

STUDI PERBANDINGAN EFEKTIFITAS KONSUMSI MELON DAN PISANG DALAM MENURUNKAN TEKANAN DARAH PADA IBU HAMIL

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ABSTRAK

Tekanan darah tinggi dapat mengurangi aliran darah menuju plasenta, sehingga mengganggu pasokan oksigen dan nutrisi bagi janin. Kondisi ini bisa menghambat pertumbuhan janin dan meningkatkan kemungkinan komplikasi saat proses persalinan. Selain itu, hipertensi juga dapat menyebabkan gangguan pada plasenta, seperti lepasnya plasenta dari dinding rahim sebelum waktunya. Tujuan dari penelitian ini adalah untuk menganalisis perbedaan efektivitas konsumsi buah melon dan buah pisang terhadap penurunan tekanan darah pada ibu hamil dengan hipertensi. Penelitian ini merupakan penelitian Quasi Experimental dengan rancangan Two Groups Pretest - Posttest Design yaitu dengan mengukur tekanan darah sebelum dan sesudah perlakuan pada kasus dan kontrol. Teknik sampling menggunakan purposive sampling. Sampel sebanyak 32 responden dibagi pada masing-masing kelompok (kelompok buah melon dan pisang). Data dikumpulkan dengan lembar observasi pengukuran tekanan darah sebelum dan sesudah intervensi. Analisis data yang digunakan adalah mann-whitney test. Hasil penelitian menunjukkan bahwa melon menunjukkan efektivitas lebih tinggi dibandingkan buah pisang dalam menurunkan tekanan darah pada ibu hamil walaupun keduanya terbukti efektif dalam menurunkan tekanan darah pada ibu hamil dengan hipertensi. Diharapkan ibu hamil dapat mengonsumsi makanan yang kaya akan kalium, seperti buah pisang dan melon, untuk membantu menjaga tekanan darah tetap stabil, serta mengikuti anjuran dokter dan melakukan pemeriksaan rutin guna mencegah hipertensi gestasional.

Kata kunci: hipertensi; ibu hamil; melon; pisang

COMPARATIVE STUDY ON THE EFFECTIVENESS OF MELON AND BANANA CONSUMPTION IN LOWERING BLOOD PRESSURE AMONG PREGNANT WOMEN

ABSTRACT

High blood pressure can reduce blood flow to the placenta, thus disrupting the supply of oxygen and nutrients to the fetus. This condition can inhibit fetal growth and increase the possibility of complications during labor. In addition, hypertension can also cause disorders in the placenta, such as premature detachment of the placenta from the uterine wall. The purpose of this study was to analyze the differences in the effectiveness of melon and banana consumption on reducing blood pressure in pregnant women with hypertension. This study is a Quasi Experimental study with a Two Groups Pretest - Posttest Design, namely by measuring blood pressure before and after treatment in cases and controls. The sampling technique used purposive sampling. A sample of 32 respondents was divided into each group (melon and banana groups). Data were collected using blood pressure measurement observation sheets before and after the intervention. The data analysis used was the Mann-Whitney test. The results of the study showed that melon showed higher effectiveness than bananas in lowering blood pressure in pregnant women although both were proven to be effective in lowering blood pressure in pregnant women with hypertension. It is hoped that pregnant women can consume foods rich in potassium, such as bananas and melons, to help keep blood pressure stable, as well as follow the doctor's advice and have regular check-ups to prevent gestational hypertension.

Keywords: banana; hypertension; pregnant women; melon

PENDAHULUAN

In 2022, the World Health Organization (WHO) reported that approximately 800 women lose their lives each day due to complications related to pregnancy and childbirth. Nearly 99% of these maternal deaths take place in developing nations. About 80% results from complications arise during pregnancy, delivery, or the postpartum period. The number of maternal deaths due to hypertension reaches 14% of all maternal deaths, It is known that the number of pregnant women reaches around 210 deaths (Masriadi, 2022).The increase in prevalence shows that in South Kalimantan Province, the highest prevalence is 44.13%, followed by West Java at 39.6%, and North Maluku at 24.65%. Data on hypertension in pregnancy in North Maluku Province shows a figure of 11.2% of 1000 births, where this figure is quite high (Mustofa, 2021). Meanwhile, according to the North Maluku Provincial Health Office, maternal deaths in 2022 amounted to 36 people, with the cause of death due to hypertension as many as 28 people. And for South Halmahera Regency, it provides the highest distribution of maternal deaths, namely 7 people, with the cause of bleeding 2 people, preeclampsia 4, and infection 1 person (Maluku Provincial Health Office).

The results of several studies show that consuming fruits and vegetables as much as ≥ 5 servings/day can prevent increased blood pressure and increase heart output, potassium can change the activity of the renin system. Fruits that contain potassium and fiber include melon, banana, watermelon, star fruit, and avocado (Madsen, 2023). The high potassium content has a good effect on the nervous system, muscles, heart, and blood vessels. The mechanism of action of potassium is by way of vasodilation, which causes a decrease in total peripheral resistance of angiotensin and regulates peripheral and central nerves that affect blood pressure (Hidayati, 2025). Jiko Health Center, South Mandioli District, is one of the outermost health centers far from the district capital, where the government General Hospital is located, with a travel distance of 4 hours using a speedboat in an extreme sea area, so delays in referring patients are the cause of maternal death. Based on a preliminary study that researchers obtained at the Jiko Health Center, South Mandioli District, there were 25 pregnant women with hypertension in 2023.

The reason the researcher conducted the research in the Jiko Health Center work area, Mandioli Selatan District, was that there was no knowledge about the benefits of bananas and melons, even though bananas were abundant and melons were easily available in the area. Although giving bananas and melons is a non-pharmacological method made from natural ingredients that can help reduce hypertension in pregnant women, this has not been used as one of the treatments applied in the prevention and treatment of hypertension. The purpose of this study was to determine the difference in the effectiveness of consuming melons and bananas on reducing blood pressure in pregnant women with hypertension in the Jiko Health Center work area, South Mandioli District.

METODE

This study uses a quasi-experimental research type with a Two-Groups Pretest-Posttest Design, namely by measuring blood pressure before and after treatment in cases and controls, so that the control is used as a comparison. The sample was calculated using the Slovin formula of 32 respondents, who would be divided into each group (banana and melon fruit groups). The research process began by administering a pre-test questionnaire to collect baseline data on pregnant women and to measure their initial blood pressure levels. Following this, an intervention was carried out over a period of four weeks, during which the experimental group consumed melon, while the control group consumed bananas. After the intervention period, a post-test questionnaire was administered, and a follow-up blood

pressure measurement was conducted to assess any changes in the participants' health status. This study was conducted in the working area of the Jiko Health Center, Mandioli Selatan District, South Halmahera Regency. Bivariate analysis was used to see the impact of giving melon and banana fruit before and after on each experimental and control group. If the research data is normally distributed, then a t-test is used to test whether there is a significant difference between the experimental group and the control group. And if this study is not normally distributed, then a test is carried out using the Mann-Whitney test. Ethical testing was conducted at the Health Research Ethics Commission of STIKES Guna Bangsa Yogyakarta with the number 025/KEPK/I/2025.

HASIL

Table 1.
 Hypertension in the Banana Consumption Group

Hypertension	Before Consumption		After Consumption	
	Amount	Percentage	Amount	Percentage
Normal	-	-	1	6.3
Pre Hypertension	-	-	15	93.8
Hypertension Grade 1	16	100	-	-

Based on the table above, it can be seen that before consuming bananas, most respondents had grade 1 hypertension blood pressure (100%), and after consuming bananas, most of the blood pressure decreased to pre-hypertension (93.8%).

Table 2.
 Hypertension in the Melon Fruit Consumption Group.

Hypertension	Before Consumption		After Consumption	
	Amount	Percentage	Amount	Percentage
Normal	-	-	6	37.5
Pre Hypertension	-	-	10	62.5
Hypertension Grade 1	16	100	-	-

Based on the table 2, it can be seen that before consuming melon, most respondents had grade 1 hypertension blood pressure (100%), and after consuming melon, most of the blood pressure decreased to pre-hypertension (62.5%) and normal (37.5%).

Table 3.
 Effectiveness of Consuming Bananas and Melons on Blood Pressure in Pregnant Women

Mann-Whitney test			
Pre-Test Results	U=80.000	Post Test Results	U=88.000
	Z=2.411		Z=2.104
	p value 0,016		p value 0,035

Based on the results of the Mann-Whitney test, it showed a significant difference between the control group and the treatment group in the pre-test (U = 80,000, Z = 2,411, p value 0.016) and post-test (U = 88,000, Z = 2,104, p value 0.035), so it can be concluded that there is a difference in consuming melon and banana. Melon shows higher effectiveness than banana in lowering blood pressure in pregnant women, although both have been proven effective in lowering blood pressure in pregnant women with hypertension.

PEMBAHASAN

This study aligns with findings by Rosdianah (2023), who observed the effects of consuming bananas over 7 days, followed by a second evaluation to compare with the initial observation. The analysis revealed that bananas significantly helped reduce blood pressure in pregnant women, with a p-value of 0.000. Since the p-value of 0.000 is less than 0.05, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This indicates that banana consumption has a notable impact on lowering diastolic blood pressure in pregnant women and may serve as an alternative approach to managing hypertension during pregnancy. Bananas can help reduce hypertension in pregnant women because of their high potassium content. Potassium is an important mineral that functions to maintain electrolyte balance in the body. Increasing potassium levels in the body can help reduce the effects of excessive sodium (salt), which is one of the main causes of increased blood pressure. By consuming bananas, pregnant women can increase their potassium intake, which can help reduce tension in the blood vessels, which in turn lowers blood pressure (Rosdianah, 2023).

Another similar study was also conducted by Putra (2023) in his study stating that after consuming melon juice, there was a decrease in systolic blood pressure from 143.33 mmHg to 123.33 mmHg ($p = 0.001$) and diastolic blood pressure from 92 mmHg to 83.33 mmHg ($p = 0.004$). This indicates a significant effect on lowering blood pressure. Melon fruit can help reduce hypertension in pregnant women through its high potassium content. Potassium plays an important role in regulating fluid and electrolyte balance in the body. By increasing potassium intake through melon consumption, the body can reduce excessive sodium (salt) levels, which are the main factors causing increased blood pressure. In this way, melon can help dilate blood vessels and reduce tension in blood vessels, which can ultimately lower blood pressure (Putra, 2023). Sufficient potassium intake can help widen blood vessels, so that blood flow becomes smoother and blood pressure decreases. Bananas, as a natural source of potassium, can provide mild to moderate antihypertensive effects if consumed regularly (Prilistawaty, 2022). In addition, bananas also contain fiber and antioxidants that support cardiovascular health, making them suitable as part of the diet of pregnant women with hypertension. Observations of pregnant women who consume bananas regularly, for example, one to two fruits every day for several weeks, show a trend of decreasing systolic and diastolic blood pressure (Sari, 2022).

Melon also contains antioxidant compounds such as beta-carotene and vitamin C, which can help reduce oxidative stress on blood vessels. Oxidative stress is one of the factors that can worsen hypertension. By consuming melon regularly, for example, 150-200 grams per day, pregnant women have the potential to experience improvements in blood vessel elasticity and a gradual decrease in blood pressure. The high water content also helps maintain body hydration, which is important for optimal blood circulation (Putra, 2023). One of the main advantages of melon compared to bananas is its very high water content, reaching more than 90%. This water content helps increase hydration and stimulates natural urine production, which ultimately supports the excretion of sodium from the body. This mild diuretic effect allows blood pressure to decrease gradually. This is very beneficial for pregnant women, as it helps reduce fluid retention that often occurs during pregnancy (Mustofa, 2021).

SIMPULAN

Increasing consumption of melons and bananas can be a simple yet effective strategy in the management and prevention of hypertension during pregnancy. For pregnant women, consuming these two fruits regularly helps control blood pressure thanks to their potassium, fiber, and antioxidant content. The role of the family is very important in supporting a healthy diet for pregnant women, including providing these fruits as part of the daily menu. Hypertension is not only an individual problem, but also a health issue that can affect the entire family.

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