

## Short Communication

# In infectious diseases, Echinacea comes to the rescue

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## Abstract

*E. purpurea* has amazing medicinal properties that effectively deal with human diseases. Today, we find frightening figures in the WHO news about the increase in coronavirus infection and the number of deaths. This article presents a simple way of self-defense by increasing the body's immune reactivity. In order to alleviate the condition and prevent not only COVID but also a variety of viral, as well as bacterial, and fungal infections, doctors can use the ornamental plant *Echinacea* (*E.*), which was once used by the indigenous people of America, the Indians, for almost all occasions. This article presents a small list of important biologically active components of *E.* and the range of their use, as well as a simple recipe for making a healing solution.

## Introduction

*Echinacea* (*E.*) is a well-known plant that strengthens the immune system of organisms [1]. The Indian tribes used it to treat many ailments [2], including diphtheria and scarlet fever. *E.* was once the most widely used herbal remedy in the USA [3] and Europe [4] until the dawn of the pharmaceutical age, because it boosts the immune system to help fight illnesses like colds, flu, and infections. The drugs from *E.* increase the combat capability of blood cells. Thanks to this, it is possible to prevent the cold, shorten its duration, and relieve symptoms [5]. *E.* is a native North American plant in the aster family [6], where its leaves and roots have long been used by the Indians to treat wounds, whereas, in Europe, *E.* is grown as an ornamental plant [7]. However, nowadays *E.* is also bred for medicinal purposes. *E.* is represented by nine species: pale purple *E.* (*E. pallida*), the eastern purple *E.* (*E. purpurea*), narrow-leaf *E.* (*E. Angustifolia*), Tennessee *E.* (*E.tennesseensis*), yellow *E.* (*E. paradoxa*) and so on [8]. Three types of *E.* are used: purple, narrow-leaf, and pale purple. For medical purposes, *E. purpurea* and *Echinacea angustifolia* are mainly used. A large

number of medicines and special nutritional supplements are produced from *E. purpurea* raw materials, from the whole plant (including the aerial part) and roots.

Whenever there is a threat of a cold or flu, it is advisable to take an *E.* tincture. This is also true during outbreaks of epidemics. So, today doctors again state the facts of the growing number of coronavirus cases. According to the WHO, the cases increase after a downward trend since the last peak in March 2022. Over 5.7 million new cases were reported in the week of July 4 -10, 2022, with more than 9,800 deaths. The number of new COVID infections increased mainly in the Western Pacific (+28%), the Mediterranean (+25%), and South-East Asia (+5%). [9]. In these conditions, it is especially timely to use a natural immunostimulant that increases the body's resistance without adverse side effects, such as *E.*, and it is better to mobilize the immune system even before infection. Contraindications for this medication are unknown even with long-term use of the drug.

When everyone around is sneezing, we may take a prophylactic *E.* tincture, 20 drops 3 times a day [10]. This tool is

very useful on long trips when the autonomic nervous system is subjected to special stress due to the difference in time zones or lack of sleep, changes in temperature, and climatic conditions. As soon as the first signs of a cold appear, we should first take 30 drops of E. tincture, then 10 drops every hour. Drops should be continued for 1–3 days until a clear improvement, after which we can reduce the dose to three times a day for 20 drops until the infection disappears completely.

The use of E. tincture has limitations in children and pregnant. Children under 2 years old should not be prescribed alcohol-containing preparations of E.

E. is used in the form of tincture [11], decoction and infusion, juice, as well as tea for diseases associated with chronic inflammatory diseases, exposure to ionizing radiation of ultraviolet rays, chemotherapeutic drugs, and long-term antibiotic therapy. E. has proven itself in the treatment of diseases of the joints, diseases of the internal organs & reduced vision. E. tincture increases the production of interferon in the human body that destroys pathogenic microbes and viruses.

### Easy homemade Echinacea tincture recipe

200 g of E. fresh plant mass (leaf, flowers, stems) or 50 g of dry raw materials, pour by a liter of vodka. Infuse for 14–20 days in a dark place and periodically shake the tincture. Then strain and pour into convenient sterile bottles. In order to avoid gastrointestinal tract irritation reactions, it is better to use a non-alcoholic water extract of E. Additionally, as we have already noted, children under 2 years of age and pregnant women should not use alcohol-derived drugs [12]. 2.5 ml of E. extract, three times daily, or up to 10 ml daily can help to raise immune activity and protect against coronavirus. E. preparations in the correct dosage, have no side effects and are used to stimulate and strengthen the immune system in such situations as during influenza epidemics and inflammatory processes, acute infectious diseases; prolonged use of antibiotics; with systematic exposure to adverse factors (irradiation, chemotherapy, toxic substances, salts of heavy metals). The fruit and flowers of E. are rich in antioxidants, such as flavonoids, cichoric acid, and rosmarinic acid [10]; thanks to these substances found in E., its preparations also help protect cells from oxidative stress, which is the main cause of the destruction of the lung alveoli in COVID infection [13].

### References

- Manayi A, Vazirian M, Saeidnia S. Echinacea purpurea: Pharmacology, phytochemistry and analysis methods. *Pharmacogn Rev.* 2015 Jan-Jun;9(17):63-72. doi: 10.4103/0973-7847.156353. PMID: 26009695; PMCID: PMC4441164.
- Huntley AL, Thompson Coon J, Ernst E. The safety of herbal medicinal products derived from Echinacea species: a systematic review. *Drug Saf.* 2005;28(5):387-400. doi: 10.2165/00002018-200528050-00003. PMID: 15853441.
- Kligler B. Echinacea. *Am Fam Physician.* 2003 Jan 1;67(1):77-80. PMID: 12537169.
- Petrovska BB. Historical review of medicinal plants' usage. *Pharmacogn Rev.* 2012 Jan;6(11):1-5. doi: 10.4103/0973-7847.95849. PMID: 22654398; PMCID: PMC3358962.

- Shah SA, Sander S, White CM, Rinaldi M, Coleman CI. Evaluation of echinacea for the prevention and treatment of the common cold: a meta-analysis. *Lancet Infect Dis.* 2007 Jul;7(7):473-80. doi: 10.1016/S1473-3099(07)70160-3. Erratum in: *Lancet Infect Dis.* 2007 Sep;7(9):580. PMID: 17597571; PMCID: PMC7106401.
- Hostettmann K. Geschichte einer Pflanze am Beispiel von Echinacea [History of a plant: the example of Echinacea]. *Forsch Komplementarmed Klass Naturheilkd.* 2003 Apr;10 Suppl 1:9-12. German. doi: 10.1159/000071678. PMID: 12808356.
- Dehestani-Ardakani M, Hejazi M, Aliabad KK. Indirect somatic embryogenesis of purple coneflower (*Echinacea purpurea* (L.) Moench): a medicinal-ornamental plant: evaluation of antioxidant enzymes activity and histological study. *Mol Biol Rep.* 2020 Sep;47(9):6621-6633. doi: 10.1007/s11033-020-05713-y. Epub 2020 Aug 17. Erratum in: *Mol Biol Rep.* 2020 Dec;47(12):10023. PMID: 32803508; PMCID: PMC7561546.
- Wu L, Dixon PM, Nikolau BJ, Kraus GA, Widrlechner MP, Wurtele ES. Metabolic profiling of echinacea genotypes and a test of alternative taxonomic treatments. *Planta Med.* 2009 Feb;75(2):178-83. doi: 10.1055/s-0028-1112199. Epub 2008 Dec 19. PMID: 19101884; PMCID: PMC3726032.
- <https://reliefweb.int/report/world/coronavirus-disease-covid-19-weekly-epidemiological-update-13-july-2022>
- <https://7dach.ru/zdorovie/MarusyaRusya/ehinaceya-v-lekarstvennyh-celyah-kak-zagotavlivat-i-primenyat-261102.html>
- Echinacea Tincture – How To Make It & Use It. <https://melissaknorris.com/echinacea-tincture/>
- Echinacea: Benefits, Uses, Side Effects and Dosage. <https://www.healthline.com/nutrition/echinacea>
- Chernyak BV, Popova EN, Prikhodko AS, Grebenchikov OA, Zinovkina LA, Zinovkin RA. COVID-19 and Oxidative Stress. *Biochemistry (Mosc).* 2020 Dec;85(12):1543-1553. doi: 10.1134/S0006297920120068. PMID: 33705292; PMCID: PMC7768996.

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