Asy-Syifa Journal of Science and Technology Nursing

Vol 4, No 1 March 2026
Susmission: July 2025
Revision: September 2025
Available online: March 2026

Implementation of Ambon Banana Consumption Education to Improve Family Ability in Caring for Family Members with Hypertension

Sintya Aprillianty Nurhalizah[1], Asep Riyana[2]*,Yanyan Bahtiar[3], Kusmiyati[4]
[1,2,3,4] Poltekkes Kemenkes Tasikmalaya, Indonesia
Correspondence: banisulaeman@gmail.com

Abstract

Purpose: The purpose of this study was to describe the implementation of education on the consumption of Ambon bananas (Pisang Ambon) in improving family ability to care for members with hypertension in the Cikoneng Public Health Center area. **Methods:** This study used a case study design involving two families with hypertensive members. The intervention consisted of structured education delivered over five consecutive days using leaflet media and active family involvement in each session. The study focused on non-pharmacological management through dietary modification, particularly increasing potassium intake. **Results:** The results showed a significant improvement in family knowledge and attitudes regarding hypertension care after the educational intervention. Family characteristics such as the number of members, level of education, and occupation influenced the effectiveness of the education. Families with fewer members and higher education levels demonstrated faster understanding and better application of the information provided. **Conclusions:** Structured and continuous education on the consumption of potassium-rich foods such as Ambon bananas is effective in enhancing family capacity in hypertension management. It is recommended that similar educational programs be conducted routinely, considering family characteristics and involving health workers as facilitators to optimize outcomes.

Keywords: Ambon banana; education; family; hypertension

Introduction

Hypertension, or high blood pressure, is defined as an abnormal increase in blood pressure within the arteries, where the systolic pressure reaches 140 mmHg or higher and the diastolic pressure is 90 mmHg or higher. This condition is often referred to as the Silent Killer because it frequently does not present clear warning signs yet can be fatal (Nopriani & Surya, 2024). Hypertension can be classified into essential (primary) hypertension, for which the cause is not definitively known, and secondary hypertension, which is caused by other medical conditions such as kidney or hormonal disorders (Nugroho et al., 2019). Although the exact cause is often unclear, a number of risk factors have been identified, including unmodifiable

factors such as age, gender, and family history, as well as modifiable factors like a diet high in salt and fat, smoking, lack of physical activity, and obesity (Ardiansyah & Widowati, 2024). If not managed properly, hypertension can trigger serious complications such as kidney failure, heart disease, diabetes, and stroke (Nopriani & Surya, 2024).

The significance of this issue is reflected in prevalence data at various levels. Globally, the World Health Organization (WHO) reports that approximately 972 million people worldwide suffer from hypertension, and this number is projected to continue rising (Zaima et al., 2020). In Indonesia, data from the 2018 Basic Health Research (Riskesdas) show a hypertension prevalence of 34.1%. West Java Province ranks second highest with a rate of 39.60% (Badan Kebijakan Pembangunan Kesehatan, 2023). More specific data from the working area of the Cikoneng Health Center, Ciamis Regency, indicate a 29.9% incidence of hypertension, underscoring the urgency of addressing this issue at the community level (Dinas Kesehatan Kabupaten Ciamis, 2023).

The management of hypertension relies not only on pharmacological therapy but also requires sustained non-pharmacological interventions. One of the most effective approaches is the modification of lifestyle and diet, such as the DASH (Dietary Approaches to Stop Hypertension) diet, which emphasizes increased potassium intake (Maya et al., 2024). In this context, the Ambon banana (Musa paradisiaca var. Sapientum) emerges as a highly potential natural alternative. This fruit has a high potassium content (approximately 435 mg per 100 grams) and low sodium, an ideal combination to help lower blood pressure (Permatasari et al., 2021; Fatmawati, 2017). Increased potassium intake has been proven to reduce vascular resistance, which ultimately contributes to a decrease in both systolic and diastolic blood pressure (Regina et al., 2016).

Several recent studies have supported the effectiveness of Ambon banana consumption in hypertension management. A study by Sutria & Insani (2016) showed an average blood pressure reduction from 150/90 mmHg to 130/80 mmHg after the intervention. Another study by Tryastuti (2012) on patients with mild hypertension found that consuming two Ambon bananas daily for a week successfully lowered systolic blood pressure from 170.65 mmHg to 159.16 mmHg and diastolic pressure from 98.75 mmHg to 94.80 mmHg. These findings were reinforced by Kusumaningsih et al. (2022), who confirmed that regular consumption of Ambon bananas is effective in lowering blood pressure. Furthermore, research by Triwahyuni (2019) and Riska Asmidar (2022) also reported significant blood pressure reductions following an intervention of Ambon banana consumption. In addition to dietary interventions, family support plays a crucial role in the successful management of hypertension. Families are expected to provide emotional support and encourage the adoption of a healthy lifestyle.

Nevertheless, a lack of knowledge about hypertension and its management often serves as a major obstacle. Many patients and their families do not understand how to manage relapses or perform appropriate non-pharmacological care, which is often due to low levels of education and awareness (Zaima et al., 2020). This creates a gap between potentially effective non-pharmacological interventions and their implementation at the family level. Therefore, the role of the nurse as a health educator becomes vital in bridging this gap (Ningtias et al., 2023). Based on this background, this study aims to address this issue through a case study focused on family nursing.

The general objective of this study is to describe the implementation of education regarding Ambon banana consumption to improve the family's ability to care for a family member with hypertension. The specific objectives are as follows To describe the stages of the nursing process for family members with hypertension, the implementation of education on

Ambon banana consumption for families with a member who has hypertension, the responses or changes in the family after the implementation of education on Ambon banana consumption, and to analyze the gaps in the two hypertensive families who were the subjects of the case study.

Methods

This research employed a qualitative method with a case study design. This approach involves an intensive, detailed, and in-depth scientific investigation of a specific program, event, or activity, focusing on a single unit. In this research, the case study focused on a single unit: families with a member suffering from hypertension. The goal was to analyze data and assess nursing problems and their solutions through the implementation of education on Ambon banana consumption to enhance the family's caregiving abilities. The subjects of this study were two families with a member diagnosed with hypertension. The sample size was two families, selected based on specific inclusion criteria. This selection process can be described as a form of purposive sampling, as subjects were chosen based on predefined characteristics relevant to the study.

The respondents were selected based on the following inclusion criteria: they had to be a family with a member suffering from hypertension, willing to participate by signing an informed consent form after receiving an explanation, able to read, and capable of performing daily activities independently. This research was conducted in the working area of the Cikoneng Health Center, Ciamis Regency. The study was carried out from April 12 to April 17, 2025. The data collection instruments for this study included a comprehensive nursing assessment format for families, which guided the anamnesis and physical examination. The physical examination tools consisted of a stethoscope and a sphygmomanometer. Other materials included the Ambon bananas for the intervention, a blood pressure observation sheet to track changes, and a family knowledge assessment sheet to measure the impact of the education provided. The data analysis in this study used an unstructured qualitative approach, with the findings presented in a narrative format. The analysis process began in the field during data collection and continued until all data was gathered. The method involved presenting the collected facts, comparing them with relevant theories and standards, and then drawing conclusions and forming opinions based on the discussion of the issues studied.

Results

Initial Assessment of Families

The study involved two families with distinct characteristics. Family 1 was a nuclear family of seven, with the patient (Ms. O) being 50 years old with a junior high school education. Her initial blood pressure was 190/110 mmHg (hypertension stage 2). Family 2 was an elderly couple, with the patient (Ms. E) being 58 years old with an elementary school education. Her initial blood pressure was 150/100 mmHg (hypertension stage 1). Both families initially demonstrated a lack of knowledge regarding hypertension management, particularly concerning non-pharmacological therapies like the consumption of Ambon bananas. This led to the nursing diagnosis of Ineffective Family Health Management for both cases.

Table 1. Characteristic of Two Families

Characteristic	Family 1 (Patient: Ms. O)	Family 2 (Patient: Ms. E)
Patient Age	50 years	58 years
Patient Education	Junior High School (SMP)	Elementary School (SD)
Family Type	Nuclear Family (7 members)	Elderly Couple (2 members)
Initial Blood Pressure	190/110 mmHg	150/100 mmHg
Initial Knowledge	Lacked knowledge of hypertension management	Lacked knowledge of hypertension management
Family's Ability to Care	Not yet able to perform non-pharmacological therapy	Not yet able to perform non-pharmacological therapy

Implementation of Health Education

Health education on the consumption of Ambon bananas was provided to both families over five consecutive days, from April 12 to April 17, 2025. The sessions, lasting 30 minutes each, used leaflets and involved lectures and Q&A. The education for Family 1 took place in a quiet home environment, with consistent attendance from the patient and her husband. In contrast, the education for Family 2 occurred in a home located near a road, resulting in some noise, and attendance from the husband was inconsistent.

Evaluation of Response and Changes

Family 1 (Ms. O)

The family's understanding of hypertension and the role of Ambon bananas improved progressively over the five days. On day one, Ms. O could only answer one of four questions. By day five, she was able to fully explain the definition, benefits, contents, and consumption rules for Ambon bananas, correctly answering all four questions. She reported feeling that her blood pressure was more controlled. The family demonstrated a consistently positive and enthusiastic attitude. The husband, Tn. K, expressed his commitment to supporting his wife's care by incorporating Ambon bananas into her diet and ensuring she attended routine check-ups. A steady decrease in blood pressure was observed. The initial reading of 190/110 mmHg on day one (pre-intervention) decreased to 167/90 mmHg by day five.

Family 2 (Ms. E)

This family also showed a gradual increase in knowledge, though at a slower pace. On day one, Ms. E could not answer any questions. By day five, both she and her husband could correctly answer all four questions regarding the health education provided. Ms. E reported feeling healthier after the intervention. Family 2 also showed a positive and cooperative attitude. The husband, Tn. N, stated his willingness to support his wife's care by encouraging the consumption of Ambon bananas and reminding her to take her medication and attend check-ups. A consistent reduction in blood pressure was also recorded for Ms. E. Her initial reading of 150/100 mmHg on day one decreased to 138/90 mmHg by day five. The following table summarizes the blood pressure changes in both patients over the five-day intervention period. The measurements were taken after the morning consumption of the banana.

Table 2. The Blood Pressure Changes

Day	Family 1 (Ms. O) Blood Pressure (mmHg)	Family 2 (Ms. E) Blood Pressure (mmHg)
Day 1	180/100	150/100
Day 2	178/100	148/99
Day 3	175/98	145/99
Day 4	170/92	140/96
Day 5	167/90	138/90

Discussion

Based on the assessment results, Family 1's patient was 50 years old and Family 2's patient was 58 years old, with both families experiencing hypertension in middle age. The blood pressure of Family 1 was higher than that of Family 2, which was attributed to Family 2's inconsistent medication intake and infrequent visits to the Health Center. This finding is not in line with research conducted by Sari (2019), which states that as a person's age increases, their blood pressure tends to rise. Therefore, older individuals typically have higher blood pressure than younger ones.

In this study, the patient in Family 1 had a junior high school education, while the patient in Family 2 had an elementary school education. This was reflected in a fundamental difference: Ms. O (Family 1) understood the information about Ambon banana consumption more quickly, whereas Ms. E (Family 2) had difficulty comprehending the material presented. According to research by Tumondo, Wiyono, and Jayanti (2021), a person's behavior is strongly influenced by their level of knowledge. Knowledge, or the cognitive aspect, is a primary foundation that plays a crucial role in determining an individual's actions. Education level is also closely related to knowledge; a person with a higher education will find it easier to accept and understand information, thus tending to have broader knowledge.

The ability to care for a family member with hypertension in Family 1 and Family 2, based on the assessment, showed that Family 1 had better family support than Family 2. This is because Family 1 has many members who can care for their mother, whereas Family 2 has fewer family members to provide reminders or care. However, both families were still not able to optimally care for their hypertensive members. This is consistent with research by Ayuningtyas (2019), which states that family involvement in providing support and care is very important for the recovery process of a sick family member. The higher the family's knowledge in providing care, the more effective and optimal their role in the healing process.

According to Friedman (2010) as cited in Mila (2020), there are five family health tasks: identifying problems, making appropriate decisions about actions, providing care to sick family members, creating or maintaining a healthy home environment, and utilizing available health care facilities in the community. According to Gustina & Mulyati (2016, as cited in Handayani, 2020), family independence reflects the family's ability to solve problems independently, as well as a mental attitude that strives to increase community awareness, strengthen family resilience, and improve the quality and welfare of the family based on responsibility. However, families often make inappropriate decisions due to their low knowledge of health issues. Therefore, health education is one of the main interventions needed to assist families in managing health at home.

In the cases of Family 1 and 2, it was found that both families did not fully understand the health problems they were facing. The families still seemed confused when asked about hypertension and how to care for a family member with the non-pharmacological therapy of Ambon bananas. Both families were equally unable to care for the sick family member, leading to the conclusion that the families' level of knowledge and ability was still low.

The researcher provided education to improve the family's ability to care for a member with hypertension, focusing on the consumption of Ambon bananas. In delivering the education, the researcher used leaflets, lectures, and Q&A sessions, along with the consumption of Ambon bananas. Providing education on Ambon banana consumption to the community, especially to families with a hypertensive member, can increase understanding of how to manage, lower, and avoid complications resulting from hypertension. This is in line with research by Manurung (2022), which states that leaflets are one of the media that can be used for education, thus helping to better understand the consumption of Ambon bananas in managing hypertension. By providing space for families to ask questions and discuss healthy eating patterns, this approach can enhance the family's knowledge and positive attitude towards consuming Ambon bananas as a strategy to overcome hypertension.

Leaflets are a health education medium that can help family members better understand information. By using leaflets, information is conveyed in written and visual form, making it easier for family members to access and digest the material, thereby improving their memory and understanding of Ambon banana consumption in hypertension management. This is consistent with research by Fitri, Rusmikawati, Zulfah & Nurbaiti (2018), which states that leaflets are educational tools focused on conveying information in written and visual form, aiming to improve understanding of the material so that individuals can easily refer back to and apply the knowledge in their daily lives. This approach can increase their health awareness, particularly in managing hypertension.

Based on the case study results, there was a difference in the understanding of the health education material regarding Ambon banana consumption between Family 1 and Family 2. During the implementation of the health education, Family 1 showed faster progress in understanding the material compared to Family 2. This was likely due to the higher level of education of the members of Family 1, which made it easier for them to understand the material presented. This is in line with research by Taufiq (2019), which states that education level is one of the factors that influences a person's ability to understand material. Individuals with a higher education generally have a better ability to process information and learn, thus understanding more quickly.

Evaluation of Responses or Changes

After the health education on Ambon banana consumption was conducted, there was an increase in the knowledge of both families regarding hypertension management. As families were repeatedly exposed to information about Ambon banana consumption, their understanding, knowledge, and ability increased compared to previous days. From the health education, both families were able to understand the definition, benefits, contents, and rules of Ambon banana consumption. Although both families had low levels of education, they were able to accept and understand the information conveyed by the researcher. This was supported by the provision of self-learning materials in the form of leaflets by the researcher outside of the health education sessions, which facilitated the expansion of knowledge sources for both families. This is supported by researchers Darsini, Fahrurrozi, and Cahyono (2019), who state that a person with a low level of education does not always have low knowledge. This is because an increase in knowledge can be obtained not only from formal education but also

through life experiences, social interactions, and independent learning processes that can be sources of knowledge.

The results of the case study showed that the attitudes of both families were very enthusiastic and more positive after the health education on Ambon banana consumption. The positive attitude shown by the families was in the form of support in receiving information and a willingness to care for the family member with hypertension by applying the consumption of Ambon bananas as part of the therapy. The researcher believes that family support influences the attitude taken in caring for a family member suffering from hypertension. This is supported by research from Arinimi (2024), which states that family support includes attitudes, actions, and acceptance in caring for a sick family member. In addition, the family also plays a role as a supporter who is always ready to provide help and assistance when needed.

From this data, it is evident that the families were able to effectively manage hypertension with the non-pharmacological therapy of Ambon banana consumption, and the families were able to understand and apply this therapy routinely. Thus, this research succeeded in increasing the knowledge and positive attitude of the families in caring for their sick members. Family 1, whose members were younger and had a higher level of education, demonstrated a better understanding and more consistent attendance during the education sessions. Meanwhile, Family 2, with older members and a lower level of education, had difficulty understanding the material presented, and only one or two members attended. The cleaner and quieter environment in Family 1's home also contributed to the effectiveness of the health education. Consequently, the reduction in blood pressure in Family 1 was more significant compared to that in Family 2. This is in line with research by Prasetiya (2015), which shows that education level and the involvement of family members influence the understanding and application of health information.

Conclusion

This study concludes that structured health education on Ambon banana consumption is an effective non-pharmacological intervention for improving a family's ability to manage hypertension. The findings demonstrate that after the educational intervention, both families showed significant improvements in knowledge and attitude, alongside a notable decrease in the patient's blood pressure. The success of this intervention was influenced by various family characteristics, including age, education level, family support, and the home environment. Families with higher education levels and stronger support systems were able to comprehend and apply the information more rapidly, leading to more significant health outcomes. This highlights the critical role of family-centered nursing in empowering families to take an active role in health management. For the field of nursing, these findings underscore the value of integrating simple, accessible, and culturally relevant dietary education into standard care protocols, providing a practical tool to enhance patient care and promote family self-sufficiency in managing chronic conditions like hypertension.

Suggestion

Based on the conclusions and their implications, it is suggested that the findings of this study be applied across various levels. For families, it is recommended that they continue to apply the non-pharmacological therapy of Ambon banana consumption, using the provided leaflet to reinforce and maintain the knowledge they have gained. For educational institutions,

this case study can serve as a valuable reference for developing curriculum materials in family nursing courses, providing a resource for comparison in the application of health education on this topic. For healthcare services and professionals, particularly at community health centers like Puskesmas Cikoneng, it is advised that this health education model be implemented as a solution for families with ineffective hypertension management, serving as a practical reference for nurses conducting home care visits.

Acknowledgments

The author wishes to express sincere gratitude for the guidance and support received from various parties. Special thanks are extended to Mr. Yanyan Bahtiar, S.Kp., M.Kep, as the first supervisor; and Mrs. Kusmiyati, S.Kp., M.Kes, as the second supervisor, for their direction and invaluable input. Deepest appreciation goes to the author's beloved parents and extended family for their endless prayers and encouragement. Gratitude is also extended to all friends and colleagues in the Nursing Department and all other parties who contributed to the completion of this work.

Reference

Ardiansyah, M. Z., & Widowati, E. (2024). Hubungan Kebisingan dan Karakteristik Individu dengan Kejadian Hipertensi pada Pekerja Rigid Packaging. *HIGEIA (Journal of Public Health Research and Development)*, *8*(1), 141–151. https://doi.org/10.15294/higeia.v8i1.75362

Arif, C. (2021). *Penerapan Terapi Pisang Ambon Untuk Menurunkan Tekanan Darah Pada Keluarga Dengan Lansia Hipertensi*.

Badan Kebijakan Pembangunan Kesehatan. (2023). Prevalensi, Dampak, serta Upaya Pengendalian Hipertensi & Diabetes di Indonesia. *Kementerian Kesehatan*, 1–2. https://drive.google.com/file/d/1RGiLjySxNy4gvJLWG1gPTXs7QQRnkS--/view

Dinas Kesehatan Kabupaten Ciamis, 2023. (2023). *Profil Kesehatan*. *12*, 100.

Fatmawati, dkk. (2017). pengaruh pemberian pisang ambon (musa paradisiaca s) terhadap penurunan tekanan darah pada lansia penderita hipertensi. *Jurnal Kesehatan Muhammadiyah*, 160–165.

Kusumaningsih, D., Trismiyana, E., & Irawan, R. M. (2022). Efektivitas Penggunaan Teknik Konsumsi Pisang Ambon Terhadap Penurunan Tekanan Darah Pada Pasien Dengan Hipertensi Di Kelurahan Sukarame II Teluk Betung Barat Bandar Lampung. *Jurnal Kreativitas Pengabdian Kepada Masyarakat (Pkm)*, *5*(5), 1594–1600. https://doi.org/10.33024/jkpm.v5i5.4745

Maya, S., Muammar, & Hamdiana. (2024). *Efektifitas Pemberian Pisang Ambon Terhadap Penurunan Tekanan Darah Pada Pasien Hipertensi Di Desa Matang Sagoe Kecamatan Peusegan Kabupaten Bireun*. *6*, 9–17.

Ningtias, S. R., Yuliza, E., & Herliana, I. (2023). Pengaruh Senam Ergonomik terhadap Penurunan Tekanan Darah Tinggi di Wilayah RW 01 Mekarwangi Tanah Sareal Kota Bogor Tahun 2021. *Jurnal Interprofesi Kesehatan Indonesia*, *2*(2), 282–289. https://doi.org/10.53801/jipki.v2i2.60

Nopriani, Y., & Surya, D. (2024). *Efektivitas Konsumsi Pisang Ambon Terhadap Penurunan Tekanan Darah Pada Lansia Penderita Hipertensi Di Wilayah Kerja Puskesmas 7 Ulu Kota Palembang*. *5*.

Nugroho, K. P. A., Sanubari, T. P. E., & Rumondor, J. M. (2019). Faktor Risiko Penyebab Kejadian Hipertensi Di Wilayah Kerja Puskesmas Sidorejo Lor Kota Salatiga. *Jurnal Kesehatan Kusuma Husada*, 32–42. https://doi.org/10.34035/jk.v10i1.326

Permatasari, K. S., Mursudarinah, M., & Prajayanti, E. D. (2021). Pengaruh Konsumsi Pisang Ambon terhadap Perubahan Tekanan darah pada Lansia dengan Hipertensi. *Nursing Sciences Journal*, *5*(1), 1. https://doi.org/10.30737/nsj.v5i1.1580

Regina, T. S., Ivonny, S. . M. ., & Damajanty, P. . C. . H. . (2016). Hubungan kadar natrium dengan tekanan darah pada remaja di Kecamatan Bolangitang Barat Kabupaten Bolaang Mongondow Utara. *Jurnal E-Biomedik*, *4*(2), 37–45. https://doi.org/10.35790/ebm.4.2.2016.14862

Tumundo, D., Wiyono, W., & Jayanti, M. (2021). Tingkat Kepatuhan Penggunaan Obat Antihipertensi Pada Pasien Hipertensi Di Puskesmas Kema Kabupaten Minahasa Utara. *Pharmacon*, *10*(4), 1–8.

Zaima, Z., Samino, S., Mariza, A., & Kurniasari, D. (2020). Konsumsi Pisang Dapat Menurunkan Tekanan Darah Pada Lansia. *Jurnal Kebidanan Malahayati*, *6*(1), 77–83. https://doi.org/10.33024/jkm.v6i1.1668