilaku pencegahan preeklamsia melalui kuesioner dan dilaksanakan di wilayah kerja Puskesmas Kota Kabupaten Manggarai – NTT mulai Oktober 2023 sampai April 2024. Desain yang digunakan adalah *eksperimental* dengan pendekatan *quasi eksperimental* dengan rancangan *pretest and post test with control group design*. Analisa data dilakukan secara univariat dan bivariat. Analisa univariat meliputi distribusi frekuensi karateristik responden, mean dan standar deviasi. Analisis pada penelitian ini diawali dengan uji normalitas data dengan uji Kolmogorov Smirnov dan didapatkan data berdistribusi normal, selanjutnya uji bivariat menggunakan uji pairet T-test.

Hasil Pada kelompok intervensi rerata pengetahuan ibu hamil sebelum diberikan perlakuan sebesar 56,10 dan setelah diberikan edukasi menggunakan vidio bahasa daerah manggarai ada peningkatan pengetahuan sebesar 74,67 dengan selisih mean 29,50. Perbedaan ini bermakna secara statistik dengan nilai nilai $p = 0,001 \leq 0,05$.

Kesimpulan Edukasi menggunakan video Bahasa daerah Manggarai dapat berpengaruh terhadap pengetahuan ibu hamil tentang perilaku pencegahan preeklampsia ditandai dengan hasil uji statistik menunjukkan nilai $p = 0,001 \geq 0,05$

Saran tenaga kesehatan terutama bidan dapat mempertimbangkan untuk memperluas penggunaan media edukasi berbasis video dalam bahasa daerah untuk meningkatkan pemahaman ibu hamil di daerah-daerah lain yang memiliki bahasa dan budaya yang berbeda.

Kata Kunci : Ibu Hamil, Perilaku,Preeklampsia,Vidio

ABSTRACT

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

Background Preeclampsia is recorded as the second cause of maternal death in Indonesia after maternal bleeding. Preeclampsia occurs in pregnant women after reaching a gestational age of more than 20 weeks which is characterized by hypertension, proteinuria and edema. Preeclampsia in pregnant women poses a serious risk to the mother and fetus, especially in pregnant women with risk factors such as old age, primigravida, pregnancy interval of less than 2 years, history of previous preeclampsia, history of hypertension and excess nutrition. Preeclampsia data for the last 9 years at the Regional Public Service Agency (BLUD) of the Dr. Ben Mboi Regional General Hospital (RSUD) Manggarai Regency in 2014 there were 186 cases, the period January-October 2015 recorded 250 cases and in 2018, Ben Mboi Hospital recorded 490 cases of preeclampsia in pregnant women who gave birth or were treated. Data on pregnant women at the City Health Center at risk of preeclampsia until August 2023 recorded 165 cases. Seeing the problems that exist in the research location, the team conducted educational research using Manggarai regional language videos, so that it is expected to increase the knowledge of pregnant women in overcoming preeclampsia problems because the majority of people in Manggarai Regency tend to use regional languages as their daily language.

The purpose of this study was to determine the effectiveness of education using Manggarai regional language videos on knowledge about preeclampsia prevention behavior.

The method in this study used Manggarai regional language video media as a means of health education, as well as collecting data on knowledge about preeclampsia prevention behavior through questionnaires and was carried out in the work area of the Manggarai Regency City Health Center - NTT from October 2023 to April 2024. The design used was experimental with a quasi-experimental approach with a pretest and post-test with control group design. Data analysis was carried out univariately and bivariately. Univariate analysis includes the frequency distribution of respondent characteristics, mean and standard deviation. The analysis in this study began with a data normality test with the Kolmogorov Smirnov test and obtained normally distributed data, then the bivariate test used the pairet T-test.

Results In the intervention group, the average knowledge of pregnant women before being given treatment was 56.10 and after being given education using Manggarai regional language videos, there was an increase in knowledge of 74.67 with a mean difference of 29.50. This difference was statistically significant with a p value = 0.001 ≤ 0.05.

Conclusion Education using Manggarai regional language videos can affect pregnant women's knowledge about preeclampsia prevention behavior, indicated by the results of statistical tests showing a p value = 0.001 ≥ 0.05

Suggestions for health workers, especially midwives, can consider expanding the use of video-based educational media in regional languages to improve the understanding of pregnant women in other areas that have different languages and cultures.

Keywords: Behavior, Preeclampsia,Pregnant Women, Videos.

INTRODUCTION

The high number of preeclampsia cases during pregnancy is still an unsolved challenge for health workers. Preeclampsia cases require serious attention from various stakeholders because of their potential to threaten the health of pregnant women and fetuses. Maternal and infant mortality is a strong correlation to the level of welfare of a community (Das et al., 2019). NTT Province is ranked 2nd in Indonesia regarding MMR and IMR. The Maternal Mortality Rate was recorded at 142 cases in 2018 and decreased in 2019 by 98 cases, while the Infant Mortality Rate in 2018 was 822 cases and increased in 2019 by 912 cases. Preeclampsia data in the last 9 years at the BLUD at RSUD dr. Ben Mboi Manggarai Regency was recorded in 2014 186 people and in the period from January to October 2015 there were 250 cases while in 2018 pregnant women who gave birth or had been treated at Ben Mboi Hospital with preeclampsia cases as many as 490 (Weng, Yulius, 2019). The City Health Center is one of the health service facilities that contributes the highest number of preeclampsia in Manggarai Regency - NTT. Data on pregnant women at risk of preeclampsia until August 2023 recorded 165 cases.

Some of the risks of pregnant women potentially experiencing preeclampsia are obesity, primigravida, pregnancy at the age of <20 and >35 years, having a history of preeclampsia, hypertension and diabetes mellitus (Yunus et al., 2021). Other risks are multiple pregnancies, kidney disorders, and BMI before pregnancy > 30 (Jung et al., 2022). Another factor in the occurrence of preeclampsia is the lack of knowledge and behavior

and attitude of not caring about carrying out pregnancy checks at the Hospital (Sutrimah et al., 2015). The results of interviews with health workers, the main cause is the lack of knowledge about the symptoms, characteristics and factors that cause preeclampsia (Yang et al., 2021). The impact of preeclampsia on the fetus inhibits growth, premature birth and causes fetal distress such as respiratory distress syndrome (Haslan & Trisutrisno, 2022). Meanwhile, for mothers in cases of severe preeclampsia, it can cause eclampsia accompanied by generalized seizures, Hellp syndrome, retinal detachment, kidney failure, pulmonary edema, liver damage, heart disease and nervous disorders (Hartati et al., 2018). Other studies have shown that BMI before pregnancy, history of chronic hypertension, diabetes, kidney disease, family hypertension, and multiple pregnancies are determinants of signs of preeclampsia (Andira & Sri Rahayu, 2023). The diagnosis of hypertension is established if there is an increase in systolic blood pressure ≥ 30 mmHg, or an increase in diastolic blood pressure ≥ 15 mmHg, or systolic blood pressure values ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg (Diana, 2022).

Identification of high-risk individuals and prevention of the disease and its complications remain a priority in health care and research and investigation of potential interventions to prevent preeclampsia (Ayyash et al., 2024). Identifying new treatments and prevention strategies remains a priority to reduce the burden of preeclampsia on mothers and babies (Brownfoot & Rolnik, 2024). Health workers have made efforts to socialize the use of the KIA book but have not obtained good results, this can be monitored by the low number of antenatal visits so that the 14 T service standards for mothers and babies are not running optimally including preventing the risk of preeclampsia (Sutrimah et al., 2015). How to change the mindset of pregnant women can only be done through increasing knowledge. The better the knowledge of pregnant women, the more their attitudes and behaviors in maintaining health will be guaranteed (Yahyaa et al., 2022). Other prevention efforts are carrying out interprofessional collaboration activities between partnerships and teams of health service providers and clients in a participatory and coordinated collaborative approach to shared decision making (Bornman & Louw, 2023).

Currently, the dominant health education media used in Indonesia are lectures, leaflets, booklets or power points (Yasmine et al., 2020). As time goes by, people are more interested in choosing videos than using lectures. Another study by Emergensi et al., (2021) reported that the use of games or videos is more effective in increasing knowledge, so it was concluded that videos are very effective in transferring knowledge. Video media is considered appropriate to facilitate explaining materials and is also considered to be able to overcome boredom and saturation (Yasmine et al., 2020). One effective effort in preventing preeclampsia is using YouTube (Cici Wellyanah, Dewi Hermawati, 2021). Health education through video media is considered beneficial because of its ability to present clear visualizations, thus facilitating the learning process (Situmorang et al., 2016). Video is included in the audiovisual media category because it involves the use of the senses of hearing and sight simultaneously. This audiovisual media has been proven to be more effective in introducing, remembering, and connecting facts with events (Kholisotin et al., 2019). This finding is similar to Willia, et al. (2019) namely that providing education using multimedia can significantly increase mothers' knowledge.

Highlighting the phenomenon involving the dominance of the use of the Manggarai language in everyday life as a strong mother tongue in social and cultural interactions in the area and is often the main language in everyday communication among local residents. Therefore, an educational approach through visual media such as Manggarai regional language videos is relevant and important. Seeing the problems that exist in the research location, the team conducted educational research using Manggarai regional language videos, so that it is hoped that it can increase the knowledge of pregnant women in overcoming preeclampsia problems because the majority of people in Manggarai Regency tend to use regional languages as their daily language. In addition to language, the use of media such as films, YouTube is much more effective than listening to lectures via power point displays or via brochures and leaflets (Ermiati et al., 2021). Another finding is that some pregnant women said that their memory in communication is better understood if they use the local language when passing each other or having discussions so that they are able to listen and hear carefully, so the research team decided to conduct preeclampsia education using Manggarai local language videos. The results of a scientific study conducted by (Ganesh Kumar et al., 2010) reported that pregnant women understand more about communicating using local languages. The use of videos in local languages can be effective in increasing understanding because they can be adapted to the cultural context and local language (Hermawati et al., 2024). The use of

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

Manggarai local language videos has a higher level of maternal participation, when compared to using lectures which are considered very boring and people prefer videos and audio visuals in mentoring or counseling (Ramadani et al., 2023). The use of leaflets, booklets, or power points can increase knowledge and influence individual behavior. Other studies have revealed changes in knowledge in groups that are given knowledge through video media (Emergensi et al., 2021). Video is the most common media used by health promoters to facilitate the development of knowledge aspects that lead to the development of individual skills (Kholisotin et al., 2019). Several educational media development videos with sophisticated technology have been carried out, such as through an audio-visual approach (Ermiati et al., 2021). According to (Hari et al., 2022) it shows that the use of leaflets and power points is less effective in increasing knowledge, compared to using videos.

This study aims to measure changes in the significance of education using Manggarai regional language videos on knowledge about preeclampsia prevention behavior. The urgency of this study is to see the high MMR and IMR in Manggarai Regency which are caused by minimal knowledge. Researchers hope to be able to educate the public through Manggarai regional language videos in overcoming the risk of preeclampsia and motivate pregnant women to be able to detect the risk of preeclampsia early.

RESEARCH METHODS

This study uses Manggarai regional language video media as a means of health education, and collects knowledge data on preeclampsia prevention behavior through questionnaires and is carried out in the working area of the Manggarai Regency City Health Center - NTT from October 2023 to April 2024. This study uses a quasi-experimental design with a pretest-posttest with control group design. The control group was given education using leaflets and the intervention group was given education using Manggarai regional language videos. The target population in this study were pregnant women in the first, second and third trimesters. The sampling technique in the study used total sampling, so that all pregnant women in the first, second and third trimesters totaling 60 people were used as samples divided into two groups, namely the control group and the intervention group. Data analysis was carried out univariately and bivariately. The analysis in this study began with a data normality test using the Kolmogorov Smirnov test and the data was normally distributed, then the bivariate test used the pairet T-test.

RESEARCH RESULTS

Univariate Analysis

Table 1 shows that based on education category, both intervention and control groups were dominated by junior high school graduates of 33.33%, which means that the mother's last education level was included in the low education category. Based on parity category, the majority of mothers in both groups had multigravida parity. In the intervention group, it was 66.7% and in the control group, it was 70%. All respondent characteristics in categorical data did not differ significantly in both groups with a p value> 0.05, which means that the characteristics used as research samples were homogeneous.

Table 1
Respondent Characteristics Data

Respondent Characteristics	Intervention		Control		pvalue
	n	(%)	n	(%)	
Education					
Elementary school	7	23,33	5	16,66	
Junior high school	13	43,33	12	40	
Senior High School	5	16,67	7	23,33	0,595
Diploma III	3	10	3	10	
Bachelor degree	2	6,67	3	10	
Parity					
Primigravida	6	20	9	30	0,551
Multigravida	24	80	21	27	

Chi square test, Source: Data (2024)

Table 2
Respondent Characteristics Data Categorical Data

Respondent Characteristics	Intervention	Control	p value
Mother's Age (years)			
<20 Years			
20 -35 Years	22.70 ± 5.984	39.13 ± 2.556	0,014
>35 Years			
Gestational age (Weeks)			
4-8 Weeks			
9-12 Weeks	8.83 ± 3.445	18.17 ± 4.411	0,261
28-32 Weeks			
Income(Rp)			
500.000 - 1.250.000			
1.250.000 – 1.750.000	1475000.00 ±	189258.991±	0,026
1.750.000 - 2.000.000	2190000.00	266975.396	
2.000.000 - 2.750.000			

Source: Data, (2024)

Based on the data in Table 2. After conducting the Independent -Samples T Test, the results showed that the majority of respondents in the 20-35 age group were in the low-risk category, namely an average mean of 22.70 ± 5,984 and increased in the control group, the majority of respondents were also the same in the low-risk category, namely aged 20-35 years with an average mean of 39.13 ± 2,556. The results of the statistical test showed that there was no significant difference between the control and intervention groups where the P value = 0.014> 0.05.

In the majority of pregnancy age groups, it was found that the majority of respondents in the intervention group were 8.83 ± 3,445 while the control group was 18.17 ± 4,411 where the P value was obtained = 0.261 <0.05. In the income variable, in the intervention group and control group, the majority of respondents had an average income of 1475,000.00 ± 2190,000.00 in the intervention group and 189,258,991 ± 266,975,396 in the control group, where the P value = 0.026 > 0.05.

Bivariate Analysis

Bivariate analysis was used to see whether or not there was a difference in knowledge about preeclampsia prevention behavior before and after the intervention was given to both the control group and the intervention group.

The results of the data normality test showed that all data were normally distributed, so to see the difference in the average in the two groups before and after the intervention, a Paired Samples test was conducted.

Table 3
Differences in Respondents' Knowledge Before and After Treatment in Both Groups

Group	n	Mean ± SD Knowledge		Mean Difference	*P value*
		Pre	Post		
Intervention	30	56,10	74,67	29.50	0,001
Control	30	57,50	87,00	18.567	0,10

Paired sample T Test, Primary data (2024)

Based on the data in Table 3. after conducting the Paired T-test, it was found that there was an increase in knowledge about preeclampsia prevention behavior before and after being given education in both groups. The average knowledge of pregnant women in the control group before being given treatment was 57.50, experiencing a very significant increase of 87.00 with a mean difference of 18.567. The results of the statistical test showed that the p value = 0.010 ≥ 0.05. This proves that there is no difference in knowledge before and after providing knowledge using leaflets. In the intervention group, the average knowledge of pregnant women before being given treatment was 56.10 and after being given education using Manggarai regional language videos, there was an increase in knowledge of 74.67 with a mean difference of 29.50. This difference is statistically significant with a p value = 0.001 ≤ 0.05. This proves that there is a difference in knowledge of pregnant women before and after providing knowledge education.

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

DISCUSSION

Preeclampsia is hypertension that appears or worsens with proteinuria after 20 weeks of gestation. Preeclampsia and eclampsia develop after 20 weeks of gestation, although most cases occur after 34 weeks (Abalos et al., 2013)

Preeclampsia with severe features can cause organ damage; these features may include; Severe headache, Visual disturbances, Confusion, Hyperreflexia, Epigastric pain or right upper quadrant abdominal pain (reflecting hepatic ischemia or capsular distension), Nausea and/or vomiting, Dyspnea (reflecting pulmonary edema, acute respiratory distress syndrome (ARDS), or cardiac dysfunction secondary to increased afterload), Oliguria (reflecting decreased plasma volume or acute ischemic tubular necrosis) and Stroke (rare) (Abalos et al., 2013)

Preeclampsia as a serious problem in pregnancy that can affect the health of the mother and fetus. Effective education about preeclampsia prevention is essential to reduce the risk of occurrence. This study aims to evaluate the effectiveness of education using videos in the Manggarai regional language in increasing pregnant women's knowledge about preeclampsia prevention behavior. Preeclampsia is a serious condition that can affect pregnancy and requires a good understanding for its prevention and management. Health education through video media has the potential to be an effective intervention in increasing pregnant women's awareness of the risks and prevention of preeclampsia (Ramadani et al., 2023)

From the results of this study, when viewed from Table 1 based on univariate analysis, it shows that the education category in the intervention and control groups, the majority had junior high school education of 33.33%, this means that the mother's education level is included in the low education category. While the results of the parity analysis, the majority of mothers in both groups had multigravida parity. In the intervention group it was 66.7% and in the control group it was 70%. All respondent characteristics in categorical data did not differ significantly in the two groups with a p value> 0.05, which means that the characteristics used as research samples were homogeneous.

Table 2 shows that the majority of respondents in the 20-35 age group are in the low-risk category, namely an average mean of 22.70 ± 5,984 and increasing in the control group, the majority of respondents are also the same in the low-risk category, namely aged 20-35 years with an average mean of 39.13 ± 2,556. The results of statistical tests show that there is no significant difference between the control and intervention groups where the P value = 0.014> 0.05. In the majority of pregnancy age groups, it was found that the majority of respondents in the intervention group were 8.83 ± 3,445 while the control group was 18.17 ± 4,411 where the P value was obtained = 0.261 <0.05. on income variables, In the intervention group and control group, the majority of respondents had an average income of 1475,000.00 ± 2190,000.00 in the intervention group and 189,258,991 ± 266,975,396 in the control group where the P value = 0.026> 0.05. Meanwhile, in table 3 after the Paired T-test, the average knowledge of pregnant women in the control group before being given treatment, namely 57.50, experienced a very significant increase of 87.00 with a mean difference of 18.567. The results of the statistical test showed that the p value = 0.010 ≥ 0.05. This proves that there is no difference in knowledge before and after providing knowledge using leaflets.

In the intervention group, the average knowledge of pregnant women before being given treatment was 56.10% and after being given education using Manggarai regional language videos, there was an increase in knowledge of 74.67% with a mean difference of 29.50. This difference is statistically significant with a p value = 0.001 ≤ 0.05. This proves that there is a difference in the knowledge of pregnant women before and after providing knowledge education. In short, the results of this study state that after participating in an education session using Manggarai regional language videos, pregnant women's knowledge about preventing preeclampsia increased significantly. Statistical analysis showed a significant difference in knowledge before and after the educational intervention using videos. This shows that this approach is effective in conveying complex information such as preeclampsia to pregnant women in the Manggarai language and cultural context. Videos are able to convey information in a more interesting and easy-to-understand way, considering the importance of local culture and language in educational communication, as indicated by the results of the statistical test where the P value is 0.001 ≤ 0.05.

The use of video media as an educational tool has the potential to increase the knowledge of pregnant women. In this context, video media presents information in visual form with text, colorful images, and attractive audio, which facilitates effective and interesting understanding for pregnant women. The results of this study are in line with (Belinda et al., 2024) that there is a significant effect (p <0.001) between providing education through

video media and increasing knowledge of pregnant women about preeclampsia. This study is also consistent with the study of Alini & Indrawati (2018) which compared the effectiveness of audiovisual media with leaflets in the context of health promotion. The results showed that health promotion through audiovisual media had a more significant impact than the use of leaflets.

Other studies have shown that the use of animated videos on nutrition and its quality has the potential to increase knowledge and attitudes, which in turn can contribute to improving nutritional status in pregnant women (Hasim et al., 2023). Other research reports that the use of audio-visual-based health education on increasing knowledge and interest in mothers to provide exclusive breastfeeding (Ningsi & Purwant, 2024). Pregnant women who participated in a video-assisted teaching program experienced accelerated knowledge acquisition, promoted care practices, and fostered positive attitudes toward preeclampsia prevention during pregnancy (Reda et al., 2024).

The use of educational videos also increased maternal knowledge about blood pressure during pregnancy and preventive self-care (Sarabi et al., 2024). This significant increase in knowledge is important in the context of preeclampsia prevention, as good knowledge can lead to healthier behaviors during pregnancy (Iis et al., 2023). Discussion of the implications of these results includes the potential to reduce the incidence of preeclampsia and its associated complications in the community. The increased knowledge gained from this intervention could have a significant positive impact. Pregnant women who are more aware of the symptoms and prevention of preeclampsia are more likely to seek better prenatal care and take recommended preventive measures, such as adjusting their diet, avoiding stress, and monitoring their blood pressure regularly. This study is in line with (Uğurlu et al., 2021), which states that education and counseling about preeclampsia have a statistically significant influence on healthy lifestyle behavior.

CONCLUSION

This study supports the use of educational media in the Manggarai regional language as an effective strategy to increase pregnant women's knowledge about preeclampsia. The implication of this increased knowledge is the potential to improve maternal health and reduce the incidence of preeclampsia through focused education that is tailored to local culture.

SUGGESTIONS

Health workers, especially midwives, can consider expanding the use of video-based educational media in regional languages to improve the understanding of pregnant women in other areas that have different languages and cultures.

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