Health Gate
Volume 3 Number 4 October 2025 ISSN 2986-1098
Homepage: https://healthgate.ppnikotablitar.com

DOI : http://dx.doi.org/10.70111/hg3401
Submitted : August, 11 2025
Reviewed : August, 12 2025
Accepted : october, 28 2025

Family Medicinal Plants (TOGA) Self-Care as a Non-Pharmacological Therapy for Hypertension Control

Vebi Rizki Eka Aulia[1], Ning Arti Wulandari[2], Sandi Alfa Wiga Arsa[3]
[1,2,3]Department of Nursing, Patria Husada College of Health Sciences, Indonesia
vebiaulia121@gmail.com

ABSTRACT

Hypertension is a non-communicable disease with a high prevalence that can cause serious complications and even death if not treated optimally. To prevent hypertension complications, hypertension control efforts are needed, one of which is with non-pharmacological therapies such as the use of Family Medicinal Plants (TOGA) as a natural alternative in controlling blood pressure. This research aims to increase the knowledge, skills, and independence of the community in managing hypertension through independent care of TOGA, especially in the Tera Gymnastics group in Blitar Village. The implementation of activities included health education, demonstrations, and blood pressure measurements, which were attended by 44 respondents. Evaluation was carried out through pretest and posttest knowledge, as well as blood pressure measurements before and after intervention. The results of the study used the Wilcoxon Signed Rank Test, which showed an increase in knowledge with a value of $p < 0.005$, which means that there is an influence on the knowledge of partners. In the post-test after being given herbal drinks, a decrease in systolic and diastolic blood pressure was obtained; the average results were that the systolic blood pressure value decreased by 7.95 mmHg and the diastolic by 2.43 mmHg. TOGA Independent Care has proven to be effective as a complementary therapy in efforts to control hypertension. It is hoped that this program can continue and be developed in other communities as a sustainable promotive and preventive effort.

Keywords: Hypertension, Asman TOGA, blood pressure

Background

Hypertension is a disorder of the cardiovascular system that is affected by blood pressure instability, the most common case in the elderly group. Hypertension is a non-communicable disease that is one of the causes of death in the world. Hypertension is often referred to as "the silent killer" or "the silent killer" because people with hypertension are unaware of the disease they suffer from.[1] According to data from the World Health Organization (WHO) about 1.28 billion adults aged 30–79 worldwide suffer from hypertension, and two-thirds are in developing countries. Treating hypertension is not only through pharmacological treatment, but it also requires a comprehensive approach including lifestyle changes and complementary therapies [2]

Hypertension is one of the non-communicable diseases (NCDs) that is the main cause of morbidity and mortality worldwide. This condition is characterized by blood pressure that is consistently above the normal threshold, which is more than 140/90 mmHg. If not treated properly, hypertension can lead to serious complications such as stroke, kidney failure, heart disease, and blindness [3]. Given the increasing prevalence of hypertension, as well as the potential for serious complications and pharmacological side effects due to the long-term use of

antihypertensive drugs [4], so it is necessary to socialize about alternatives to blood pressure control through a non-pharmacological approach, one of which is by utilizing family medicinal plants [5]. Thus, optimal blood pressure management is important to prevent long-term complications.

The Tera Gymnastics Group of Blitar Village, which is a partner in this community service activity, consists of 60 members, most of whom are pre-elderly. Some of the partners are in the pre-elderly age category, which is a group with a high risk of hypertension. Based on the results of the initial assessment, it was found that around 70% of the 45 members who actively participated in tera gymnastics experienced hypertension, with complaints that often appeared among partner members being dizziness, and tension in the neck, which is a symptom of hypertension. As many as 20% of partner members can rely on pharmacological treatment, and 80% of partner members are left to rest when experiencing symptoms, without comprehensive and continuous blood pressure management efforts.

One of the main problems faced by the partner group is the low level of knowledge about hypertension, low levels of medication adherence, and lack of awareness of the importance of regular blood pressure measurement. The better an individual's understanding of hypertension, the higher the motivation to perform regular blood pressure control [6]. The results of a study conducted showed that 51.8%, or as many as 44 respondents with a high level of knowledge, showed better compliance in conducting blood pressure checks in health care facilities [7]. In addition, partner communities have never received adequate health education on non-pharmacological treatment alternatives, such as the use of eluarga medicinal plants (TOGA) that can be used in efforts to manage and control blood pressure naturally. By utilizing TOGA, such as turmeric and lemongrass, it is known to have active ingredients that function to lower blood pressure naturally [8]. Regular consumption of lemongrass also plays a role in maintaining blood pressure stability so that it remains within the normal range [9]

Turmeric contains essential oils composed of monoterpenic and sesquiterpenic compounds (including zingiberene alpha and beta turmeron) and curcumin or yellow substances as well as minerals rich in the body such as potassium and iron. Potassium plays a very important role in the body, helping to control heart rate and blood pressure. Turmeric is an antioxidant found in the body, does not contain cholesterol and is rich in fiber. In the blood vessels, antioxidants and curcumin and turmeric will help control blood LDL and prevent high blood pressure [10]. Lemongrass is known to have a high potassium content that functions as a blood pressure-lowering agent through a diuretic mechanism, namely by increasing urine production. This increase in urine volume is able to stimulate the circulatory system so that it helps stabilize blood pressure to normal levels. In addition, smooth blood circulation plays a role in the detoxification process of organs, especially in reducing cholesterol absorption in the intestines. This process has the potential to reduce cholesterol accumulation in the circulatory system which can trigger hypertension [8]. Lack of exposure to this information leads to low public knowledge and awareness of the potential of TOGA as part of a non-pharmacological strategy in controlling blood pressure.

This condition shows the need for educational and preventive interventions through complementary therapy approaches based on community empowerment. Independent care using TOGA (Asman TOGA) is the right choice because it is not only easy to implement, but also has great potential in increasing community independence in maintaining health [5]. In blood pressure control, Asman Toga was chosen as another non-pharmacological therapy because Different from other non-pharmacological therapies such as relaxation or gymnastics, Asman Toga has Direct Biochemical Effects on the physiological mechanism of blood pressure. The use of medicinal plants can combined with healthy lifestyle interventions such as a low-salt diet and light exercise, thus producing synergistic effects [5]. In addition, the gymnastics group is active and has an open attitude to new information so that it is easier to receive and understand and apply the knowledge provided so that it becomes a strong capital for the success of this intervention program.By seeing the high prevalence of hypertension, low adherence to treatment, and the potential of TOGA has

not been utilized optimally, this service activity is designed to provide health education and demonstration training to partner groups. It is hoped that partners will not only be able to understand and manage blood pressure independently, but also be agents of change in the environment where they live.

Based on this background, the researcher is interested in conducting community service regarding TOGA independent care as a non-pharmacological therapy to control blood pressure

Method

This study uses a type of quantitative research with a quasi-experimental pretest-posttest without control group design, namely by taking initial measurements before and after the intervention is given. The population in this study is the entire group of gymnastics partners in Blitar Village. The number of samples was 44 respondents. The sampling technique uses total sampling. The independent variable is Asman TOGA, the dependent variable is hypertension. The instruments in this study are questionnaires, digital tension, and observation sheets. The research steps that have been carried out are first, the researcher measures pre-blood pressure, then carries out a health education program regarding asman toga to control hypertension, provides samples of herbal drinks to respondents, and conducts demonstrations of making herbal drinks in accordance to standard operating precedures making herbal drinks. Then the researcher measured post blood pressure in accordance to standard operating precedures making herbal drinks. This activity was carried out for 2 days.

Results

Table 1. Distribution of respondents by age

Age	Frequency	Persentase (%)
Adults (19-44 years)	1	2
Pre-Elderly (45-60 years old)	23	52
Senior (>60 years old)	20	46
Total	44	100

Based on table 1 above, it shows that of the 44 respondents based on age characteristics, the majority are pre-elderly (45-60 years) totaling 23 people (52%). Then the elderly (>60 years) amounted to 20 people (46%) and adults (19-44 years) amounted to 1 person (2%).

Table 2. Distribution of respondents by gender

Gender	Frequency	Persentase(%)
Woman	43	98
Man	1	2
Total	44	100

Based on table 2, it shows that of the 44 respondents based on gender characteristics, the majority are women as many as 43 people (98%) and men as many as 1 person (2%)

Table 3. Comparison of knowledge levels before and after health education

Knowledge level	Pretest	Posttest
Good	1	42
Enough	32	2
Less	11	0
Total	44	44

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Based on table 3, it shows that of the 44 respondents based on the characteristics of the level of knowledge, before being given health education, 1 person had good knowledge, 32 people had sufficient knowledge, and 11 people had insufficient knowledge. After health education was carried out, an increase of 42 people had good knowledge and 2 people had sufficient knowledge

Table 4. Average systolic and diastolic blood pressure before and after the intervention

Blood pressure	Pretest (mmHg)	Postest (mmHg)	Difference
	Mean	Mean	
Systole	157.57	149.61	7,95
Diastole	90.75	88.31	2,43

Based on table 4, the results of blood pressure studies before and after the intervention were obtained with a decrease with an average systolic blood pressure of 7.95 mmHg and diastolic of 2.43 mmHg after consumption of TOGA herbal drink. This shows the effectiveness of TOGA as a complementary therapy in controlling blood pressure in respondents.

Discussion

The results of this community service show that the implementation of Independent Care of Family Medicinal Plants (Asman TOGA) has been proven to have a significant impact on the management of hypertension in the tera gymnastics community group. Interventions provided through health education and demonstrations of making herbal drinks to control blood pressure have been proven to be able to increase knowledge, skills, and encourage participants' independence in managing blood pressure. These findings are in line with the concept that a person's skills in implementing an action are greatly influenced by the level of knowledge they have. [11]. Public knowledge, which was previously limited about the use of TOGA as an alternative to non-pharmacological therapy, has increased after providing structured health education. This increase in knowledge correlates with concern in independently controlling blood pressure, which was previously very low because it relied only on pharmacological therapy or left the symptoms of hypertension without proper treatment**.** With increased understanding, partner communities have become more aware of the importance of preventing and controlling hypertension and encourage them to take active steps in maintaining blood pressure stability through natural ways that can be done alone at home.

Providing education using lecture methods, media leaflets, and educational video screenings also strengthened participants' understanding of the concept of hypertension and the benefits of Family Medicinal Plants (TOGA) as a non-pharmacological therapy to control hypertension [12]. The education provided not only emphasizes on theoretical aspects, but is also designed to form awareness about the importance of prevention and management of hypertension based on community empowerment through “Asman TOGA”. This intervention is particularly relevant to health promotion approaches that emphasize that behavioral change is highly dependent on an individual's knowledge, attitudes, and skills in dealing with his or her own health problems.

In addition to increasing knowledge, the skill aspect of participants in making herbal drinks from Family Medicinal Plants (TOGA) has also experienced a significant increase. Through direct demonstrations, participants were trained to identify types of medicinal plants such as turmeric and lemongrass, recognize their bioactive content, and practice how to process them. This skill is important because it supports the application of therapy in a sustainable manner that can be done independently at home. Family medicinal plants such as turmeric contain curcumin and antioxidants that function to reduce blood pressure through the mechanism of lowering LDL

levels and improving blood circulation [10]. While lemongrass works as a natural diuretic that helps reduce intravascular pressure through increased urine volume [8]

Good knowledge without practical skills will not be able to create real health behavior changes [13]. Therefore, the integration between health education and hands-on practice training or demonstrations is an effective approach in forming sustainable healthy living habits. This is in line with the theory [14] which states that learning will be more effective if it is delivered through various media and supported by direct experience.

The independence of partners in monitoring blood pressure is also one of the important achievements of this activity. Training on how to measure blood pressure given to some partner cadres is one of the preventive steps that can be taken in the context of blood pressure control[15]. By equipping them with the knowledge and skills to take blood pressure measurements independently, it is hoped that this can be applied during tera gymnastics activities. This application can also encourage changes in implementing healthy living behaviors through routine control of blood pressure measurement in the surrounding environment. Through training in the use of digital sphygmomanometers and an understanding of the importance of regular blood pressure monitoring, participants began to show a proactive attitude to check blood pressure regularly. This independence is very important because it is the foundation in controlling chronic diseases such as hypertension which is long-term [16]

Another success factor in the program is the supportive social environment [17]. The tera gymnastics group is an active community that is used to gathering and participating in health activities. This creates a social support effect (peer support) that strengthens the motivation and consistency of group members in carrying out healthy living behaviors, including in the application of "Asman TOGA". This community-based approach is very much in line with the principle of community empowerment in the management of non-communicable diseases [5]

These findings also reinforce the results of previous studies that showed that the use of Family Medicinal Plants (TOGA) not only has a physiological effect in lowering blood pressure, but also forms public health independence through locally-based empowerment.[18] Family medicinal plants that are easy to obtain, cheap, and safe empirically and scientifically are a rational choice for people to manage their health conditions independently and sustainably.[19]

The "Asman TOGA" program also shows that community-based health education can be an effective and efficient preventive strategy. This approach not only targets changes in individual knowledge and behavior, but also builds social resilience in the health sector. When people have adequate knowledge, skills, and resources, they will be better prepared to face health challenges without relying entirely on formal health services. This is very relevant in the context of a public health system that prioritizes promotive and preventive principles.

Overall, this service activity proves that health education and demonstrations about "Asman TOGA" have a positive effect on hypertension control efforts. The increase in knowledge, skills, and independence that occurs is not only the result of providing information alone, but also due to the active involvement of participants in the learning process and hands-on practice. [20]. The success of this intervention provides a positive application that similar programs can be adopted in other communities by adjusting local characteristics and the potential of the natural resources they have.

Conclusions and Recommendations

The implementation Independent Care of the Family Medicinal Plant (Asman TOGA) program in the Tera Gymnastics group of Blitar Village has proven to be effective in increasing the knowledge, skills, and independence of the community in managing hypertension. The results of the intervention showed a significant increase in the level of knowledge of the participants, from most in the "adequate" category to the majority of "good" after being given health education.

In addition, the skills of cadres and group members in measuring blood pressure and making herbal drinks from Family Medicinal Plants (TOGA) have also increased, so that they can be applied independently at home. Consumption of herbal drinks made from turmeric and lemongrass was able to reduce systolic blood pressure by an average of 7.95 mmHg and diastolic by 2.43 mmHg. This proves that "Asman TOGA" is effective as a safe, natural, and affordable complementary therapy in efforts to control hypertension.

It is hoped that the results of this study can add information about the benefits of family medicinal plants, especially for hypertension, applying complementary therapy at home to lower blood pressure in hypertensive patients. The results of this study can also be followed up by further researchers to use the control group as a companion, so that the results obtained will be more effective and significant so that new theories can be found in overcoming health problems that occur in the community.

Acknowledgment

We would like to express our deepest gratitude to Supervisors, thank you to the members of the Indonesian tera gymnastics group in blitar village and the head of tera gymnastics who have given permission to the researcher to conduct this research.

References

1. Hasnah. Hypertension is the most common disease suffered by the community. 2019; Available from: https://kemkes.go.id/id/ hypertension-most-of-people-suffered-diseases
2. Anggraini NV. Therapy Soak the feet in warm water with Epsom salt for hypertension in the elderly. 2025; Available from: https://doi.org/10.33024/jkpm.v8i4.18688
3. Falo A. The Application of Deep Breath Relaxation on Blood Pressure of Hypertension Patients in the Working Area of the Uptd Inpatient Health Center of Banjarsari Metro City. 2023; Available from: https://jurnal.akperdharmawacana.ac.id/index.php/JWC/article/download/436/271
4. Mardianto R. The Effect of Compliance with Antihypertensive Drugs on Patients' Quality of Life at Beji Batu Health Center. 2022; https://doi.org/10.54445/pharmademica.v2i1.21
5. Gayatri SW. Training and Utilization of Traditional Medicinal Plants for the Prevention and Reduction of Hypertension in Lanna Village, Parangloe District, Gowa Regency. 2022; https://doi.org/10.33096/jpki.v3i2.193
6. Kurniawati RD. Community empowerment through independent blood pressure measurement to control hypertension in Ciparay Village, Rw 07, Bandung Regency. 2024; https://doi.org/10.29303/abdiinsani.v11i2.1486
7. Idrus NI. Determinants of routine blood pressure checks in hypertensive patients at the Massenga Health Center. 2021; Available from: https://journal.poltekkes-mks.ac.id/ojs2/index.php/mediakesehatan/article/view/2125
8. Pangestuti R. Lemongrass water decoction is effective in lowering blood pressure in hypertensive patients at the elderly posyandu in Turus Village. 2022; https://doi.org/10.32660/jpk.v8i2.628
9. Happy TG. Application of Giving Honey Lemongrass Drink (Serdu) as a Phytopharmaceutical Development in Overcoming Hypertension in Women. 2024; https://doi.org/10.33746/fhj.v11i03.750
10. Muti RT. The Effect of Turmeric Grate on Reducing Hypertension in the Elderly in Berkoh Village, South Purwokerto District, Banyumas Regency. 2017; Available from: https://jurnalnasional.ump.ac.id/index.php/medisains/article/view/1645
11. Herman. Education on the Utilization of Medicinal Plants for Hypertension in Ngasem

Village, Kediri Regency, East Java. 2025; https://doi.org/10.35311/jmpm.v6i1.587
12. Zakiyah Z. The Role of Education in Increasing Public Knowledge on the Benefits of Natural Ingredients as Traditional Medicine. 2020;
13. Susanti LD. Cultivation of Family Medicinal Plants as an Effort to Empower the Community in Tanggulangin Village. 2024; Available from: https://e-journal.metrouniv.ac.id/JPM/article/download/9687/4048/33982
14. RSS universe. Socialization and Demonstration of the Processing of Family Medicinal Plants (Toga) as Herbal Drinks in Gondang Village, North Lombok Regency. 2023; Available from: https://jppipa.unram.ac.id/index.php/jpmpi/article/download/4120/2740/19782
15. Eltrikanawati. Hypertension Education and Blood Pressure Measurement Training for Hypertensive Patients in an Effort to Improve Blood Pressure Control Behavior at Home. 2024;https://doi.org/10.59837/jpmba.v2i2.818
16. Ayu SA. The Role of Family Health Independence on Self-Control in Individuals with Hypertension. 2024; https://doi.org/10.33024/mahesa.v4i3.13921
17. Putri AA. The Effect of Tera Gymnastics on Lowering Blood Pressure in the Elderly with Hypertension at the Gunung Medan Health Center. 2022; https://doi.org/10.56667/jikdi.v2i1.674
18. Puspitasari I. Utilization of Family Medicinal Plants (TOGA) as an Alternative to Independent Medicine. 2021; https://doi.org/10.23917/warta.v24i3.11111
19. Amilia AN. Education on the Making of Scientific Herbal Medicine as an Alternative Treatment in the Community of Samarinda City Mosque Village. 2024; https://doi.org/10.31949/jb.v5i3.8928
20. Ika P. The Level of Knowledge and Behavior of the People of Wonosobo Regency About Covid-19. 2020; Available from: https://ojs.unsiq.ac.id/index.php/jik/article/view/1311