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# "THE HYPOTENSIVE EFFECTS OF MEDICINAL PLANTS IN HYPERTENSION AND CLINICAL OBSERVATION RESULTS (BASED ON BAY LEAF EXAMPLE)".

# Obidov Ulugʻbek Mirpozil ugli,

Student, Kokand University, Andijan Branch obidovulugbek0022@gmail.com,

Jalilova Sevaraxon Tavakkaljon kizi Lecturer, Kokand University, Andijan Branch, PhD Candidate, Andijan State University <u>sevarajalilova07@gmail.com</u>

**Abstract:** This article analyzes the potential use and therapeutic effects of the *Laurus nobilis* (bay leaf) plant in arterial hypertension based on clinical observations and laboratory experiments. The study evaluated the hypotensive properties of bay essential oil, bay leaf tea, and dried bay leaves, as well as their effects on heart rate, blood pressure, and overall condition. Clinical observations were conducted on patients with diagnosed hypertension with an average age of 55 years, comparing the efficacy and onset of action of each product. The findings revealed that bay essential oil demonstrated a faster and more potent hypotensive effect, while the tea and dried leaves exhibited milder and longer-lasting effects.

**Keywords:** Bay essential oil, bay leaf tea, dried bay leaves, hypertension, blood pressure, human clinical observation, hypotensive effect.

### Relevance.

At present, hypertension is one of the most serious and complex medical problems facing 21stcentury healthcare. The prevention, early detection, and effective treatment of this dangerous disease are among the most pressing issues in modern medicine. Eliminating the complications of the disease, easing its progression, and thereby increasing the life expectancy of patients with hypertension remain urgent tasks for medical professionals [1,2].

Excess body weight is considered one of the significant risk factors for the onset and progression of cardiovascular diseases, including arterial hypertension (AH). Unlike other risk factors, excess body weight belongs to the category of manageable factors, and its reduction or elimination represents one of the non-pharmacological treatment approaches for hypertension. Therefore, adherence to a healthy lifestyle plays a crucial role in preventing arterial hypertension and reducing its complications [2].

Globally, approximately 1.28 billion adults aged 30 to 79 suffer from hypertension, with the majority (two-thirds) living in low- and middle-income countries. About 46% of adults with hypertension are unaware of their condition. Less than half (42%) of hypertensive adults are diagnosed and treated, and only one in five (21%) adults with hypertension have their condition under control [3,4].

This article analyzes the potential application and therapeutic effects of the *Laurus nobilis* (bay leaf) plant in managing arterial hypertension, based on clinical observations and laboratory experiments. The study evaluated the hypotensive properties of bay essential oil, bay leaf tea, and dried bay leaves, as well as their effects on heart rate, blood pressure, and overall health indicators. Clinical observations involving patients with an average age of 55 years diagnosed with hypertension were conducted to compare the efficacy and onset of action of each product. The results demonstrated that bay essential oil exhibited a faster and more pronounced hypotensive effect, while the tea and dried leaves produced milder and more sustained effects.

**Research Objective**. To study the therapeutic effects of bay essential oil, bay leaf tea, and dried bay leaves on blood pressure and heart rate in patients with arterial hypertension through clinical observation, and to compare their levels of effectiveness and determine the differences in their effects.

**Research Materials and Methods**. For this study, 60 volunteer patients (average age 55 years) who presented with complaints of elevated blood pressure at the 30th Do'stlik Family Polyclinic under the Izboskan District Medical Association were selected (n=30 men, n=30 women). The patients were randomly divided into three groups according to treatment type — bay essential oil, bay leaf tea, and dried bay leaves — with each group consisting of 10 men and 10 women.

Group allocation:

Group 1 (n=20): Bay essential oil — inhalation of 5 drops twice daily for 5 minutes.

Group 2 (n=20): Bay leaf tea — 200 ml consumed three times daily, 30 minutes before meals.

Group 3 (n=20): Dried bay leaves — consumed once daily by adding to meals.

The duration of the clinical observation was 14 days.

#### Monitored indicators:

Systolic and diastolic blood pressure.

Heart rate. Patients' general condition and any adverse effects of the administered treatments. Blood pressure and heart rate were measured twice daily using a tonometer and pulse oximeter throughout the study period.

Group	Number of participants (n)	Number of men (n)	Number of women (n)	Treatment method	Mode of administration
Group 1	20	10	10	Bay essential oil (aromatic oil)	5 drops, twice daily, 5 minutes by inhalation
Group 2	20	10	10	Bay leaf tea	200 ml, three times daily, 30 minutes before meals
Group 3	20	10	10	Dried bay leaves	Once daily, consumed mixed with food

#### Participant distribution table:

#### **RESULTS AND THEIR ANALYSIS**

Group 1 (Bay Essential Oil): Over the 14-day period, the systolic blood pressure decreased by an average of 17 mmHg, and diastolic blood pressure decreased by 10 mmHg. The heart rate slowed by 9 beats per minute. A noticeable improvement in general well-being and mood was reported by the participants. No adverse effects were observed.

Group 2 (Bay Leaf Tea): The systolic blood pressure decreased by an average of 14 mmHg, while diastolic pressure dropped by 8 mmHg. The heart rate decreased by 7 beats per minute. Participants noted improvements in phlegm expectoration and sleep quality. Mild nausea was occasionally reported.

Group 3 (Dried Bay Leaves): The systolic blood pressure dropped by an average of 10 mmHg, and diastolic pressure by 6 mmHg. The heart rate decreased by 4–5 beats per minute. The hypotensive effect was relatively slow but sustained. No adverse effects were observed.

**Comparative Analysis:** Inhalation of bay essential oil showed the fastest and most effective hypotensive effect in relieving hypertension symptoms. Bay leaf tea exhibited a gentler and slower effect, while dried bay leaves provided a longer-lasting but relatively milder result. **Results and Analysis of the 14-Day Observation:** 

Group	Decrease in Systolic BP (mmHg)	Decrease in Diastolic BP (mmHg)	Decrease in Heart Rate (beats/min)	General Condition	Adverse Effects
Group 1 (Bay Essential Oil)	17	10	9	Significant improvement, good mood	Not observed
Group 2 (Bay Leaf Tea)	14	8	7	Improved sleep, sputum discharge	Occasional nausea
Group 3 (Dried Bay Leaves)	10	6	4-5	Slower but sustained effect	Not observed

**Conclusions.** The results of the conducted experiment and clinical observations indicate that bay leaf and its products demonstrate high efficacy in arterial hypertension. In particular, bay essential oil showed a positive effect in a short period by lowering blood pressure, normalizing heart rate, and reducing stress. Bay leaf tea provided a gentle and stable therapeutic effect, helping to gradually alleviate hypertension symptoms. Dried bay leaves exhibited a sustained and safe hypotensive effect with long-term use.

Therefore, for symptomatic treatment and prevention of hypertension, it is recommended to select and use bay leaf products according to individual patient conditions and organism responses. This phytotherapeutic and traditional remedy can serve as an adjunct therapy in modern clinical practice and as a promising raw material for developing new natural antihypertensive pharmaceuticals in the pharmaceutical industry. Future extensive clinical studies and trials of dosage forms are advisable in this field.

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