Scientifically Proven Health Benefits of Oil No. 12

1. Introduction

The health benefits of Jasmine Essential Oil can be attributed to its properties like anti depressant, anti septic, aphrodisiac, anti spasmodic, cicatrisant, expectorant, galactogogue, emenagogue, parturient, sedative and uterine. Jasmine Essential Oil is extracted from the flowers of Jasmine, with its scientific names Jasminum Grandiflora (Royal Jasmine) and Jasminum Officinale (Common Jasmine). The oil is extracted mainly from the second one. Its main components are Benzoic Acid, Benzaldehyde, Benzyl Acetate, Benzyl Alcohol, Indole, Benzyl Benzoate, Cis-3-Hexenyl Benzoate, Cis-Jasmone, Ceosol, Eugenol, Farnesol, Geraniol, Linalool, Methyl Anthranilate, P-Cresol, Nerol, Gamma Terpineol, Nerolidol, Isohytol, Phytol etc. Other benefits of jasmine oil include its ability to relieve spasms. As an anti spasmodic it will soften muscle cramps as well as coughs. It has expectorant properties, helping to expel mucous from the respiratory tract, making jasmine essential oil a natural remedy for the symptoms of the common cold.Although jasmine essential oil should not be used during pregnancy, it can be used during childbirth under the supervision of an experienced midwife or other medical professional. Jasmine has the double effect of strengthening contractions while relieving pain and anxiety. It is also beneficial for women post partum to alleviate depression and stimulate the flow of breast milk.

2. Chemical components of Jasmine Oil

Chemical composition of the essential oil from Jasminum pubescens leaves and flowers

The essential oil obtained from the leaves and flowers of Jasminum pubescens (Retz.) Willd. (Oleaceae) has been analyzed by GC/MS. Sixty-three and sixty-four components of the essential oils, representing 95.0% of the total oil for the leaves and 91.9% for the flowers, were identified, respectively. Both the oils were mainly constituted by non-terpene derivatives (58.2% and 50.8%, respectively), among which aldehydes (44.7%) characterized the essential oil from the leaves. Besides aldehydes (14.3%) and other carbonylic compounds (acids, esters, and ketones, 38.1%) were the main non-terpene compounds of the oil from the flowers.

3. Clinical studies

Antioxidant activity

Antioxidant activities and volatile constituents of various essential oils

Thirteen essential oils were examined for their antioxidant activity using three different assay systems. Jasmine, parsley seed, rose, and ylang-ylang oils inhibited hexanal oxidation by over 95% after 40 days at a level of 500 microg/mL in the aldehyde/carboxylic acid assay. Scavenging abilities of the oils for the 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical ranged from 39% for angelica seed oil to 90% for jasmine oil at a level of 200 microg/mL. The greatest inhibitory activity toward malonaldehyde (MA) formation from squalene upon UV-irradiation was obtained from parsley seed oil (inhibitory effect, 67%), followed by rose oil (46%), and celery seed oil (23%) at the level of 500 microg/mL. The main compounds of oils showing high antioxidant activity were limonene (composition, 74.6%) in celery seed, benzyl acetate (22.9%) in jasmine, alpha-pinene (33.7%) in juniper berry, myristicin (44%) in parsley seed, patchouli alcohol (28.8%) in patchouli, citronellol (34.2%) in rose, and germacrene (19.1%) in ylang-ylang.

Sedative effects

Sedative effects of the jasmine tea odor and (R)-(-)-linalool, one of its major odor components, on autonomic nerve activity and mood states

We investigated the effects of the odor of jasmine tea on autonomic nerve activity and mood states in a total of 24 healthy volunteers. We used the odor of jasmine tea at the lowest concentration that could be detected by each subject but that did not elicit any psychological effects. R-R intervals and the POMS test were measured before and after inhalation of the odors for 5 min. Both jasmine tea and lavender odors at perceived similar intensity caused significant decreases in heart rate and significant increases in spectral integrated values at high-frequency component in comparison with the control ($P < 0.05$). In the POMS tests, these odors produced calm and vigorous mood states. We also examined the effects of (R)-(-)-linalool, one of its major odor components, at the same concentration as in the tea, and (S)-(+)-linalool. Only (R)-(-)-linalool elicited a significant decrease in heart rate ($P < 0.05$) and an increase in high-frequency component in comparison with the controls, and produced calm and vigorous mood states. Thus, the low intensity of jasmine tea odor has sedative effects on both autonomic nerve activity and mood states, and (R)-(-)-linalool, one of its components, can mimic these effects.

Antimicrobial activity

Bactericidal activities of plant essential oils and some of their isolated constituents against Campylobacter jejuni, Escherichia coli, Listeria monocytogenes, and Salmonella enterica

An improved method of sample preparation was used in a microplate assay to evaluate the bactericidal activity levels of 96 essential oils and 23 oil compounds against Campylobacter jejuni, Escherichia coli O157:H7, Listeria monocytogenes, and Salmonella enterica obtained from food and clinical sources. Bactericidal activity (BA50) was defined as the percentage of the sample in the assay mixture that resulted in a 50% decrease in CFU relative to a buffer control. Twenty-seven oils and 12 compounds were active against all four species of bacteria. The oils that were most active against C. jejuni (with BA50 values ranging from 0.003 to 0.009) were marigold, ginger root, jasmine, patchouli, gardenia, cedarwood, carrot seed, celery seed, mugwort, spikenard, and orange bitter oils; those that were most active against E. coli (with BA50 values ranging from 0.046 to 0.14) were oregano, thyme, cinnamon, palmarosa, bay leaf, clove bud, lemon grass, and allspice oils; those that were most active against L monocytogenes (with BA50 values ranging from 0.057 to 0.092) were gardenia, cedarwood, bay leaf, clove bud, oregano, cinnamon, allspice, thyme, and patchouli oils; and those that were most active against S. enterica (with BA50 values ranging from 0.045 to 0.14) were thyme, oregano, cinnamon, clove bud, allspice, bay leaf, palmarosa, and marjoram oils. The oil compounds that were most active against C. jejuni (with BA50 values ranging from 0.003 to 0.034) were cinnamaldehyde, estragole, carvacrol, benzaldehyde, citral, thymol, eugenol, perillaldehyde, carvone R, and geranyl acetate; those that were most active against E. coli (with BA50 values ranging from 0.057 to 0.28) were carvacrol, cinnamaldehyde, thymol, eugenol, salicylaldehyde, geraniol, isoeugenol, citral, perillaldehyde, and estragole; those that were most active against L monocytogenes (with BA50 values ranging from 0.019 to 0.43) were cinnamaldehyde, eugenol, thymol, carvacrol, citral, geraniol, perillaldehyde, carvone S, estragole, and salicylaldehyde; and those that were most active against S. enterica (with BA50 values ranging from 0.034 to 0.21) were thymol, cinnamaldehyde, carvacrol, eugenol, salicylaldehyde, geraniol, isoeugenol, terpineol, perillaldehyde, and estragole. The possible significance of these results with regard to food microbiology is discussed.

4. References

Nat Prod Commun. 2009 Dec;4(12):1729-32. Chemical composition of the essential oil from Jasminum pubescens leaves and flowers. Temraz A, Cioni PL, Flamini G, Braca A. Faculty of Pharmacy, Al Azhar University, Nasr-City, 11371 Cairo, Egypt.

J Agric Food Chem. 2007 Mar 7;55(5):1737-42. Epub 2007 Feb 13. Antioxidant activities and volatile constituents of various essential oils. Wei A, Shibamoto T. Department of Environmental Toxicology, University of California, Davis, California 95616, USA.

Eur J Appl Physiol. 2005 Oct;95(2-3):107-14. Epub 2005 Jun 23. Sedative effects of the jasmine tea odor and (R)-(-)-linalool, one of its major odor components, on autonomic nerve activity and mood states. Kuroda K, Inoue N, Ito Y, Kubota K, Sugimoto A, Kakuda T, Fushiki T. Laboratory of Nutrition Chemistry, Division of Food Science and Biotechnology, Graduate School of Agriculture, Kyoto University, Kitashirakawa Oiwake-cho, Japan.

J Food Prot. 2002 Oct;65(10):1545-60. Bactericidal activities of plant essential oils and some of their isolated constituents against Campylobacter jejuni, Escherichia coli, Listeria monocytogenes, and Salmonella enterica. Friedman M, Henika PR, Mandrell RE. Western Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture, Albany, California 94710, USA.