

Therapeutic Potentials of *Zingiber officinale*

Nida Tabassum Khan*

Department of Biotechnology, Balochistan University of Information Technology Engineering and Management Sciences, Pakistan

Abstract

Being one of the mostly consumed alimentary condiments, Ginger's medicinal properties are striking. With its stimulating piquant flavor, ginger adds a special flavor in Asian cooking. Besides, it has been associated with multitude of therapeutic potentials such as from beating motion sickness to better brain function. *Zingiber officinale* possess numerous bioactive constituents such as vitamins, carbohydrates, minerals etc. In addition to that ginger also contains phenolic constituents such as 6-gingerol, paradol, shogaol and zingerone. Ginger is used as a natural remedy for the treatment of numerous ailments such as ulcers, hypertension and gastric discomforts thus making it therapeutically potent.

Keywords: *Zingiber officinale*; Rhizome; 6- Gingerol; Paradol; Anti-inflammatory; Antidiabetic

Introduction

Zingiber officinale is commonly known as ginger, an underground rhizome which is popular for its therapeutic applications across the globe [1]. It has been used for decades as a natural remedy for the treatment of numerous ailments in ancient Rome, China, Greek, India and Arabic [2]. Ginger is available in the form of fresh root or dried with multiple health associated benefits [3]. Besides being antibacterial, it reduces high cholesterol and body fats in obese individuals [4].

Ginger herb

It is a tropical persistent herb innate to Southeast Asia and extensively nurtured in India, Australia, Nigeria, China and Jamaica [5]. Its underground edible portion is called as rhizome and is covered with a brownish beige thick peripheral and is yellowish from inside [6]. The herb possess dense and extended stems with vertically arranged leaves bearing oval shaped distinct assemblies that produces yellowish green flowers [7]. Due to the presence of ketones and gingerol ginger has a strong sweet and peppery flavor [8].

Nutritional constituents of ginger: Ginger possesses numerous bioactive compounds (Table 1) that offers its aromatic, cooking and remedial uses [9-13].

In addition to that ginger contains phenolic constituents such as 6-gingerol, paradol, shogaol and zingerone [14]. The health aids of

S.no	Nutritional constituent	Value per 100 gram of dry ginger (3.5 ounces of ginger extract)
1	Carbohydrates	17.8 g
2	Dietary fibre	2 g
3	Energy	80 calories
4	Protein	1.8 rams
5	Iron	0.6 mg
6	Manganese	0.2 mg
7	Vitamin-C	5 mg
8	Niacin	0.7 mg
9	Copper	mg
10	Fat	0.7 g
11	Phosphorus	34 mg
12	Vitamin B6	0.2 mg
13	Magnesium	43 mg
14	Potassium	415 mg

Table 1: Nutritional value of Ginger's bioactive constituent per 100 gram of dry ginger (approximately 3.5 ounces of ginger extract).

S.no	Medical condition	Benefits
1	Treat Nausea	Natural remedy for morning sickness and sea sickness Treatment of nausea, pregnancy vomiting and hyperemesis gravidarum [15,16]
2	Antifungal	Treatment of yeast associated infections such as athlete's foot, mouth infections etc. [17]
3	Antiulcer	Inhibits development of stomach ulcers such as ulcer caused by aspirin intakes [18]
4	Reduce Menstrual Pains	Reduces intensity and duration of dysmenorrhea (period cramps) and associated headaches [19]
5	Anticancer	Inhibits cancer cell growth of ovarian colorectal, pancreatic and prostate cancer by inducing apoptosis and auto-phagocytosis [20,21]
6	Antidiabetic	Reduces high blood sugar and minimizes its associated prevent symptoms such as recurrent urination and migraines [22]
7	Reduces Joint/ Muscle Pain	Reduce inflammation and joints/muscle pain associated with arthritis and osteoarthritis[23]
8	Reduces Cholesterol Levels	Naturally reduces high cholesterol and triglyceride levels [24]
9	Improves Cognitive Functions	Delay brain aging and cognitive decline[25]
10	Antibacterial	Effective against bacteria causing pneumonia, urinary tract infections, bronchitis and drug-resistant bacteria [26,27]
11	Anti-inflammatory	Inhibits blood clotting Treatment of rheumatoid arthritis and osteoarthritis Suppress pro-inflammatory compounds such as chemokines and cytokines [28,29]
12	Stimulates Proper Digestion	Reduces problems like dyspepsia pain, heartburn and discomfort [30,31]

Table 2: Health benefits of ginger.

*Corresponding author: Nida Tabassum Khan, Department of Biotechnology, Balochistan University of Information Technology Engineering and Management Sciences, Pakistan, Tel: +92 3368164903; E-mail: nidatabassumkhan@yahoo.com

Received December 28, 2018; Accepted January 07, 2019; Published January 14, 2019

Citation: Khan NT (2019) Therapeutic Potentials of *Zingiber officinale*. J Tradit Med Clin Natur 8: 278. doi: [10.4172/2573-4555.1000278](https://doi.org/10.4172/2573-4555.1000278)

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ginger are documented in Table 2 as a natural remedy for the treatment of numerous diseases and health conditions.

Side effects of ginger if used in excess: If Ginger is consumed in high amount then an individual might suffer from symptoms like stomach discomfort, diarrhoea, heartburn, skin irritation like hives, difficulty breathing etc. [32].

Conclusion

Thus, Ginger is one of the most regularly used nutritive condiments in the world, it may be effective at declining morning illness, reducing menstrual discomforts, combating microbial infections, treating stomach ulcers, improving cognitive function and reducing inflammation.

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