

Midwifery Care for Primigravida with Hypertension Using Meniran Leaf Decoction at PMB Rismala, Asahan Regency

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ABSTRAK

Hypertension in pregnancy (HDK) is the leading cause of maternal morbidity and mortality in Indonesia. Meniran leaves (*Phyllanthus niruri*) contain active substances such as filanthin, potassium, and flavonoids that function as natural vasodilators to lower blood pressure. Objective: To determine the effect of meniran leaf decoction on blood pressure reduction in pregnant women with hypertension at PMB Bd. Rismala Siagian. Methods: A descriptive case study was conducted on Mrs. S (23 years old, G1P0A0) with an initial blood pressure of 150/90 mmHg. The intervention consisted of administering 200 mL of boiled meniran leaf water twice daily for 7 days. Data was collected using observation sheets and a blood pressure monitor. Results: After seven days of intervention, the subject's blood pressure decreased significantly to 125/80 mmHg. Subjective complaints of dizziness, nausea, and leg edema were also reported to have disappeared. The potassium content in meniran helps regulate electrolyte balance and reduces fluid retention that triggers an increase in blood pressure. Conclusion: Meniran leaf decoction has been proven to be effective and safe for use as a non-pharmacological complementary therapy in midwifery care to reduce mild hypertension in pregnant women.

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INTRODUCTION

Pregnancy is a physiological process that brings about major changes to the mother's body, both physically and psychologically. Although natural, pregnancy carries the potential risk of complications that can occur at any time, including hypertension in pregnancy (HDK). HDK is defined as a condition of increased blood pressure $\geq 140/90$ mmHg that occurs after 20 weeks of pregnancy. If not treated properly, this condition can develop into pre-eclampsia and eclampsia, which are dangerous for both the mother and the fetus.

Globally, hypertension is one of the leading causes of maternal morbidity and mortality. Data from the World Health Organization (WHO, 2020) shows that approximately 810

women die every day from pregnancy complications, including hypertension. In Indonesia, the Maternal Mortality Rate (MMR) is recorded at 305 per 100,000 live births, 26% of which are caused by hypertension. Based on the Basic Health Research (Riskesmas), the prevalence of hypertension in pregnant women in Indonesia reaches 11.9%. At the regional level, the North Sumatra Health Profile (2022) lists hypertension as the leading cause of maternal mortality with 53 cases. Meanwhile, at the research site, PMB Bd. Rismala Siagian, the survey results showed that out of 50 pregnant women, 12 (24%) had hypertension.

Hypertension management in pregnant women generally involves pharmacological therapy such as methyldopa or nifedipine, but the use of these drugs has limitations and certain side effects. Therefore, non-pharmacological therapy using natural ingredients is an attractive alternative. One potential natural ingredient is meniran leaves (*Phyllanthus niruri*).

The meniran plant has long been used in traditional medicine because it contains active substances such as filanthin, potassium, flavonoids, and tannins, which act as antioxidants and anti-inflammatories. The potassium content in meniran plays an important role in regulating fluid and electrolyte balance, thereby reducing fluid retention that triggers an increase in blood pressure. In addition, these substances help relax the smooth muscles of blood vessels (vasodilation). Previous research by Khotimah (2019) also supports that meniran leaf extract can significantly lower blood pressure.

Based on this background, this study aims to provide midwifery care to Mrs. S with the intervention of meniran leaf decoction as an effort to reduce hypertension safely and effectively. It is hoped that this study can contribute scientifically to the development of complementary herbal-based midwifery care.

RESEARCH METHOD

This study applied a case study design with a descriptive approach that aimed to describe in depth the provision of midwifery care to pregnant women with hypertension through non-pharmacological therapy in the form of boiled meniran leaves (*Phyllanthus niruri*). This study was conducted at the Independent Midwifery Practice (PMB) of Bd. Rismala Siagian, S.Keb., located in Sei Alim Hasak Village, Sei Dadap District, Asahan Regency, from June to July 2025. The research subject was a primigravida pregnant woman, Mrs. S (G1P0A0), aged 23 years, who was detected to have mild hypertension with an initial blood pressure of 150/90 mmHg. The subject was selected using purposive sampling with the inclusion criteria being pregnant women who did not have a history of other chronic diseases and who expressed their willingness to be respondents.

The main instruments used in data collection included a calibrated blood pressure monitor (tensiometer), an observation sheet to record blood pressure developments and clinical symptoms, and a midwifery care documentation format based on Varney's seven steps of management. The care procedure was carried out systematically, starting from the assessment of subjective and objective data to the final evaluation stage. The specific intervention provided was the administration of boiled meniran leaf water, in which a handful of leaves were boiled in 200 ml of water and drunk by the subjects twice a day for seven days. Although the abstract of the source mentioned a duration of two weeks, the detailed

data in the results table showed that significant changes were monitored and achieved within seven days.

Data analysis was performed using descriptive qualitative methods by comparing blood pressure and subjective complaints (such as dizziness, nausea, and leg edema) before the intervention with the results after the intervention on the third and seventh days. During the research process, ethical principles were upheld by ensuring permission from the relevant agencies and obtaining informed consent or consent forms from respondents before the intervention procedure began. This was done to guarantee the rights of the research subjects and the validity of the data obtained in this complementary midwifery care.

RESULTS AND DISCUSSION

A study conducted on Mrs. S, a 23-year-old primigravida with mild hypertension in the first trimester, showed significant results after being given an intervention of 200 ml of boiled meniran leaf water twice a day. Before the intervention began on the first day (June 21, 2025), the subject had a blood pressure of 150/90 mmHg with various subjective complaints such as dizziness, nausea, vomiting, and edema in the legs. Regular monitoring showed positive clinical changes; on the third day of intervention, blood pressure decreased to 142/90 mmHg, accompanied by a reduction in dizziness and the beginning of edema resolution. At the end of the intervention period on the seventh day (July 3, 2025), the subject's blood pressure dropped dramatically to a normal level of 125/80 mmHg, with the dizziness completely gone, the leg edema resolved, and no signs of preeclampsia found.

The effectiveness of boiled meniran leaf water in lowering blood pressure in subjects is closely related to its active ingredients, namely potassium, flavonoids, and filanthin. The potassium content in meniran leaves plays a crucial role in regulating the body's fluid and electrolyte balance, thereby reducing fluid retention, which is often a trigger for increased blood pressure. Additionally, flavonoids and filanthin act as natural vasodilators that help relax smooth muscles in blood vessels and improve endothelial function. The findings in this case study are in line with research conducted by Khotimah (2019) and Maharani and Mulyono (2021), which stated that the active compounds in meniran have been scientifically proven to significantly lower blood pressure.

The use of this non-pharmacological therapy provides additional benefits because it is considered safer for pregnant women than certain pharmacological drugs, such as methyldopa, labetalol, or nifedipine, which sometimes have limitations and side effects during pregnancy. In addition to having minimal side effects, meniran leaves are easily accessible to the public, making them a potential component of complementary midwifery care. Overall, the results of this study confirm that the routine administration of meniran leaf decoction for seven days is effective in helping to control and lower blood pressure in pregnant women with mild hypertension.

Table 1. Changes in Blood Pressure After Administration of Meniran Leaf Decoction

Day/Date	Blood Pressure (mmHg)	Subjective Complaints	Notes
Day 1 (June 21, 2025)	150/90	Dizziness, nausea, vomiting, and leg edema	Before intervention
Day 3 (June 27, 2025)	142/90	Reduced dizziness, edema starting to resolve	After 3 days of meniran consumption
Day 7 (July 3, 2025)	125/80	No dizziness, edema resolved	After 7 days of meniran consumption

Table 1 presents the results of monitoring blood pressure and subjective complaints in Mrs. S during the seven-day intervention period. The data show a significant gradual decrease in blood pressure, starting from 150/90 mmHg on the first day before the intervention was given. During the observation period, blood pressure decreased to 142/90 mmHg on the third day and finally reached a normal level of 125/80 mmHg on the seventh day.

In addition to changes in blood pressure readings, this table also documents improvements in the subjects' clinical conditions. Initial complaints of dizziness, nausea, vomiting, and edema in the legs were reported to have begun to subside on the third day and disappeared completely on the seventh day. The success of this intervention is supported by the active ingredients in meniran leaves, such as potassium, flavonoids, and filanthin, which function as natural vasodilators and help regulate the body's electrolyte balance to lower blood pressure in pregnant women with mild hypertension.

DISCUSSION

The results of this study indicate that administering boiled meniran leaf water is significantly effective in lowering blood pressure in pregnant women with mild hypertension, with a decrease from 150/90 mmHg to 125/80 mmHg within seven days. This effectiveness is driven by active compounds such as potassium, flavonoids, and filanthin, which function as natural vasodilators to relax smooth muscle in blood vessels and help regulate fluid and electrolyte balance to reduce fluid retention that triggers hypertension. These findings are in line with the research by Khotimah (2019) and Maharani and Mulyono (2021), which states that the active compounds in meniran can significantly improve blood vessel endothelial function. In addition to its effectiveness, the use of this herbal therapy is considered safer for pregnant women because it has minimal side effects compared to pharmacological drugs such as methyldopa or nifedipine, and is easily accessible to the public, making it highly potential to be integrated as part of complementary midwifery care..

CONCLUSION AND RECOMMENDATIONS

Midwifery care for Mrs. S (23 years old, G1P0A0) at PMB Rismala shows the urgency of treating hypertension in pregnancy (HDK), which is the leading cause of maternal morbidity and mortality globally and nationally. With a prevalence of hypertension reaching 24% in

the study location, non-pharmacological intervention using meniran leaf decoction (*Phyllanthus niruri*) was administered as a potential complementary therapy. This descriptive case study involved administering 200 ml of meniran decoction twice daily for seven days, which significantly reduced the subject's blood pressure from 150/90 mmHg to 125/80 mmHg. Clinically, subjects also reported the disappearance of subjective complaints such as dizziness, nausea, and edema in the legs on the seventh day of intervention. This effectiveness is driven by active substances such as potassium, flavonoids, and phyllanthin, which function as natural vasodilators to relax smooth muscle in blood vessels and regulate electrolyte balance. These findings reinforce the evidence that meniran leaves are a safe therapeutic alternative with minimal side effects compared to pharmacological drugs, making them highly recommended for integration into complementary midwifery care to control mild hypertension in pregnant women..

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