



SCIENTIFIC RESEARCH

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ESSENTIAL OILS FOR INFECTION & IMMUNITY

DRUG RESISTANT SUPERBUGS

The antimicrobial activity of high-necrodane and other on methicillin-sensitive and resistant *Staphylococcus aureus*

Conclusion: All four lavender oils inhibited growth of both MSSA and MRSA by direct contact.

<http://www.ncbi.nlm.nih.gov/pubmed/19249919> (Lavender)

The battle against multi-resistant strains: Renaissance of antimicrobial essential oils as a promising force to fight hospital-acquired infections.

<http://www.ncbi.nlm.nih.gov/pubmed/19473851> (Thyme, Lemongrass)

Drug-resistant Staph Infection (MRSA), ESBL-producing *E. coli*, Multi-resistant *Pseudomonas aeruginosa*, Vancomycin-resistant *Enterococcus* (VRE)

Conclusion: Lemongrass and *Eucalyptus globulus* proved to be particularly active against gram-positive bacteria.

<http://www.ncbi.nlm.nih.gov/pubmed/23199627> (Lemongrass, Eucalyptus)

In vitro antibacterial activity of 21 essential oils against 6 bacterial species: *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Proteus vulgaris*, *Bacillus subtilis* and *Staphylococcus aureus* (MRSA)

<http://www.biomedcentral.com/1472-6882/6/39> (Star anise)

In vitro study of synergistic antimicrobial effect of carvacrol and cymene on drug resistant *Salmonella typhi*

<http://academicjournals.org/journal/AJMR/article-abstract/915B2AF15110> (Oregano, Thyme)

RESPIRATORY INFECTIONS (COLD, FLU, PNEUMONIA, BRONCHITIS)

[ENTIRE RANGE OF RESPIRATORY INFECTIOUS AGENTS]

Screening of the antibacterial effects of a variety of essential oils on microorganisms responsible for respiratory infections.

Conclusion: Thyme showed inhibition of bacterial growth against most of the organisms examined and can be considered a potential antimicrobial agent for the treatment of some respiratory tract infections in man.

<http://www.ncbi.nlm.nih.gov/pubmed/17326042> (Thyme)



[ASTHMA]

Immune-modifying and antimicrobial effects of Eucalyptus oil and simple inhalation devices.
<http://www.ncbi.nlm.nih.gov/pubmed/20359267> (Eucalyptus Globulus)

[BLACK MOLD]

Effects of Citrus sinensis (L.) Osbeck epicarp essential oil on growth and morphogenesis of Aspergillus niger (L.) Van Tieghem.
<http://www.ncbi.nlm.nih.gov/pubmed/16870411> (Orange)

Origanum vulgare L. and Rosmarinus officinalis L. essential oils in combination to control postharvest pathogenic Aspergilli and autochthonous mycoflora in Vitis labrusca L.
<http://www.ncbi.nlm.nih.gov/pubmed/23810954> (Oregano, Rosemary)

[BRONCHITIS]

Immune-modifying and antimicrobial effects of Eucalyptus oil and simple inhalation devices.
<http://www.ncbi.nlm.nih.gov/pubmed/20359267> (Eucalyptus Globulus)

Effect of Eucalyptus globulus oil on lipopolysaccharide-induced chronic bronchitis and mucin hypersecretion in rats
<http://www.ncbi.nlm.nih.gov/pubmed/15719688> (Eucalyptus Globulus)

Inhalations of essential oils in the combined treatment of patients with chronic bronchitis.
<http://www.ncbi.nlm.nih.gov/pubmed/2396397> (Sage)

[CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)]

Immune-modifying and antimicrobial effects of Eucalyptus oil and simple inhalation devices.
<http://www.ncbi.nlm.nih.gov/pubmed/20359267> (Eucalyptus Globulus)

Effect of Spearmint oil on inflammation, oxidative alteration and Nrf2 expression in lung tissue of COPD rats.
<http://www.ncbi.nlm.nih.gov/pubmed/18705008> (Spearmint)

[FLU - HUMAN PARAINFLUENZA VIRUSES]

Effect of eucalyptus essential oil on respiratory bacteria and virus.
<http://www.ncbi.nlm.nih.gov/pubmed/17972131> (Eucalyptus Globulus)

[PNEUMONIA (HUMAN RESPIRATORY SYNCYTIAL VIRUS)]

Essential oil diffusion for the treatment of persistent oxygen dependence in a three-year-old child with restrictive lung disease with respiratory syncytial virus pneumonia .
<http://cms.herbalgram.org/herbclip/371/pdfs/o80281hc.pdf> (Balsam fir, Peppermint)



[STAPH (STAPHYLOCOCCUS AUREUS)]

Composition and antibacterial activity of *Abies balsamea* essential oil.

<http://www.ncbi.nlm.nih.gov/pubmed/16619365> (Balsam Fir)

The effect of lemon, orange and bergamot essential oils and their components on the survival of *Campylobacter jejuni*, *Escherichia coli* O157, *Listeria monocytogenes*, *Bacillus cereus* and *Staphylococcus aureus* in vitro and in food systems.

<http://www.ncbi.nlm.nih.gov/pubmed/17105553> (Bergamot)

Antimicrobial Effect and Mode of Action of Terpeneless Cold Pressed Valencia Orange Essential Oil on Methicillin-Resistant *Staphylococcus aureus*.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3324624/> (Orange)

The anti-biofilm activity of lemongrass (*Cymbopogon flexuosus*) and grapefruit (*Citrus paradisi*) essential oils against five strains of *Staphylococcus aureus*.

<http://www.ncbi.nlm.nih.gov/pubmed/22862808> (Lemongrass)

Chemical composition of lavender essential oil and its antioxidant activity and inhibition against rhinitis related bacteria (*staphylococcus aureus*, *Micrococcus ascoformans*, *Proteus vulgaris* and *Escherichia coli*)

<http://www.academicjournals.org/ajmr/pdf/Pdf2010/18%20Feb/Hui%20et%20al.pdf> (Lavender)

[STREPTOCOCCUS PYOGENES]

In Vitro Antibacterial Activity of Essential Oils against *Streptococcus pyogenes* (which plays an important role in the pathogenesis of tonsillitis).

<http://www.ncbi.nlm.nih.gov/pubmed/23662123> (Lemongrass)

DIGESTIVE & FOOD BORNE INFECTIONS

[ESCHERICHIA COLI (E. COLI)]

The ongoing battle against multi-resistant strains: in-vitro inhibition of hospital-acquired MRSA, VRE, *Pseudomonas*, ESBL *E. coli* and *Klebsiella* species in the presence of plant-derived antiseptic oils.

<http://www.ncbi.nlm.nih.gov/pubmed/23199627> (Lemon, Lemongrass, Eucalyptus)

The potential of use basil and rosemary essential oils as effective antibacterial agents.

Conclusion: The results showed that both tested essential oils are active against all of the clinical strains from *Escherichia coli*.

<http://www.ncbi.nlm.nih.gov/pubmed/23921795> (Basil, Rosemary)



Antibacterial potential assessment of jasmine essential oil against e. Coli.

<http://www.ncbi.nlm.nih.gov/pubmed/20046722> (Jasmine)

[GENERAL INFECTIONS]

Coriander (*Coriandrum sativum* L.) essential oil: its antibacterial activity and mode of action evaluated by flow cytometry.

Conclusion: The results further encourage the use of coriander oil in antibacterial formulations due to the fact that coriander oil effectively kills pathogenic bacteria related to foodborne diseases and hospital infections.

<http://www.ncbi.nlm.nih.gov/pubmed/21862758> (Coriander)

The antibacterial activity of oregano essential oil (*Origanum heracleoticum* L.) against clinical strains of *Escherichia coli* and *Pseudomonas aeruginosa*.

<http://www.ncbi.nlm.nih.gov/pubmed/23484421> (Oregano)

[GARDIA]

Antiparasitic activity of two *Lavandula* essential oils against *Giardia duodenalis*, *Trichomonas vaginalis* and *Hexamita inflata*.

<http://www.ncbi.nlm.nih.gov/pubmed/16741725> (Lavender)

FUNGAL INFECTIONS

[CANDIDA & MICROSPORUM CANIS]

Antifungal activity, toxicity and chemical composition of the essential oil of *Coriandrum sativum* L. fruits.

Conclusion: *C. sativum* essential oil is active in vitro against *M. canis* and *Candida* spp. demonstrating good antifungal activity.

<http://www.ncbi.nlm.nih.gov/pubmed/22785271> (Coriander)

Antifungal activity of *Coriandrum sativum* essential oil, its mode of action against *Candida* species and potential synergism with amphotericin B.

Conclusion: Coriander essential oil has a fungicidal activity against the *Candida* strains.

<http://www.ncbi.nlm.nih.gov/pubmed/21788125> (Coriander)

Antimicrobial and antioxidant activities of three *Mentha* species essential oils.

Conclusion: All essential oils exhibited very strong antibacterial activity, in particular against *E. coli* strains. All tested oils showed significant fungistatic and fungicidal activity.

<http://www.ncbi.nlm.nih.gov/pubmed/12802721> (Mints)



Biofilm inhibition by *Cymbopogon citratus* and *Syzygium aromaticum* essential oils in the strains of *Candida albicans*.

<http://www.ncbi.nlm.nih.gov/pubmed/22326355> (Clove & Lemongrass)

Scientific basis for the therapeutic use of *Cymbopogon citratus*, staph.

Conclusion: Studies indicate that lemongrass (*Cymbopogon citratus*) possesses various pharmacological activities such as anti-amoebic, antibacterial, antidiarrheal, antifilarial, antifungal and anti-inflammatory properties.

<http://www.ncbi.nlm.nih.gov/pubmed/22171285> (Lemongrass)

[ANTIMYCOTIC-RESISTANT CANDIDA SPECIES]

The battle against multi-resistant strains: Renaissance of antimicrobial essential oils as a promising force to fight hospital-acquired infections.

<http://www.ncbi.nlm.nih.gov/pubmed/19473851> (Lemongrass, Eucalyptus)

[BLACK MOLD]

Effects of *Citrus sinensis* (L.) Osbeck epicarp essential oil on growth and morphogenesis of *Aspergillus niger* (L.) Van Tieghem.

<http://www.ncbi.nlm.nih.gov/pubmed/16870411> (Orange)

Origanum vulgare L. and *Rosmarinus officinalis* L. essential oils in combination to control postharvest pathogenic *Aspergilli* and autochthonous mycoflora in *Vitis labrusca* L.

<http://www.ncbi.nlm.nih.gov/pubmed/23810954> (Oregano, Rosemary)

[RINGWORM]

Oil of bitter orange: new topical antifungal agent (Petigrain sur fleurs)

<http://www.ncbi.nlm.nih.gov/pubmed/8737885>

WOUND & URINOGENITAL INFECTIONS, CAVITIES

Antiparasitic activity of two *Lavandula* essential oils against *Giardia duodenalis*, *Trichomonas vaginalis* and *Hexamita inflata*.

<http://www.ncbi.nlm.nih.gov/pubmed/16741725> (Lavender)

Essential oil and its antioxidant activity and inhibition against rhinitis related bacteria: *Staphylococcus aureus*, *Micrococcus ascoformans*, *Proteus vulgaris* (urinary tract infections and wound infections) and *Escherichia coli*.

<http://www.saysi.com.pe/PUBLICACIONES/Lavandaal.pdf> (Lavender)



In vitro antibacterial activity of some plant essential oils: Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, Proteus vulgaris, Bacillus subtilis and Staphylococcus aureus

<http://www.biomedcentral.com/1472-6882/6/39> (Cinnamon, Clove, Lime)

[CAVITIES]

Antimicrobial activity of commercially available essential oils (clove) against Streptococcus mutans.

Conclusion: Clove oil, cinnamon oil, lemongrass oil, cedarwood oil and eucalyptus oil exhibit antibacterial property against S. mutans. The use of these essential oils against S. mutans can be a viable alternative to other antibacterial agents as these are an effective module used in the control of both bacteria and yeasts responsible for oral infections.

<http://europepmc.org/abstract/MED/22430697>

Antimicrobial activity of commercially available essential oils (eucalyptus) against Streptococcus mutans.

Conclusion: Eucalyptus oil, cinnamon oil, lemongrass oil, cedarwood oil, and clove oil exhibit antibacterial property against S. mutans. The use of these essential oils against S. mutans can be a viable alternative to other antibacterial agents as these are an effective module used in the control of both bacteria and yeasts responsible for oral infections.

<http://europepmc.org/abstract/MED/22430697>

Vapour phase: a potential future use for essential oils as antimicrobials

Conclusion: The use of essential oils such as tea tree, bergamot, lavender and eucalyptus in vapour form has been shown to have antimicrobial effects against both bacteria and fungi.

<http://europepmc.org/abstract/MED/22133088>



ESSENTIAL OILS FOR CANCER

AROMATHERAPY IN GENERAL

Anticancer activity of essential oils: a review.

Conclusion: Natural essential oil constituents play an important role in cancer prevention and treatment. Various mechanisms such as antioxidant, antimutagenic and antiproliferative, enhancement of immune function and surveillance, enzyme induction and enhancing detoxification, modulation of multidrug resistance and synergistic mechanism of volatile constituents are responsible for their chemopreventive properties.

<http://www.ncbi.nlm.nih.gov/pubmed/23765679>

Aromatherapy as an adjuvant treatment in cancer care - a descriptive systematic review.

Conclusion: Short term improvements were reported for general well being, anxiety and depression up to 8 weeks after treatment. The reviewed studies indicate short-term effects of aromatherapy on depression, anxiety and overall well-being. Specifically, some clinical trials found an increase in patient-identified symptom relief, psychological well-being and improved sleep. Furthermore, some found a short-term improvement (up to 2 weeks after treatment) in anxiety and depression scores and better pain control.

<http://www.ncbi.nlm.nih.gov/pubmed/23983386>

SPECIFIC ESSENTIAL OILS

Effect of rosemary polyphenols on human colon cancer cells: transcriptomic profiling and functional enrichment analysis.

Conclusion: Results suggest that the extract may be differentially effective against tumors with specific mutational pattern, and it is also concluded that rosemary polyphenols induced a low degree of apoptosis indicating that other multiple signaling pathways may contribute to colon cancer cell death.

<http://europepmc.org/abstract/MED/22923011> (Rosemary)

Polyphenols from the Mediterranean herb rosemary (*Rosmarinus officinalis*) for prostate cancer.

Conclusion: The reported findings suggest that these polyphenols target multiple signaling pathways involved in cell cycle modulation and apoptosis.

<http://europepmc.org/abstract/MED/23531917> (Rosemary)



Antibacterial activity and anticancer activity of *Rosmarinus officinalis* L. essential oil compared to that of its main components.

Conclusion: Rosemary and its individual components were evaluated for their in vitro antibacterial activities and toxicology properties. The rosemary essential oil exhibited the strongest cytotoxicity towards three human cancer cells. In general, the rosemary showed greater activity than its individual components in both antibacterial and anticancer test systems.

<http://www.ncbi.nlm.nih.gov/pubmed/22391603> (Rosemary)

Antitumor effect of 5-fluorouracil is enhanced by rosemary extract in both drug sensitive and resistant colon cancer cells.

Conclusion: The results show that SFRE displays dose-dependent antitumor activities and exerts a synergistic effect in combination with 5-FU on colon cancer cells. Furthermore, SFRE sensitizes 5-FU-resistant cells to the therapeutic activity of this drug, constituting a beneficial agent against both 5-FU sensitive and resistant tumor cells.

<http://europepmc.org/abstract/MED/23557932> (Rosemary)

Antimicrobial activity of clove and rosemary essential oils alone and in combination.

Conclusion: Both essential oils possessed significant antimicrobial effects against all microorganisms tested.

<http://www.ncbi.nlm.nih.gov/pubmed/17562569> (Rosemary)

Antiemetic activity of volatile oil from *Mentha spicata* and *Mentha × piperita* in chemotherapy-induced nausea and vomiting.

Conclusion: There was a significant reduction in the intensity and number of chemotherapy induced nausea and vomiting events. The essential oils were safe and effective for anti-emetic treatment in patients. It was also cost effective.

<http://europepmc.org/abstract/MED/23390455> (Spearmint)

Cytotoxic effect of essential oil of thyme (*Thymus broussonettii*) on the IGR-OV1 tumor cells resistant to chemotherapy.

Conclusion: These data indicate that Thyme essential oil which contains carvacrol as the major component has an important in vitro cytotoxic activity against tumor cells resistant to chemotherapy as well as a significant antitumor effect in mice.

<http://www.ncbi.nlm.nih.gov/pubmed/17934650> (Thyme)

Frankincense oil derived from *Boswellia carteri* induces tumor cell specific cytotoxicity.

Conclusion: Frankincense oil appears to distinguish cancerous from normal bladder cells and suppress cancer cell viability.

<http://www.ncbi.nlm.nih.gov/pubmed/19296830> (Frankincense)



Anti-tumor and anti-carcinogenic activities of triterpenoid, beta-boswellic acid

Conclusion: The results indicate that beta-boswellic acid and its derivatives (the major constituents of Boswellin, Frankincense) have anti-carcinogenic, anti-tumor, and anti-hyperlipidemic activities.

<http://www.ncbi.nlm.nih.gov/pubmed/11237186> (Frankincense)

Effects of aroma hand massage on pain, state anxiety and depression in hospice patients with terminal cancer.

Conclusion: Using frankincense, lavender and bergamot, the aroma hand massage experimental group showed more significant differences in the changes of pain score and depression than the control group.

<http://www.ncbi.nlm.nih.gov/pubmed/18753801> (Frankincense)

Anticancer activity of an essential oil from *Cymbopogon flexuosus*.

Conclusion: Our results indicate that the oil has a promising anticancer activity and causes loss in tumor cell viability by activating the apoptotic process as identified by electron microscopy.

<http://www.ncbi.nlm.nih.gov/pubmed/19121295> (Lemongrass)

An essential oil, lemongrass, and its major constituent isointermedeol induce apoptosis by increased expression of mitochondrial cytochrome c and apical death receptors in human leukaemia HL-60 cells

Conclusion: The easy and abundant availability of lemongrass combined with its suggested mechanism of cytotoxicity make lemongrass (CFO) highly useful in the development of anti-cancer therapeutics.

<http://www.sciencedirect.com/science/article/pii/S000927970700302X> (Lemongrass)

Modifying effects of lemongrass essential oil on specific tissue response to the carcinogen N-methyl-N-nitrosurea in female BALB/c mice.

Conclusion: The treatment reduced the incidence of hyperplastic lesions and increased apoptosis in mammary epithelial cells. These findings indicate that LGEO (Lemongrass essential oil) presented a protective role against early MNU-induced mammary gland alterations.

<http://www.ncbi.nlm.nih.gov/pubmed/22082069> (Lemongrass)

Protective effects of lemongrass (*Cymbopogon citratus* STAPP) essential oil on DNA damage and carcinogenesis in female Balb/C mice.

Conclusion: Findings indicate that lemongrass essential oil provided protective action against MNU-induced DNA damage and a potential anticarcinogenic activity against mammary carcinogenesis.

<http://www.ncbi.nlm.nih.gov/pubmed/21089157> (Lemongrass)



Antitumorigenic effects of limonene and perillyl alcohol against pancreatic and breast cancer.

Conclusion: Monoterpenes are effective, nontoxic dietary antitumor agents which act through a variety of mechanisms of action and hold promise as a novel class of antitumor drugs for human cancer.

<http://www.ncbi.nlm.nih.gov/pubmed/8886131> (Limonene, Citrus oils)

5-Demethyltangeretin inhibits human nonsmall cell lung cancer cell growth by inducing G₂/M cell cycle arrest and apoptosis.

Conclusion: Our results demonstrated that 5DT inhibited NSCLC cell growth by inducing G₂/M cell cycle arrest and apoptosis.

<http://www.ncbi.nlm.nih.gov/pubmed/23926120> (Limonene, Citrus oils)

Effects of aroma hand massage on pain, state anxiety and depression in hospice patients with terminal cancer.

Conclusion: The aroma hand massage experimental group showed more significant differences in the changes of pain score and depression than the control group.

<http://www.ncbi.nlm.nih.gov/pubmed/18753801> (Bergamot, Lavender, and Frankincense)

Mechanisms Underlying the Anti-Tumoral Effects of Citrus bergamia Juice.

Conclusion: The study demonstrated the anti-cancer potential of bergamot juice (BJ) showing the ability of the bergamot juice (BJ) to affect important tumoral activities of cancer cells.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3628853/> (Bergamot)

Selectivity of Pinus sylvestris extract and essential oil to estrogen-insensitive breast cancer cells Pinus sylvestris against cancer cells.

Conclusion: The data from this report indicate that Scots pine needles extract and essential oil exhibits some potential as chemopreventive or chemotherapeutic agent for mammary tumors unresponsive to endocrine treatment.

<https://www.ncbi.nlm.nih.gov/pubmed/26664017/> (Pine)



ESSENTIAL OILS FOR STRESS & MOOD

AROMATHERAPY IN GENERAL

The effects of aromatherapy on stress and stress responses in adolescents.

Conclusion: Stress levels were significantly lower when the students received the aroma treatment compared to when they received the placebo treatment. Aroma inhalation could be a very effective stress management method for high school students.

<http://www.ncbi.nlm.nih.gov/pubmed/19571632>

The effects of the inhalation method using essential oils on blood pressure and stress responses of clients with hypertension.

Conclusion: The results suggest that the inhalation method using essential oils can be considered an effective nursing intervention that reduces psychological stress responses and serum cortisol levels, as well as the blood pressure of clients with essential hypertension.

<http://www.ncbi.nlm.nih.gov/pubmed/17211115>

SPECIFIC ESSENTIAL OILS

The effects of lavender scent on dental patient anxiety levels: a cluster randomised-controlled trial.

Conclusion: The lavender essential oils significantly lowered the anxiety in dental patients during their visit.

<http://www.ncbi.nlm.nih.gov/pubmed/19968674> (Lavender)

Relaxation effects of lavender aromatherapy improve coronary flow velocity reserve in healthy men evaluated by transthoracic Doppler echocardiography.

Conclusion: Lavender aromatherapy reduced serum cortisol and improved CFVR in healthy men. These findings suggest that lavender aromatherapy has relaxation effects and may have beneficial acute effects on coronary circulation.

<http://www.ncbi.nlm.nih.gov/pubmed/17689755> (Lavender)

The effect of aroma inhalation method on stress responses of nursing students.

Conclusion: As a result of administering aroma inhalation to nursing students, their physical symptoms decreased, their anxiety scores were low, and their perceived stress scores were low, showing that aroma inhalation could be a very effective stress management method.

<http://www.ncbi.nlm.nih.gov/pubmed/15314330> (Lavender)



The effects of lavender oil inhalation on emotional states, autonomic nervous system, and brain electrical activity.

Conclusion: The findings provided evidence of the relaxing effect of inhaling lavender oil. The lavender oil caused significant decreases of blood pressure, heart rate, and skin temperature.

<http://www.ncbi.nlm.nih.gov/pubmed/22612017> (Lavender)

The effect of lavender oil on stress, bispectral index values, and needle insertion pain in volunteers
Conclusion: Lavender aromatherapy in volunteers provided a significant decrease in the stress levels and in the BIS values. In addition, it significantly reduced the pain intensity of needle insertion.

<http://www.ncbi.nlm.nih.gov/pubmed/21854199> (Lavender)

Non-pharmacological pain relief in labour.

Conclusion: The use of essential oils, lavender, frankincense and rose for relief of anxiety and fear were favourably reported.

<http://europepmc.org/abstract/MED/21213523> (Lavender)

Effects of lavender oil inhalation on improving scopolamine-induced spatial memory impairment.
Conclusion: Chronic exposures to lavender essential oils (daily, for 7 continuous days) significantly reduced anxiety-like behavior and inhibited depression.

<http://europepmc.org/abstract/MED/22402245> (Lavender)

The effects of lavender and rosemary essential oils on test-taking anxiety among graduate nursing students.

Conclusion: The use of lavender and rosemary essential oil sachets reduced test-taking stress in graduate nursing students as evidenced by lower scores on test anxiety measure, personal statements, and pulse rates.

<http://europepmc.org/abstract/MED/19258850> (Lavender, Rosemary)

Antidepressant-like effect of the extract of Rosemary (*Rosmarinus officinalis*) in mice: Involvement of the monoaminergic system

Conclusion: The extract of Rosemary (*R. officinalis*) produced an antidepressant-like effect.

<http://www.sciencedirect.com/science/article/pii/S0278584609000633> (Rosemary)

Effects of aromatherapy on the anxiety, vital signs, and sleep quality of percutaneous coronary intervention patients in intensive care units.

Conclusion: The aromatherapy effectively reduced the anxiety levels and increased the sleep quality of PCI patients admitted to the ICU. Aromatherapy may be used as an independent nursing intervention for reducing the anxiety levels and improving the sleep quality of PCI patients.

<http://www.ncbi.nlm.nih.gov/pubmed/23476690> (Lavender, Roman Chamomile, Neroli)



Physical and Psychologic Effects of Aromatherapy Inhalation on Pregnant Women: A Randomized Controlled Trial.

Conclusion: Significant differences were observed in the tension-anxiety score and the anger-hostility score, and the respective improvements observed were due to aromatherapy.

<http://www.ncbi.nlm.nih.gov/pubmed/23410527> (Lavender)

Effects of aromatherapy on the anxiety, vital signs, and sleep quality of percutaneous coronary intervention patients in intensive care units.

Conclusion: The aromatherapy effectively reduced the anxiety levels and increased the sleep quality of PCI patients admitted to the ICU. Aromatherapy may be used as an independent nursing intervention for reducing the anxiety levels and improving the sleep quality of PCI patients.

<http://www.ncbi.nlm.nih.gov/pubmed/23476690>

Effects of inhaled rosemary oil on subjective feelings and activities of the nervous system.

Conclusion: These results confirm the stimulatory effects of rosemary oil and provide supporting evidence that brain wave activity, autonomic nervous system activity, as well as mood states are all affected by the inhalation of the rosemary oil.

<http://europepmc.org/abstract/MED/23833718> (Rosemary)

Acute effects of bergamot oil on anxiety-related behaviour and corticosterone levels.

Conclusion: exhibited anxiolytic-like behaviours and attenuated HPA axis activity by reducing the corticosterone response to stress.

<http://europepmc.org/abstract/MED/21105176> (Bergamot)

Aromatherapy benefits autonomic nervous system regulation for elementary school faculty in taiwan.

Conclusion: Results showed that after spraying bergamot essential oil there were significant decreases in blood pressure, heart rate.

<http://europepmc.org/abstract/MED/21584196> (Bergamot)

The effects of the inhalation method using essential oils on blood pressure and stress responses of clients with essential hypertension.

Conclusion: The results suggest that the inhalation method using essential oils of bergamot and lavender can be considered an effective nursing intervention that reduces psychological stress responses and serum cortisol levels, as well as the blood pressure of clients with essential hypertension.

<http://europepmc.org/abstract/MED/17211115> (Bergamot, Lavender)



ESSENTIAL OILS FOR SLEEP

The effect of lavender aromatherapy on autonomic nervous system in midlife women with insomnia.
Conclusion: Women receiving lavender aromatherapy experienced a significant improvement in sleep quality.

<http://www.ncbi.nlm.nih.gov/pubmed/21869900> (Lavender)

Effect of aromatherapy on the quality of sleep in ischemic heart disease patients hospitalized in intensive care units (Isfahan University of Medical Sciences.)

Conclusion: Quality of sleep in ischemic heart disease patients was significantly improved after aromatherapy with lavender oil.

<http://europepmc.org/abstract/MED/22049287> (Lavender)

Effects of lavender aromatherapy on insomnia and depression in women college students.

Conclusion: According to the study results, it can be concluded that the lavender had a beneficial effect on insomnia and depression.

<http://www.ncbi.nlm.nih.gov/pubmed/16520572> (Lavender)

A single-blinded, randomized pilot study evaluating the aroma of *Lavandula augustifolia* as a treatment for mild insomnia.

Conclusion: Outcomes favor lavender with women and younger volunteers with insomnia improving more than others.

<http://europepmc.org/abstract/MED/16131287> (Lavender)