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A REVIEW ON PHYTOCHEMICAL AND PHARMACOLOGICAL ASPECTS OF PEPPERMINT

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ABSTRACT

Peppermint (*Mentha piperita)*, a popular flavoring for gum, toothpaste, and tea. It has been proven helpful in symptomatic relief of the common cold. It is also used to soothe an upset stomach or to aid digestion. Because of its calming and numbing effect, it is also been used to treat headaches, skin irritations, anxiety associated with depression, nausea, diarrhea, menstrual cramps, and flatulence. It is also an ingredient in chest rubs, used to treat symptoms of the common cold. In test tubes, peppermint kills some types of bacteria, fungus, and viruses, suggesting it may have antibacterial, antifungal, and antiviral properties. Several studies support the use of peppermint for indigestion and irritable bowel syndrome. Though *M. piperita* is on FDA's GRAS (Generally recognized as safe) list but the herb has few side effects. It can cause heartburn or perianal irritation and is contraindicated in patients with bile obstruction, gall bladder inflammation and severe liver damage and caution should be taken in patients with GI reflux.

Keywords: *M. piperita*, Anxiety, Nausea, Indigestion, Irritable Bowel Syndrome, GRAS.

INTRODUCTION

Peppermint has been one of the popular herbs known since antiquity for its distinctive aroma as well as its medicinal value. The herb has a characteristic refreshing cool breeze sensation on taste buds, palate and throat when eaten; and on nasal olfaction glands when inhaled. This unique quality of mint is due to the presence of menthol**,** an essential oil in its fresh leaves and stem. *Mentha piperita* commonly known as peppermint, Brandy mint, Candy mint, Lamb mint, Balm mint, Vilayati pudina or Paparaminta and belongs to the family *Lamiaceae* of the genus; *Mentha* and botanically named as *Mentha piperita* [1].

In *Ayurveda*, this is an important ingredient of several compound formulations used in the management of gasrti-intestinal and skin disorders. It is actually a natural hybrid-cross between water mint (*Mentha aquatica*) and spearmint (*Mentha spicata*). Peppermint plants are strongly scented perennial glabrous herb growing to about 2 - 3 feet tall. They bloom from July through August, sprouting tiny purple flowers in whorls and terminal spikes. Dark green, fragrant leaves grow opposite white flowers [2,3].

Peppermint is native to Europe and Asia, is naturalized to North America, and grows wild in moist, temperate areas. Some varieties are indigenous to South Africa, South America, and Australia. The leaves and stems, which contain menthol (a volatile oil), are used medicinally, as a flavoring in food, and in cosmetics (for fragrance). In general, the mint plant is usually sterile; producing no seeds and reproducing only vegetative reproduction, spreading lateral through its underground rhizomes. There exist more than 20 varieties of mint herbs with a wide range of color, fragrance, and flavor [4-6].

Biochemistry

The major constituents reported is volatile oil of which the principal component is usually (-) menthol, together with menthol sterioisomers such as (+) neomenthol and (+) isomenthol. Other monoterpenes include menthone (10-40%), methyl acetate (1-10%), menthofuran (1-10%), cineol (eucalyptol, 2-13%) and limonene (0.2-6%) [7,8]. Monoterpenes like pinene, terpinene, myrcene, β-caryophyllene, piperitione, piperitenone, piperitione oxide, pulegone, eugenol, menthone, isomenthone, carvone, cadinene, dipenten, linalool, α-phellendrene, ocimene, sabinene, terpinolene, fenchrome, *p*-menthane and β-thujone are also present in small quantities [9], The percentage of individual

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components distilled from mentha oil is given in table 1.

Health benefits of peppermint

Mint contains numerous plant derived chemical compounds that are known to have been anti-oxidant, disease preventing and health promoting properties. Total antioxidant strength (ORAC) of fresh peppermint herb is 13978 µmol TE/100g. The mint herb contains no cholesterol; however, it is rich in essential oils, vitamins and dietary fiber, which helps to control blood cholesterol and blood pressure inside the human body. The herb parts contain many essential volatile oils like menthol, menthone, menthol acetate. These compounds effect on cold-sensitive receptors in the skin, mouth and throat, the property which is responsible for the natural cooling-sensation that it initiates when inhaled, eaten, or applied on the skin [10].

The essential oil, menthol also has been analgesic (painkiller), local anesthetic and counter-irritant properties. Research studies have also been suggested that the compounds in the peppermint relax intestinal wall and sphincter smooth muscles through blocking calcium channel at cell receptor levels. This property of mint has been applied as an anti-spasmodic agent in the treatment of "irritable bowel syndrome" (IBS) and other colic pain disorders [11,12]. Peppermint-herb is an excellent source of minerals like potassium, calcium, iron, manganese and magnesium. 100 g fresh herb provides 569 mg of potassium. Potassium is an important component of cell and body fluids that helps control heart rate and blood pressure. Manganese and copper works as co-factors for the antioxidant enzyme, *superoxide-dismutase.* Further, it is rich in many antioxidant vitamins, including vitamin A, beta carotene, vitamin-C and vitamin E. The leaves of mint also contain many important B-complex vitamins like folates, riboflavin and pyridoxine (vitamin B-6); and the herb are an excellent source of vitamin-K [13,14].

Medicinal uses

As mentioned above, the essential oils in the peppermint act on cold-sensitive receptors in the skin, mouth and throat, the property which is responsible for the well-known cooling sensation that it provokes when inhaled, eaten, or applied to the skin. This property of mint can be applicable in the preparation of cough/cold reliving remedies like syrups, lozenges and nose inhaler. Peppermint oil has analgesic, local anesthetic and counter-irritant properties and has been used in the preparation of topical muscle relaxants and analgesics.

It is also being used in oral hygiene products and bad-breath remedies like mouthwash, toothpaste, mouth and tongue-spray, and more generally as a food flavor agent; e.g. in chewing gum, candy. It is also being used in oral hygiene products and bad-breath remedies like mouthwash, toothpaste, mouth and tongue-spray, and more generally as a food flavor agent; for instance, in chewing gums, candy, etc.

Indigestion

Peppermint calms the muscles of the stomach and improves the flow of bile, which the body uses to digest fats. As a result, food passes through the stomach more quickly. However, if your symptoms of indigestion are related to a condition called gastroesophageal reflux disease or GERD, you should not use peppermint (see "Precautions" section). Peppermint relaxes the muscles that allow painful digestive gas to pass [15].

Irritable Bowel Syndrome (IBS)

Several studies have shown that enteric coated peppermint capsules can help treat symptoms of IBS, such as pain, bloating, gas, and diarrhea. (Enteric coated capsules keep peppermint oil from being released in the stomach, which can cause heartburn and indigestion.) However, a few studies have shown no effect. One study examined 57 people with IBS who received either enteric coated peppermint capsules or placebo twice a day for 4 weeks. Of the people who took peppermint, 75% had a significant reduction of IBS symptoms. Another study comparing enteric coated peppermint oil capsules to placebo in children with IBS found that after 2 weeks, 75% of those treated had reduced symptoms. Finally, a more recent study conducted in Taiwan found that patients who took an enteric coated peppermint oil formulation 3 - 4 times daily for one month had less abdominal distention, stool frequency, and flatulence than those who took a placebo. Nearly 80% of the patients who took peppermint also had alleviation of abdominal pain.

Itching and Skin Irritations

Peppermint, when applied topically, has a soothing and cooling effect on skin irritations caused by hives, poison ivy, or poison oak [16].

Tension Headache

One small study suggested that peppermint applied to the forehead and temples helped reduce headache symptoms.

Colds and Flu

Peppermint and its main active agent, menthol, are effective decongestants. Because menthol thins mucus, it is also a good expectorant, meaning that it helps loosen phlegm and breaks up coughs. It is soothing and calming for sore throats (pharyngitis) and dry coughs as well.

Reported Pharmacological Activities

Antimicrobial activity

- **Anti-bacterial**

The antibacterial effect of *Mentha piperita* was tested against some bacteria by agar diffusion method. All the test organisms were sensitive to the oil with the sensitivity order of *E.coli* > *S. aureus* > *Pseudomonas aeruginosa* > *S.faecalis* > *Klebsiella pneumoniae*. The antimicrobial activity of various essential oils including mint (*Mentha piperita*) was evaluated on survival and growth of different strains of *E. coli* O157:H7. The strains of *E. coli* exhibited similar susceptibilities to the action of the essential oils assayed at the inhibition zone diameter range of 16-19mm [17]. Addition of mint essential oil reduced the total viable counts of *S. aureus* about 6–7 logs

[18]. Addition of ground leaves to the agar medium inhibited the growth of *Salmonella typhimurium*, *Staphylococcus aureus* and *Vibrio parahaemolyticus* at concentrations of 0.1-2.0% (w/v). Aqueous and ethanol extracts of the leaves reduced the number of plaques of the rinderpest virus at concentrations of 4-8 mg/ml. Aqueous extracts of the leaves demonstrated activity against the following viruses in egg and cell culture: Newcastle disease, herpes simplex, vaccinia, Semliki Forest and West Nile [19-22].

- **Anti-fungal**

Mentha oil exhibited fungistatic and fungicidal activities against both of the standard and clinical strains of Candida species at concentrations ranging from 0.5 µl /ml to 8 µl /ml. One of the encapsulated yeasts, *C. neoformance*, is a well-known primarily opportunistic pathogen which produces chronic and life-threatening meningitis. According to the findings of this study, the examined oils killed the standard strain of *C. neoformance* at concentration of 4 µl /ml [23,24].

Muscle Relaxant Activity

The activities of menthol and peppermint oil were determined in guinea-pig ileal smooth muscle, in rat and guinea-pig atrial and papillary muscle, in rat brain synaptosomes and in chick retinal neurones by pharmacological $45Ca^{2+}$ uptake and radio ligand binding assays. Menthol is a major constituent of peppermint oil and is approximately twice as potent as peppermint oil as an inhibitor of K^+ depolarization-induced and electrically stimulated responses in ileum and electrically stimulated atrial and papillary muscles. IC_{50} values in the ileal preparation ranged from 7.7 to 28.1 mg/ml and in the cardiac preparations from 10.1 to 68.5 mg /ml. Similar potencies were demonstrated against K^+ depolarization-induced $45Ca^{2+}$ uptake in synaptosomes and against K^+ depolarization and Bay K 8644-induced uptake in chick retinal neurons. IC50 values for menthol inhibition of K^+ and Bay K 8644 responses in the retinal neurons were 1.1 x 10(-4) M (17.2 mg/ml) and 1.75 x 10(-4) M (26.6 mg/ml), respectively, and for peppermint oil were 20.3 and 41.7 mg/ml respectively. Both menthol and peppermint oil inhibited specific [3H] nitrendipine and [3H] PN 200-110 binding to smooth and cardiac muscle and neuronal preparations with potencies comparable to, but slightly lower than, those measured in the pharmacological and $45Ca^{2+}$ uptake experiments. A 31% ethanol extract of the leaves inhibited both acetylcholine and histamine-induced smooth muscle contractions in guinea-pig ileum in vitro at a concentration of 10 ml/l. The results were similar to those obtained with 0.13 mg atropine. An aqueous flavonoid fraction isolated from a leaf extract inhibited barium chloride-induced muscle contractions of guinea-pig ileum in vitro at a concentration corresponding to 0.5 g leaves/ml [25].

Effect on Respiratory System

- **Inhibition of Respiration**

Cooling of the upper airway, which stimulates specific cold receptors and inhibits laryngeal mechanoreceptors, reduces respiratory activity in unanesthetized humans and anesthetized animals. This study shows that laryngeal cooling affects the pattern of breathing in the guinea pig and assesses the potential role of cold receptors in this response by using a specific stimulant of cold receptors (l-menthol). The response to airflows (30 ml/s, 10-s duration) through the isolated upper airway was studied in 23 anesthetized (urethan, 1 g/kg ip) guinea pigs breathing through a tracheostomy. Respiratory airflow, tidal volume, laryngeal temperature, and esophageal pressure were recorded before the challenges (control), during cold airflows (25 ºC, 55% relative humidity), and during warm airflows (37 ºC, saturated) with or without the addition of l-menthol. Whereas warm air trials had no effect, cold air trials, which lowered laryngeal but not nasal temperature, reduced ventilation (VE) to 85% of control, mainly by prolonging expiratory time (TE, 145% of control), an effect abolished by laryngeal anesthesia [26,27].

- **Nasal Decongestant**

In cats and dogs, vaporized menthol stimulated cold receptors in the respiratory tract [28]. In a double blind randomized controlled trial, 62 subjects with nasal congestion secondary to common cold infections were given a lozenge containing 11 mg menthol or placebo. The subjects given the menthol reported a significant improvement in the sensation of nasal airflow after ten minutes.

- **Anti-tussive**

In a randomized trial, 20 healthy subjects received a citric acid cough challenge every hour for five hours. Five minutes before each challenge the subjects inhaled either menthol in eucalyptus oil or one of two placebos (pine oil or air). Menthol inhalation caused a reduction in evoked cough when compared with either placebo [29].

Effect of Gastro-intestinal Tract

- **Digestive aid**

In a blinded controlled study, 20 healthy males (ages 21-23 and 34-35) and six subjects with non-obstructive dyspepsia were fed a radio labeled solid test meal with and without peppermint oil (25 ml of water with 0.2 ml of peppermint oil). After administration of peppermint oil, gastric emptying rate accelerated in both normal and patients with dyspepsia. None of the volunteers complained of any side effects [30].

- **Anti-emetic**

In a placebo controlled study of gynaecological surgery patients, there was a statistically significant effect of peppermint in reducing postoperative nausea [31].

- **Antispasmodic**

Peppermint relaxes gastro-intestinal smooth muscle by reducing calcium influx in both guinea pig large intestine and rabbit jejunum [32]. Peppermint oil and

menthol have calcium channel blocking activity in rat and guinea pig atrial and papillary muscle, rat brain synaptosomes, and chick retinal neurons [33,34]. In anesthetized guinea pigs, peppermint oil resolved a morphine induced spasm on the sphincter of Oddi. In 20 subjects who were undergoing colonoscopy, administration of peppermint oil during the procedure relieved colon spasm within 30 seconds in each patient [35]. Similarly, in a placebo controlled trial in six adults, injection of 0.2 ml peppermint oil suspension into the colon led to a statistically significant decrease in motor activity at two minutes and lasting 7-23 minutes. In a double blind, placebo controlled randomized study of 141 patients receiving a Barium enema, those who had 40 ml of topical peppermint oil preparation added to the Barium suspension reported a significantly lower rate of residual spasm compared to placebo group (64% vs. 35%). In patients with diverticular disease, 72% were spasm-free, compared to 21% of diverticular disease patients in the placebo group. No adverse effects were reported [36,37].

- **Irritable bowel syndrome** (IBS)

In rat small intestine, peppermint oil at concentrations of 0.5 and 1 mg/ml inhibited enterocyte glucose uptake via a direct action at the brush border membrane. Inhibition of secretion by serosal peppermint oil is consistent with a reduced availability of calcium [38]. A meta-analysis of four randomized controlled studies indicated that peppermint oil could be efficacious for the symptoms of IBS. However, it has been noted that methodological flaws in the studies prevented this recommendation beyond a reasonable doubt [39]. In two double blind, placebo controlled crossover studies, 16 to 29 subjects with active IBS were given either enteric-coated peppermint oil (one or two 0.2 ml capsules three times daily) or placebo for three to four weeks. The peppermint oil capsules significantly increased the feeling of well being and decreased abdominal pain compared to placebo. There was no significant effect on stool frequency. The frequency of symptom-free days increased and severe symptoms decreased in the peppermint oil group but the data were not statistically significant. Two subjects developed heartburn [40]. In a double blind clinical trial, 34 patients with IBS in whom pain was a prominent symptom took two peppermint oil (0.2 mg) capsules or placebo three times daily for two and four weeks. The patients' assessment of their overall symptoms showed no significant difference between peppermint oil and placebo [41]. The enteric-coated peppermint capsules were found to dissolve in the colon and gelatin-coated peppermint capsules in the stomach of human volunteers. To be effective in the treatment of spastic colon syndromes, the oil must reach the colon in an un-metabolized state. In human volunteers, both enteric-coated (Enteroplant®) and non-enteric- coated preparations (a combination of peppermint oil 90 mg and 50 mg of caraway oil) showed a decrease in the number of contractions and contraction amplitudes during the various phases of the MMC (Migrating Motor Complex). Non-enteric-coated preparations showed their effects mainly during the second MMC after administration. Enteric-coated and non-enteric-coated peppermint caraway oil combinations are safe preparations, acting locally to cause smooth muscle relaxation [42].

- **Choleretic activity**

In animal studies, flavanoids found to possess cholerectic effect. Menthol and related terpenes exert a choleretic effect. Several clinical studie with the drug Rowachol® (a mixture of six cyclic monoterpenes: menthol, menthone, pinene, borneol, camphene, and cineol) have shown success in the treatment of patients with cholesterol stones in their gallbladders and bile ducts. Injection of a leaf infusion (0.5 ml) or a flavonoid fraction (equivalent to 3.3 g leaves/kg body weight) increased the amount of bile acids in cannulated rats and dogs (dose 0.4 mg/kg body weight). A mixture of flavonoids, isolated from the leaves, had choleretic activity in dogs (2 mg/kg body weight). Flavomentin, a flavonoid isolated from the leaves, stimulated bile secretion and the synthesis of bile acids in dogs (2 mg/kg body weight). Intra-gastric administration of a 30% ethanol extract of the leaves to rats (1 ml/kg body weight) increased bile flow by 43%. The extract did not induce sedation in mice at doses up to 10 ml/kg body weight [43].

Dermatological Actions

Peppermint oil stimulates cold receptors on the skin and dilates blood vessels, causing a sensation of coldness and an analgesic effect. Menthol is a topical vasodilator that enhances the absorption of other topical skin medications. On hairless mice, menthol (1-5% w/v) enhances the absorption of cortisone mannitol, indomethacin, morphine hydrochloride and propranolol. In low concentrations, topical application of menthol causes a cooling sensation; while in high concentrations it causes irritation and local anaesthesia. In a three-fold crossover clinical trial on the arms of 15 healthy males, topical application of menthol-reduced histamine-induced itch [44,45].

Analgesic and Anti-Inflammatory activity

Intra-gastric administration of a 30% ethanol extract of the leaves inhibited phenyl benzoquinone-induced writhing in mice (ED50 2.1 ml/kg body weight). The ethanolic extract possesses anti-inflammatory effect in acute (xylene induced ear oedema) and chronic (cotton pellet granuloma) inflammation. Azulene found in oil of peppermint have shown to have anti-inflammatory effects in laboratory animals.

Radioprotective

M. piperita leaf extract pre-treatment provides protection against radiation induced alterations in intestinal mucosa of swiss albino mice. A significant promotion was obtained in various hematological parameters and modulates activity of serum phosphates in albino mice against γ-radiation [46].

Anti-edemic activity

Topical application of a methanol leaf extract to mice (2.0mg/ear) inhibited ear edema induced by 12-o-tetradecanoylphorbol-13-acetate.Intragastric administration of a 30% ethanol extract of the leaves inhibited phenyl benzoquinone-induced writhing in mice (ED50 2.1 ml/kg body weight).

Daily Dose and General Precautions

Pediatric

Do not give peppermint to an infant or small child. Peppermint oil applied to the face of infants can cause life-threatening breathing problems. In addition, peppermint tea may cause a burning sensation in the mouth. For digestion and upset stomach in older children 1 - 2 ml peppermint glycerite per day can be given.

Adult

General

Peppermint can be consumed as tea. 1 tsp. dried peppermint leaves in 1 cup boiling water for 10 minutes; strain and cool. Drink 4 - 5 times per day between meals. Peppermint tea appears to be safe, even in large quantities.

Irritable Bowel Syndrome

Enteric coated capsules: 1 - 2 capsules (0.2 ml of peppermint oil) 2 to 3 times per day for IBS.

Headaches

Lightly coat the forehead with a tincture of 10% peppermint oil to 90% ethanol and allow the tincture to evaporate. Itching and skin irritations: Apply menthol, the active ingredient in peppermint, in a cream or ointment form no more than 3 - 4 times per day.

Possible Interactions and Contraindications

The use of herbs is a time honored approach to strengthening the body and treating disease. Herbs, however, can trigger side effects and interact with other herbs, supplements, or medications. For these reasons, you should take herbs with care, under the supervision of a health care provider. Do not take peppermint or drink peppermint tea if you have gastro-esophageal reflux Some animal studies suggest that peppermint may lower blood pressure. If you take medications to lower blood pressure, taking peppermint also might make their effect stronger.

Available Forms

Peppermint tea is prepared from dried leaves of the plant and is widely available commercially.

disease (GERD: a condition where stomach acids back up into the esophagus) or hiatal hernia. Peppermint can relax the sphincter between the stomach and esophagus, allowing stomach acids to flow back into the esophagus. By relaxing the sphincter, peppermint may actually make the symptoms of heartburn and indigestion worse.

Peppermint, in amounts normally found in food, is likely to be safe during pregnancy, but not enough is known about the effects of larger supplemental amounts. Speak with your health care provider. Never apply peppermint oil to the face of an infant or small child, as it may cause spasms that inhibit breathing. Peppermint may make gallstones worse. Large doses of peppermint oil can be toxic. Pure menthol is poisonous and should never be taken internally. It is important not to confuse oil and tincture preparations. Menthol or peppermint oil applied to the skin can cause a rash.

Peppermint is found to have interactions and contraindicated with following-

Cyclosporine: This drug, which is usually taken to prevent rejection of a transplanted organ, suppresses the immune system. Peppermint oil may slow down the rate at which the body breaks down cyclosporine, meaning more of it stays in your bloodstream. Do not take peppermint oil if you take cyclosporine.

Antacids: If peppermint capsules are taken at the same time as drugs that lower the amount of stomach acid, the enteric-coated peppermint capsules may dissolve in the stomach instead of the intestines. This could mean the effects of peppermint are lessened. Take peppermint at least 2 hours before or after an acid-reducing drug like famotidine (Pepcid), cimetidine (Tagamet), ranitidine (Zantac), esomeprazole (Nexium), lansoprazole (Prevacid), omeprazole (Prilosec).

Anti-diabetics: Studies suggest peppermint may lower blood sugar, raising the risk of hypoglycemia (low blood sugar).

Anti-hypertensive drugs (blood pressure medications):

Peppermint spirit (tincture) contains 10% peppermint oil and 1% peppermint leaf extract in an alcohol solution. A tincture can be prepared by adding 1 part peppermint oil to 9 parts pure grain alcohol.

Enteric coated capsules are specially coated to allow the capsule to pass through the stomach and into the intestine (0.2 mL of peppermint oil per capsule).

Creams or ointments (should contain 1 - 16% menthol)

Table 1. Chemical components (%) of the essential oils distilled from *Mentha piperita*

Compound	% in Oil
α-Pinene	0.32
Sabinene	0.26
β-pinene	0.58
1,8-Cineole	6.69
cis-Sabinene hydrate	0.5
Menthone	2.45
Menthofuran	11.18

Neomenthol	2.79
Menthol	53.28
Neomenthyl acetate	0.65
Menthyl acetate	15.1
Isomenthyl acetate	0.61
β-Bourbonene	0.37
(z)-Caryophyllene	2.06
E-β-farnesene	0.3
Germacrene	2.01
Bicyclogermacrene	0.22
Total	99.37

Nutritive Value per 100 g. of fresh peppermint according to USDA National Nutrient data base is given in table 2.

Table 2. Nutritive value per 100g of fresh peppermint according to USFDA

Principle	Nutrient Value	Percentage of RDA
Energy	70 Kcal	3.5%
Carbohydrates	14.79 g	11%
Protein	3.75 g	7%
Total Fat	0.94 g	3%
Cholesterol	0 mg	0%
Dietary Fiber	8 g	20%
Vitamins		
Folates	114 µg	28%
Niacin	1.706 mg	10.5%
Pantothenic acid	0.338 mg	6.5%
Pyridoxine	0.129 mg	10%
Riboflavin	0.266 mg	20%
Thiamin	0.082 mg	7%
Vitamin A	4248 IU	141%
Vitamin C	31.8 mg	53%
Electrolytes		
Sodium	31 mg	2%
Potassium	569 mg	12%
Minerals		
Calcium	243 mg	24%
Copper	329 µg	36%
Iron	5.08 mg	63.5%
Magnesium	80 mg	20%
Manganese	1.176 mg	51%
Zinc	1.11 mg	10%

About 85 constituents of the oil have been identified and a further 40 are unidentified. Flavanoids like luteolin and its 7-glucoside, menthoside, isorhoifolin and others including a number of highly oxygenated flavones have been reported.

CONCLUSION

Peppermint has been used for medical purposes as well as in different industries for centuries but until recently, the positive qualities hadn't been measured. Once scientists took the initiative to research the properties of it, they found conclusive evidence that matched with the wise instruction of the medicine men of the past. Today, health care physicians recommend peppermint to patients suffering from Irritable Bowel Syndrome (IBS) indigestion, heart burn and nausea amongst other physical ailments but in some special cases it should be taken cautiously.

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