

Counselling and training on making processed pudding and juice from Siamese pumpkin to reduce high blood pressure

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ABSTRACT

Hypertension is a major risk factor for death. People with hypertension continue to increase from year to year in various ages caused by various factors that affect the incidence of hypertension due to lifestyle and low potassium intake. The potassium content in chayote is known to have a diuretic effect so that it can reduce salt levels in the blood through urinary excretion. If left untreated it can affect all organ systems and can arise other diseases such as atherosclerotic cardiovascular disease, heart failure, stroke, and kidney failure. The type of service used is descriptive approach service that aims to educate and train the community on how to process and the benefits of chayote to reduce high blood pressure. The entire service population is people living in Halahalaya Hamlet, Kanreapia Village, Tombolo Pao District, Gowa Regency, totaling 30 respondents. The methods carried out in this program are counselling and demonstration. From the results of data analysis, it is known that there was an increase in knowledge before counselling was given and after counselling was given with an average value of 49.33 before counselling, then increased to 64.67 after counselling. The community needs to utilize existing assets such as the processing of chayote as a traditional medicine that can reduce hypertension.

Keywords: counseling; hypertension; juice; pudding; siamese pumpkin

ABSTRAK

Hipertensi merupakan faktor risiko utama penyebab kematian. Penderita hipertensi terus meningkat dari tahun ke tahun dalam berbagai usia yang disebabkan berbagai faktor sehingga mempengaruhi kejadian hipertensi dikarenakan gaya hidup dan asupan kalium yang rendah. Kandungan kalium dalam labu siam diketahui memiliki efek diuretik sehingga dapat menurunkan kadar garam dalam darah melalui ekskresi urin. Jika tidak diperhatikan maka dapat mempengaruhi semua sistem organ dan dapat timbul penyakit lainnya seperti penyakit kardiovaskular aterosklerotik, gagal jantung, stroke, dan gagal ginjal. Jenis pengabdian yang digunakan adalah pengabdian dengan pendekatan deskriptif yang bertujuan untuk mengedukasi dan melatih masyarakat bagaimana cara pengolahan dan manfaat dari labu siam untuk menurunkan tekanan darah tinggi. Seluruh populasi pengabdian adalah masyarakat yang tinggal di Dusun Halahalaya, Desa Kanreapia, Kecamatan Tombolo Pao, Kabupaten Gowa, yang berjumlah 30 responden. Metode yang dilakukan dalam program ini yaitu penyuluhan dan demonstrasi. Dari hasil analisis data diketahui bahwa terjadi peningkatan pengetahuan sebelum diberikan penyuluhan dan setelah diberikan penyuluhan dengan nilai rata-rata 49.33 sebelum diberikan penyuluhan, kemudian meningkat menjadi 64.67 setelah diberikan penyuluhan. Masyarakat perlu memanfaatkan aset yang ada seperti pengolahan labu siam sebagai obat tradisional yang dapat menurunkan hipertensi.

Kata Kunci: penyuluhan; hipertensi; jus; puding; labu siam

INTRODUCTION

Hypertension is one of the non-communicable diseases that requires very serious attention and action nationally, where the prevalence is high and many people who do not realize they have hypertension, go to health services for health checks because they feel unwell or have another complaint (Hapipah et al., 2021). Hypertension is often referred to as the "silent killer". Hypertension can pose serious risks to patients, including death. Uncontrolled hypertension leads to fatal complications such as brain, heart, kidney, visual impairment, disability and sudden death (Mathews et al., 2021).

According to the World Health Organization (WHO), hypertension affected 1.13 billion people worldwide in 2019. Every year the number of people with hypertension continues to increase and in 2020 shows 11.7% of the world's population is over 60 years old and is predicted to increase with the age of the community, in 2021 hypertension rises to 29.2%. According to Riskesdas 2018 in the 2019 Indonesian Health Profile shows the prevalence of people suffering from hypertension of 34.11%. Hypertension is more common in women than in men. The incidence rate increases with age (Ratri et al., 2022; Riskesdas, 2018).

The prevalence of hypertension in South Sulawesi itself is 31.68%. In women, the prevalence of hypertension is 36.9% higher than in men by 31.3%. The urban prevalence of 34.4% is slightly higher than in rural areas of 33.7%. This frequency continues to increase with age (Susanti et al., 2022).

One of the blood pressure-lowering nutrients found in fruits and vegetables (Ashworth et al., 2015). Fruits and vegetables can lower blood pressure because they contain fiber, potassium, magnesium, folate, vitamin C, and flavonoids. One of the plants used for healing is chayote. Siamese pumpkin (*Sechium edule*) is a pumpkin plant whose fruits and young shoots can be eaten. Siamese pumpkin is found in many traditional markets and in large quantities so that people can easily obtain it. Siamese pumpkin is rich in fiber, antioxidants, iron, manganese, phosphorus, zinc, potassium, copper, vitamins B1, B2, B6 and C. Siamese pumpkin is also rich in folate, which promotes cell formation and DNA synthesis (Aji, 2019). Siamese pumpkin contains trace elements such as potassium whose amount of potassium (± 3378.62 mg) and alkaloids that are diuretics that help the kidneys remove excess fluid from the body, and NaCl which causes fluid to come out. in the blood decreases and is able to lower blood pressure. Blood diuretic properties affect blood pressure and prevent hardening of the arteries, not to mention calcification. Siamese pumpkin juice lowers blood pressure because it contains amino acids and vitamin C which are very beneficial for health (Yanuary et al., 2023).

From the results of data collection conducted on PBL 1 in Halahalaya Hamlet, Kanreapia Village, Gowa Regency last July, it was obtained that one of the problems experienced by most people in Halahalaya Hamlet, precisely RW 002, was related to the high rate of hypertension. Therefore, the purpose of this study is to educate and train the public on how to process in utilizing existing assets such as processing from chayote to reduce high blood pressure.

METHODS

This service was carried out at RW 002 Halahalaya Hamlet, Kanreapia Village, Tombolo Pao District, Gowa Regency, South Sulawesi on 06 0023. The form of activities was



Figure 1. Training in Making Chayote Pudding and Juice

carried out in two series, counselling then demonstrations by showing and joint practice how to process chayote into pudding and juice to reduce high blood pressure (See Figure 1). Then continued with descriptive data processing with a total of 30 respondents in Halahalaya hamlet. The data analysis method used is the Wilcoxon test using SPSS.

The variables studied from this activity are increasing public knowledge related to chayote processing and increasing the ability to process chayote as a traditional medicine to reduce high blood pressure.

RESULTS AND DISCUSSION

Based on the distribution of respondents based on age given counselling in Halahalaya Hamlet amounted to 8 people (26.7%) with an age range of 17-25 years, 10 people (33.3%) with an age range of 26-35 years and 12 people (40%) with an age range of 36-45 years. For the distribution of respondents by gender, 28 people (93.3%) were female and 2 people (6.7%) were male.

Based on the results of counselling and training on making preparations to reduce high blood pressure in Halahalaya Hamlet, it can be seen in table 2 with pre-test and post-test knowledge categories of knowledge about processed chayote that can be used as traditional medicine such as pudding and juice from chayote that can reduce high blood pressure. Before the counselling and training, 49.33% had good knowledge and after counselling, the level of knowledge of the community increased to 64.67% who had good knowledge.

Table 1. Characteristics of Respondents

Characteristic	n	%
Age		
17-25 Year	8	26.7
26-35 Year	10	33.3
36-45 Year	12	40.0
Gender		
Men	2	6.7
Women	28	93.3

Table 2. Respondent's Knowledge Level

Knowledge Score	N	Min	Max	Mean + SD	P-Value
Pre test	30	30	70	49.33 + 11.427	0.000
Post test	30	40	80	64.67 + 11.666	

The implementation of the chayote processing training program was carried out at the house of the Imam of Halahalaya Hamlet on Friday, October 6, 2023. The purpose of this intervention is to provide education to the public in utilizing assets as traditional medicines that exist to reduce high blood pressure.

From the results of counselling on the processing of chayote to reduce high blood pressure in the community, the average score before counselling was 49.33 and after counselling was 64.67. The average difference before and after being given counselling was 15.35. Thus, it can be concluded that there is a difference in knowledge between before and after counselling on chayote processing is given to the community.

Knowledge is an important factor in shaping human activity. On the other hand, health education is also a preventive effort for someone who is at risk and has the opportunity to develop hypertension. The lack of information predisposes hypertensive patients to be able to cope with the recurrence of their disease or take preventive measures to avoid complications (Sombili et al., 2023). Therefore, knowledge and attitudes about blood pressure are essential to overcome blood pressure itself (Fakhriyah et al., 2021).

People can treat hypertension with traditional medicine, one of which is chayote (Indriyani & Komala, 2020). Siamese squash can lower blood pressure because chayote contains potassium (Carolin et al., 2023). Potassium is a good mineral for lowering or controlling blood pressure. Potassium is a strong diuretic that helps maintain water balance, blood pressure, acid-base balance, facilitates urine excretion, helps dissolve stones in the urinary tract, bladder and kidneys (Septiana & Juwariyah, 2021).

The implementation of the chayote training program consists of two series of core activities, starting with counselling and then continuing with the practice of making chayote. The activity will be carried out on Friday, October 6, 2023. The first activity carried out was to provide counselling related to how to process chayote to reduce high blood pressure. Counselling was carried out after giving the pre-test, the material presented included what hypertension is, the benefits of chayote to reduce high blood pressure, and chayote content, then continued with processing practices or training in making pudding and chayote juice.

For hypertension in a person, it can not only be done with chemical treatment but can also be done by traditional medicine such as making pudding and chayote juice which can reduce high blood pressure (Harahap et al., 2022). This is in accordance with the results of research by Sari & Mahyuni (2022) Siamese pumpkin has many health benefits, including reducing hypertension because of its high potassium content, preventing cancer, lowering uric acid, lowering cholesterol. Siamese pumpkin contains several contents, namely sodium, iron, potassium, phosphorus, fat, protein, calcium, fiber, carbohydrates, and also contains lots of water. Siamese pumpkin also contains other nutrients such as vitamins B, C, K, and minerals (Sari & Mahyuni, 2022). This is also in accordance with the results of research

(Fauziningtyas et al., 2020) which shows that chayote juice can reduce systolic blood pressure by about 3 mmHg in elderly hypertensive patients (Anas et al., 2021).

People can use chayote pudding and its juice as traditional medicine to reduce hypertension. In addition, chayote is also rich in potassium. Potassium is beneficial for the body to control high blood pressure and remove carbon dioxide from the blood. Potassium is also beneficial for stimulating muscles and nerve endings. High potassium will facilitate the delivery of oxygen to the brain and help maintain fluid balance so as to make the body fresher. (Sulistyoningtyas & Khusnul Dwihestie, 2022)

This is in accordance with the results of the study Christiana et al. (2021) that there are differences in knowledge before and after health education is given, it is found that the p-value is 0.01 so that there are differences in knowledge from before and after health education is given for people with hypertension.

CONCLUSIONS

In counselling on the processing of chayote to reduce hypertension in the community, the results of knowledge before counselling were given which were 49.33 and after counselling were given which were 64.67. The average difference before and after counselling was 15.35. Thus, it can be concluded that there is an increase in knowledge between before and after counselling on chayote processing. The training on making pudding and juice from chayote was demonstrated to the community. That there is an effect of giving chayote juice in patients with hypertension used as traditional medicine. This service recommends the need for the community in utilizing existing assets such as the processing of chayote as a traditional medicine that can reduce hypertension

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