

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
КАФЕДРА ФАРМАКОЛОГІЇ ТА МЕДИЧНОЇ РЕЦЕПТУРИ**



МАТЕРІАЛИ

**II науково-практичної інтернет-конференції
з міжнародною участю на тему «Сучасні аспекти досягнень
фундаментальних та прикладних медико-біологічних напрямків
медичної та фармацевтичної освіти та науки»**

Харків, 17.11.2023

Редакційна колегія

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Сучасні аспекти досягнень фундаментальних та прикладних медико-біологічних напрямків медичної та фармацевтичної освіти та науки: матеріали II науково-практичної інтернет-конференції з міжнародною участю (ХНМУ, Харків, 17 листопада 2023 р.)/Міністерство охорони здоров'я України, Харк. нац. мед. ун-т. – Харків : ХНМУ, 2023. – 366 с.

Матеріали, наведені у збірці, висвітлюють сучасні напрямки та шляхи підвищення якості медичної та фармацевтичної освіти, результати фундаментальних та прикладних наукових досліджень потенційних та нових лікарських засобів, інноваційні підходи підвищення якості фармакотерапії з позиції доказової медицини та управлінські, економічні та організаційні аспекти охорони здоров'я.

Збірка розрахована для широкого кола наукових та практичних працівників медицини та фармації.

Section 2. Results of fundamental and applied scientific research of potential and new medicines.

OCIMUM BASILICUM L. – AN ACCESSIBLE SOURCE OF PHYTOCHEMICAL COMPONENTS

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Introduction. One of the problems of nutrition in the modern world is the lack of phytonutrients in the diet of people, the deficiency of which leads to a number of diseases [11]. There are even diets based on the content of a large number of phytonutrients in foods – essential oils, phenolic compounds, flavonoids, carotenoids, etc. Most valuable phytochemicals are found in the leafy parts of plants [10]. One of these available sources of plant-derived compounds is *Ocimum basilicum* L., which is grown in 16 varieties in Ukraine [6].

Purpose and objectives of the study. The aim of the study was to analyze the literature data on the state of study of the qualitative composition and quantitative content of the main phytonutrients of *O. basilicum* leaves and to determine the main direction of their use in medicine and pharmacy.

Methods. To realize this goal, the following methods were used: bibliosemantic, analytical, comparative, and generalizing.

Results of the study and their discussion. Sweet Basil (*O. basilicum*) belong to the Lamiaceae family. *Ocimum* is a genus of aromatic annual and perennial plants, up to 50 cm high. The plant originates from South Asia, Africa and the Americas, and is widely cultivated in pots and gardens in Europe, Southwest Asia and the United States. The leaves are ovoid and can have different sizes, depending on the variety, from small leaves of common basil to large ones of salad basil [8]. In Ukraine, it is cultivated as an essential oil plant. The most famous representatives are culinary basil herb (*O. basilicum*), as well as the medicinal herb tulsi, also called "holy basil" (*O. tenuiflorum* L.) [4].

O. basilicum is mainly a source of essential oils, which is extracted by distillation. The composition of essential oils is represented mainly by monoterpenes and phenylpropanoids and it is highly dependent on the specific plant genotype [7]. The main components of basil essential oil are 1,8-cineole, estragaeol and eugenol [5]. The essential oil has antifungal, repellent, antimicrobial, and hypnotic effects [7]. Eugenol has an antidiabetic effect by reducing the activity of the enzyme's alkaline phosphatase, aspartate aminotransferase, alanine aminotransferase and lactate dehydrogenase, and also reduces blood cholesterol, triglycerides and glucose levels [1].

In addition to essential oils, medicinal plant materials include anthocyanins, flavonoids, and other polyphenols, which have a pronounced antioxidant activity. In purple basil, this is done by anthocyanins, and in green basil – by flavonoids. The polyphenols contained in basil herb, although they are not very abundant, only 126 mg/g of raw material, compared to tea, which has 300 mg/g, are equivalent in their effect to raspberries and blackberries and have higher antioxidant activity than rose hips [5]. Medicinal plant material from true cornflowers is used to eliminate headaches, insomnia, depression, chronic exhaustion, cough, diarrhea, desentery,

constipation, and in case of kidney and digestive disorders. It is used externally for acne, insect and snake bites, and skin infections [7]. The introduction of basil into the diet is used to prevent cardiovascular diseases. The extracts have been shown to have important effects at the cellular level, including platelet antiplatelet properties and inhibitory activity against the immunodeficiency virus [2].

Conclusions. The analysis of the literature data showed the prospects of using *O. basilicum* in pharmacy and medicine with a more detailed study of varieties grown in Ukraine, since the chemical composition is quite dependent on the growing conditions. Our further research will be aimed at determining the quantitative content of anthocyanins in the leaves of *O. basilicum* of Ukrainian varieties.

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