WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 10, Issue 8, 256-259. Review Article ISSN 2277– 7105

GINGER- THE HERB WITH A ZING

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Article Received on
07 May 2021,

Revised on 28 May 2021,
Accepted on 18 June 2021

DOI: 10.20959/wjpr20218-20693

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ABSTRACT

Ginger is one of the most commonly used herbs in the south Asian sub continent. Apart from adding flavour to food and beverages, it has various important therapeutic uses like anti inflammatory effect, anti cancer effect. It is also a time tested home remedy for nausea, vomiting and indigestion. This article will explore the various uses of ginger.

KEYWORDS: Ginger, anti inflammatory, gingerols.

INTRODUCTION

Ginger is one of the most commonly used herbs in Indian households. It is being used for thousands of years in the Indian subcontinent. It is used as a flavouring agent for a variety of dishes and in teas on a daily basis. This common yet useful herb has a host of health benefits which make it a regular feature in everyday cooking. It is a very popular home remedy for nausea, vomiting and indigestion. The scientific name of ginger is *Zingiber officinale*. The root of the ginger plant is commonly used as a traditional medicine. In the current pandemic situation, home remedies are being sought after to prevent and treat various infections. The spicy aroma of ginger is mainly due to presence of ketones, especially gingerols.[1]

Active compounds in Ginger

At least 115 compounds have been identified in fresh and dried ginger varieties. Gingerols are the major constituents of fresh ginger and are found slightly reduced in dry ginger. Shogaols, which are the major gingerol dehydration products, are more abundant in dry ginger than in fresh ginger.[2]

Therapeutic effects of Ginger

Antioxidant effect: Many studies have shown that the ginger has antioxidant properties. Antioxidant activity has been proven to be very beneficial in a variety of conditions like degenerative neurological diseases and skin ageing. The substituent on the alkyl chain of the active compounds of ginger might contribute to both radical scavenging effect and inhibitory effects against the peroxyl radical-induced peroxidation of liposome. The antioxidant activity might be due to radical scavenging activity.[3]

Antimicrobial effect: Ethanol extracts of ginger on *Staphylococcus aureus* and *Streptococcus pyogenes* have shown the similar effect like that of conventional antibiotics such as chloramphenicol, ampicillin, and tetracycline.[4]

Ginger root has been used traditionally for the treatment of gastrointestinal ailments such as motion sickness, dyspepsia, and peptic ulcer disease. *Helicobacter pylori* is the primary etiological agent associated with these diseases, and the methanol extract of the dried powdered ginger rhizome, fractions of the extract, and the isolated constituents, 6-, 8-, 10-gingerol and 6-shogaol showed inhibitory effect on 19 strains of *H. pylori* with a MIC range of 6.25–50 μg/mL.[5]

Radioprotective effect: Oral administration of hydroalcoholic extract of Z. officinale rhizome for mice are effective in protecting against gamma radiation induced sickness and mortality due to phytochemical actions such as dehydrogingerone and zingerone. Zingerone selectively protects the normal tissues against the tumoricidal effects of radiation in tumor bearing mice.[6]

Anti-inflammatory effect: Ginger is highly effect in inflammations associated with alimentary channel such as colitis. The plant responsible with poshatidylinositol-3-kinese (PI3K), protein kinese B (Akt) and the nuclear factor kappa light chain enhancer of activated B cells (NF-κB), as well as 6- shogaol responsible in protective effects against tumor necrosis factor α (TNF-α) induced intestinal dysfunction in human intestinal cell models.[7]

Anti cancer effect: Ginger activates enzymes such as glutathione peroxidase, glutathione s transferase and glutathione reductase and suppress colon carcinogenesis.8 Ginger has also known to prevent various other types of malignancies due to its free radical scavenging effects.

Anti diabetic effect: Ginger has known to regulate the blood glucose levels in patients with type 2 Diabetes mellitus. A double-blind, placebo-controlled, randomized clinical trial was conducted on 20-60 -year-old patients with type 2 diabetes who did not receive insulin. Participants in the intervention and control groups were received 3 g of powdered ginger or placebo (lactose) (in capsules) daily for 3 months. Comparison of the indices after 3 months showed that the differences between the ginger and placebo groups were statistically significant.[9]

Other uses of ginger: Ginger has also known to increase appetite, promote weight loss lower blood pressure and cholesterol levels, though many trials are needed to conclusively prove these effects.

Adverse effects of Ginger: Ginger can cause mild side effects including heartburn, diarrhea, burping, and general stomach discomfort.

CONCLUSION

Though there are a lot of studies that have shown a lot of potential in the therapeutic uses of Ginger, many more studies need to be done to conclusively prove its therapeutic efficacy. Ginger is a very promising herb which is easily available and low in cost. Hence, a lot more studies need to be done in order to explore the complete therapeutic spectrum of this herb.

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