CHAMOMILE

Name of product: Chamomile

Scientific Name: Matricaria recutita, once it has been called as Marticaria chamomilla, Chamomilla recutita, and Chamomilum nobile.[1,2]

Common names: German chamomile, Roman chamomile, English chamomile, Camomilla, and Flos Chamomile.[1,2]

Description of Chamomile and Its Active Ingredients

Chamomile is a daisy (Asteracea)-like flower that grows indigenously in Europe, NW. Asia, N. Africa, and cultivated in N. America and in many parts of the world.[1,3] This herb has been used as herbal remedies for thousands of years. This herb has been believed by Anglo-Saxons as one of nine sacred herbs given to humans by the lord.[4]

The main medicinal part of the herb is the flower.[1] The composite flower is white in color with a yellowish orange center.[1] The flower contains 1% to 2% volatile oil.[1,3] The main ingredients of the volatile oil are ∝-bisabolol, ∝-bisabolol oxides A, B, and C, chamazulene (extracted from matricin by steam distillation), and flavonoids.[3] Matricin is very unstable and usually converts to chamazulene during the extraction process. The flavonoids are mainly of apigenin with smaller amounts of luteolin and quercetin.[1,3] These flavones are the active ingredients of the herb that have anti-inflammatory effect.[1]

Flower Extracts (volatile oil): used as bactericidal and fungicidal, antispasmodic, anti-inflammatory, analgesic, antiseptic, antipyretic, and antianaphylactic.[1-4]

Flowers: sedative, anti-oxidant, anti-depressant, antihistaminic, diaphoretic.[1,3]

Mechanism of Action: Chamomile extract α-bisabolol demonstrated antipeptic activity in vitro.[1] A chamomile's hydro-alcoholic extract inhibited a number of different

bacterial growth.[1] Some of them are S. Aures, Strep. Mutans, streptococcus group B and Salivarius.[1] It had bactericidal effect in vitro to Bacillus megatherium and Leptospira icterohaemorrhagiae.[1] In vivo chamomile extracts inhibited Cox-1, Cox-2 and lipoxygenase which in turn inhibited the production of prostaglandins and leukotrienes, known pro-inflammatory agents.[1] In a mouse model total chamomile extract, and/or the flavonoid fraction only, was very effective in reducing inflammation.[1] Apigenin and luteolin were more active than indomethacin and phenylbutazone.[1] The spasmodic activities of chamomile is due to the active ingredients of apigenin, apigenin-7-oglucoside, and –α-bisobolol. Intraperitonial administration of chamomile extract in mice decreased basal motility and motor activities that potentiated hexobarbital induced sleep.[1]

Current Indication and Efficacy: Externally it is used for treatment of inflammation and irritations of the skin and mucosa: skin cracks, bruises, frostbite, dermatitis and insect bites, and irritation and infections of the mouth, gums, and haemorrhoids.[1] Internally for relief of GI-discomfort: dyspepsia, epigastric bloating, impaired digestion, and flatulence; sedation: treatment of restlessness, mild insomnia due to nervous disorders and tension relief. Effectiveness of chamomile may differ from country to country depending on the weather and soil content of the place it grows. For instance chamomile that grow in Germany, known as "German chamomile" is known for its efficacy in treatment of GI-discomfort, however, the chamomile that is cultivated in the United States is not used for treatment of GI- symptoms due to its weak effects.[4] Chamomile extract is an effective sedative and helps relax tense muscles associated with nerve disorders.[2] It is also a very powerful anti-inflammatory agent. A moderately new clinical study has shown that chamomile and other plants of the asteracea family that have apigenin and flavonoid extracts have significantly suppressed a pro-carcinogen inducible Cox-2 and inducible nitric oxide synthase in mouse macrophages. The study concluded that consumption of such plants might be effective in the prevention of carcinogenesis and inflammation.[6]

Original Author Mengesha Mesfun
Reviewed 5/14/03 Susan Paulsen PharmD

Dosage formulation: Chamomile is formulated in many dosage forms. It comes as a topical cream, topical ointment, topical lotion, oral inhalation, powder, tea, and volatile oil known as essential oil.[1,3]

Dosage forms recommended doses and duration of therapy

Usual adult dosage:

A. DERMATITIS: for treatment of dermatitis apply cream or lotion topically 4 times daily.2

B. TENSION: for treatment of tension associated with disorder of nervous system use:

1. Liquid extract (1:1 in 45%-70% ethanol), 1 to 4 ml orally 3 times daily.[1]
2. Tea powder, orally 1-4 cups of tea daily or as needed.[2]

C. GI- DISCOMFORT: the average daily dose for treatment of any GI-discomfort is 2-8g, 3 times a day of fluidextract (1:1 in 45 % ethanol). Dose 1-4ml orally three times daily.[1]

Usual Pediatric Dosage:

DERMATITIS, cream, topical: apply 4 times daily.[1]

TENSION, tea, and oral: 1 to 4 times daily, amount dependent on age.[2]

GI- doses: 2g, 3times daily or fluid extract of 0.6-2ml as single dose. Internal use is only in patients older than 3 years.[1]

Administration: Chamomile products can be administrated in many forms. The common ones are: oral, topical, inhalation, solution for bath, and infusion.[1]

Contraindication: the use of chamomile products are contraindicated in patients with known sensitivities or allergies to plants of the asteraceae (Compasitae) such as ragweed, asters, and chrysanthemums, and in patients with atopic hay fever or

asthma.[1,2] It is also contraindicated in women during their early pregnancy term due to its teratogenic effects.[1,2]

Adverse Effects: due to the presence of lactones in chamomile preparations it can cause allergic reactions in sensitive individuals.[1] Conjunctivitis and eye-lid angioedema, contact dermatitis and eczema and emesis in administrations of higher doses have been reported.[1]

Drug Interactions: Possibly synergistic effects with anti-coagulant agents. But so far nothing has been reported.[2]

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