

## Midwifery Care for Pregnant Women in Trimester III with Pre-eclampsia at RSUD Dr H. Moch. Ansari Saleh Banjarmasin

Noor Latifah<sup>1</sup>, Ika Avrilina Haryono<sup>1</sup>, Fitri Yuliana<sup>1</sup>

<sup>1</sup> Universitas Sari Mulia, Banjarmasin, south Kalimantan, Indonesia

[01latifah2001@gmail.com](mailto:01latifah2001@gmail.com)

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### Abstract

Preeclampsia is a complication of pregnancy characterized by an increase in blood pressure at 20 weeks gestation. If not detected and treated immediately it may cause maternal and fetal death, therefore it is necessary to monitor through ANC so that preeclampsia does not worsen in the third trimester of pregnancy. This case study was conducted to provide midwifery care for third trimester pregnant women with preeclampsia at RSUD Dr. H Moch Ansari Saleh Banjarmasin. This study used a case study design on pregnant women selected by *purposive sampling*. Primary data sourced from patients were taken using the SOAP format. The patient's preeclampsia was characterized by complaints of headache, heavy neck and swollen legs and there was a family history of preeclampsia. High blood pressure since 39 weeks gestation, BP: 155/99 mmHg, urine protein (+) so that it can be determined as G3P1A1 at 39 weeks gestation with preeclampsia, live single fetus intra uteri. Management provided in the form of deep breath relaxation techniques, warm compresses on the feet, IEC on the prevention of hypertension, initial and continued dose therapy of 40% MgSO<sub>4</sub>, and nifedipine 10 mg 3x1 per oral. The mother's preeclampsia problem was successfully resolved on the last day of the progress notes.

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### INTRODUCTION

Maternal mortality is an indicator of the well-being of a country's society. Globally, every 2 minutes somewhere a woman dies due to complications of pregnancy, childbirth and postpartum which are direct determinants in maternal mortality. The higher the case of complications, the higher the case of maternal death [1]. An estimated 810 women die every day due to complications before or after pregnancy and during labor [2]. The *Sustainable Development Goals* (SDGs) target point 3.1 in 2030 is that the maternal mortality rate should not exceed 70 per 100,000 live births, while global data shows that the current maternal mortality rate in the world is 211 per 100,000 live births so that efforts to reduce maternal mortality in the world must continue to be encouraged.

The maternal mortality rate in Indonesia in 2020 reached 300 per 100,000 live births which is still far from the 2030 SDGs target so it can be concluded that the MMR in Indonesia is still relatively high and needs further action to reduce it to reach the predetermined target. One of the causes of maternal mortality in Indonesia is hypertension and preeclampsia with a total of 1,110 cases [3].

The maternal mortality rate in South Kalimantan has increased, from 135 per 100,000 live births in 2020 to 205 per 100,000 live births in 2021. The maternal mortality rate in Banjarmasin actually decreased from 101 per 100,000 live births in 2020 to 100 per 100,000 live births, but the maternal mortality rate in Banjarmasin still does not meet the SDGs target so it still needs to be reduced.

Preeclampsia is an increase in blood pressure that only arises after the gestational age reaches 20 weeks accompanied by rapid maternal weight gain due to body swelling and laboratory tests found protein in the urine or also known as proteinuria [4]. Preeclampsia complications can cause an increase in maternal perinatal mortality and morbidity so that it must be treated immediately to prevent complications during pregnancy, labor, postpartum and newborn [5]. Preeclampsia has a prevalence of 2% to 8% as a cause of pregnancy-related complications and causes 50,000 maternal deaths and more than 500,000 fetal deaths globally worldwide. The *American College of Obstetrics and Gynecology* (ACOG) determines that systolic blood pressure reaching 140 mmHg and diastolic pressure reaching 90 mmHg or more needs to be suspected as a sign of preeclampsia in pregnant women entering 20 weeks of gestation, especially if accompanied by the presence of a high blood pressure proteinuria [6].

In Indonesia, the prevalence of preeclampsia is estimated at 16%-20% and women who have experienced preeclampsia have a 25%-65% risk of re-experiencing this disease in their next pregnancy [5]. Preeclampsia can worsen in the third trimester of pregnancy and approaching labor due to physiological

changes in the mother's cardiovascular system which allows an increase in blood pressure before labor [4].

Preeclampsia can also have an adverse effect on the immune system and can attack the placenta which provides nutrients for the fetus. Continuous health care is needed during this period to prevent complications that can cause pain and death to the mother and fetus. Maternal and Child Health Services (MCH) is one of the scope of continuous health services in order to reduce maternal mortality and complications of diseases that cause it. In Maternal and Child Health services, a *continuity of care* (COC) approach is needed or holistic and sustainable care that begins during pregnancy. In realizing this *continuity of care*, it can be done by monitoring and care services, one of which is *Antenatal Care* (ANC) or midwifery care provided during pregnancy [7]. The importance of providing midwifery care during pregnancy is evidenced by previous research which shows a decrease in preeclampsia symptoms in pregnant women who have been given pregnancy care [8].

## MATERIALS AND METHODS

### Materials

Instruments or tools used in the data collection process in this study are SOAP format sheets that are ready to be filled in and stationary to record the results of the history and examination, scales and height meters, vital signs measuring devices such as watches, sphygmomanometers and telescopes and thermometers. Other tools used in this study include a metlin to measure the height of the fundus uteri and a dopler to calculate the fetal heart rate. Personal protective equipment will also be prepared to break the chain of transmission of Covid- 19.

### Methods

The research method used was a case study design. This research was conducted in the VK maternity room and in the postpartum room of Dr. H Moch Ansari Saleh Banjarmasin Hospital. Samples were taken by *purposive sampling* with inclusion criteria: willing to become respondents, primigravida or multigravida in the third trimester who were diagnosed with preeclampsia and did not have exclusion criteria such as: in emergency conditions, suffering from infectious diseases and suffering from mental illness.

### Tables

The results of the data assessment during the provision of care are presented in the SOAP table containing the focus data as follows:

**Table 1: Assessment Results**

Data Assessment (Sunday, June 19, 2022, 09.00 GMT)		
:	The main complaints were headache, dizziness, heaviness in the nape of the neck and swelling of the legs. When entering the third trimester, precisely at 39 weeks of pregnancy, the results of the midwife examination showed that the patient had hypertension so that the therapy given was antihypertensive. (nifedipine). The patient also said there was a family history of preeclampsia	
:	TD	155/99 mmHg,
:	Swelling of both legs, and urine protein positive (+)	
:	G3P1A1 at 39 weeks gestation with preeclampsia, fetus singleton intra-uterine life	

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IEC on hypertension prevention,  
: and collaborate with doctors in the  
administration of *loading dose* therapy  
and *maintenance dose* of MgSO<sub>4</sub> plus  
nifedipine peroral

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The progress notes in this case study are presented in a SOAP table containing focal data as follows:

**Table 2.** Progress notes

Progress Note I (Sunday, June 19, 2022, 8:00 pm)	
:	Ms. said pain headache, dizziness and pain nape of the neck which she feels is starting to decrease
:	TD: 132/90 mmHg, available swelling of the legs, urine protein (+)
:	G3P1A1 at 39 weeks gestation with preeclampsia, fetus singleton intra-uterine life
:	hypertension prevention IEC, and collaborate with doctors in therapeutic administration of nifedipine peroral 10 mg
Progress Note II (Monday, June 20, 2022, 08.00 WITA)	
:	Mother said the headache, dizziness and nape pain she felt had disappeared, there was a feeling of nausea since 06.00 WITA but no blood mucus discharge yet
:	BP: 128/89 mmHg, urine protein (-), His 4x/10 minutes of 40 seconds duration, 6 cm opening
:	G3P1A1, 39 weeks gestation, inpartu kala I active phase, single fetus intra-uterine life
:	Collaborate with physician in administering 10 mg nifedipine peroral therapy, deep breath therapy, handover. <u>patient to the VK room</u>

## RESULTS AND DISCUSSION

Midwifery care for third trimester pregnancy with preeclampsia in Mrs. F who was 29 years old was carried out for 2 days, namely on June 19, 2022 at 08.30 WITA in the VK room and at 20.30 WITA in the Postpartum room and on June 20, 2022 at 08.00 WITA in the VK room. The results of the examination on June 19, 2022 at 08.30 in the VK room of the Maternity Hospital Dr. H. Moch. Ansari Saleh Banjarmasin in the patient showed that there were several focal data that led to the diagnosis of pregnancy with

preeclampsia in the subjective and objective data of the patient, so that data analysis in diagnosis enforcement and preparation of care *planning* could be adjusted to the conditions to overcome the preeclampsia suffered by the patient. Focus data found in subjective data include the main complaint which states that before being referred, the patient had checked herself at the midwife clinic at 07.00 WITA and the mother's blood pressure reached 159/100 mmHg. The mother entered the MCH clinic at Dr. H. Moch Ansari Saleh Hospital with complaints of headaches, dizziness, heaviness in the nape of the neck that could not disappear since 3 days ago which made it difficult for the mother to work and swelling of the legs since a week ago. The patient's headache symptoms began to appear during the second trimester of pregnancy (24 weeks gestation). When entering the third trimester precisely at 39 weeks of pregnancy, the midwife diagnosed that the patient had hypertension so that the therapy given was antihypertensive (nifedipine) and IEC on rest patterns, drinking more water and a salt diet. The patient also said that there was a family from the mother's side who had a history of giving birth with high blood pressure. Subjective data shows signs of preeclampsia symptoms in the form of an increase in blood pressure that only arises after the gestational age reaches 20 weeks and is sometimes accompanied by symptoms of headaches and nape that feel heavy, and the body swells [4].

One of the factors that can increase the incidence of preeclampsia includes a family history of preeclampsia (mother or sister)[9]. This is reinforced by previous research which found a significant relationship between family history and the incidence of preeclampsia ( $P = 0.000$ ). The patient's objective data that showed symptoms of preeclampsia included high blood pressure (155/99 mmHg), swelling of both legs and the results of lab tests showing the presence of urine protein which indicated positive 1 (+). Graber and Wilbur (2020) mentioned the diagnostic criteria for preeclampsia is if the systolic blood pressure is  $\geq 140$  mmHg or diastolic  $> 90$  mmHg with a previous history of normal blood pressure and positive proteinuria 1 (+). The association between high blood pressure and positive indicated urine protein with the incidence of preeclampsia was proven by previous research which showed a significant relationship between blood pressure ( $P = 0.000$ ) and urine protein ( $P = 0.014$ ) with the incidence of preeclampsia. Based on subjective and objective data, the appropriate *assessment* or data analysis results to describe the patient's condition are G3P1A1 39 weeks pregnant, single fetus alive intra uteri with preeclampsia.

The focus of management carried out to overcome the condition of preeclampsia in patients is by conducting IEC to prevent blood pressure increases such as performing deep breath relaxation techniques and a hypertension-free lifestyle. The mechanism of the deep breath relaxation technique is to allow oxygen to enter the lungs as much as possible to be spread throughout the body so that each cell gets enough intake so that muscle tension is reduced and can provide psychological calm or reduce tissue stress[10].

Some previous studies that reinforce this include which showed that after the application of breath relaxation techniques, the pain scale of hypertensive patients decreased from moderate to mild[11]. Warm compresses and lifting the legs higher or not letting the legs dangle can be done to eliminate leg swelling during pregnancy[12]. This is reinforced by a previous case study which showed a reduction in leg edema in pregnant women who were given warm compress therapy and kept their feet from dangling[13].

Several steps to manage high blood pressure and urine protein in pregnant women with preeclampsia are to drink more water as much as 6-8 glasses per day to help the filtering process in the kidneys, limit eating foods that contain salt and protein such as fried foods, rest the feet by positioning the feet higher so that there is no accumulation of fluid in the legs and get enough rest at least 8 hours per day to reduce tension or stress[14]. Stress and anxiety can increase the blood pressure of pregnant women which also results in an increase in the mother's heart rate where this contributes to *fetal distress* or an increase in fetal heart rate so that all causes of stress must be avoided to prevent complications in the mother and fetus[15].

The therapy given based on the doctor's *advice* to treat preeclampsia suffered by the patient is 500 cc RL infusion 20 tpm as fluid *intake* and *Folley Catheter* to monitor urine output (08.30 WITA), injection of MgSO<sub>4</sub> 40% initial dose of 10 cc in *normal saline* by IV (08.35 WITA) to prevent seizures, MgSO<sub>4</sub> 40% follow-up dose of 15 cc in *normal saline* by IV (08.55 WITA) to prevent seizures, and nifedipine per oral 3x10 mg (09.30 WITA) to lower blood pressure. Monitoring carried out on the patient as early detection of signs and symptoms of MgSO<sub>4</sub> poisoning is to ensure that the patient's blood pressure and pulse frequency do not drop drastically, breathing frequency should not be  $< 16$  times/minute, urine production should not be  $< 30$  cc/hour in the last 4 hours, and patellar reflex should be positive (+).

The provision of this therapy is in accordance with the management of preeclampsia [9] namely by installing a 500 cc lactated Ringer infusion to meet fluid needs and a *Folley Catheter* to monitor urine output and giving a *loading dose* of 4 grams of intravenous MgSO<sub>4</sub> (40% in 10cc) for 15 minutes followed by a *maintenance dose* of 6 grams of MgSO<sub>4</sub> (40% in 15 cc) in 500 cc RL / 6 hours for 24 hours to prevent seizures, plus antihypertensive nifedipine doses of 10-20mg orally, maximum 120 mg in 24 hours. Progress notes showed that 12 hours after the provision of care or precisely on Sunday, June 19, 2022 at 20.00 WITA, there was an improvement in the patient's condition where the patient said the headache, dizziness and nape pain he felt began to decrease, the swelling on the patient's legs also seemed to begin to deflate.

The patient's blood pressure began to drop to 132/90 mmHg but this still did not reach the target <130/90 mmHg so nifedipine 10 mg per oral therapy was still given. The patient is still recommended to continue deep breath relaxation techniques and warm compresses on the feet and pay attention to diet, drink more and rest. Further progress notes on Monday, June 20, 2022 at 08.00 WITA, showed that the patient's preeclampsia condition was successfully resolved where the patient said that the headache, dizziness, nape pain and swelling on her legs had disappeared. The patient's blood pressure had reached the target of 128/89 mmHg and the lab test showed negative urine protein (-). Antihypertensive therapy in the form of nifedipine 10 mg orally was still given to keep blood pressure stable before labor because the patient showed signs of labor since 06.00 WITA. The patient who had stabilized was then handed over to the VK room because there were signs of labor in the form of adequate contractions and mucus mixed with blood that came out vaginally at 09.45 WITA.

## CONCLUSION

Focus data found in subjective data in the form of complaints of headaches, dizziness, heaviness in the nape of the neck and swelling of the legs. When entering the third trimester, precisely at 39 weeks of pregnancy, the results of the midwife examination showed that the patient had hypertension so that the therapy given was antihypertensive (nifedipine). The patient also said there was a family history of preeclampsia. The patient's objective data that showed symptoms of preeclampsia included high blood pressure (155/99 mmHg), swelling of the legs and positive urine protein 1 (+). Analysis of subjective and objective data on the mother leads to an *assessment* of G3P1A1 at 38 weeks gestation with preeclampsia, single fetus alive intra uteri. The management carried out to overcome the problem of preeclampsia in mothers is IEC on the prevention of hypertension, and collaborating with doctors in providing *loading dose* therapy and *maintenance dose* of MgSO<sub>4</sub> plus nifedipine peroral.

Midwifery care for Mrs. F (age 29 years) who is a pregnant woman G3P1A1 trimester III (39 weeks) with preeclampsia has been carried out in the VK Maternity room and the Postpartum room of Dr. H Moch Ansari Saleh Banjarmasin Hospital for 1 day from Sunday, June 19, 2022 at 08.30 WITA to Monday, June 20, 2022 at 08.00 WITA with 1 time taking care data and 2 times taking progress notes data which shows the success of care.

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