

HOME REMEDIES-A SCIENTIFIC ANALYSIS**Santhosh C.*¹ and Amritha M. S.²**¹Senior Resident, Dept. of Integrative Medicine, NIMHANS Bangalore, Karnataka.²Senior Research Fellow, National Ayurveda Research Institute for Panchakarma, CCRAS, Cheruthuruthy, Kerala.Article Received on
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Integrative Medicine,
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Treating common ailments with ingredients available in the home is known as home remedies. Many of the remedies are having years of history, which might have developed by trial and error method and passed through generations. Even though many home remedies will give ambient relief in emergency situation, the practice is merely taking medicine without knowing the underlying pathology, there is a possibility to cause any harmful effect. In this era it is better to have a knowledge on the scientific explanation regarding the drugs we are using including its effectiveness in the specific condition, side effect and mode of action. In this article three commonly used drugs, ginger,

garlic and curry leaves are reviewed to evaluate its scientific basis in usage as home remedies. The drug selection was made on the basis of its availability in every Indian home. All are proved to be effective in the treatment of the specific condition which acts by the virtue of its specific active ingredients in the drugs.

KEYWORDS: Home Remedies, Scientific Explanation, Garlic, Ginger, Curry Leaves.**INTRODUCTION**

Treating common ailments with natural ingredients available in the home is known as home remedies. It is a part of tradition, in which the active ingredients used are taken from kitchen, which includes spices, fruits, and vegetables. Many of the remedies are having years and years of history, which might have developed by trial and error method. Though home remedies and traditional medicines are two different aspect. Tradition many of its usages are taken from Ayurveda compendium only. Internet, magazines etc. paved the way to increase the uses of home remedies. Diseases such as nausea, belching, abdominal distention, ulcers,

burns, cough, obesity, cosmetology etc. are the most common diseases which are treated by this small remedies as they can be managed without consulting a physician, but the other aspects of this have to be zoomed up on. Merely taking medicine without understanding the pathology of the disease and without knowing whether it will cause harmful effect or can worsen the condition. So here comes the need for the validation of the remedies which are in common use. Many of which are recently proved to have effective by scientific researches. This article aims reviewing at scientific evidence for some of the remedies which is in use since years.

GINGER

Botanical name: *Zingiber officinale*.

Family: Zingiberaceae

Ginger is an important drug in Ayurveda. Ayurveda says that everybody should eat *ardraka* (ginger) before lunch and dinner for proper digestion of food. It not only alleviates the *agni* (digestive fire) but also helps in *amapachana* (remove toxic elements of the body) and *srothoshodhana* (clearing the channels).^[1] Even though it is having action on different system like digestive, respiratory, circulatory system^[2], and nervous system.^[3] But mainly it is considered as a digestive tonic in home practice. Since years ginger is used as a home remedy to treat mainly for indigestion, nausea vomiting, breathing difficulty and arthritic complaints. Researches scientifically proved ginger to be efficient as home remedies in many currently practicing conditions.

A clinical trial investigated in effect of ginger extract on gastrointestinal motility showed that ginger accelerates gastric emptying and stimulates antral contractions in healthy individuals; studies on patients with functional dyspepsia have shown the same results with no alterations in the fundus dimension, gastrointestinal symptoms, or serum level of gut peptides such as GLP-1, motilin, and ghrelin.^[4]

The impact of ginger consumption as an antiemetic in nausea and vomiting of pregnancy has been extensively investigated in clinical studies for at least 30 years. The studies have shown that ginger in dose of 1 g/day is effective in pregnancy nausea and vomiting with no significant side effects American College of Obstetricians and Gynecologists (ACOG), and the National Institute for Health and Clinical Excellence, has accepted ginger as a remedy for nausea and vomiting during early pregnancy.^[5]

Ginger is proven to be an effective therapeutic option for asthma by administering alone or in combination with accepted therapeutics. It is observed that ginger induces broncho dilation by modulating intercellular $[Ca^{2+}]$ air smooth muscle. Active compounds of ginger such as^[6]-gingerol,^[8]-gingerol, and^[6]- shogaol, is proved to have ASM relaxant property in both animal and human trachea. This compounds relaxes the ASM and also attenuates airway hypersensitivity by altering $[Ca^{2+}]$.^[6]

Use of ginger is found safe and efficacious in condition of OA,^[7] other than the palatability of the extract and mild stomach upset, no side effects has been reported.^[8] Three months of supplementation, serum concentration of nitric oxide and hs - CRP decreased in the Ginger Group. After 12 weeks, the concentration of these markers declined more in the Ginger supplemented group than in the Placebo Group. Ginger powder supplementation at a dose of 1 g/d can reduce inflammatory markers in patients with knee osteoarthritis, and it thus can be recommended as a suitable supplement for these patients.^[9]

GARLIC

Botanical name: *Allium sativum*

Family: Lillaceae.

Garlic is another important component in complementary and alternative medicine. It is known as *Lasuna* in *Sanskrit*. It has attributed *sara* (relieves constipation), *teekshna*(strong), *guna*. It is one of the drug which is having action on almost all the system of the body, it is *kasahara*(relieves cough), *jvarahara*(relieves fever), *pacana*(digestant), *kushtahara*(alleviates skin diseases), *amahara*(relieves ama –product of undigested food), *ashohara*(relieves piles), *medakrut*(increases intellect). Only thing is that the condition of the disease in which it is to be applies should be specific, otherwise it shows altered effect. It is contraindicated in many conditions especially pitta aggravated condition as garlic increases pitta by its *ushnaveerya*(potency) and *katuvipaka*, this is also the main reason why it is not used in excessive bleeding conditions.^[10] So practicing *lasuna* as a home-remedy without proper guidance is not highly recommended.

But in fact, as a home remedy many are practicing the usage of garlic especially for cardiovascular disease, diabetes, hypercholesterolemia, as anti-inflammatory agents. Many researches have been dealt in this area and substantiated its efficacy.

Experimental and clinical studies confirm that the ancient experience with beneficial effects of garlic holds validity even in prevention of cardiovascular disorders and other metabolic ills. Most recent data published convincingly point out that garlic and its various forms reduce cardiovascular risk, including abnormal plasma lipids, oxidized low density lipoproteins (LDL), abnormal platelet aggregation and a high blood pressure. Stimulation of nitric oxide generation in endothelial cells seems to be the critical preventive mechanism. Garlic-derived organic polysulfides are converted by erythrocytes into hydrogen sulfide which in turn plays by relaxing the vascular smooth muscle and induces vasodilation of blood vessels, and significantly reduces blood pressure. There are data on potential ability of garlic to inhibit the rate of progression of coronary calcification. Garlic as a dietary component appears to hold promise to reduce the risk of cardiovascular disease.^[11]

Recently the usage of garlic is seen to be more in diabetic and hyperlipidemic patients. Going through the researches, in a preclinical trial it is reported that allin treatment enhanced glucose homeostasis, increased insulin sensitivity and improved the lipid profile in the DIO mice. This was, at least partly, attributable to allin induced modulation of the intestinal microbiota composition, typically decreased *Lachnospiraceae* and increased *Ruminococcaceae*. It also showed that allin had no significant effect on the body weight, adiposity or energy balance. Allin has nutraceutical or even medicinal potential in prevention of diabetes and lipid metabolic disorders.^[12]

Garlic (*Allium sativum*) and onion (*Allium cepa*) have been evaluated as possible antithrombotic agents. Aqueous extract of garlic and onion lowered the level of thromboxane B₂ (TXB₂) in the serum. Boiled garlic and onion at high concentration (500 mg/ kg) had very little effect on TXB₂ synthesis. This shows that garlic and onion should be consumed in a raw rather than cooked form in order to achieve a beneficial effect. Boiling of these plants may cause the decomposition of the potential antithrombotic ingredient present in these herbs. Garlic was found to be more potent than onion in lowering the TXB₂ levels. Garlic and onion can be taken frequently in low doses without any side effects, and can still produce a significant antithrombotic effect.^[13]

The sulfur compounds having the antiinflammatory action identified from the garlic inhibited the production of nitric oxide (NO) and prostaglandin E₂ (PGE₂) and the expression of the pro-inflammatory cytokines tumor necrosis factor- α , interleukin-1 β , and interleukin-6 in lipopolysaccharide (LPS)-activated macrophages. Their chemical structures were identified

as *Z*- and *E*-ajoene and oxidized sulfonyl derivatives of ajoene. Western blotting and reverse transcription–polymerase chain reaction analysis demonstrated that these sulfur compounds attenuated the LPS-induced expression of the inducible NO synthase (iNOS) and cyclooxygenase-2 (COX-2) proteins and mRNA.^[14]

Curry leaves

Botanical name: *Murraya koenigii*

Family: Rutaceae.

Curry leaf is a commonly used home remedy. Following the folklore practice many people are using it in raw form to get rid of hyperlipidemia, and also profusely used by the diabetic patients. In Ayurveda it is a drug named as *kaidirya* mentioned in *sakhavarga* (green leafy vegetables). It is *dipana* (carminative) and *garadosahara* (anti poisonous) *kasahara* (reduces cough), *jwarahara* (reduces fever) *ruchikara* (increases taste of food), *chardihara* (relieves vomiting), *pramehahara* (controls diabetes), *kustahara* (good for skin diseases).^[15] Scientific article showing its action on hyperlipidemia and diabetes are:

Murrayakoenigii is found to be an effective herb in the treatment of obesity and hyperlipidemia. It is found that, dichloromethane (MKD) and ethyl acetate (MKE) extracts of *Murrayakoenigii* leaves significantly reduced the body weight gain^[16], plasma total cholesterol (TC) and triglyceride (TG) levels significantly when given orally. The observed antiobesity and antihyperlipidemic activities of these extract might be because of the carbazole alkaloids present in them. Extract mahanimbine is also effective in lowering body weight gain as well as plasma total cholesterol and triglycerides.^[17]

The study on action of *Murrayakoenigii* on blood sugar level showed that, the ethanolic extract of *Murraya koenigii* showed a significant reduction in blood glucose level. In addition, *Murraya koenigii* exhibited a profound antioxidant effect with decreased Malondialdehyde (MDA) level and increased glutathione (GSH) level.^[18] but some reports suggested that curry leaf probably prevented the destruction of β -cell of islets in the pancreas. This may correlate with the antioxidant properties of the herb which requires further investigations.^[19]

CONCLUSION

Scientific validation of Traditional knowledge is the need of the hour. A data will be accepted only if we are able to explain in a scientific way. Sometimes practical knowledge will also be

rejected due to lack of evidences. So this article is specifically designed to find out the scientific explanation for some of the commonly used home remedies. In this article three commonly used drugs are reviewed to evaluate its scientific basis in usage as home remedies. The drug selection was made on the basis of its availability in every Indian home. All are proved to be effective in the treatment of the specific condition which acts by the virtue of its specific active ingredients in the drugs.

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