

**PROVIDING COUNSELING AND EFFORTS TO OVERCOME
HYPERTENSION IN THE ELDERLY THROUGH A MEDICAL HERBAL
APPROACH (BASIL AND CUCUMBER JELLY)**

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Abstract

Based on 2018 Bogor City Health Service data, hypertension is included in the top ten most common diseases in Bogor City, to be precise, the second most common disease after acute nasopharyngitis. Hypertension visit data increased to 47,373 or 19% in 2018 (Bogor City Health Office, 2018). To provide education related to hypertension in the elderly, the benefits and methods of making basil and cucumber jelly and to help reduce blood pressure during the remaining years of old age, especially for elderly women during menopause. Providing direct counseling and action to the elderly. A total of 40 elderly people received counseling about hypertension and received basil and cucumber jelly. Cucumber basil jelly is very effective to give to the elderly in reducing and lowering blood pressure levels.

Keywords: Elderly, Hypertension, Basil jelly, Cucumber

Introduction

The final period of development in human life is old age. A person is said to be elderly if they have reached the age of 45 years or more. The elderly are vulnerable to diseases related to the aging process, one of which is high blood pressure or what is known as hypertension. Hypertension is a condition in which blood pressure rises above the normal range, causing illness and even death. A person is said to be suffering from hypertension if their blood pressure is above the normal range, namely 140/90 mmHg. Blood pressure increases with increasing systolic blood pressure, and the level varies for each affected person, and blood pressure fluctuates within a certain range depending on posture, age, and stress experienced (Tambunan et al., 2021).

According to Riskesdas (2018), the prevalence of hypertension based on measurement results in the population aged 18 years was 34.1%, the highest in South Kalimantan (44.1%), while the lowest was in Papua (22.2%). Hypertension occurs in the age group 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%) (Indonesian Ministry of Health 2018). Based on 2018 Bogor City Health Service data, hypertension is included in the top ten most common diseases in Bogor City, to be precise, the second most common disease after acute nasopharyngitis. Hypertension visit data increased to 47,373 or 19% in 2018 (Bogor City Health Office, 2018).

Hypertension can be treated with pharmacological therapy by administering drugs such as diuretics, sympathetics, betablockers and vasodilators. Non-pharmacological therapy takes the form of lifestyle modification, reducing body weight, limiting sodium intake, modifying a low-fat diet, limiting alcohol, limiting caffeine, relaxation techniques, elderly exercise, stopping smoking. Non-pharmacological therapy, also known as herbal medicine, uses natural ingredients whose benefits are no less than chemical drugs, one of which is consuming basil leaves and cucumbers. The target group in this community service activity is elderly people with hypertension because there are still many elderly people who experience hypertension in their old age which can interfere with maintaining a healthy and happy life.

Method

Community Service Activities are carried out at PKU Muhamadiyah Bogor in February-

August 2023 and the choice of location for community service is determined based on actual interests. The equipment for this community service is, hypertension in elderly leaflets, tensimeter, leaflets, camera, cucumber, basil leaves, water, sugar, plain flavored jelly, stove, pan, grater, jelly mold. The form of this service activity is to provide education about hypertension, the benefits and how to make cucumber jelly and basil jelly as an effort to help lower blood pressure. Before carrying out this community service, the preparation stage is first carried out by obtaining permission, then continued with preparation for implementation, including preparation of extension materials, consolidation of extension materials and completeness of support for extension, food and natural materials in February 2023. Next, the stage of implementing community service is carried out at PKU Muhamdiyah Bogor. Community service activities consist of providing souvenirs and leaflets related to outreach materials, providing counseling or health education to the elderly, giving cucumber and basil jelly to elderly people who experience hypertension, monitoring and observing blood pressure after being given the jelly, the report preparation stage is carried out by team after completing the service

Results

Community service activities are carried out at PKU Muhammadiyah Bogor. Table wrote with Times New Roman 10 pt and within a space under the title of the table. The title of the table is written with 10 pt letters, bold and placed above the table. Counseling and providing cucumber juice regarding information on the dangers of hypertension and the benefits of cucumbers have been carried out to 40 elderly people who suffer from hypertension. The results of blood pressure activities obtained before administration of cucumber and basil jelly showed an average pretest systolic pressure value of 151.20 mmHg and diastolic pressure of 94.15 mmHg. After being given cucumber and basil jelly, the posttest average value of systolic pressure was 134.7 mmHg and diastolic pressure was 82.92 mmHg, so the difference between the average systolic value for giving cucumber and basil jelly was 16.5 and diastolic was 11.23.

Discussion

Hypertension is a condition in which blood pressure rises above the normal range, causing illness and even death. A person is said to be suffering from hypertension

if their blood pressure is above the normal range, namely 140/90 mmHg. Blood pressure increases with increasing systolic blood pressure, and the level varies for each affected person, and blood pressure fluctuates within a certain range depending on posture, age, and stress experienced (Tambunan et al., 2021).

The mechanism that controls the constriction and relaxation of blood vessels is located in the vasomotor center, in the medulla of the brain. From this vasomotor center originates the sympathetic nerves, which continue down the spinal cord and exit from the spinal cord column to the sympathetic ganglia of the thorax and abdomen. Stimulation of the vasomotor center is delivered in the form of impulses that move downwards through the sympathetic nervous system to the sympathetic ganglia which results in blood vessel constriction (A'ini, 2020).

The phytochemical compounds of methanol extract of basil leaves (*Ocimum sanctum*) contain alkaloids, flavonoids, triterpenoids, steroids and saponins. Other compounds contained in the methanol extract of basil leaves are alkaloids and essential oils. (Surahmaida et al., 2019). Flavonoids work as ACE inhibitors which function to inhibit the formation of angiotensin I into angiotensin II. c plays a role in the formation of angiotensin II which is one of the causes of hypertension. Angiotensin II causes blood vessels to narrow, resulting in increased blood pressure. ACE inhibitors work by widening blood vessels so that they can improve blood flow to the heart and result in a decrease in blood pressure (Esa, 2018). There are also flavonoids which also have a mechanism of action as diuretics by inhibiting the reabsorption of Na⁺, K⁺ and Cl⁻, resulting in an increase in electrolytes in the tubules and producing a diuretic effect (Surahmaida et al., 2019).

Cucumbers can lower blood pressure because the compounds in cucumbers contain potassium, magnesium and phosphorus which are effective in treating hypertension. Potassium is the primary intracellular electrolyte, 98% of the body's potassium is inside the cells, the remaining 2% is outside the cells for neuromuscular function, potassium influences the activity of both skeletal and cardiac muscles. Cucumbers have diuretic properties, consisting of 90% water, so they can remove salt content in the body. The large number of minerals in cucumbers are able to bind salt and be excreted through urine (Danang 2019). Hypertension can be treated using non-pharmacological therapy such as utilizing natural resources around us, for example *Cucumis sativus* or

cucumbers which can be used to lower the blood pressure of sufferers of hypertension. The potassium content in cucumbers can treat high blood pressure. Every 100 grams of cucumber contains 147 mg of potassium and 24 mg. Potassium is also a producer of electrolytes which are good for the liver, helps reduce high blood pressure and regulates heart rate against the bad effects of sodium, so the potassium content in cucumbers is very effective for treating hypertension (Triyanto, 2018).

Conclusion

Community service activities were carried out on February 4 2023 at PKU Muhamadiyah Bogor. The counseling and giving of cucumber and basil jelly was attended by 40 elderly people. There was a significant reduction in systolic and diastolic pressure after administering cucumber and basil jelly. Community service activities carried out include obtaining activity permits, providing education about hypertension and cucumber and basil jelly, providing leaflets related to outreach materials. Community service activities run smoothly.

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