



Effectiveness Of Administration Melon Juice On Lowering Blood Pressure In KB Acceptors Injecting Depo Medroxy Progesterone Acetate The Bambang Health Center West Sulawesi Province 2022

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Abstract. One of the problems caused by use of depo-medroxy progesterone acetate injection KB is increased blood pressure so many KB acceptors stop using contraception especially hormonal KB. Then, to overcome the increase in blood pressure in KB acceptors, it can be recommended to consume melon juice. The purpose this study was to determine the effectiveness of administering melon juice in reducing blood pressure in acceptors of depot-medroxy progesterone acetate injections at the Bambang Community Health Center, West Sulawesi Province. The type of research used was pre-experimental with a one group pretest-posttest design. The research sample consisted of 30 mothers who received depo-medroxy progesterone acetate injections for KB and who had increased blood pressure who visited the Bambang Community Health Center who were given melon juice. The results showed that was an effect of giving melon juice on reducing blood pressure in KB acceptors of the depo-medroxy progesterone acetate injection with a value of $p=0.000$. It hoped that it can become a source of information for all health agencies as a material consideration so that the administration of melon juice to be developed.

Keywords: Melon Juice, Blood Pressure, KB Acceptors

INTRODUCTION

Family planning services are one strategy to support the acceleration of reducing the Maternal Mortality Rate (MMR) by managing the time, distance and number of pregnancies, so as to prevent or reduce the possibility of pregnant women experiencing complications that endanger life or the fetus. Family planning is an effort to create a quality family through promotion, protection and assistance in reproductive rights to form a family with an ideal marriage age, regulate the number and spacing of pregnancies, foster resilience and welfare of children (BKKBN, 2015).

According to the World Health Organization (WHO) 2017, contraceptive use has increased in many parts of the world, especially in Asia and Latin America and is lowest in Sub-Saharan Africa. Globally, modern contraceptive users have increased insignificantly from 54% in 1990 to 57.4% in 2016. In Africa from 23.6% to 27.6%, in Asia it has increased from 60.9% to 61, 6%, in Latin America and the Caribbean it rose slightly from 66.7% to 67.0% (WHO, 2017).

The birth rate is a measure that shows population growth in a country. At the ASEAN level, in 2017 the average birth rate was 2.4 per 1,000 women of childbearing age. Laos is the country with the highest birth rate at 3.2 per 1,000 women of childbearing age, while

Received November 15, 2023; Accepted December 31, 2023; Published December 31, 2023

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Singapore has the lowest birth rate at ASEAN level at 1.3 per 1,000 women of childbearing age. Indonesia has a birth rate above the ASEAN country average of 2.6 children per 1000 women of childbearing age. (Ministry of Health, 2017). Rates of contraceptive use in ASEAN countries alone. The highest user countries are Thailand at 80%, Cambodia at 79%, Vietnam at 78%, then Indonesia at 61%, and East Leste at 22%. (Indonesian Ministry of Health's Data and Data Center, 2017).

From data from the National Population and Family Planning Agency (BKKBN 2020), the highest number of contraceptive method users in Indonesia based on the results of family planning services (new family planning participants, changing family planning participants, and repeat family planning participants) in June was Injection, amounting to 1,877,380. There has been an increase in New Participants (PB) using condoms, from the beginning 18,085 in April to 43,351 in June, but the contraceptive method most chosen by PB in June was still injections 257,442 (BKKBN, 2020).

The population projection for West Sulawesi in 2017 shows that The population is 1,330,961 people and 663,103 of them are women, then the number of new family planning participants and active family planning according to sub-districts and community health centers in West Sulawesi province in 2017, namely, new family planning participants was 140,534 (70.7%) and active family planning participants 248, 339 (124.9%) Majene number of PUS as many as 27,662 with new family planning participants as many as 3,171 (11.4%) number of active family planning participants as many as 21,701 (77.7) with total hypertension was 321, Polewali Mandar had a total of 71,875 PUS with 2,077 new family planning participants (2.9%) the number of active family planning participants was 49,292 (68.6%) then data on those experiencing hypertension was 290, Mamasa had a total of 27,330 PUS with the number of family planning participants only 18,574 (68%) the number of active family planning participants was 18,578 (59.8%) the number of hypertension was 667, Mamuju with the number of PUS was 49,439 with the number of new family planning participants was 601 (1.2%) the number of participants Active family planning was 29,549 (59.8%) with the number of hypertension being 349, Central Mamuju the number of PUS was 22,390 with the number of new family planning participants being 239 (1.1%) the number of active family planning participants was 13,347 (59.6%) with the number of hypertension being 174 (West Sulawesi Health Office, 2017).

Coverage of family planning services at the Bambang health center, data acceptors Family planning covers all villages in the sub-district, there are 20 villages with active family planning acceptor status in 2019 as many as 1,353 acceptors with a total of 645 (47.67%) pill

acceptors, 496 (36.65%) injectables, implants 189 (13.96%), IUD 4 (0.29%), condoms 5 (0.36%) number of hypertension 147 (29.63%). Then in 2020 the number of active family planning acceptors will be as high as 1,396 acceptors with the number of pill acceptors 685 (49.6%), injections 544 (38.96%), implants 185 (13.26%), IUD 4 (0.29%), condom 1 (0.07%) total hypertension 210 (38.60%). And in 2021 the number of active family planning acceptors will be 1,357 with the number of pill acceptors being 669 (49.29%), injections being 480 (34.38%), implants being 193 (14.22%), IUDs being 6 (0.44%), condom 1 (0.07%) number of hypertension 230 (34.37%). Then in 2022, especially from January to August, the number of active family planning acceptors will be 1,450, which is still dominated by pill users, 684 (47.17%) and injection users, 552 (38.06%).

MATERIALS AND METHODS

The research is pre-experimental research which observes a main group and carries out interventions throughout the research. The design of this research is one group pretest-posttest design. This research was carried out at the Bambang Health Center, Mamasa Regency, West Sulawesi province in 2022. This research was carried out in December 2022 - April 2023.

RESULTS

This research was conducted at the Bambang Community Health Center in the period December 2022 - April 2023. Based on the data, 30 samples were obtained for data analysis, using pre-experimental research with one group pretest type. The 30 respondents were given melon juice for 7 days to determine any changes in blood pressure reduction.

1. Respondent characteristics

Respondent characteristics are used to determine the diversity of respondents based on age, education, occupation, and length of use of family planning. It is hoped that this will provide a fairly clear picture of the condition of the respondents and its relationship to the problem and research objectives.

Table 1 Respondent Characteristics
Based on age at Bambang Community Health Center in 2022

Age	Frequency	Percent
20-25	3	10.0
26-30	13	43.3
31-35	14	46.7
Total	30	100

(Primary data source 2022)

Table 1 shows that of the 30 respondents used as research samples there were 3 people in the 20-25 year age category (10%), aged 26-30 years as many as 14 people (43.3%), and aged 31-35 years as many as 14 people (46.7%)

Table 2 Characteristics of Respondents Based on Education at Bambang Health Center in 2022

Education	Frequency	Percent
SD	4	13.3
SMP	5	16.7
SMA	6	20.0
D3	4	13.3
S1	11	36.7
Total	30	100.0

(Primary data source 2022)

Table 2 shows that of the 30 respondents used as research samples, there were 4 people in the elementary education category (13.3%), then 5 people in junior high school (16.7%), 6 people in high school people (20%), D3 as many as 4 people (13.3%) and bachelor level (S1) as many as 11 people (36.7%).

Table 3 Characteristics of Respondents Based on Occupation in Bambang Health Center in 2022

Occupation	Frequency	Percent
IRT	15	50.0
BIDAN	3	10.0
PERAWAT	1	3.3
HONORER	9	30.0
PNS	2	6.7
Total	30	100.0

(Primary data source 2022)

Table 3 shows that of the 30 respondents used as research samples, there were 15 people (50%) in the IRT job category, Midwives as many as 3 people (10%), Nurses 1 person (3.3%), Honorary as many as 9 people (30%) and civil servants as many as 2 people (6.7%).

2. Normality test

The normality test is carried out to determine whether the data collected is normally distributed or not, in order to determine statistical tests and continue with further tests. Test data normality with in the SPSS program, the significant value obtained before being given melon juice was 0.154, whereas after being given melon juice it was 0.52.

So it can be concluded that the data and normally distributed because the significance value is > 0.05 .

3. Hypothesis Testing

Based on the results of the normality test and obtained normally distributed data, the next test was carried out hypothesis. Hypothesis testing is carried out to see the relationship between the independent variable and the dependent variable using a test T-Paired t-Test. Hypothesis test results in table 2.9 are as follows:

Table 4 Effectiveness of Giving Melon Juice Towards Reducing Systolic Blood Pressure in Medroxy Progesterone Acetate Depo Acceptors at the Bambang Community Health Center, West Sulawesi Province in 2022

TD sistol	Mean	N	Std. Deviation	Sig	α
Before administering melon juice	148,00	30	5,458	.000	0,05
After administering melon juice	110,30	30	5,760		

(Spss source 2023)

From the results of the T test Paired Test, the values $\rho = 0.000$ and $\alpha = 0.05$ ($\rho < 0.05$) are obtained, so H_a is accepted and H_o is rejected. Which means there is an effect of giving melon juice on reducing blood pressure in acceptor of medroxy progesterone acetate depot at the Bambang Community Health Center, West Sulawesi Province in 2022. Bivariate analysis using the paired T test revealed a Sig (2-tailed) value of $0.000 < \alpha = 0.05$. So it can be concluded that there is a significant difference in reducing blood pressure.

Table 5 The Effectiveness of Giving Melon Juice in Reducing Diastolic Blood Pressure in Medroxy Progesterone Acetate Depo Acceptors at the Bambang Province Health Center West Sulawesi in 2022

TD sistol	Mean	N	Std. Deviation	Sig	α
Before administering melon juice	83,33	30	4,700	.000	0,05
After administering melon juice	72,20	30	4,270		

(Spss source 2023)

From the results of the T test Paired test, the values $p=0.000$ and $\alpha=0.05$ ($p < 0.05$) are obtained, so H_a is accepted and H_o is rejected. This means that there is an effect of giving melon juice on reducing blood pressure in medroxy progesterone acetate depot acceptors at the Bambang Health Center, West Sulawesi Province in 2022. Bivariate analysis with a paired T test shows that the Sig (2-tailed) value is $0.000 < \alpha=0.05$. So it can be concluded that there is a significant difference in reducing blood pressure.

DISCUSSION

Narrowing and blockage by fat stimulates the heart to pump blood more strongly in order to supply the blood needed to the tissues. As a result, blood pressure increases, resulting in high blood pressure. So it is known that the use of depoprovera contraception is a contributing factor to the emergence of high blood pressure if this contraceptive is used for a long period of time. Injectable contraception is a type of hormone contraception containing progesterone. The use of synthetic progesterone can increase body sodium and blood pressure. In previous research it was proven that long-term administration of progesterone can cause damage to the endothelial walls of blood vessels so that any changes in serum lipids require more frequent monitoring.

The characteristics of the respondents in this study were that they had been DMPA acceptors for 2-7 years. So it can be concluded that the characteristics of the respondents in this study are in accordance with the factors that can increase blood pressure. According to Anjarwa's theory (2018), melon contains potassium which can reduce blood pressure significantly because it can cause vasodilation which can widen blood vessels so that they can flow more smoothly and reduce peripheral resistance. Apart from that, potassium can inhibit the action of the angiotensin enzyme (angiotensin converting enzyme inhibitor) so process the conversion of rennin to rennin angiotensin is inhibited and there is no increase in blood pressure.

This research is also in line with research conducted by Noviantika Rukma (2020), with a pretest-posttest research design. Data analysis used the Paired t-Test. The results showed that there was an effect of giving melon juice on reducing blood pressure in medroxy progesterone acetate depo acceptors with a significant value of $p=0.000 < \alpha$ (0.005).

The results of the study showed that all of the 30 respondents who were given melon juice experienced a reduction in blood pressure to normal. By using the normality test, the systole before giving melon juice was $p=0.154$ and after giving melon juice $p=0.052$, then diastole before giving melon juice $p=0.022$ and after giving melon juice $p=0.103$, meaning it

is greater than $\alpha=0.05$ and then it can be concluded that the data is normally distributed. Thus, testing using the T Paired t-Test with a confidence level of 95% obtained a sig value of 0.000 where the sig level <0.05 . Average blood pressure. Systole and diastole after treatment were 110.30/72.20 mmHg, lower than systole and diastole blood pressure before treatment, namely 148.00/83.33 mmHg.

According to research assumptions, After being given treatment in the form of administering melon juice, blood pressure in DMPA acceptors decreased. Where, mothers who experience hypertension can lower their blood pressure after giving melon juice for 7 days in a row. From the results of observations and anamnesis on respondents, it was proven that there was. The changes from the first day to the seventh day were good in terms of health, even from the results of the anamnesis, many respondents said that it was very influential because the body felt light after drinking melon juice. Then, all of the 30 respondents who were given treatment experienced a decrease in blood pressure. This is influenced by the content of melons, namely potassium, where potassium can lower blood pressure. Potassium has a good effect on nerves, muscles and blood vessels. Then also the potassium, fiber and water content in melons can neutralize blood pressure and maintain fluid balance in the body. Apart from the potassium, fiber and water content, the calcium content in melons is not too dominant, but calcium is able to function as a regulator of heart rhythm so that it is more regular. Calcium can maintain the balance of sodium and potassium in the blood. Therefore, the high potassium in melon juice along with calcium is an important component in reducing blood pressure. A supporting factor in lowering blood pressure is the mother's compliance in consuming 300 ml of melon juice every morning and evening for 7 consecutive days without a break.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that there is a significant effect of giving melon juice on reducing blood pressure in depomedroxy progesterone acetate acceptors at the Bambang Provincial Health Center. West Sulawesi with a significant intervention of 0.000 and $\alpha=0.05$.

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