

Health benefits and possible Risks of Turmeric, Garlic and Ginger: A short Review

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Abstract: Despite the fact that cutting-edge medicine is well developed in most of the sector, massive sections of the population in growing nations nevertheless depend upon the conventional practitioners, medicinal plants and natural drug treatments for his or her number one care. Moreover for the duration of the past a long time, public interest in natural treatments has increased greatly in industrialized nations, with increasing use of herbal and natural medicines. The numerous and diverse kinds of traditional medicinal products have developed towards extensively extraordinary ethnological, cultural, climatic, geographical, and even philosophical backgrounds. All type of medicine has many strengths and weaknesses. In order to protect and improve our health, it is important to become an informed medical consumer. Medicinal plants are used widely for curing diseases. It is used for preventive and therapeutic purposes. The manufacturers of the herbal products are not required to submit proof of safety and efficacy before marketing as it was trusted as all safe, so the adverse effects associated with remedies are largely unknown. But there is certain example of the adverse effects of herbs. The potency of herbal products may increase the possibility of adverse effects. This paper highlights potential benefits and possible risks of well-known medicinal plants: Turmeric, Ginger and Garlic.

Keywords: Herbal drugs, benefits and risks, herbal remedies, medicinal plants.

1. INTRODUCTION:

The consumption of herbal medicines is increasing steadily throughout the world as an alternative treatment for a number of health problems including heart diseases, diabetes, high blood pressure and even certain types of cancer. In India use of herbal drugs is much more because of their easy availability. Unlike drugs, herbal products are not regulated for purity and potency. There are neither studied on their effectiveness nor control over the quality and safety of these preparations. Here only allopathic medicines have to be proven to be safe before being released into market. Herbal products do not fall under the category of medicine if they are not marketed for the prevention of any disease (Jasvir *et al* 2018). Herbal drugs are considered as food integrators and readily available in the market without prescription. The major driving force for the use of herbal drugs is prescribed that 'they are safe because they are natural and have fewer side effects. However, various studies and researchers have high lightened their possible side effects, if taken irregularly, in excessive amounts or in combination with some medicines risks takes place in higher content so it's it can be harmful to the body (Jasviret *al* 2018). Herbs and spices can modify microbiota which can stimulate growth within organisms that protect against cancer as well as within microorganisms that may serve to increase cancer risk. Culinary herbs and spices generally serve as antioxidants but may also serve as prooxidants at higher exposures. Inflammation, tumorigenesis, and carcinogen bioactivation influence cancer risk and tumor behavior, but interventions which inhibit these processes can contribute to cancer (Chirstine *et al* 2008). In my current study I mentioned about benefits and risks of some well-known herbal medicinal plants.

Benefits and risks of herbal medicinal plants:

1. TURMERIC (*Curcuma longa*):

Turmeric is a spice that has received much interest from both the medical/scientific worlds as well as from the culinary world. Turmeric is a rhizomatous herbaceous perennial plant (*Curcuma longa*) of the ginger family (Priyadarsini 2014).

It contains powerful biological activities and work as an antibiotic. Turmeric has sensitivity of alcoholic extracts against bacterial species differed, yet *Staphylococcus aureus sub sp. Aureus* and *Bacillus subtilis* both exhibited pronounced inhibition in disc diffusion and agar well method respectively. Overall, the crude ethanol extract of turmeric is enhanced in inhibitory effect on the growth of different bacterial species (Irsad *et al* 2018). Turmeric stimulates the stomach to produce more gastric acid which helps in digestion (Meghan 2018).

Turmeric is known to possess antibacterial, anticancer and antifungal activities. Antioxidant and anti-inflammatory properties are the two primary mechanisms (Susan *et al* 2017). It is well recognized as the best anti-oxidant, hypoglycaemic, colorant, antiseptic and wound healer. It is the spice that gives Indian curries their characteristic bright yellow-orange colour. Turmeric is anti-inflammatory to the mucous membranes, Regular use of turmeric can benefit from Colitis, Crohn's disease, diarrhea, and post *salmonella* conditions. The itching and inflammation can be reduced by use of turmeric. The healing properties of turmeric have made it a most widely used ingredient in cosmetics and drugs. Turmeric can also benefit skin conditions including: eczema, psoriasis and acne as a potent detoxifier. Although, turmeric gives the energy of the Divine Mother and grants prosperity of health and is effectual for purification as well as purifying the path of the subtle body, still some adverse effects are reported when it is consumed along with some prescription drugs (Goldberg *et al* 2000). Ingesting curcumin by itself does not lead to health benefits due to its poor bio-availability, which appears to be primarily due to poor absorption, rapid metabolism, and elimination. Thus, there are several components that can provide bioavailability (Susan *et al* 2017).

Turmeric may increase the risk of bleeding or potentiate the effects, use of turmeric is contraindicated during pregnancy as it can cause uterine stimulation. The active constituent of turmeric, curcumin is reported in some studies to produce a marked increase in serotonin and noradrenalin levels at 10 mg/kg dose in frontal cortex and hippocampus also increased the dopamine levels in frontal cortex and striatum parts of mice brain. Turmeric contains around 2% oxalate at high dose this may contribute to kidney stones predisposed and individuals (www.healthline.com/nutrition/turmeric-risks-and-side-effects).

2. Garlic (*Allium Sativum*):

The common garlic is a member of the same group of plants similar to onion. The name is of Anglo-Saxon origin, being derived from gar (a spear) and lac (a plant), in reference to the shape of its leaves. Its botanical name is *Allium sativum* and belongs to family Liliaceae.

Garlic has been used worldwide for culinary and medicinal purpose for many thousands of years and satisfy flavor's makes it perfect addition in any dish. Moreover, garlic is a rich antioxidant and low in calories and has many health benefits (Goldberg *et al* 2000).

Garlic has been used for its medicinal properties since ages. It is an extensively used herbal medicine. Garlic in its natural form contains an antibiotic called allicin. It also contains sulfides. Garlic is said to fight against certain types of cancers. Garlic is used as diaphoretic, diuretic, expectorant, and stimulant. Many marvellous effects and healing powers have been ascribed to garlic (Rose *et al* 2018). It possesses stimulant properties in addition to its other virtues, as garlic has antibacterial, antiviral and antifungal properties. Syrup of garlic is an invaluable medicine for asthma, hoarseness, coughs, difficulty of breathing, and most other disorders of the lungs, being of virtue in chronic bronchitis, on account of its powers of promoting expectoration (Christine *et al* 2008). Garlic has been used in prevention and treatment of a wide variety for centuries all of its best of garlic is that it's used in blood thinning for a treatment of asthma, for bacterial infection, such as leprosy or heart disorders (Rose *et al* 2018). The side effects of garlic are usually restricted to subjective perceptions

such as, bad breath, body odour and bad taste, serious adverse reactions such as, delayed hemostasis or allergic reactions occurs rarely (Lukas *et al* 2015).

In spite of having invaluable applications in the field of medicines, garlic is reported to have interactions with anticoagulant therapy. Garlic may increase the risk of bleeding or potentiate the effects of Garlic. It should thus not be used in patients on oral anticoagulant and, Garlic had proved to change pharmacokinetic variables of paracetamol, decreased blood concentrations of warfarin and produced hypoglycaemia when taken with chlorpropamide (Rose *pet al* 2018). It is essential to inform physician if one suffers from type II diabetes as garlic may increase the effectiveness of drugs that reduce blood sugar levels. The most common side effects of garlic are it may produce bad breath, heartburn, gastro intestinal irritation and nausea.

Antiemetic and non-pharmacological interventions such as acupressure or ginger, are effective in reducing the frequency of nausea and vomiting (Lowdermilk *et al* 2012, Maitre *et al* 2011).

The harms and benefits for using ginger for Nausea and vomiting of pregnancy during the clinical consultant in promoting and reducing the problems, ginger works as an anticoagulant too risks being avoided (Shawahana *et al* 2017).

3. Ginger (*Zingiber officinale*):

Ginger is an herb and a plant with leafy stem and yellowish green flower, the ginger spice comes from the roots of the plant and its rhizome (underground stem) is used as a spice and as a medicine. It can be used fresh, dried and powdered, or as a juice or oil. Ginger is commonly used to treat various types of "stomach problems," including motion sickness, morning sickness, upset stomach, gas, diarrhea, nausea caused by cancer treatment, nausea and vomiting after surgery, as well as loss of appetite. Other uses include pain relief from arthritis or muscle soreness, menstrual pain, upper respiratory tract infections, cough, and bronchitis. Ginger is also sometimes used for chest pain, low back pain, and stomach pain. In manufacturing, ginger is used as a flavoring agent and in food and beverages.

One of the chemicals in ginger is also used as ingredient laxative antigas, and antacid medication, In Painful menstrual period Ginger is an herb that decreases the pain in women and teens in their menstrual cycle. Taking ginger by mouth seems to reduce nausea and vomiting even in pregnant women (Shawahana *et al* 2017).

Now a days research carried on ginger which is on to use for diabetes as medicine. It seems to lower blood sugar with diabetes, doses of ginger is at least 3 grams of ginger per day. It shows the benefits in mainly 2-3 months later.

Ginger might decrease blood sugar. Ginger is used in Diabetes medication to lower blood sugar.

Heartburn or stomach distress can occur if taken in large quantities. Ginger reinforces warfarin action by heterogeneous mechanisms. It should thus not be used in patients on oral anticoagulant and Ginger may increase the risk of bleeding or potentiate the effects (Shawahana *et al* 2017). Ginger has long been used in traditional as a cure including inflammatory diseases. Ginger also contains some phenolic compounds such as paradol and shogol which contains anti-oxidant and anti-cancer properties and has also been shown to down regulate the gene products involved in proliferation including ovarian cancer cells (Shafina *et al* 2008). The effect of ginger, is a common morning sickness remedy, on fetal development. Pregnant rats were administered from gestation. No maternal toxicity was observed, however embryonic loss in the treatment groups was double that of the control's malformations of fetus. Drinking ginger tea heavily controls the effect in female fetus which is correlated with the increased size of the placenta (James *et al* 2018).

5. CONCLUSION:

It is concluded that adverse effects of herbal medicines as well as their interactions with other prescription drugs should be known to the consumers and physicians. Herbal remedies under conventional therapy are known to show many benefits to humans, which is true but one should be fully familiar with their side effects at normal and large doses (Maryamet *al* 2018). Medicinal plants exhibit their anti-inflammatory and neuroprotective effects. Herbal therapy effects in MS have been done on animal models, still there is a great need for approving these studies by clinical trials to recommend these mentioned plants for (multiple sclerosis) that is MS patients (Sina *et al* 2018).

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