IDENTIFICATION OF THE PHYSICAL HEALTH QUALITY OF POSTPARTUM MOTHERS WITH SEVERE PREECLAMPSIA

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ABSTRAK : IDENTIFIKASI KUALITAS KESEHATAN FISIK IBU NIFAS DENGAN PRE EKLAMPSIA BERAT (PEB)

Latar Belakang: Preeklampsia pada masa nifas didefinisikan sebagai hipertensi yang disertai kelebihan proteinurin yang terjadi pada masa nifas. Tahun 2022 angka kejadian PEB Dinkes Provinsi Kalsel berjumlah 818, sedangkan di RSUD Ulin Banjarmasin tercatat 78 kejadian. Dampak dari preeklampsia tidak hanya hipertensi yang membuat pusing/ nyeri kepala juga menimbulkan rasa mual, muntah, nyeri epigastrium, dan bahkan berpengaruh terhadap fungsi ginjal, jantung dan hati yang merupakan masalah kesehatan fisik.

Tujuan: Untuk mengetahui bagaimana kualitas kesehatan fisik ibu nifas dengan PEB.

Metode: Penelitian ini merupakan penelitian deskriptif kuantitatif menggunakan studi retrospective. Pengambilan sampel menggunakan metode total sampling sebanyak 78 ibu nifas dengan PEB pada tahun 2022.

Hasil: Hasil penelitian tekanan darah ibu nifas dengan PEB dari hari ke-1 hingga hari ke-3 didapati adanya hipertensi pada 25,7% ibu nifas, keluhan sakit kepala, nyeri epigastrium, mual, muntah, sesak napas, bahkan demam. Hasil pemeriksaan laboratorium hari ketiga menunjukkan 3 orang (4%) trombositopenia, 2 orang (3%) trombositosis, 19 orang (24%) mengalami kenaikan nilai SGOT, 6 orang (8%) mengalami kenaikan nilai SGPT, 31 orang (40%) peningkatan nilai LDH di atas normal, 8 orang (10%) peningkatan nilai kreatinin dan 11 orang (14%) peningkatan nilai ureum.

Simpulan: Penelitian ini membuktikan bahwa kesehatan fisik ibu nifas dengan PEB sebagian besar masih sehat, namun masih ada beberapa ibu nifas yang kesehatan fisiknya tidak optimal (40%) dikarenakan hipertensi, masalah fisik/ keluhan nyeri kepala, nyeri epigastrium, mual dan muntah, sesak, demam serta peningkatan fungsi organ hati, jantung dan ginjal berdasarkan hasil laboratorium hari ketiga masa nifas.

Saran: Saat merasakan adanya ketidaknyamanan segera melaporkan kepada petugas kesehatan/ bidan agar pemberian asuhan terkait dengan kondisi klinis lebih terarah dan spesifik.

Kata Kunci: Ibu Nifas, Kualitas Kesehatan Fisik, Preeklampsia Berat.

ABSTRACT

Background: Preeclampsia during the postpartum period is defined as hypertension accompanied by excess protein urine that occurs during the postpartum period. In 2022, the number of cases of severe preeclampsia at the South Kalimantan Provincial Health Service will be 818, while at the Ulin Regional Hospital, Banjarmasin, 78 cases will be recorded. The impact of preeclampsia is not only hypertension which causes dizziness/headaches, it also causes nausea, vomiting, epigastric pain, and even affects kidney, heart and liver function which is a physical health problem.

Objective: This study aims to determine the quality of physical health of postpartum mothers with severe preeclampsia

Methods: This research is a quantitative descriptive study using a retrospective study. Sampling used a total sampling method of 78 postpartum mothers with severe preeclampsia in 2022

Results: The results of research on the blood pressure of postpartum mothers with severe preeclampsia from day 1 to day 3 found hypertension in 25.7% of postpartum mothers, complaints of headaches, epigastric pain, nausea, vomiting, shortness of breath, and even fever. The results of laboratory examinations on the third day showed that 3 people (4%) had thrombocytopenia, 2 people (3%) had thrombocytosis, 19 people (24%) had increased SGOT values, 6 people (8%) had increased SGPT values, 31 people (40%) increased LDH values above normal, 8 people (10%) increased creatinine values and 11 people (14%) increased urea values

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Conclusion: This research proves that the physical health of postpartum mothers with severe preeclampsia is mostly still healthy, but there are still some postpartum mothers whose physical health is not optimal (40%) due to hypertension, physical problems/complaints of headaches, epigastric pain, nausea and vomiting, shortness of breath, fever and increased function of the liver, heart and kidneys based on laboratory results on the third day of the postpartum period

Suggestion: When you feel any discomfort, immediately report it to the health worker/midwife so that care related to the clinical condition is more targeted and specific.

Keywords: Postpartum Mothers, Quality of Physical Health, Severe Preeclampsia

INTRODUCTION

Preeclampsia during the puerperium is defined as hypertension accompanied by excess proteinurine that occurs during the puerperium (Clinic, 2021). Mothers with a history of hypertension have a risk of preeclampsia of 7.4 times more and a risk of developing severe preeclampsia 2.98 times compared to mothers who do not have a history of hypertension (Laila, 2019).

Complications of preeclampsia in the puerperium with slow symptoms appear in the first 7-10 days after delivery, but this varies greatly, in some other literature symptoms appear up to 3 months after delivery. Mothers most often present with neurological symptoms, usually headaches which are consistently reported as the most common symptom in about 60% to 70% of mothers (D. Dewi, 2022; N. A. T. Dewi, 2020; Manuaba, 2019).

Puerperal headaches are very common, but there are certain characteristics that should be evaluated for other cerebrovascular etiopathy. There is an increased risk of hypertension, ischemic heart disease, stroke and venous thromboembolism in mothers with a history of preeclampsia who are at relative risk, which increases morbidity rates (Hauspurg & Jeyabalan, 2022).

Morbidity in preeclampsia may have a long-term impact on health that will affect the quality of physical health, if left untreated will cause death. Although the physical problems usually associated with the puerperium are often considered temporary or relatively minor, they are strongly associated with poor functional impairment. A careful assessment of physical health status after childbirth can improve the quality of postpartum care (Eslahi et al., 2021).

The impact of preeclampsia on postpartum mothers that often occurs such as severe headaches, visual disturbances, upper abdominal pain, or symptoms of eclampsia (seizures), nausea or vomiting, is a physical health problem. These problems have a significant influence on the mother's quality of life. If health problems during the puerperium continue, mothers may find it difficult to carry out motherhood (Park & Bang, 2022).

During the puerperal period, women experience a range of moderate to severe physical health symptoms. Headaches are one of the physical health problems that occur during the puerperium. Trigger factors for headaches due to changes in blood pressure that fluctuate (Gómez-Pérez et al., 2020).

The high protein content (proteinuria) that occurs due to preeclampsia is detected by conducting a urine examination to assess the degree of kidney function damage (Xiao et al., 2022). Patients who experience proteinuria or hypertension tend to have a higher risk of kidney failure (Janga et al., 2020). The majority of patients (89.6%) experienced no complications with an overall fetal outcome of 95% live births and 4.4% fetal loss in <12 weeks. 3% of them had kidney problems, 48% had hypertension, and 53% had proteinuria. Kidney disorders are reversible in 100% of cases (Janga et al., 2020).

The WHO estimates the incidence of preeclampsia in developing countries is seven times higher than in developed countries. Based on WHO data in 2018, the incidence of preeclampsia worldwide is around 31.4%. Riskesdas 2018 shows that the prevalence rate of preeclampsia in postpartum mothers in Indonesia is 1% from 78,736 childbirth and postpartum rates with seizure complications as much as 0.2% (Ministry of Health, 2022, 2023).

Data from Ulin Hospital, in 2021 there were 116 cases of postpartum mothers with Severe Preeclampsia, in 2022 the incidence rate decreased to 78 cases of postpartum mothers with severe preeclampsia. Although the incidence of Severe Preeclampsia at Ulin Hospital Banjarmasin has decreased, data from the South Kalimantan Provincial Health Office has a high incidence of preeclampsia in 2022, recorded at 818 cases. The impact of preeclampsia on postpartum mothers is also not only hypertension that makes mothers feel dizzy / headache but also causes nausea, epigastric pain, and even affects kidney and liver function which is a physical health problem.

RESEARCH METHODS

This research method uses quantitative descriptive methods using retrospective studies.

In this study design, researchers tried to identify vital signs, physical problems / complaints and organ function based on laboratory results on the third day of the puerperium period in postpartum mothers with Severe Preeclampsia at RSUD Ulin Banjarmasin from January to December 2022.

The population in this study was all postpartum mothers with severe preeclampsia in 2022 using a total sampling technique of 78 postpartum mothers with severe preeclampsia.

The data collection instrument used in this study was using a checklist in the form of data on the characteristics of postpartum mothers, vital signs of postpartum mothers, complaints and laboratory results on the third day of the postpartum period.

RESEARCH RESULTS

The majority of Severe Preeclampsia incidence is at the age of 20-35 years (59%), multiparous (72%), type of delivery sectio caesarea (60%), high school education level (50%), while in employment, 88% of mothers are not working.

Table 1
Characteristics of the postpartum mother

Characteristics	f	%
Age		
< 20 years	3	4%
20 – 35 years	46	59%
> 35 years	29	37%
Parity		
Primiparous	22	28%
Multiparous	56	72%
Types of Childbirth		
Spontan	17	22%
Vacum Ekstraksi	14	18%
Sectio Caesarea	47	60%
Education level		
not in school	1	1%
primary school	12	15%
Junior High School	17	22%
High school	39	50%
Diploma / Bachelor	9	13%
Work		
Work	9	12%
does not work	69	88%

Table 2
Vital Signs

Characteristics	D.1		D.2		D.3	
	f	%	f	%	f	%
Blood pressure						
Normal <140/90 mmHg	0	0%	61	78%	58	74,3%
Preeclampsia ≥140/90 mmHg	54	69%	9	12%	12	15,4%
Severe Preeclampsia ≥160/110 mmHg	24	31%	8	10%	8	10,3%
Respiratory						
Bradipnea	1	1%	1	1%	0	0%
Normal	63	81%	68	87%	73	94%
Takipnea	14	18%	9	12%	5	6%
Pulse						
Bradycardia	0	0%	0	0%	0	0%
Normal	66	85%	72	92%	75	96%
Tachycardia	12	15%	6	8%	3	4%
Suhu Tubuh						
Hypothermy	0	0%	0	0%	0	0%
Normal	74	95%	76	97%	76	97%
Hyperthermia	4	5%	2	3%	2	3%

Blood pressure in postpartum mothers with severe preeclampsia varied, but on the third day there were still hypertension (25.8%), in breathing patterns that experienced tightness until the third day 6%, tachycardia 4%, and hyperthermia 3%.

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Table 3
Physical / Complaints

Characteristics	D.1		D.2		D.3	
	f	%	F	%	f	%
Headache						
No pain	63	81%	68	87%	75	96%
Headache	15	19%	10	13%	3	4%
Epigastric pain						
No pain	74	95%	74	95%	78	100%
Epigastric pain	4	5%	4	5%	0	0%
Nauseous						
No nausea	76	97%	78	100%	78	100%
Nauseous	2	3%	0	0%	0	0%
Vomit						
No vomiting	77	99%	78	100%	78	100%
Vomit	1	1%	0	0%	0	0%

Complaints of headaches from the first to the third day decreased from 19% to 4%, as well as complaints of epigastric pain on the first and second days 5%, but not felt on the third day. Nausea 3% and vomiting 1% on the first day of the puerperium.

Table 4
Day 3 laboratory results

Characteristics	f	%
SGOT		
Normal	59	76%
Abnormal	19	24%
SGPT		
Normal	72	92%
Abnormal	6	8%
LDH		
Normal	47	60%
Abnormal	31	40%
UREUM		
Normal	67	86%
Abnormal	11	14%
CREATININ		
Normal	70	90%
Abnormal	8	10%
TROMBOSIT		
Thrombocytopenia	3	3,8%
Normal	73	94%
Thrombocytosis	2	2,2%

Laboratory results on the third day in puerperal mothers with severe preeclampsia 24% increased in SGOT values, 8% increase in SGPT values, 40% increase in LDH values, 14% increase in ureal values, 10% increase in creatinine values, 3.85% thrombocytopenia and 2.2% thrombocytosis.

The results of a study of 78 postpartum mothers with severe preeclampsia found that the majority aged 20-35 years as many as 46 people (59%). Preeclampsia can occur in women between the ages of 20 and 35, the exact cause is unknown. However, some factors that can increase the risk of preeclampsia include having a history of high blood pressure, multipara, having a history of preeclampsia in previous pregnancies, having certain medical conditions such as kidney disease, diabetes, and family history / genetic factors.

Family history/genetic factors are another major factor that increases the risk of preeclampsia, the National Health Insurance Database of Taiwan in 2021 found that 12.17% of cases had a family history of preeclampsia, and the woman was also at great risk of hypertension (Wu et al., 2021). This is in line with other studies also showing that severe preeclampsia is most prevalent in the age group of 20-35 years (Hipson et al., 2020). Therefore, the age of 20 to 35 years can be considered as the age range at risk for the incidence of severe preeclampsia based on the results of existing studies.

The majority of postpartum mothers with severe preeclampsia were multiparous, out of 78 there were 56 people (72%). This is in line with other studies showing that in multiparous (mothers who have given birth several times), there is an increased incidence of severe preeclampsia. There is a relationship between maternal parity and the incidence of severe preeclampsia, where the incidence of severe preeclampsia is higher in multiparous mothers (Laila, 2019). In this study also found 28% of severe preeclampsia occurred in primipara. Several factors cause preeclampsia in primiparous age during the first pregnancy over 35 years, disorders of the placental vascular (endothelial dysfunction) and the presence of genetic factors. Mothers who have siblings with a history of preeclampsia have 2-4 times the risk, daughters of women with eclampsia, 26% have preeclampsia in their first pregnancy, while daughters-in-law only have a preeclampsia rate in the first pregnancy of 8% (Ward et al., 2022).

Based on the level of education associated with the incidence of severe preeclampsia, of the 78 people, the majority had a high school education, 39 people (50%). Education level is a factor associated with the incidence of preeclampsia, where pregnant women with low education have a higher risk of developing preeclampsia (Pattipeilohy et al., 2023). Although high school education can affect the risk of preeclampsia, other factors such as age, parity, and maternal health conditions also need to be considered in evaluating the risk of developing preeclampsia.

The work of postpartum mothers with severe preeclampsia of 78 people, the majority of whom are not working (housewives) as many as 69 people (88%). The results of this study are in line with research that states mothers who do not work can experience stress due to family problems such as financial problems, family relationships, and anxiety related to pregnancy and childbirth which will increase the risk of preeclampsia (Nimah et al., 2022).

The type of delivery in severe preeclampsia based on data from 78 postpartum mothers, the majority of deliveries by sectio caesarea as many as 47 people (60%), spontaneous labor as many as 17 people (22%), and vacuum labor as many as 14 people (18%). Not all cases of severe preeclampsia require delivery via sectio caesarea, and the determination of delivery method should be based on comprehensive medical considerations (City, 2023).

On the first day of the puerperium the mother's blood pressure was mostly ≥140/90 mmHg in 54 puerperal mothers, blood pressure ≥160/110 mmHg in 24 puerperal mothers. On the second day of the puerperium, the mother's blood pressure decreased, where as many as 61 postpartum mothers had normal blood pressure (<140/90 mmHg), 9 postpartum mothers had blood pressure ≥ 140/90 mmHg, and 8 postpartum mothers had blood pressure still ≥160/110 mmHg. On the third day the mother's blood pressure was also the majority normal (<140/90 mmHg) 58 puerperal mothers, 12 postpartum mothers with blood pressure ≥140/90 mmHg and 8 postpartum mothers with blood pressure ≥160/110 mmHg. This is in line with research conducted by (Xue et al., 2023) that in cases of preeclampsia blood pressure during the puerperium is not always the same every day, some of the mothers experience a spike in blood pressure, some experience a decrease, but there are also those whose blood pressure persists. 30% of preeclampsia cases can progress to postpartum hypertension.

Although the use of magnesium sulfate (MgSO4) is generally recommended to control seizures in severe preeclampsia, it is not always effective in lowering blood pressure. Studies show that in some cases, the blood pressure of postpartum mothers with severe preeclampsia remains high despite MgSO4. There is a risk of magnesium sulfate poisoning in preeclampsia patients who receive MgSO4 therapy for a long time or excessive doses (Putri Andini & Novantri, 2022). Other risk factors that can cause blood pressure to remain high in postpartum mothers with severe preeclampsia are poor maternal health conditions, such as kidney failure or heart disease, as well as internal risk factors such as age and disease history (F. F. Amalia, 2020; M. Amalia et al., 2020).

About 5.7% of new preeclampsia or eclampsia cases appear in the puerperium period (up to six weeks), even in the absence of hypertension in pregnancy. Women with a history of hypertension or preeclampsia should be carefully monitored during the puerperium. Blood pressure usually peaks three to six days of puerperium (Powles & Gandhi, 2017).

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On the first day of the puerperium with severe preeclampsia, most postpartum mothers experience normal breathing patterns. However, there are some abnormal (tightness) as many as 15 people (14 people breathing pattern ≥25x / minute, 1 person ≤15x / minute). On the second day of the puerperium there were also still 10 postpartum mothers experiencing tightness and on the third day there were also still 5 postpartum mothers with abnormal breathing patterns. The use of crystalloids to replace lost blood, a decrease in albumin produced by the liver, a very large increase in fluid, and a decrease in plasma colloidal oncotic pressure due to proteinuria are the causes of tightness in puerperal mothers with severe preeclampsia (Endang & Martina, 2023). Patients with severe preeclampsia who experience pulmonary or non-pulmonary abnormalities after childbirth are usually at risk of pulmonary edema (Putri Andini & Novantri, 2022).

Some mothers have tachycardia (>100x/min). Where on the first day there were 12 people (15%), the second day 6 people (8%) and the third day 3 people (4%). Preeclampsia is a state of sympathetic hyperactivity. As a result of this sympathetic hyperactivity, tachycardia usually occurs in non-pregnant patients (Ravid et al., 2023). If tachycardia is found followed by decreased body temperature, it may be a sign of postpartum hemorrhage (Green et al., 2021).

There are some mothers who have a fever either on the first day 4 people (5%), second or third 2 people (3%). A significant increase in body temperature should be watched out for as it may indicate infection or other serious health problems (Irma & Dkk, 2022).

On the first day some postpartum mothers with severe preeclampsia had complaints of headaches 15 people (19%), on the second day there were 10 people (13%) had complaints of headaches, and on the third day there were 3 people (4%) with complaints of headaches. Complaints of headaches are one of the symptoms that often occur in postpartum mothers with severe preeclampsia (Arafat, 2022). This complaint can be caused by an increase in blood pressure that occurs in postpartum mothers (Clinic, 2021).

Complaints of epigastric pain were also felt, from 78 postpartum mothers with severe preeclampsia, both on the first and second days there were 4 people (5%). Epigastric pain can be caused by increased blood pressure and impaired liver function associated with severe preeclampsia. The occurrence of decreased perfusion in the liver causes damage to liver function which triggers liver edema and subcapsular hemorrhage, which can cause hemorrhagic necrosis. This process is manifested by an increase in the level of liver enzymes in the mother's blood. This condition causes the mother to experience pain in the right upper quadrant abdomen or epigastric pain (Ratnawati & et al, 2021).

On the first day, a small percentage had complaints of nausea in 2 people (3%). 1 person (1%) complaint of vomiting. Nausea and vomiting are manifestations of increased levels of liver enzymes in the mother's blood (Ratnawati & et al, 2021).

Organ function based on laboratory results on the third day of the puerperium found the majority of platelet results were normal in 73 people (94%). However, there were 3 people (4%) postpartum mothers with severe preeclampsia had thrombocytopenia and 2 people (3%) had thrombocytosis. Thrombocytopenia is a medical disorder characterized by a decrease in the number of platelets in the blood. Thrombocytosis is a medical condition characterized by high levels of platelets in the blood. Another study showed thrombocytopenia that occurs in postpartum mothers has a risk of 1.4 times the occurrence of several maternal morbidity (Tri Utami et al., 2020).

In severe preeclampsia, thrombocytopenia may occur. This condition is known as HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count). Increased platelet count may be the body's response to blood vessel damage and organ dysfunction that occurs in preeclampsia. Thrombocytosis can cause blood clotting problems that can be high-risk. Thrombocytopenia in puerperal mothers with severe preeclampsia can increase the risk of bleeding and other serious complications (Tri Utami et al., 2020).

The SGOT and SGPT scores also found an increase. Based on the results of a study of 78 postpartum mothers with severe preeclampsia, 19 people (24%) experienced an increase in SGOT scores, while 6 people (8%) experienced an increase in SGPT values. An increase in SGOT (serum glutamic-oxaloacetic transaminase) and SGPT (serum glutamic-pyruvic transaminase) values may indicate liver damage or impaired liver function. It can be associated with complications of severe preeclampsia involving involvement of the liver system. The level of liver enzymes in serum increases due to periportal hemorrhagic necrosis in the peripheral parts of the hepatic lobules. Bleeding in these lesions can result in hepatic rupture spreading under the hepatic capsule and forming subcapsular hamatoms (Endang & Martina, 2023).

An increase in LDH values in postpartum mothers with severe preeclampsia based on the

results of a study of 78 postpartum mothers with severe preeclampsia 31 people (40%) showed an increase in values above normal. In puerperal mothers with severe preeclampsia, elevated LDH (lactate dehydrogenase) values may indicate cell damage or impaired organ function, such as the liver, heart or other organs that can occur due to various factors, such as impaired blood flow, hypoxia (lack of oxygen), or vascular damage. Elevated LDH levels can occur as part of HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count). HELLP syndrome is a multisystem collection of symptoms in severe preeclampsia and eclampsia, characterized by thrombocytopenia, hemolysis, and elevated liver enzymes (Tri Utami et al., 2020).

Kidney function is assessed based on values of urea and creatinine. Based on the results of a study of 78 postpartum mothers with severe preeclampsia, there was an improvement in kidney function based on ureal creatinine values. A total of 8 people (10%) experienced an increase in creatinine values and 11 people (14%) experienced an increase in ureal values. In preeclampsia, vasoconstriction occurs which causes a decrease in blood flow to the kidneys, so that the Glomerular Filtration Rate (LFG) decreases and the excretion rate of creatinine and urea also decreases. In addition, in the renal part there are changes in renal parenchyma, experiencing glomerular enlargement followed by swelling of endothelial cells and loss of glomerular endothelial fenestra. Both of these will result in an increase in creatinine and urea in serum (Ariefta et al., 2019).

CONCLUSION

This research proves that the physical health of postpartum mothers with severe preeclampsia is mostly still healthy, but there are still some postpartum mothers whose physical health is not optimal (40%) due to hypertension, physical problems/complaints of headaches, epigastric pain, nausea and vomiting, shortness of breath, fever and increased function of the liver, heart and kidneys based on laboratory results on the third day of the postpartum period.

SUGGESTION

It is best for postpartum mothers with severe preeclampsia to immediately report any discomfort to the health worker/midwife so that care related to the clinical condition is more targeted and specific.

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