

Application of Health Education to Prevent Pre-Eclampsia Emergencies in 1st Trimester Pregnant Women

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Abstract. *Preeclampsia is one of the main causes of maternal death throughout the world, including in Indonesia. Preeclampsia is characterized by hypertension, urine protein and edema in pregnancy, after 20 weeks of gestation. Early detection of preeclampsia is carried out to reduce the incidence and reduce the death rate and prevent severity for the mother and fetus. Health education about preeclampsia can be carried out to increase knowledge of pregnant women. The Objective of the research to increase mothers' knowledge about preeclampsia. Implementation method by providing health education using booklets to 22 pregnant women in the Pemulutan Community Health Center working area, Ogan Ilir Regency. The result of the study statistically, health education is effective in increasing respondents' knowledge about emergency prevention: preeclampsia. Pregnant women with knowledge scores before and after being given health education experienced an increase in the mean difference of 42. Health education using booklet media can increase pregnant women's knowledge about preeclampsia.*

Keywords: *Pregnancy, Health Education, Preeclampsia*

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INTRODUCTION

According to Federation Obstetrics Gynecology International pregnancy is the process of fertilization from spermatozoa and ovum, continued with nidation or implantation in the Womb (Rebahi et al., 2018) Period pregnancy calculated First Day of Last Menstruation (HPHT) (Febriani & Subagyono, 2021) If calculated moment fertilization until birth baby, Age normal pregnancy is 40 weeks or 10 months or 9 months according to calendar international. Pregnancy divided into 3 Trimesters (TM) where TM is one taking place in 12 weeks, TM two 15 weeks (13th - 27th week), and TM three 13 weeks, week 28th to 40th (Hatijar et al., 2020).

During pregnancy can happen change Physiological and psychological in mothers. Change physiology and adaptation during pregnancy covers change physiology of the system reproductive, cardiovascular, systems respiratory, system urination, system digestion, metabolism, maternal weight, skeleton, skin, breast, and system endocrine (Hatijar et al., 2020).

Change Psychology in mothers pregnant happens to the system Cardiovascular that is among them happen increased cardiac output Increasing pressure blood caused by increasing

prisoner Peripheral, renin levels, renin activity and angiotensin II levels decrease. Damage endothelia, arterial vasospasm participates cause enhancement permeability capillary so that decreases intravascular volume, which becomes predisposition preeclampsia (Tonasih & Kumalasary, 2020).

According to the World Health Organization (WHO), death rate maternal mortality (MMR) is still very high, around 810 women die consequence complications related pregnancy or births around the world every days, and about 295 000 women die during and after pregnancy and childbirth. Death rate mothers in developing countries reached 462/100,000 births life. Meanwhile in developed countries 11 /100,000 births life (WHO, 2020). number death mother and number death baby caused by several factors, such as bleeding great (some big bleeding post partum), infection (post partum), complications from childbirth, abortion No safe and preeclamptic (WHO, 2020).

Incidence rate preeclampsia and height number death mother (AKI) still is problem health in Indonesia. Data obtained based on the Indonesian Demographic and Health Survey (SDKI) in 2021 Maternal Mortality Rate (AKI) in Indonesia amounting to 359/100,000 births (Indonesian Ministry of Health, 2022).

Ogan Ilir is on track cross east Sumatra and central his government located about 35 km from city Palembang with amount population 356,034 people. Data collection amount Mother pregnant women in 2019 numbered 10,305 people. Amount Pregnancies in the 1st trimester amounted to 3435 (30%) mothers pregnant, Second Trimester 2576 (25%) mothers pregnant, third trimester 2576 (25%). From the first - third trimester, those who experience Preeclampsia Light as many as 171 mothers pregnant (20%). Meanwhile, in 2021 the number Mother pregnant reduce to 9,865 people and number Mother pregnant in the first trimester amounted to 5919 (60%) of them Mother pregnant in the second trimester 3946 (25%) mothers pregnant, and third trimester 1973 (20%). Amount death mothers in Ogan Ilir Regency in 2020 are as many as 8 people with the MMR ratio was 83 per 100,000 KH, up from in 2019 there were 6 people.

Proportion reason death mothers in Ogan Ilir Regency are dominated by hypertension in pregnancy with percentage by 50% (Ogan Ilir District Health Service, 2021). Data from the Ogan Ilir District Health Service for 2022 states that there were 20 incidents preeclampsia. Incident preeclampsia is the most common available at the Community Health Center Mulching as many as 5 people with 1 case death.

On mother pregnant can happen preeclampsia, preeclampsia This divided into 2, namely preeclampsia mild and severe, preeclampsia Light defined systolic ≥ 140 mmHg diastolic ≥ 90 mmHg after 20 weeks pregnancy with proteinuria (Wilkerson RG, 2019). Preeclampsia heavy is reason morbidity and mortality mother and fetus Where pressure blood tall $\geq 160/110$ mmHg accompanied by proteinuria at 20 weeks of pregnancy or more (Braunthal et al., 2019).

Mother experienced it preeclampsia and if No under control risky experience complications form seizures, hypofibrinogenemia, pulmonary edema, failure kidney disease, stroke, bleeding brain, abnormality eyes, necrosis liver disease, prematurity, dysmaturity and death. (Wulandari et al., 2021) Meanwhile, the impact on the fetus consequence preeclampsia during pregnancy that is birth weight low consequence spasm descending decidual spiral arterioles Genre blood to placenta, so result disturbance function placenta. Damage placenta light cause hypoxia fetus, asphyxia, limitations growth and if happen increasing damage critical so can result prematurity, dysmaturity and IUID or death fetus in content (Nur & Yunita, 2021).

Preeclampsia is one of reason main death mothers all over the world, including in Indonesia. Most of the death Mother can prevented and saved through management appropriate complications by the officer skilled healthcare. The main preventing factor woman get service during pregnancy and childbirth is poverty, distance to facility health, lack of information, service health is not adequate quality bad and practice culture (Fyrda, 2022) Risk tall pregnancy is health

mother and baby can be threatened. There is a number of possible factors that cause these conditions, among others lack of knowledge about risk pregnancy (Saputra et al., 2021)

Based on results studies introduction through interview for 5 mothers pregnant in the work area Public health center Mulching, obtained that fifth Mother pregnant the confess No Once hear term about preeclampsia. Additionally, results interviews conducted by researchers to the Coordinating Midwife Public health center Mulching, obtained information that education health or counseling about preeclampsia in a way special Not yet Once carried out in the work area Public health center Removal. Beside that, based on visit data Integrated Healthcare Center from each midwife village, still found Mother pregnant at a vulnerable age experience complications, ie not enough from 20 years and more from 35 years. Besides, still There is Mother Pregnant women who don't have regular check-ups her pregnancy.

One of the health programs For prevent happen preeclampsia in the mother pregnancy obtained that is through maintenance class Mother pregnant. Class Mother pregnant This is class attended by mother pregnant start from the first trimester until the final trimester. One of activity class pregnant that is education health (Romlah & Farizal, 2022) Health education with Emergency Preeclampsia in mother pregnant, that the more Lots information can influence or add knowledge someone and with knowledge give rise to final realization somebody will behave in accordance with the knowledge he has (Yunus et al., 2021).

One of the causal factors its height number death Mother is complications possible pregnancy detected through sign danger pregnancy. Signs danger pregnancy is the signs show possible danger happen during pregnancy or the antenatal period, which if No detected can cause death (Retnaningtyas et al., 2022) Pregnant mother from knowledge possessed This can do detection early before happen problem so that Mother pregnant can quick determine the right step For overcome matter the Before happen severity in pregnancy is one of them incident preeclampsia. (Indriyani et al., 2022).

Health education is form action independent nursing For help client Good individual, group, or public in overcome problem his health (Notoatmodjo, 2018). Based on results study (Marbun & Irnawati Irnawati, 2023) is known that education health can increase knowledge Mother pregnant so that they capable understand about preeclampsia in pregnancy, dangers and ways prevent it.

Health education will walk with Good if supported with media and delivery the right method. Booklets are a delivery medium message health form book made as interesting Possible containing pictures and writing. Usually his book size small so that easy brought everywhere. Booklet written in concise, clear, easy language understood in short time (Widuri et al., 2021) Another advantage of the booklet is: No need current electricity so that more easy in its use. Booklet given to each individual so that can studied every moment. Apart from that, booklet media can also be used practice not quite enough answer every respondents For increase knowledge through booklet media. which is accepted. Every respondents can study each booklet moment Because the shape book and contains more information Lots. (Kusumawati & Zulaekah, 2021).

METHODS

Health education This done with method do approach to respondents with explain aims, benefits and educational process health will done If respondents agree For become respondents so instructor will give sheet pretest questionnaire for answer questions related material education health. After fill in pretest questions, respondents given education health about preeclampsia using the booklet, next respondents given sheet questionnaire posttest questions. After finished fill in posttest questions, respondents requested For fill in the attendance list. The data is already there collected furthermore analyzed using a computer program. Implementation activity can seen in the picture following this:



Figure 1. Charging Pretest Questionnaire



Figure 2. Providing Health Education Using Booklet Media

RESULTS AND DISCUSSION

Statistically, health education is effective in increasing respondents' knowledge about emergency prevention: preeclampsia Mother pregnant In the Working Area of the Pemulutan Community Health Center Ogan Ilir Regency with an average mother's knowledge score before being given health education was 41, knowledge score after given education health of 83, with difference average score knowledge Mother before and after education health as big as 42.

Health education activities This done to the mother pregnant at the health center Mulching Ogan Ilir Regency as many as 22 people. Most of the mothers are pregnant convey enthusiastic they in follow activity education Health, p This because topic preeclampsia is very interesting, and is one problem emergencies in pregnancies mother knows pregnant.

Reason preeclampsia Not yet is known in a way Of course , there are several risk factors increase incident preeclampsia including primigravida, history preeclampsia, pressure high blood pressure in the first trimester of pregnancy, obesity , history of preeclampsia in family, pregnancy double , history hypertension pregnancy, gestational diabetes, disease vasculature and age Mother more from 35 years . Early diagnosis preeclampsia can prevent and reduce number pain and death. Prevention No can done If Mother No own knowledge preeclampsia, (Wiknjosastro, 2010). Health Education regarding Preeclampsia can also occur increase motivation Mother pregnant For do antenatal visits (Irma Kurnianigsih, 2017).

Health education is addition knowledge and abilities somebody through practice Study or instructions For remember fact or existing conditions with push *self direction* , for help individual control Khealth in a way independent (Tita et al., 2022). Giving education routine health about preeclampsia can increase knowledge Mother so that Mother capable prevent happen complications during pregnancy, childbirth as well as the fetus especially consequence from preeclampsia. High level of knowledge can make Mother apply the knowledge he gained into the life daily (Sari & Atrawani, 2018).

The result of this community service in line with researcha (Wardani et al., 2023) in the work area Parang Health Center, which shows that There is difference meaningful between pretest and posttest knowledge Mother pregnant after given education health about preeclampsia . Study (Idaman et al., 2022) show that Health education can increase knowledge Mother pregnant about preeclampsia at the Padang City Cold Water Health Center. Community service results this is also in line with research conducted by (Hasliani & Rahmawati, 2019) shows that There is significant influence providing Health Education for prevention efforts preeclampsia at the Community Health Center Bangkala Regency Jeneponto.

Educational media health works help in the Education process or teaching For facilitate displacement knowledge to individual through five senses . Appropriate tools in do promotion health can help smoothly and can give response Good nor bad that can be affects the level of knowledge somebody (Indrawati et al., 2016) For supports information transfer in this Health Education , instructor using a booklet containing media information about preeclampsia . According to Notoatmodjo (2010), booklet is one of form of print media that conveys message health in form book , okay in the form of writing or picture . Excess booklet among them can load more information Lots as well as can studied every when , can used For Study independent , you can be read When just and easy seen.

CONCLUSION

Health education effectively increases respondents' knowledge about emergency prevention: preeclampsia Mother pregnant In the Working Area of the Pemulutan Community Health Center Ogan Ilir Regency with a difference score average knowledge Mother before and after education health as big as 42.

REFERENCES

- Braunthal, S., ., & Brateanu, A. (2019). Hypertension in pregnancy: Pathophysiology and treatment. *SAGE Open Medicine*, 7 (2), 205031211984370. <https://doi.org/10.1177/2050312119843700>
- Febriani, H., & Subagyono, S. (2021). Efforts to Control Hypertension in Pregnancy. *DIMAS: Journal of Community Service* , 3 (2), 163–167. <https://doi.org/10.47317/dmk.v3i2.359>
- Fyrda. (2022). Education through Leaflet Media to Increase Pregnant Women's Knowledge about Preeclampsia at Pertamedika Ummi Rosnawati Hospital Banda Aceh. *Health Research* , 13 (6), 639–644.
- Hasliani, A., & Rahmawati, R. (2019). Health Education for First Trimester Pregnant Women on Efforts to Prevent Preeclampsia at the Bangkala Community Health Center, Jeneponto

Regency. *Makassar Health Polytechnic Health Media* , 14 (2), 135.
<https://doi.org/10.32382/medkes.v14i2.1112>

- Hatijar, Saleh, IS, & Yanti, LC (2020). Textbook of Midwifery Care in Pregnancy. In *CV. Brilliant Starlight* .
- Idaman, M., Darma, IY, & Deferma, M. (2022). Effectiveness of Health Education Using Video Media in Increasing Pregnant Women's Knowledge About Preeclampsia. *Journal of Nursing and Midwifery Science* , 4 (1), 123-127.
<http://ejr.stikesmuhkudus.ac.id/index.php/jikk/article/view/1617>
- Indrawati, ND, Damayanti, FN, Nurjanah, S., & Muhammadiyah, U. (2016). Abstract INTRODUCTION The maternal mortality rate (MMR) has now become an important indicator for assessing the health status of a country. AKI is described as the number of women who die from a cause of death related to pregnancy disorders. *2016 AIPKEMA National Working Meeting* , 2 (Lcd), 9.
- Indriyani, Lia Octavia, Dewi, DC, Susanti, F., & Amiatun. (2022). The Relationship Of Pregnant Women's Knowledge About Preeclamsia To The Prevention Of Preclampsia. *Aisyiah Merdeka* , 8 (2), 61-69. <https://doi.org/10.36729/jam.v8i1> ABSTRACT
- Irma Kurnianigsih, SI (2017). The Influence Of Preeclampsia Counseling On The Motivation Of Anc Visits For Pregnant Women At The Banguntapan I Bantul Health Center. *Occupational Medicine* , 53 (4), 130.
- Kusumawati, Y., & Zulaekah, S. (2021). Booklet as an Educational Media in Increasing Knowledge of Mental Health of Pregnant Women. *Proceedings of The URECOL* , 13 (3), 50-58.
- Marbun, U., & Irnawati Irnawati. (2023). Education on the Dangers and Prevention of Preeclampsia in Pregnancy. *Abdimas Polsaka* , 2 , 64-69.
<https://doi.org/10.35816/abdimpolsaka.v2i1.36>
- Notoatmodjo, S. 2010. Health Promotion: Theory and Application. Jakarta: PT. Rineka Cipta
- Rebahi, H., Still, M.E., Faouzi, Y., & El Adib, A.R. (2018). Risk factors for eclampsia in pregnant women with preeclampsia and positive neurosensory signs. *Turkish Journal of Obstetrics and Gynecology* , 15 (4), 227-234. <https://doi.org/10.4274/TJOD.22308>
- Retnaningtyas, Palupi, E., Siwi, R., Wulandari, Y., Qoriah, A., Rizka, H., Qori, DR, Sabdo, M., & Malo, S. (2022). Efforts To Increase Knowledge Of Pregnant Women Through Education Regarding Danger Signs Of Advanced Pregnancy At Posyandu. *Community Service* , 2 (2), 25-30.
- Romlah, S., & Farizal, E. B. (2022). The Relationship between Husband's Knowledge and Support and the Anxiety of Third Trimester Pregnant Women Facing Childbirth During the Covid-19 Pandemic in the Berseri Pangkalan Kerinci Community Health Center Work Area. *Encyclopedia of Journals* , 4 (2), 309-314. <https://doi.org/10.33559/eoj.v4i2.1069>.
- Saputra, AD, Aisyah, IS, & Novianti, S. (2021). The Influence Of Health Education Using Leaflet Media On Pregnant Women's Knowledge About Lactation Management At The Sukaraja Health Center, Tasikmalaya District. *Indonesian Journal of Community Health* , 19 (1), 52-60. <http://103.123.236.7/index.php/jkki/article/view/6862/2649>.
- Sari, MT, & Arawani, Y. (2018). The Influence of Health Education on Preeclampsia Knowledge and Attitudes in Pregnant Women at the Putri Ayu City Public Health Office, Jambi. *Baiturrahim Jambi Academic Journal* , 7 (2), 179. <https://doi.org/10.36565/jab.v7i2.81>.
- Tita, A.T., Szychowski, J.M., Boggess, K., & Dugoff. (2022). Treatment for Mild Chronic Hypertension during Pregnancy. *Physiology & Behavior* , 176 (1), 139-148.
<https://doi.org/10.1056/NEJMoa2201295>.Treatment.

- Tonasih, T., & Kumalasary, D. (2020). Analysis of Determinants Associated with Severe Preeclampsia in Pregnant Women. *SMART Midwifery Journal*, 7 (1), 41. <https://doi.org/10.34310/sjkb.v7i1.298>.
- Wardani, E., Endarwati, J., & Sulastri, S. (2023). Health Education about Preeclampsia using Leaflet Media to Increase Knowledge of Pregnant Women. *Silampari Nursing Journal*, 6 (2), 1227–1235. <https://doi.org/10.31539/jks.v6i2.5423>.
- Widuri, YW, Margono, M., & Retnaningsih, Y. (2021). The Effectiveness Of Video And E-Booklet Media In Health Education On Improving The Knowledge Of Pregnant Women About The Pregnancy Danger Signs At Jetis 1 Public Health Center Of Bantul Regency. *Interest : Journal of Health Sciences*, 10 (1), 18–28. <https://doi.org/10.37341/interest.v0i0.298>
- Wiknjosastro, Hanifah, (2010). *Midwifery Science*. Jakarta: Bina Pustaka Sarwono Prawirohardjo Foundation
- Wilkerson RG, OA (2019). Hypertensive Disorders of Pregnancy. *Emerg Med Clinic North Am.*, 10 (3), 10. <https://doi.org/10.1016/j.emc.2019.01.008>.
- Wulandari, ES, Ernawati², & Nuswantoro, D. (2021). *Risk Factors Of Preeclampsia With Severe Features And Its Complications*. 5 (1), 29–37. <https://doi.org/10.20473/imhsj.v5i1.2021.29-37>.
- Yunus, N., Nurlinda, A., & Alwi, MK (2021). The Relationship between Knowledge and Attitudes towards the Incident of Preeclampsia in Pregnant Women in the Tangeban Community Health Center Area, Masama District, Banggai Regency. *Journal of Muslim Community*, 2 (2), 1–14.