Journal of Global Research in Public Health ISSN: 2528-066X (Print), 2599-2880 (Online)
Vol. 6, No. 1, June, 2021, pp. 8-15

Utilization Of Medical Plants In Hypertension Patients In Amparita Puskesmas, Tellu Limpoe District, Sidrap District

Rahmasiah*, Washliaty Sirajuddin, Hastuti Nurmala Sari Harahap

ITKES Muhammadiyah Sidrap, Indonesia
Corresponden Author: haikal_makkasau@yahoo.com

Article history:
Received: March 7, 2021
Revised: April 23, 2021
Accepted: May 11, 2021

Keywords:
Medicinal Plants,
Hypertension,
Public Health Center.

Background: *Hypertension is the main risk factor for cardiovascular disease which is the highest cause of death, especially in Indonesia, for the treatment of hypertension, apart from using modern medicine, traditional medicine can also be used. In recent years, traditional medicine has become increasingly popular among the people as is the case with modern medicine. The high public interest in traditional medicine is also due to the low cost and easy to use itself.* ***Methods****: This type of research is a descriptive research. The sampling technique in this study used the purposive sampling technique. This research was carried out at the Amparita Health Center, Tellu Limpoe District, Sidenreng Rappang Regency from July to August 2019.* ***Result****: Medicinal plants used by people with hypertension were taken once a day, twice a day and 3 times a day.* ***Conclusion****: Medicinal plants that are used or used by people with hypertension in the working area of the Amparita Health Center are soursop leaves, bay leaves, celery leaves, cucumbers, garlic, sweet starfruit, wuluh starfruit and noni fruit. The processing method is by boiling, blending and chewing or eating directly from the paper.*

I. Introduction

Traditional medicine has a survival from century to century until today it has never subsided and is even more widespread in the community as is the case with modern medicine. Before the introduction of modern healing by health workers, the Indonesian people had known and practiced healing from them and by themselves, which was called traditional healing (Notoatmodjo, 2010).

The high public interest in traditional medicine is also caused by the low cost and easy to use itself. In addition, some nutritious plants have been widely planted by the community, especially in rural areas. The plants are not foreign to them (Iskandar, 2009).

The research of Yulianti et al (2013) also shows that there are benefits of traditional medicine by the community for treatment and health therapy. The factors behind the community using traditional medical services provided at the puskesmas, are because the medicine comes from herbs and the treatment techniques are natural, so the side effects are small and the cost of treatment is cheaper than modern medicine. All types of medicinal plants do contain natural chemical compounds, which have pharmacological effects and important activities that have the potential as anti-degenerative disease agents (Rahmawati et al, 2012).

In Indonesia, hypertension is the main risk factor for cardiovascular disease which is the highest cause of death. Research data from the Ministry of Health of the Republic of Indonesia shows that the incidence of hypertension and cardiovascular disease tends to increase due to the lifestyle of the Indonesian people who are still far from clean and healthy lifestyles, expensive hypertension treatment costs, and inadequate hypertension control facilities and infrastructure.

ISSN: 2528-066X (Print)
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Data from Riskesdas 2007 (Depkes RI, 2008) states that the prevalence of hypertension in Indonesia is around 30% with the incidence of cardiovascular disease complications occurring more in women (52%) compared to men (48%). High prevalence of hypertension is found in both men and women, in urban and rural areas. Age is a risk factor for hypertension because with age. The risk of hypertension is higher (Anies, 2015)

Based on data from the Minister of Health from the 2010 basic health research, almost half (49.53%) of Indonesia's population aged 15 years and over consume herbal medicine. About five percent (4.36%) consume jamu every day, while the rest (45.17%) consume jamu occasionally. The proportion of types of herbs that are widely chosen for consumption are liquid herbs (55.16%); powder (43.99%); and brewed herbs (20.43%). While the smallest proportion is herbal medicine which is packaged in a modern way in the form of capsules/pills/tablets (11.58%). Furthermore, the Minister of Health stated, there are two main challenges in the use of traditional medicine in Indonesia. First, consumers tend to think that traditional (herbal) medicines are always safe. The next challenge is regarding the license to practice traditional medicine and the qualifications of traditional health practitioners (Kemenkes, 2013).

The results of initial observations by researchers, at the Amparita Health Center, Tellu Limpoe District, it was found that there were 503 people with hypertension in 2018. Hypertension is the first order of disease in the category of the 10 biggest diseases. Based on the description above, the authors are interested in conducting research on the use of herbal medicinal plants in patients with hypertension at Amparita Health Center, Tellu Limpoe District, Sidenreng Rappang Regency.

II. METHODS

Research Location and Design

Type This research is a descriptive research. Descriptive method is used to describe systematically the facts or characteristics of a particular population or a particular field, in this case an actual and accurate field. The sampling technique in this study used a purposive sampling technique, namely a sampling technique based on certain criteria. This research was carried out at the Amparita Health Center, Tellu Limpoe District, Sidenreng Rappang Regency from July to August 2019.

Population and sample

The population in this study were all hypertensive patients who had consumed herbal medicine and were in the working area of the Amparita Health Center, Tellu Limpoe District, Sidenreng Rappang Regency. The sampling technique was carried out by purposive sampling, where the sampled population met the criteria. The sample size in this study was 53 people. In this study it was determined that the population must meet several requirements to become a sample, namely:

- Amparita Health Center patient and willing to be interviewed.
- Have used traditional hypertension medication.
- The patient is able to communicate well.
- ≥35 years old

Data *analysis* and presentation

The data collected in this study include primary data and secondary data. Where secondary data is obtained from medical record documents that match the main needs in research in order to solve research problems. Meanwhile, primary data is collected from appropriate data collected in a scientific way so that it can be said to be appropriate. The tools used to collect primary data are questionnaires or questionnaires.

III. RESULT

Table 1 Patient Characteristics Data

Characteristics	amount	Percentage (%)
Gender		
Girl	36	67.9
Man	17	13.21
Age (Years)		
35 – 40	2	3.8
41 – 46	7	13.2
47 – 52	29	54.7
> 53	15	28.3
Level of education		
SD	16	30.2
middle school	6	11.3
high school	7	13.2
College	24	45.3
Profession		
civil servant	5	9.4
Private	18	34
Farmer	21	39.6
Housewife (IRT	2	3.8
Does not work	7	13.2

Table 1 shows that the number of patients who participated in this study were 36 female patients and 17 male patients. The age range in this study was 35-40 years as many as 2 people, 41-46 years as many as 7 people, 47-52 years as many as 29 people and over 53 years as many as 15 people. The education level of the patients who participated the most were universities, which were 24 people, with the highest occupation of the participating patients being farmers as many as 24 people.

Table 2 Types of Medicinal Plants Used and How to Process It

No	Plant Type	How to Process		
		Boiled	Blender	Chew
1	Soursop leaf	8	0	0
2	Bay leaf	5	0	0
3	Celery leaves	7	0	0
4	Noni	0	6	0
5	Garlic	0	0	10
6	Starfruit	0	0	4
7	Sweet Starfruit	0	0	2
8	Cucumber	0	0	11
	TOTAL	20	6	27

Table 2 shows that patients cultivate medicinal plants that are efficacious for lowering blood pressure by boiling, blending and directly consuming (chewing).

Table 3 Frequency of Use of Medicinal Plants

No	Plant Type	How to use			Total
		1 x 1	2 x 1	3 x 1	
1	Soursop leaf	3	3	2	8
2	Bay leaf	1	4	0	5
3	Celery leaves	3	4	0	7
4	Noni	0	5	1	6
5	Garlic	2	6	2	10
6	Starfruit	0	3	1	4
7	Sweet Starfruit	1	1	0	2
8	Cucumber	2	9	0	11
	TOTAL	**12**	**35**	**6**	**53**

Table 3 shows that the frequency of using medicinal plants with antihypertensive properties consists of 3 times a day, 2 times a day and once a day.

IV. DISCUSSION

Collecting data in this study by using a questionnaire on the respondents. This research was conducted at the Amparita Health Center, Tellu Limpoe District, Sidenreng Rappang Regency in July 2019 - August 2019, with a total of 53 respondents, obtained as many as 7 types of medicinal plants that were chosen to treat hypertension.

Knowledge is essentially all what we know about a particular object, including science, so science is part of the knowledge that is known to humans. Knowledge affects the use of medicinal plants as antihypertensive drugs because without knowledge, experience, information, and beliefs the community will not consume traditional medicinal plants.

This study aims to obtain an overview of the inventory of medicinal plants used as antihypertensive drugs. The types of medicinal plants used to treat hypertension by the community in the working area of the Amparita Health Center are as follows:

1. Soursop leaf

   Research results Soursop leaves (*Annona Muricata*) are most widely used, namely by boiling by 8 respondents, 7 leaves used, 200 ml of water boiled until the remaining 100 ml is then drunk, the rules for use are 3 people (1 time a day), 3 people (2 times a day) and 2 people (3 times a day). Respondents' knowledge about soursop leaves can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

   Soursop leaves contain steroids/triterpenoids useful for immunity, tannins as pain relievers, quinones which function as anti-tumors and phenols which function as antiseptics.

2. Bay leaf

   The results showed that the most widely used bay leaf (Syzygium Polyanthum) was boiled by 5 respondents, 7 leaves were used, boiled with 200 ml of water until the remaining 100 ml was then drunk, the rules for use were 1 person (1 time a day). , and 4 people (2 times a day). Respondents' knowledge about bay leaves can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

   Bay leaves contain tannins, saponins, and vitamin C. Tannins react with mucosal proteins and intestinal epithelial cells thereby inhibiting fat absorption. While saponins function to bind cholesterol with bile acids, thereby lowering cholesterol levels. The content of vitamin C in it helps the hydroxylation reaction in the formation of bile acids, as a result of that reaction increases the excretion of cholesterol. Consume 15 bay leaves by boiling in 2 cups until the

remaining one cup. Remove, then strain. Drink 2 times a day each cup is considered to lower blood pressure.

Salam plants contain 0.2% volatile oil (citral, eugenol), flavonoids (catechins and rutin), tannins and methyl kavicol (methyl chavicol), also known as estragole or p-allylanisole. These compounds have activity as antioxidants. Tannins and flavonoids are active ingredients that have anti-inflammatory and antimicrobial effects. Essential oils generally have antimicrobial, analgesic, and increase phagocytic abilities. Bay leaf essential oil consists of simple phenols, phenolic acids such as gallic acid, sesquiterpenoids, and lactones. Also contains saponins, fats, and carbohydrates. From some evidence of the active ingredients of the bay plant, the bay plant has a pharmacological effect (Harismah & Chusniatun, 2016).

Another benefit of bay leaves is to reduce dyslipidemia, especially hypertriglyceridemia. Bay leaves are also able to reduce low density lipoprotein (LDL) cholesterol levels and are able to reduce uric acid levels (Harismah & Chusniatun, 2016).

Dewi & Syukrowardi's research (2019) stated that there was no significant difference between soursop and bay leaf decoctions in reducing blood pressure.

3. Noni

The results of the study Noni fruit (*Morinda Citriflia*) was most widely used, namely by blending as many as 6 respondents, the fruit used as much as 1/2 fruit with 1 cup of water, blended then filtered and then drunk, the rules for use were 5 people (2 times a day) and 1 (3 times a day). Respondents' knowledge about noni fruit can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

The results showed that noni fruit could cause changes in the average systolic blood pressure of 12 mmHg and diastolic 5 mmHg before and after administration of noni juice with a p value of <0.05 (Sari et al, 2018).

Noni (Morinda Citrifolia L.) contains active ingredients including scopoletin and xeronin. Scopoletin can reduce peripheral resistance and xeronine acts as a diuretic that can increase urine volume. Noni (Morinda Citrifolia L.) is safe for consumption because it is classified as a non-toxic substance (Sari, 2015)

Consuming noni as much as 2 ounces twice a day for one month can lower blood pressure in people with hypertension. Noni or Morinda citrifolia also called 'noni' is used for centuries as a traditional medicine by Polynesians for more than 2000 years. Various communities around the world consume the fruit and leaves of this traditional medicinal plant for its versatile therapeutic properties. Morinda citrifolia was found to have a variety of therapeutic effects such as antiviral, antibacterial, antifungal, antitumor, anthelmintic, analgesic, hypotensive, anti-inflammatory, immune-boosting effects, preventing the reduction of cholesterol in the body, antihypertensive substances, namely scopoletin substances which function to prevent plaque formation (atherosclerosis) and can lower blood pressure. Based on the research conducted by giving intervention of noni juice for 5 days as much as 1 fruit (100g) in the elderly group at thr out that there was a difference in reducing pressure (Megawati & Hidayat, 2015).

Another study showed that there were differences in systolic and diastolic blood pressure in the experimental and control groups of women with hypertension at Panti Wredha Pucang Gading Semarang before after receiving noni juice therapy for 14 days before and after intervention with noni juice (Setyaningsih, 2011).

4. Celery leaves

The results of the research on celery leaves are the most widely used method by boiling as many as 7 respondents. The rules for use are 3 people (1 time a day) and 4 people (2 times a day). Respondents' knowledge about celery leaves can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

In the research of Muzakar & Nuryanto (2012) stated that consuming celery leaves can lower blood pressure. In 100 grams of celery contained 344 mg of potassium. In the body, potassium functions as a diuretic, which is to stimulate the release of fluids in the body that are bound by salt. In addition, the apiin content in celery, acts as a diuretic (smoothing urine, which helps the kidneys work in removing fluids and salt from the body, reduced fluid in the blood will lower blood pressure.

5. Cucumber

The most widely used cucumber research results are by chewing or eating directly as many as 11 respondents. The rules for use are 2 people (1 time a day), and 9 people (2 times a day). Respondents' knowledge about cucumbers that can be used to lower blood pressure was obtained from information from generation to generation, friends and social media.

Cucumber fruit contains flavonoids which are very proven in blocking the oxidation reaction of bad cholesterol (LDL) which causes the blood to thicken, thereby preventing the deposition of fat on the walls of blood vessels and the content of saponins which can increase the absorption of diuretic compounds (sodium, chloride and water) in the distal tubule. kidneys, also stimulates the kidneys to be more active, which can lower blood pressure. The diuretic property of cucumber which consists of 90% water is able to remove salt content from the body. The rich minerals in cucumbers are able to bind salt and are excreted through the urine.

6. Garlic

Garlic research results are most widely used, namely by chewing or eating directly as many as 10 respondents. The rules for use are 2 people (1 time a day), 6 people (2 times a day) and 2 people (3 times a day). Respondents' knowledge about garlic can be used to lower blood pressure, obtained from information from generation to generation, friends and social media.

Research conducted by Qidwai & Ashfaq (2013) by consuming garlic can reduce cholesterol levels in blood vessels. Garlic contains allicin compounds that can interfere with the formation of cholesterol so that blood vessels remain flexible and blood pressure does not rise. Garlic also contains sulfur compounds that are useful for reducing fat in the blood and helping regulate blood pressure.

7. Starfruit

The results of the research of Belimbing Wuluh are mostly used by chewing or eating directly as many as 4 respondents. The rules for use are 3 people (2 times a day), and 1 person (3 times a day). Respondents' knowledge about star fruit can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

Starfruit contains a lot of vitamin C, that is, every 100 grams of starfruit has 52 grams of vitamin C. Vitamin C can strengthen the heart muscle and the content of saponins that can increase the absorption of diuretic compounds (sodium chloride and water) in the distal kidney tubules is very useful for reduce or prevent hypertension.

8. Sweet Starfruit

The results of the study of Sweet Starfruit were most widely used, namely by chewing as many as 2 respondents. The rules for use are 1 person (1 time a day), and 1 person (2 times a day). Respondents' knowledge about sweet star fruit can be used to lower blood pressure obtained from information from generation to generation, friends and social media.

Sweet star fruit has a lot of Vitamin C and water content which is quite high. Every 100 grams of sweet star fruit contains 30 mg of Vitamin C. In addition, sweet star fruit also has a fairly high pectin content. Pectin is a substance in sweet starfruit that is able to bind cholesterol and bile acids in the intestines and help their excretion. Consuming sweet star fruit can reduce cholesterol levels in the body.

V. CONCLUSION

Medicinal plants that are used or used by people with hypertension in the working area of the Amparita Health Center are soursop leaves, bay leaves, celery leaves, cucumbers, garlic, sweet star fruit, wuluh starfruit and noni fruit. The processing method is by boiling, blending and chewing or eating directly.

The suggestions given are based on the suitability of the research results so that if the working area of the Amparita Health Center, Sidenreng Rappang Regency continues to preserve plants that have medicinal properties and further develop the types or numbers of medicinal plants that are often used for the treatment of diseases It is also recommended for further researchers to conduct further research on the processing of hypertension medicinal plants.

VI. ACKNOWLEDGEMENT

This thank you is addressed to the head and staff of the Amparita Public Health Center, Tellu Limpoe sub-district, Sidrap Regency, as well as all participants who have helped during the research process.

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