

CHAPTER I

INTRODUCTION

1.1 Research Background

Hypertension was a leading cause of death worldwide and contributes to the development of cardiovascular disease and other complications, such as coronary heart disease.¹ Hypertension was one of the most common types of cardiovascular disease in society. It is often referred as “the silent killer” because it frequently presents without clear symptoms, causing individuals to be unaware of their condition until complications arise.² The prevalence of hypertension in Indonesia, based on the Indonesian Health Survey, showed a decline in 2023 to 30,8% among individuals aged 18 and older, compared to 34,1% in 2018. In East Java, the prevalence of hypertension in 2023 was 34,4%, ranking fourth among the provinces with the highest hypertension cases in Indonesia.³ Data from the Ngawi Regency Central Statistics Agency in 2019 showed that hypertension ranked as the second most prevalent disease, with 66,816 reported cases.⁴ Data from Jogorogo Public Health Center indicates that Jogorogo ranked seventh for the highest hypertension cases in Ngawi Regency in 2023, with a prevalence of 39,7%.

The 2023 Indonesian Health Survey reported the prevalence of hypertension by age group as follows: 39,1% in the 45-54 age group, 49,5% in the 55-64 age group, and 57,8% in the 65-74 age group.⁵ Based on these results, the highest prevalence of hypertension is observed in the pre-elderly and elderly age groups. As individuals age, physiological functions tend to decline due to the aging process, increasing the risk of various non-communicable diseases, including the hypertension. Age is a significant factor which is influencing the

¹ Perhimpunan Dokter Hipertensi Indonesia. Konsensus Penatalaksanaan Hipertensi 2021 : *Update Konsensus PERHI 2019*. Perhimpunan Dokter Hipertensi Indonesia. 2021;1–66.

² Kemenkes RI. 2019. *Hipertensi Penyakit Paling Banyak Didap Masyarakat*. Kementerian Kesehatan RI. Jakarta.

³ Kemenkes RI. 2023. *Survei Kesehatan Indonesia 2023 Dalam Angka*. Kementerian Kesehatan RI.

⁴ Badan Pusat Statistik Kabupaten Ngawi. 2019. *Jumlah Kasus 10 Penyakit Terbanyak di Kabupaten Ngawi 2019*. Badan Pusat Statistik Kabupaten Ngawi.

⁵ Kemenkes RI. 2023. *Survei Kesehatan Indonesia 2023 Dalam Angka*. Kementerian Kesehatan RI.

development of hypertension, as ageing leads to structural and functional changes in the cardiovascular system, resulting in elevated blood pressure.⁶ Women, after entering menopause, experience an increase in blood pressure prevalence due to hormonal factors, which is higher than that in men.⁷

Another factor contributing to hypertension is an imbalance in nutrient intake. Hypertension management can be achieved by controlling nutrient consumption, particularly by balancing potassium and sodium intake, which are closely related to blood pressure regulation. Potassium-rich foods help reduce sodium levels, thereby aiding in lowering blood pressure to a normal range.⁸ A low potassium intake can lead to increased the blood pressure and the renal dysfunction, indicating the kidney vascular resistance. Potassium plays a crucial role in maintaining osmotic balance and acid-base equilibrium in body fluids while also strengthening blood vessel walls to maintain their elasticity.⁹

A low potassium intake combined with high sodium levels can be balanced by consuming potassium-rich fruits. Some fruits with high potassium content include golden finger bananas and sukari dates. The potassium content in golden finger bananas and sukari dates has the potential to help lower blood pressure. Every 100 grams of golden finger bananas contains 392 mg of potassium.¹⁰ A previous study by Angraini (2021) stated that golden finger bananas have been proven to reduce systolic blood pressure by 20 mmHg and diastolic blood pressure by 9,44 mmHg.¹¹ Sukari dates contain 620 milligrams of potassium per 100 grams of dried dates.¹² Another study also states that

⁶ Janu Purwono, *et al.* 2020. *Pola Konsumsi Garam Dengan Kejadian Hipertensi Pada Lansia*, Jurnal Wacana Kesehatan, Vol.5 No.1 : 531-542.

⁷ Aditya Candra, *et al.*, 2022. *Faktor-Faktor Yang Berhubungan Dengan Kejadian Hipertensi Di Desa Baet Lampuot Aceh Besar*, Media Kesehatan Masyarakat Indonesia, Vol. 21 No. 6(Fakultas Kesehatan Masyarakat, Universitas Diponegoro) : 418–423.

⁸ Anugrah Novianti, *et al.* 2021. *Pengetahuan Gizi, Asupan Natrium, Kalium, Vitamin D Berhubungan Dengan Tekanan Darah Ibu Hamil*, Darussalam Nutrition Journal, Vol. 5 No. 2 : 90–100.

⁹ Rizki Amalia Novita, *et al.* 2019. *Peran Smoothies Kurma Terhadap Tekanan Darah Penderita Hipertensi*. Jurnal Riset Kesehatan Poltekkes Depkes Bandung, Vol. 11 No. 2

¹⁰ Tabel Konsumsi Pangan Indonesia, 2017.

¹¹ Hesti Angraini. 2021. Skripsi. *Pengaruh Pemberian Pisang Ambon Dan Pisang Mas Terhadap Tekanan Darah Penderita Hipertensi Di Wilayah Kerja Puskesmas Muara Pinang Kabupaten Empat Lawang Provinsi Sumatera Selatan*. Poltekkes Kemenkes Bengkulu.

¹² Azhari Siddeeg, *et al.* 2018. *Sugar Profile, Volatile Compounds, Composition and Antioxidant Activity of Sukkari Date Palm Fruit*. Journal Food Sci Technol. 56 (2): 754-762.

adding Sukari dates helps increase the potassium content in kurmajasu juice, making it higher than that of Khalas and Tunisian dates.¹³ Dates are the most frequently mentioned fruit in the Qur'an, appearing 20 times across 16 surahs. Both bananas and dates are classified as “Asy-Syifa,” meaning "healing foods," in the Qur'an. Bananas offer various health benefits, including reducing the risk of heart disease and degenerative conditions such as hypertension.¹⁴ Dates contain a variety of essential nutrients that provide significant health benefits. The potassium in dates is a regulator and stabilizer of blood pressure while supporting blood vessel health. Additionally, dates have a higher flavonoid content than cucumbers, further contributing to their ability to help lower blood pressure.¹⁵

A previous study conducted by Badriah *et al.* (2019) found a significant difference in mean systolic blood pressure before and after consuming golden finger bananas three times a day, with each serving consisting of 100 grams for seven days. The reduction in systolic blood pressure was 21 mmHg, while diastolic blood pressure decreased by 20 mmHg.¹⁶ Another study on the effects of date consumption on blood pressure by Prayoga *et al.* (2022) found a significant difference in the reduction of systolic and diastolic blood pressure after consuming 100 grams of Ajwa dates per day for six weeks. The average systolic and diastolic blood pressure reduction was 14 mmHg and 8,5 mmHg, respectively.¹⁷

Based on the background described above, the researcher aims to study the effects of golden finger banana and sukari date consumption on blood

¹³ Nurharryati, *et al.* 2025. Analisis Zat Gizi Jus Kurmajasu dengan Jenis Kurma yang Berbeda. PROSIDING, Seminar Nasional Integrasi Pertanian dan Peternakan. Vol. 3 No. 1:243-252.

¹⁴ Dewi Sarianti dan Yuniza Nasywa Rini, 2023. *Penyembuhan Berbagai Penyakit Menurut Persepektif Islam*, Islamic Education, Vol. 1 No. 3: 569–79.

¹⁵ Edwin Agung Prayoga, *et al.* 2022. *Pengaruh Pemberian Kurma Ajwa (Phoenix Dactylifera) Terhadap Tekanan Darah Pada Lansia*, Journal Of Nutrition College, Vol. 11 No. 1 : 87–97.

¹⁶ Dewi Lailatul Badriah, *et al.* 2019. *Pengaruh Konsumsi Pisang Emas (Musa Aculinata) Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi Ringan di Kecamatan Selajambe Kabupaten Kuningan Tahun 2018*, Jurnal Ilmu Kesehatan Bhakti Husada: Health Sciences Journal, Vol. 10 No. 1: 11–7.

¹⁷ Edwin Agung Prayoga, *et al.* 2022. *Pengaruh Pemberian Kurma Ajwa (Phoenix Dactylifera) Terhadap Tekanan Darah Pada Lansia*, Journal Of Nutrition College, Vol. 11 No. 1 : 87–97.

pressure, potassium intake and sodium intake in pre-elderly women with hypertension.

1.2 Research Problems

Is there an effect of golden finger banana and sukari date consumption on blood pressure, potassium intake, and sodium intake in pre-elderly women with hypertension?

1.3 Research Objectives

1. General Objectives

This study aims to analyze the effect of golden finger banana and sukari date consumption on blood pressure, potassium, and sodium intake in pre-elderly women with hypertension.

2. Specific Objectives

- a. To describe the characteristics of the respondents.
- b. To analyze the effect of golden finger banana consumption on blood pressure, potassium, and sodium intake in pre-elderly women with hypertension.
- c. To analyze the effect of sukari date consumption on blood pressure, potassium, and sodium intake in pre-elderly women with hypertension.
- d. To analyze the significant effect of golden finger banana and sukari date consumption on blood pressure, potassium, and sodium intake in pre-elderly women with hypertension.

1.4 Research Benefits

1. Theoretical Benefits

This study is expected to provide the information on the effects of golden finger banana and sukari date consumption on the blood pressure in individuals with hypertension.

2. Practical Benefits

This study is expected to help individuals with hypertension modify their diet for better health and inform the public about the benefits of consuming golden finger bananas and sukari dates.

1.5 Authenticity Research

Table 1. Authenticity Research

Research Title	Research Type	Variable	Result	Differences in Research
The Effect of Ajwa Date (<i>Phoenix dactylifera</i>) Consumption on Blood Pressure in the Elderly. ¹⁸	Experiment with the design Randomized Controlled Trial (RCT).	Independent: ajwa date consumption in the treatment group and control group. Dependent: Systolic and diastolic blood pressure.	There was a significant difference in the reduction of systolic and diastolic blood pressure ($p < 0.001$) after the administration of 100 grams of ajwa dates per day for six weeks, with an average decrease of 14 mmHg in systolic blood pressure and 8.5 mmHg in diastolic blood pressure.	Method: Quasi-experiment with a pretest and posttest with a control group design. Independent Variables: Consumption of golden finger bananas and sukari dates. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 40 participants divided into 2 groups. This study: 30 participants divided into 3 groups. Intervention: Previous study: Used ajwa dates. This study: Uses golden finger bananas and sukari dates.
The Effect of Ambon Banana Consumption on Blood Pressure in Elderly Individuals with Hypertension. ¹⁹	Pre-experimental with a one-group pre-test and post-test design.	Independent: Ambon banana consumption Dependent Variable: Blood pressure	There was a significant effect of Ambon banana consumption on reducing blood pressure in elderly individuals with hypertension. The administration of two Ambon bananas (140g per banana) per day for seven days resulted in blood pressure changes in 61.3% of the respondents.	Method: Quasi-experiment with a pretest and posttest with a control group design. Independent Variable: Administration of golden finger bananas and sukari dates. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 31 participants. Current study: 30 participants, divided into three groups. Intervention: The previous study used ambon bananas. The current study uses golden finger bananas and sukari dates.

¹⁸ Edwin Agung Prayoga, *et al.* 2022. *Pengaruh Pemberian Kurma Ajwa (Phoenix Dactylifera) Terhadap Tekanan Darah Pada Lansia*, Journal Of Nutrition College, Vol. 11 No. 1 : 87–97.

¹⁹ Yulianti, I, *et al.* 2019. *Pengaruh Pemberian Pisang Ambon Terhadap Tekanan Darah Pada Lansia Penderita Hipertensi*. Jurnal Ners Dan Kebidanan, Vol. 1 : 70-76.

Research Title	Research Type	Variable	Result	Differences in Research
The Effect of Ambon Banana (<i>Musa Paradisiaca</i> S) Consumption on Blood Pressure in Pre-Elderly Individuals with Hypertension in the Lubuk Buaya Health Center Area, Padang, 2019. ²⁰	Quasi-experimental non-equivalent group design	Independent Variable: Ambon banana consumption Dependent Variable: Blood pressure.	There was a decrease in blood pressure of 29/9 mmHg in hypertensive patients after consuming 300g of Ambon bananas before breakfast every day for 7 days.	Method: Quasi-experiment with a pretest and posttest with a control group design. Independent Variable: golden finger bananas and sukari dates consumption. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 20 participants, divided into two groups. Current study: 30 participants, divided into three groups. Intervention: The previous study used ambon bananas. The current study uses golden finger bananas and sukari dates.
The Effect of Ambon and Golden Finger Banana Administration on Blood Pressure in Hypertensive Patients in the Working Area of Muara Pinang Health Center, Empat Lawang Regency, South Sumatra Province. ²¹	Quasi experiment with a pretest and posttest with control group design. The sample was selected using the purposive sampling method.	Independent Variable: Ambon bananas and mas bananas consumption Dependent Variable: Blood pressure.	The administration of Ambon bananas and Mas bananas for seven consecutive days, with 100 grams of Ambon bananas and 100 grams of Mas bananas, reduced blood pressure. The average decrease in systolic blood pressure was 24.44 mmHg, and diastolic blood pressure decreased by 2.22 mmHg for Ambon bananas. Meanwhile, the average decrease in systolic blood pressure for Mas bananas was 20.00 mmHg, with a diastolic blood pressure reduction of 9.44 mmHg.	Independent Variable: Administration of golden finger bananas and sukari dates for hypertensive patients. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 36 participants, divided into two groups. Current study: 30 participants, divided into three groups. Intervention: Previous study used ambon bananas and golden finger bananas. Current study uses golden finger bananas and sukari dates.

²⁰ Atika Putri Khairani. 2019. Skripsi. *Pengaruh Pemberian Pisang Ambon (Musa Paradisiaca S) Terhadap Tekanan Darah Pra Lansia Hipertensi Di Wilayah Puskesmas Lubuk Buaya Padang Tahun 2019*”, Skripsi. Sekolah Tinggi Ilmu Kesehatan Perintis Padang.

²¹ Hesti Anggraini. 2021. Skripsi. *Pengaruh Pemberian Pisang Ambon Dan Pisang Mas Terhadap Tekanan Darah Penderita Hipertensi Di Wilayah Kerja Puskesmas Muara Pinang Kabupaten Empat Lawang Provinsi Sumatera Selatan*. Poltekkes Kemenkes Bengkulu.

Research Title	Research Type	Variable	Result	Differences in Research
The Effect of Golden Finger Banana (<i>Musa Acuminata</i>) Consumption on Blood Pressure Reduction in Patients with Mild Hypertension in Selajambe District, Kuningan Regency, 2018. ²²	Quasi-experiment with a pre-post-test design without a control group. The sample was selected using the purposive sampling method.	Independent: Administration of golden finger bananas Dependent: Blood pressure	There was a difference in the mean systolic blood pressure before and after the administration of golden finger bananas three times a day, with 100 grams per serving for seven days, amounting to 21 mmHg. The mean diastolic blood pressure difference was 20 mmHg.	Method: Quasi-experiment with a pretest and posttest with a control group design. Independent Variable: Administration of golden finger bananas and sukari dates. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 10 respondents. Current study: 30 participants, divided into three groups. Intervention: The previous study used golden finger bananas. The current study uses golden finger bananas and sukari dates.
The Effect of Infused Water with Dates on Potassium Level Changes in Prehypertensive Students at Poltekkes Kemenkes Yogyakarta. ²³	Quasi-experiment with a one-group before-and-after design.	Independent: Administration of date-infused water. Dependent: Potassium levels.	The administration of infused water with seven Deglet Nour dates, weighing 60 grams, combined with 1,750 ml of demineralized water for seven days significantly affected potassium levels ($p = 0.002$).	Method: Quasi-experiment with a pretest and posttest with a control group design. Independent Variable: Administration of golden finger bananas and sukari dates. Dependent Variables: Blood pressure, potassium intake, and sodium intake. Sample Size: Previous study: 21 respondents. Current study: 30 participants, divided into three groups. Intervention: The previous study used infused water with dates. The current study uses golden finger bananas and sukari dates.

²² Dewi Lailatul Badriah, *et al.* 2019. *Pengaruh Konsumsi Pisang Emas (Musa Acuminata) Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi Ringan di Kecamatan Selajambe Kabupaten Kuningan Tahun 2018*, Jurnal Ilmu Kesehatan Bhakti Husada: Health Sciences Journal, Vol. 10, No. 1: 11–7.

²³ Safia Wahyu Pratiwi, *et al.*, 2021. *Pengaruh Pemberian Infused Water Kurma terhadap Perubahan Kadar Kalium pada Mahasiswa Poltekkes Kemenkes Yogyakarta dengan Prehipertensi*, Jurnal Ilmiah Kesehatan. Vol. 16, No. 3: 149-158.