

The Application of Cucumber Juice Administration in Hypertensive Patients (Literature Review)

Galuh Mega Ranti¹, Dewi Erna Marisa¹, Nonok Karlina¹

¹ Institut Teknologi Dan Kesehatan Mahardika, Cirebon, Indonesia

Article Info

Keywords :

Hypertension, Bay Leaves

Corresponding Author :

Galuh Mega Ranti

E-mail :

galuhrantimega@gmail.com

ABSTRACT

Background & Objective: Hypertension is a condition in which a person experiences an increase in blood pressure above normal limits, which can cause pain or death. Efforts to lower blood pressure can be done through pharmacological and non-pharmacological treatments. For people with hypertension, non-pharmacological therapy is an alternative. This involves consuming foods such as cucumbers, which are high in potassium, calcium, and other important nutrients. **Method:** The research method used a literature review of studies published between 2020 and 2024. The literature search employed a data strategy using the keywords “hypertension” and “cucumber,” utilizing the Google Scholar and PubMed databases. The criteria included articles discussing the relationship between hypertension and cucumber, with full-text availability. **Result:** The results from 10 articles indicate that consuming cucumber juice in hypertensive patients is effective in lowering blood pressure. **Conclusion:** It is recommended that hypertensive patients consume cucumber juice regularly to achieve effective results; however, hypertensive patients should also maintain a balanced diet and engage in sufficient physical activity.

DOI: doi.org/10.56359/igj.v4i2A.712



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

Introduction

Hypertension remains one of the major health issues worldwide, including in Indonesia, where it is often referred to as the “silent killer.” It is one of the cardiovascular diseases that can contribute to other cardiovascular conditions such as heart attacks, strokes, heart failure, and coronary artery disease (WHO, 2015; Amisi et al., 2018; Tamburian et al., 2020; Santi et al 2022).

Hypertension is a condition where a person's systolic blood pressure reaches or exceeds 140 mmHg, and/or their diastolic blood pressure reaches or exceeds 90 mmHg. Although most people with hypertension do not exhibit specific symptoms or complaints, some non-specific symptoms may be felt, such as headaches and dizziness, palpitations, chest pain, and other complaints (Nelwan 2022).

The prevalence of hypertension in Indonesia reaches 36%. According to the Indonesian Basic Health Research, the prevalence of hypertension is 34.1% (Ministry of Health of the Republic of Indonesia, 2023). According to the American Heart Association (AHA), approximately 74.5 million Americans over the age of 20 suffer from hypertension. However, nearly 95% of cases have unknown causes (WHO, 2023). The prevalence of diagnosed hypertension among individuals over the age of 18, categorized by province in Indonesia.

Efforts in managing hypertensive patients begin with modifying the patient's lifestyle, followed by administering treatment according to medical criteria and recommendations. This is done to control the patient's blood pressure levels, ensuring they remain within recommended limits. In Indonesia, the public often prefers herbal or traditional medicines over conventional ones. This is evidenced by a study by Ervina and Ayubi (2018), which states that 66.2% of the population still prefers to use traditional medicine over conventional medicine. However, many Indonesians are still not properly processing and using herbal remedies, which could potentially lead to toxic effects.

There are two approaches to managing hypertension: pharmacological and non-pharmacological management. Pharmacological management involves medication therapy for hypertensive patients using antihypertensive drugs (Kurniati and Alfaqih, 2022). Among various hypertension management approaches, one non-pharmacological method that can be provided for hypertensive patients is consuming cucumber juice. Cucumbers are easily accessible vegetables, affordable, and tasty. They are commonly consumed as a side dish, and this can be utilized as a non-pharmacological solution for treating hypertension (Christine et al., 2021).

Cucumbers have hypotensive properties (lowering blood pressure) because the water and potassium content in cucumbers draw sodium into the intracellular space and work by dilating blood vessels (vasodilation), which can lower blood pressure. The potassium content in cucumbers is 147 mg per 100 grams. Potassium is the primary intracellular electrolyte, with 98% of the body's potassium located within cells and 2% involved in neuromuscular function. Potassium influences the activity of both skeletal and cardiac muscles (Christine et al., 2021; Firdaus and Suryaningrat, 2020).

Objective

Based on this, researchers were interested in conducting a literature study aimed at summarizing the effects of cucumber juice consumption on hypertensive patients.

Method

The method used in this literature review employs a comprehensive strategy, such as searching for articles in research journal databases and searching the internet. The articles searched were retrieved from several databases, including Google Scholar and PubMed. At the beginning of the search, the author used the keyword: "(Cucumber and hypertension)". A time limit of 5 years was applied to the journal search, specifically from 2020 to 2024. The article titles were related to lowering blood pressure in hypertensive patients and the availability of full-text samples based on the articles to be analyzed. After collecting data and information, the main ideas of this journal were compared with several related theories, and further recommendations were provided for non-pharmacological approaches that can be used to control blood pressure in hypertensive patients.

Results

The database used by researchers from Google Scholar and PubMed. At the population search stage, researchers did not encounter any significant problems. Research on the administration of cucumber juice to hypertensive patients has been extensively conducted. This further strengthens the researchers' motivation to review the effectiveness of cucumber juice administration in hypertensive patients. The second stage involves screening articles to identify key points within them. During the screening stage, the researchers limited the timeframe to the years 2020–2024.

Discussion

Based on the results of a literature review of 10 articles, all of which reported a decrease in systolic and diastolic blood pressure in hypertensive patients after being given cucumber juice. After the intervention of administering cucumber juice, 6 articles reported a decrease in systolic and diastolic blood pressure after two weeks of cucumber juice administration. The research findings (Hanifa Putri, Yosi, et al., 2023) titled "The Effectiveness of Cucumber Juice on Blood Pressure in Hypertensive Patients" used a one-group pre-post test design. The study sample consisted of 11 hypertensive patients. Participants were given 250 cc of cucumber juice twice daily for one week, prepared by blending 200 grams of cucumber for 1-2 minutes and consumed in 250 cc portions. There was a significant effect of cucumber juice therapy on blood pressure in hypertensive patients, with a Wilcoxon test p-value of 0.009.

The use of cucumbers in lowering blood pressure in hypertensive patients is achieved by expelling bodily fluids (through urine). Additionally, cucumbers have diuretic properties due to their high water content, which helps lower blood pressure. Hypertensive patients are strongly advised to consume cucumbers, as the minerals

potassium, magnesium, and fiber in cucumbers are beneficial for lowering blood pressure. Magnesium also plays a role in improving blood flow and calming the nerves (Tukan, 2018).

Previous research has indicated that the longer patients use antihypertensive medications, the higher the risk of side effects, and most respondents reported being significantly bothered by side effects such as dizziness, weakness, stomach issues, and swollen legs. This aligns with research conducted by (Meirlina, Theresia, Margareta. 2021) titled "The Effect of Cucumber Juice Administration on Blood Pressure in Elderly Hypertensive Patients at PSTW Sinta Rangkang in 2020," with a sample of 17 respondents, and (Indah Micty, Dwi Astute, Eko Julianto. in 2025) titled "The Effect of Cucumber Juice Administration on Blood Pressure in Hypertensive Patients in Sidakangen Village, Kalimanah Subdistrict, Purbalingga District." The sample for this study was one hypertensive patient. The intervention administered was the provision of 100 cc of cucumber juice once daily for five days. The results of this study showed that after consuming 100 cc of cucumber juice once a day for 5 days, there was a decrease in both systolic and diastolic blood pressure before and after the cucumber juice was administered.

According to the study by Dewi Nur Oktafiani et al. (2024). titled "The Effect of Cucumber Juice Administration on Blood Pressure Reduction in Hypertensive Elderly Individuals," with a sample size of 14 participants, using purposeful sampling technique and a pre-experimental method, it was stated that cucumber juice therapy can lower blood pressure by blending 150 grams of cucumber with 100 ml of water for 1 minute and administering it in the morning for 2 weeks of visits.

Conclusion

Based on research findings, the use of non-pharmacological therapy involving the administration of cucumber juice therapy in hypertensive patients is considered effective in lowering systolic and diastolic blood pressure. Regular consumption of cucumber juice can provide benefits for hypertensive patients; however, hypertensive patients should also pay attention to their diet and ensure it is balanced with adequate exercise. However, cucumber juice therapy should be consumed regularly every morning and evening to achieve more effective and optimal results.

References

- Adegita, A. N., & Lismayanti, L. (2022). Penerapan Jus Mentimun Untuk Menurunkan Tekanan Darah Pada Pasien Hipertensi. <https://Scholar.Google.Com/ScholarHealthcareNursingJournal>, 4(2b), 122-127.
- Alya, P. (2023). Asuhan Keperawatan Pada Keluarga Tn.M dan Tn.I dengan Hipertensi yang dilakukan pendidikan kesehatan tindakan masase kaki untuk meningkatkan kemampuan keluarga dalam manajemen hipertensi tidak efektif. Poltekkes Kemenkes Tasikmalaya.

- Anisah, R. (2020). Perbedaan Pemberian Jus Mentimun Dan Jus Belimbing Terhadap Tekanan Darah Pasien Hipertensi Di Wilayah Kerja Puskesmas Mangun Jaya Kecamatan Tambun Selatan Kabupaten Bekasi. *Indonesian Journal Of Nursing Sciences And Practice*, 3(2), 91-101
<https://jurnal.umj.ac.id/index.php/ijns/article/view/15761/8254>
- Apriliawati, T. (2021). Asuhan Keperawatan Keluarga dengan masalah utama hipertensi di wilayah kerja puskesmas karang joang tahun 2021. *Poltekkes Kemenkes Kalimantan Timur*, 3(2), 29-33.
- Arifuddin, A. (2023). Efektifitas Pemberian Jus Mentimun Terhadap Perubahan Tekanan Darah Pada Pasien Hipertensi Di Desa Padang Wilayah Kerja Puskesmas Kintom: Effectiveness Of Giving Cucumber Juice On Changes In Blood Pressure In Hypertension Patients In Padang Village, Kintom Health Center Working Area. *Lentora Nursing Journal*, 4(1), 27-34.
<https://jurnal.poltekkespalu.ac.id/index.php/lnj/article/view/3474/1006>
- Asadha, S. A. (2021). Efektivitas Jus Mentimun (Cucumis Sativus) Dalam Menurunkan Tekanan Darah Pada Penderita Hipertensi. *Jurnal Medika Utama*, 3(01 Oktober), 1594-1600.
<https://jurnalmedikahutama.com/index.php/jmh/article/view/32>
- Fahriyah, N. R., Winahyu, K. M., & Ahmad, S. N. A. (2021). Pengaruh Terapi Swedish Massage Terhadap Penurunan Tekanan Darah Pada Lansia Dengan Hipertensi: Telaah Literatur. *Jurnal JKFT*, 6(1), 43.
- Garwahasada, E. (2020). Hubungan Jenis Kelamin, Perilaku Merokok, Aktivitas Fisik dengan Hipertensi Pada Pegawai Kantor. *Media Gizi Indonesia*, 15(1), 60-65.
- Maharani, M. S., & Maliya, A. (2024). Konsumsi Mentimun (Cucumis Sativus Linn) Dalam Menurunkan Tekanan Darah Pada Penderita Hipertensi. *Holistik Jurnal Kesehatan*, 18(2), 225-232.
<https://ejurnal.malahayati.ac.id/index.php/hjk/article/view/131/109>
- Marvia, E., Astuti, F., & Khaeriah, N. (2020). Efektivitas Jus Mentimun Terhadap Perubahan Tekanan Darah Pada Lansia Penderita Hipertensi Di Lingkungan Dasan Sari Wilayah Kerja Puskesmas Pejeruk. *Prima: Jurnal Ilmiah Ilmu Kesehatan*, 6(1), 83-88. <https://scholar.google.com/scholar>
- Pringgayuda, F., Cikwanto, C., & Hidayat, Z. Z. (2021). Pengaruh Jus Mentimun Terhadap Penurunan Tekanan Darah Pada Penderita Hipertensi. *Jurnal Ilmiah Kesehatan*, 10(1), 23-32.
<https://ejournal.umpri.ac.id/index.php/jik/article/view/1313/729>
- Purba, S. S. (2019). The Influence Of Cucumber Juice (Cucumis Sativus Linn) On Blood Pressure Reduction In Hypertension Patients At Sindang Barang Bogor: Pengaruh Pemberian Jus Mentimun (Cucumis Sativus Linn) Terhadap Penurunan Tekanan Darah Pada Pasien Hipertensi Di Kelurahan Sindang Barang Kota Bogor. *Jurnal Ilmiah Wijaya*, 11(2), 121-133.
- Raditya, A. P. B., Anggraini, S. V. A., Kusumawati, V. D., & Juhdeliena, J. (2023). Efektivitas Terapi Swedish Massage sebagai Upaya Penurunan Tekanan Darah pada Pasien Hipertensi: Kajian Literatur. *Journal of Bionursing*, 5(1), 14-30.
-

- Sasti, A. B., Yanti, S. V., & Hadi, N. (2023). Penerapan Asuhan Keperawatan Pada Lansia Dengan Hipertensi: Sebuah Studi Kasus. *Jurnal Ilmiah Mahasiswa Fakultas Keperawatan*, 7(1).Stikes Bhakti Husada Mulia Madiun).
- Setiandari, E. (2020). Analisis Hubungan Riwayat Keluarga dan Aktivitas Fisik dengan Kejadian Hipertensi di Kelurahan Indrasari Kabupaten Banjar. *Jurnal Ilmiah Universitas Batanghari Jambi*, 20(3), 1043.
- Yunus, M. (2021). Hubungan Usia dan Jenis Kelamin dengan Kejadian Hipertensi di Puskesmas Haji di Kecamatan Anak Tuha Kabupaten Lampung Tengah. *Journal Ilmu Kedokteran Dan Kesehatan*, 8(1), 192-201.