



The Use of Bay Leaf Decoction to Lower Blood Pressure in Patients with Hypertension

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Abstract: Hypertension is a clinical condition characterized by systolic blood pressure (SBP) ≥ 140 mmHg and/or diastolic blood pressure (DBP) ≥ 90 mmHg after repeated blood pressure measurements. Bay leaves (*Syzgium Polyanthum*) can be used as an effective non-pharmacological treatment to minimize the recurrence of hypertension. This study aims to apply bay leaf decoction to lower blood pressure in patients with hypertension. A descriptive study design was used. Data collection techniques included interviews and observations before and after therapy. The instruments used in this study were assessment sheets, observation sheets, SOPs for blood pressure measurement, and SOPs for administering bay leaf decoction. This study was conducted on two respondents with grade 1 hypertension, subject I was a 38-year-old woman and subject II was a 45-year-old woman. The results showed that blood pressure before intervention in subject I was 140/90 mmHg down to 120/80 mmHg and in subject II was 150/100 mmHg down to 130/80 mmHg. The blood pressure results after intervention in subject I were 120/80 mmHg and in subject II were 130/80 mmHg. This study proves that the use of bay leaf decoction is effective in lowering blood pressure in hypertensive patients. This study is expected to be used as one of interventions in lowering blood pressure in hypertensive patients.

Keywords: Hypertension, Blood Pressure, Bay Leaf Decoction Therapy

Introduction

Hypertension is one of the major public health issues worldwide and is the most common risk factor for cardiovascular disease; however, it is still not being managed optimally on a global scale (Hastuti, 2020). In South-East Asia, the country with the highest prevalence of hypertension is Thailand (23.6 per cent), followed by Myanmar (21.5 per cent) and Indonesia (21.3 per cent).

According to data from the 2022 Profile of the Aceh Provincial Health Office, there were 464,839 cases of hypertension in the Aceh region, accounting for around 30 per cent of the total population. According to data from

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Patients with hypertension generally experience headaches, palpitations, a heavy sensation at the nape of the neck, fatigue, blurred vision and ringing in the ears. The consequences of hypertension can lead to conditions such as heart attacks, strokes, arterial disorders, cerebrovascular disease, heart disease and various other cardiovascular conditions, as well as various types of cancer such as liver cancer, lung cancer, cervical cancer and breast cancer (Lukitaningtyas et al., 2023).

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Bay leaves (*Syzygium polyanthum*) can be used as a highly effective non-pharmacological remedy; this plant has medicinal properties and is very easy to find (Murwani et al., 2023). Bay leaves contain alkaloids, tannins, saponins, triterpenoid essential oils, flavonoids and steroids. Flavonoids help to reduce the secretion of antidiuretic hormone (ADH), which can lead to the excretion of large amounts of urine throughout the body (Sina Mugna et al., 2023).

Based on the results of a preliminary survey conducted on 20 September 2025 at the Lueng Bata Community Health Centre in Banda Aceh, the latest data on hypertension cases from nine villages registered and receiving treatment between June and August 2025 at the Lueng Bata Community Health Centre showed a total of 25 people, comprising 10 men and 15 women. Brief interviews conducted by the researcher with five patients visiting the Lueng Bata Community Health Centre who were suffering from hypertension revealed that the patients routinely took antihypertensive medication such as 5 mg of amlodipine every day. These patients reported that symptoms such as headaches frequently recurred and only subsided when they took their medication. On average, these patients admitted to having an unhealthy lifestyle, such as frequently consuming salted fish and rarely exercising. The average systolic blood pressure of these five patients was around 140–160 mmHg and the diastolic blood pressure around 90–100 mmHg. As for how they managed these symptoms, they reported eating cucumber and resting for a short while. According to the accounts of these five patients, two were already aware of the benefits of bay leaf tea but had never consumed it when experiencing symptoms of hypertension.

Method

The research design employed was a descriptive study. The subjects in this study were two clients with hypertension in the Lueng Bata Community Health Centre catchment area, meeting the following criteria:

1. Willing to participate in the study and cooperative
2. Subjects with systolic blood pressure of 140–159 mmHg and diastolic blood pressure of 90–99 mmHg, or stage 1 hypertension
3. Subjects aged 36–45 years (late adulthood)
4. Female subjects
5. Subjects not taking any pharmacological medication
6. Subjects with no contraindications to bay leaf decoction
7. Subjects with no other comorbidities such as peptic ulcer disease (dyspepsia).

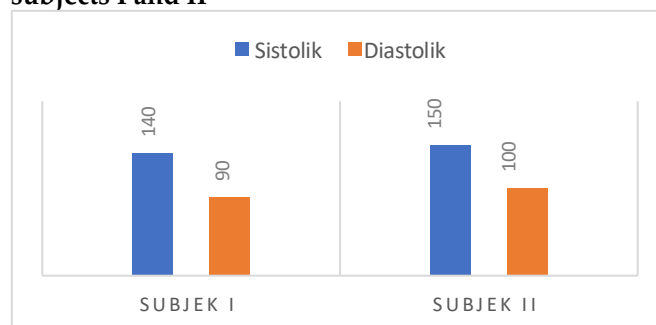
This study will be conducted in the catchment area of the Lueng Bata Community Health Centre in November 2025. This study will be conducted in the catchment area of the Lueng Bata Community Health Centre in November 2025.

Result and Discussion

Subject I, identified as Mrs D, is 38 years old, Muslim, holds a bachelor's degree (S1), and lives with her child and husband. She has suffered from hypertension since her last pregnancy, which was three years ago. Currently, Subject I works as a Quran teacher; she reports frequently experiencing dizziness, a stiff neck, and cold sweats at night. The subject's current vital signs are blood pressure 140/100 mmHg, respiratory rate 20 breaths per minute, and pulse rate 99 beats per minute. Subject II, Mrs R, aged 45, is Muslim and has completed lower secondary education. She lives with her husband and has had hypertension for the past eight years. She is currently a housewife and looks after a small shop. She reports frequently feeling tired, having headaches, a stiff neck and numbness in her legs when her blood pressure rises, such as in the mornings. The subject's current vital signs are 150/90 mmHg, respiratory rate 19 breaths per minute, and pulse 88 beats per minute.

Diagram 4.1

Results of the initial blood pressure assessment for subjects I and II

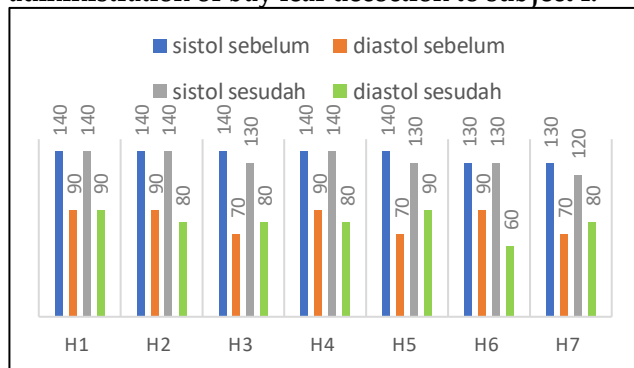


Based on Diagram 4.1 above, it can be seen that the blood pressure of Subject I was 140/90 mmHg and that of Subject II was 150/100 mmHg. Following an assessment of both subjects regarding their hypertension—where both subjects were found to have elevated blood pressure—a nursing intervention was implemented involving the administration of bay leaf decoction. The administration of bay leaf decoction is a non-pharmacological therapeutic technique used to lower blood pressure in patients with hypertension, involving the administration of the decoction twice daily—in the morning and evening—for seven consecutive days. Following the completion of the bay leaf intervention, daily evaluations were carried out over the seven-day period to determine whether the administration of the

bay leaf decoction was effective in lowering high blood pressure in subjects with hypertension.

Diagram 4.1

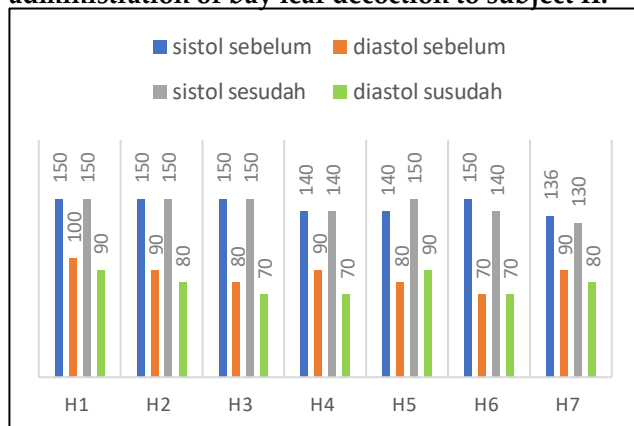
Blood pressure (BP) readings before and after administration of bay leaf decoction to subject I:



Based on diagram 4.1, it can be seen that Subject I's blood pressure fell from 140/90 mmHg to 120/80 mmHg

Diagram 4.2

Blood pressure (BP) readings before and after administration of bay leaf decoction to subject II:



Based on diagram 4.2, it can be seen that there was a decrease in blood pressure in subject II from 150/100 mmHg to 130/80 mmHg

Based on the results of a study into the use of bay leaf decoction therapy to lower blood pressure in subjects with hypertension, it was found that there was a change or reduction in blood pressure in hypertensive subjects between before and after the administration of bay leaf decoction therapy: in Subject I, blood pressure fell from 140/ 90 mmHg to 120/80 mmHg, and in Subject II from 150/100 mmHg to 130/80 mmHg.

On the first day, Subject I's blood pressure before the bay leaf decoction therapy was 140/90 mmHg and remained at 140/90 mmHg. On the second day, the blood pressure before treatment was 140/90 mmHg and remained at 140/80 mmHg; on the third day, the blood pressure before treatment with the bay leaf decoction was 140/70 mmHg and dropped to 130/80 mmHg; on

the fourth day, blood pressure rose due to staying up late and drinking coffee; blood pressure before treatment with bay leaf decoction was 140/90 mmHg and fell to 140/80 mmHg; on the fifth day, blood pressure before treatment with bay leaf decoction was 140/70 mmHg and fell to 130/90 mmHg; on the sixth day, blood pressure before treatment with bay leaf decoction was 130/80 mmHg and dropped to 130/60; on the seventh day, blood pressure before treatment with bay leaf decoction was 130/70 mmHg and dropped to 120/80 mmHg.

Subject II: on the first day, blood pressure before treatment with bay leaf decoction was 150/100 mmHg, falling to 150/90 mmHg; on the second day, blood pressure before treatment with bay leaf decoction was 150/90 mmHg, falling to 150/80 mmHg; on the third day, blood pressure before treatment with bay leaf decoction was 150/ 80 mmHg to 150/70 mmHg; on the fourth day, blood pressure before treatment with bay leaf decoction was 140/90 mmHg and fell to 140/70 mmHg; on the fifth day, blood pressure rose in the afternoon because the subject had consumed salty and fatty foods such as salted fish at lunch, and blood pressure before treatment with bay leaf decoction was 140/ 80 mmHg to 150/70 mmHg; on the sixth day, the blood pressure before the bay leaf decoction therapy was 150/70 mmHg, which dropped to 140/60 mmHg; on the seventh day, the blood pressure before the bay leaf decoction therapy was 130/90 mmHg, which dropped to 130/80 mmHg.

Based on the researchers' hypothesis, the administration of bay leaf decoction was able to lower blood pressure in both subjects after seven consecutive days of treatment, as bay leaves are a plant containing flavonoids capable of helping to dilate blood vessels.

This is consistent with the theory put forward by Erman et al. (2022), namely that bay leaves (*Syzygium polyanthum*) are a plant with a wide range of benefits. As well as being used as a cooking spice, bay leaves are also used as a herbal remedy. This plant is known to be effective in helping to treat various ailments, one of which is hypertension. Bay leaves contain essential oils such as citral and eugenol, which have antibacterial properties, as well as tannins and flavonoids, which have anti-inflammatory effects.

Based on the researchers' assumptions, the subjects' consistency in undergoing the therapy was evidenced by a reduction in blood pressure, and the subjects reported that their symptoms had lessened since consuming the bay leaf decoction. The success of this therapy can be achieved if the procedure and intensity are carried out in accordance with the standard operating procedures (SOPs) for the preparation and consumption of bay leaf decoction.

This is consistent with the research by Antika et al. (2025), which found that patients' irregular adherence to treatment can be influenced by various factors, including boredom with taking medication, which leads to a decline in motivation during the course of therapy. Based on the researchers' assumption, the greater a person's knowledge, the better their understanding of the condition they are suffering from and of ways to prevent and reduce factors contributing to high blood pressure; thus, should a person experience symptoms of high blood pressure, they will be able to manage these symptoms using both pharmacological and non-pharmacological approaches.

This is consistent with the research by Sibulo et al. (2025), which states that such health education is capable of increasing the general public's knowledge regarding the prevention of hypertension and methods of non-pharmacological management and control at home.

Family support was also a key factor in the success of the treatment. During the study, Subject I and Subject II received full support from their families whilst the researcher administered bay leaf decoction to reduce the elevated blood pressure in both subjects. As was the case with Subject I, their family and children were very supportive, motivating and encouraging the subject to achieve recovery; and Subject II had a family that was very supportive and facilitated the process of administering bay leaf decoction therapy to lower blood pressure.

Factors that contribute to an increase in blood pressure include hereditary factors, pregnancy, diet, sleep patterns and lifestyle.

At the time of the study, it was found that Subject I had a family history of high blood pressure—inherited from his father—along with an unhealthy lifestyle and a history of smoking, whilst Subject II suffered from hypertension due to an unhealthy lifestyle. According to the researchers' hypothesis, genetic or hereditary factors are also factors that can influence the development of hypertension due to significant familial links. If one or both parents have a history of hypertension, their children are likely to be at a higher risk of developing hypertension.

This is consistent with the findings of Sumarni et al. (2023), who stated that if both parents have hypertension, the risk of their children developing hypertension increases by approximately 4 to 15 times compared to children whose parents have normal blood pressure.

Pregnancy-related factors may also influence the development of hypertension; for instance, the study found that Subject I had suffered from hypertension since her third pregnancy. The researchers hypothesise that pregnancy-related factors may also contribute to

elevated blood pressure due to increased cardiac output during pregnancy, and that high blood pressure may persist following childbirth.

This is consistent with the study by Tahu et al. (2025), in which high blood pressure was the sole clinical sign to emerge; however, in some women, this condition can develop into more complex disorders such as hypertensive heart disease, impaired kidney function, or cerebral vascular abnormalities.

Dietary factors also influence the development of hypertension; during the study, it was found that Subject I frequently consumed beverages high in caffeine, such as coffee, and on the fourth day of the study, Subject I experienced a rise in blood pressure due to their consumption of black coffee. Meanwhile, Subject II frequently consumed foods high in fat and salt. According to the researchers' hypothesis, consuming an unhealthy diet increases a person's susceptibility to disease, as demonstrated by these two subjects, who frequently consumed foods high in fat and salt, as well as excessive amounts of caffeinated drinks. Such foods, if consumed continuously by individuals with hypertension, can very rapidly raise blood pressure in these patients.

This is consistent with the research by Purwono et al. (2020), which found that salt intake, or the high sodium content in the diet, is one of the causes of hypertension.

Conclusion

Based on the case study presentation and discussion regarding hypertension and blood pressure reduction, it can be concluded that the administration of bay leaf decoction can lower blood pressure in patients with hypertension. Based on Subject I's statement that she has suffered from hypertension for the past 3 years, her condition first emerged during her third pregnancy. Following the administration of bay leaf decoction for 7 days, taken twice daily, there was a reduction in blood pressure in Subject I, from 140/90 mmHg to 120/80 mmHg. Based on Subject II's statement that they had been suffering from hypertension for 8 years due to poor dietary habits and lifestyle, the use of bay leaf decoction for 7 days, administered twice daily, resulted in a reduction in blood pressure in Subject II from 150/100 mmHg to 130/80 mmHg. Several factors influence hypertension, including diet, lifestyle and hereditary factors. Factors contributing to the success of the therapy include consistency and adherence to the treatment regimen, education and family support.

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