amare IGNITE FOR HER

ALL-NATURAL SEXUAL WELLNESS
& HORMONE BALANCE*

amare® GLOBAL

TECHNICAL DATA SHEET

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IGNITE
FOR HER

The all-natural sexual wellness supplement with clinically studied ingredients that maintains healthy sexual desire and supports healthy hormone balance.*

KEY INGREDIENTS

"In-the-Mood Proprietary Blend"

Neuravena® (Green Oat Extract) – The nutritious and restorative powers of green oats are famous around the world after first being made popular by Indian healers. Traditional Chinese Medicine associate's oat extract with conditions related to anxiety, mood imbalances, and even sleeping restfully. Benefits of Oat Straw were first revealed in the Middle Ages in Europe. In was recommended for boosting mental health, and as a restorative to the nervous system. According to studies, green oats can tackle problems around a dwindling libido. It increases stimulation in women through its improvement of blood flow. It is also believed to boost vaginal stimulation and the physical and emotional desires for sex. Some traditions even hold the herb helpful in relieving menstrual cramping and bloating. One of the most prominent ways oat straw extract works in the brain is by stimulating alpha brainwave activity. Many of its health properties stem from this mechanism. Another pathway is inhibiting MAO-B, the enzyme that breaks down dopamine. This helps raise dopamine levels in the brain that uplifts mood. Oat extract contains antioxidants known as avenanthramides that possess the potential for enhancing heart health. Specifically, these may boost nitric oxide levels and assist circulatory performance by helping blood vessels relax. https://iff-health.com/portfolio/neuravena/

Beet Root Powder – Beet Root is rich in phyto-nutrients and is one of the more popular botanicals in the market today. It is rich in nitrates that help to improve your mental and cognitive functions by expanding the blood vessels so that more blood can flow to your brain. Nitrates are a set of compounds that involve nitrogen and oxygen molecules that help produce nitric oxide in your body which in turn causes blood vessels to relax and dilate throughout the body, including sex organs. In fact, it's crucial to getting an erection and maintaining proper vaginal blood. Regular intake of beetroot juice will help the body use and metabolize estrogen in women and increase the levels of testosterone in men.

Lemon Balm Extract – Lemon balm (Melissa officinalis), a member of the mint family, is considered a calming herb. It was used as far back as the Middle Ages to reduce stress and anxiety, promote sleep, improve appetite, and ease pain and discomfort from indigestion (including gas and bloating, as well as colic). Even before the Middle Ages, lemon balm was steeped in wine to lift the spirits, help heal wounds, and treat venomous insect bites and stings.

M. officinalis aqueous extract improved desire in women with hypoactive sexual desire disorder and had beneficial effects on sexual arousal, lubrication, orgasm, satisfaction and pain domains of the sexual dysfunction in women and may be used as an effective and safe therapy in female sexual dysfunction. The published research showed a significant improvement in desire, satisfaction, lubrication, and orgasm were reported in response to lemon balm use. The authors suggested that normal lemon balm metabolism can promote circulating acetylcholine levels and bind muscarinic receptors, which is known to improve cognition, and may also produce the physical changes that resulted in improved sexual arousal. Subsequently, it was considered that regular lemon balm intake would be beneficial in episodes of low sexual desire.

Lemon balm may also be used to help reduce anxiety, according to a small study published in the journal Nutrients. Studies have suggested that rosmarinic acid (the predominant compound of lemon balm extracts) increases the levels and activity of a neurotransmitter in the brain known as gamma-aminobutyric acid (GABA). Low levels of GABA in the brain are believed to be associated with anxiety and other mood disorders.

Rosmarinic acid may help in the treatment of certain viral infections. Most of the current evidence is limited to test-tube studies in which rosmarinic acid appears to kill a broad range of common viruses. This includes hepatitis B virus and those associated with the common cold, such as coronaviruses and rhinoviruses.

Rosmarinic acid appears most effective in fighting against herpes simplex virus type 1 (HSV-1). This is associated with cold sores and some cases of genital herpes.
An early study from Iran reported that a four-month course of lemon balm extract was moderately more effective than a placebo in improving dementia in people with mild to moderate Alzheimer's.

"Hormone Balance Proprietary Blend"

Shatavari – As part of the asparagus family, the shatavari plant is also known as Asparagus racemosus or 'wild asparagus.' It is an adaptogenic herb, able to help the body cope with physical and emotional stress. Shatavari has been used for centuries in Ayurvedic medicine and is considered a general health tonic to help rejuvenate and heal both body and mind. Shatavari (which we will source from an amazing farm in India) is translated as "100 spouses", indicating its historical use to increase fertility and vitality. In Ayurveda, it is known as the "Queen of herbs", because it promotes love and devotion. Shatavari is the main Ayurvedic rejuvenative tonic for the female. Another major healing component of shatavari is its benefits for women, particularly on the female reproductive system. It has both a nourishing and purifying effect on the female reproductive organs and is suggested to be used throughout the many phases of womanhood. Shatavari has traditionally been used in Ayurveda to strengthen female fertility and has been also used during pregnancy to provide nourishment to both the mother and fetus. When a woman transitions into perimenopause, one of the common effects on the body is a decrease in estrogen.

Shatavari can support women through perimenopause as well as menopause because it contains phytoestrogens which are the precursor to estrogen. Studies show that phytoestrogens may reduce hot flashes, stabilize mood and also help maintain normal bone density, making it a terrific herb to take for osteoporosis prevention. Lastly, for any women who have undergone a hysterectomy, shatavari, with its abundance of phytoestrogens, can help to balance and restore hormone levels.

A review of studies published in Biomedicine and Pharmacotherapy in 2018Trusted Source suggests that this plant may improve conditions such as hormonal imbalances and polycystic ovary syndrome (PCOS).

FenuSMART® (Fenugreek Seed Extract) – (known by its botanical name Trigonella foenum-graecum), is a plant used both as an herb (the leaves) and a spice (the seed); it's a common ingredient in many curries. The fenugreek plant is in the same family as beans, peas, and legumes (Fabaceae). Growing up to 2 feet in height, each of its pods produces 10 to 20 seeds. These have a mild nutty flavor which is a cross between celery and maple. They're frequently used in the cuisine of India, North Africa, and Mediterranean countries. It has been studied in the past for its effects in blood sugar maintenance in diabetics and its cholesterol-lowering effects among those with hyperlipidemia (high cholesterol and high triglycerides).

Fenugreek seeds are rich in a chemical compound known as saponins and according to a study, one of the common saponins found in fenugreek is diosgenin which affects the production of a number of sex hormones. n a 2012 study, researchers recruited 80 women aged between 20 and 49 who reported they had low sex drive. They were randomly divided into either a control group, who received a placebo or a group that was given an oral dose of fenugreek supplement (600 mg/daily). The results showed a significant increase in sexual desire and arousal as well as a marked increase in sexual activity. Discussing the findings, doctors said estradiol stimulates vaginal lubrication and blood flow, positively affecting a woman's capacity for sexual arousal and orgasm, and that the study results appear to support this beneficial effect in women. The molecular mechanism behind this hormonal balancing effect in Fenugreek can be mainly attributed to its protodioscin content, a furostanolic saponin molecule having a significant structural similarity with dehydroepiandrosterone (DHEA).

It was shown that protodioscin could be converted to DHEA, which is further converted to testosterone and estradiol. Aromatase is involved in the further conversion of testosterone to estradiol. Another significant component in Fenusmart, trigonelline, has been proven to enhance estrogen levels and work on the serotonin pathway to improve mood. Estradiol and testosterone activate the Hypothalamic-Pituitary-Gonadal (HPG) axis by binding with estrogen receptors, and the activation of the HPG axis is necessary for fertility. https://www.akay-group.com/fenusmart

CLINICAL STUDIES

Female Sexual Dysfunction: Therapeutic Options and Experimental Challenges

Author(s): Kyan J. Allahdadi, Rita C.A. Tostes and R. Clinton Webb

Volume 7 , Issue 4 , 2009

Female sexual dysfunction (FSD) is a prevalent problem, afflicting approximately 40% of women and there are few treatment options. FSD is more typical as women age and is a progressive and widespread condition. Common symptoms associated with FSD include diminished vaginal lubrication, pain and discomfort upon intercourse, decreased sense of arousal and difficulty in achieving orgasm. Only a small percentage of women seek medical attention. In comparison to the overwhelming research and treatment for erectile dysfunction in males, specifically with the development of phosphodiesterase type 5 inhibitors, significantly less has been explored regarding FSD and treatment is primarily limited to psychological therapy. Several cardiovascular diseases have been linked with FSD including atherosclerosis, peripheral arterial disease and hypertension, all of which are also pathological conditions associated with aging and erectile dysfunction in men. Using animal models, we have expanded our understanding of FSD, however a tremendous amount is still to be learned in order to properly treat women suffering from FSD. The aim of this review is to provide the most current knowledge on FSD, advances in basic science addressing this dysfunction, and explore developing therapeutic options.

A Review on Plants Used for Improvement of Sexual Performance and Virility

Nagendra Singh Chauhan, 1 , 2 ,* Vikas Sharma, 1 V. K. Dixit, 1 and Mayank Thakur 1 , 3 ,*

Abstract

The use of plant or plant-based products to stimulate sexual desire and to enhance performance and enjoyment is almost as old as the human race itself. The present paper reviews the active, natural principles, and crude extracts of plants, which have been useful in sexual disorders, have potential for improving sexual behaviour and performance, and are helpful in spermatogenesis and reproduction. Review of refereed journals and scientific literature available in electronic databases and traditional literature available in India was extensively performed. The work reviews correlation of the evidence with traditional claims, elucidation, and evaluation of a plausible concept governing the usage of plants as aphrodisiac in total. Phytoconstituents with known structures have been classified in appropriate chemical groups and the active crude extracts have been tabulated. Data on their pharmacological activity, mechanism of action, and toxicity are reported. The present review provides an overview of the herbs and their active molecule with claims for improvement of sexual behaviour. A number of herbal drugs have been validated for their effect on sexual behavior and fertility and can therefore serve as basis for the identification of new chemical leads useful in sexual and erectile dysfunction.

Current Knowledge on Beetroot Bioactive Compounds: Role of Nitrate and Betalains in Health and Disease

Iñaki Milton-Laskibar,1,2,* J. Alfredo Martínez,1,2 and María P. Portillo2,3,4
Isabel Hernando, Academic Editor

Abstract
An increase in the prevalence of noncommunicable chronic diseases has been occurring in recent decades. Among the deaths resulting from these conditions, cardiovascular diseases (CVD) stand out as the main contributors. In this regard, dietary patterns featuring a high content of vegetables and fruits, such as the Mediterranean and the DASH diets, are considered beneficial, and thus have been extensively studied. This has resulted in growing interest in vegetable-derived ingredients and food-supplements that may have potential therapeutic properties. Among these supplements, beetroot juice, which is obtained from the root vegetable Beta vulgaris, has gained much attention. Although a significant part of the interest in beetroot juice is due to its nitrate (NO3−) content, which has demonstrated bioactivity in the cardiovascular system, other ingredients with potential beneficial properties such as polyphenols, pigments and organic acids are also present. In this context, the aim of this review article is to analyze the current knowledge regarding the benefits related to the consumption of beetroot and derived food-supplements. Therefore, this article focuses on nitrate and betalains, which are considered to be the major bioactive compounds present in beetroot, and thus in the derived dietary supplements.

Novel Insights on the Role of Nitric Oxide in the Ovary: A Review of the Literature

Maria Cristina Budani1 and Gian Mario Tiboni2,*

Abstract
Nitric oxide (NO) is formed during the oxidation of L-arginine to L-citrulline by the action of multiple isoenzymes of NO synthase (NOS): neuronal NOS (nNOS), endotelial NOS (eNOS), and inducible NOS (iNOS). NO plays a relevant role in the vascular endothelium, in central and peripheral neurons, and in immunity and inflammatory systems. In addition, several authors showed a consistent contribution of NO to different aspects of the reproductive physiology. The aim of the present review is to analyse the published data on the role of NO within the ovary. It has been demonstrated that the multiple isoenzymes of NOS are expressed and localized in the ovary of different species. More to the point, a consistent role was ascribed to NO in the processes of steroidogenesis, folliculogenesis, and oocyte meiotic maturation in in vitro and in vivo studies using animal models. Unfortunately, there are few nitric oxide data for humans; there are preliminary data on the implication of nitric oxide for oocyte/embryo quality and in-vitro fertilization/embryo transfer (IVF/ET) parameters. NO plays a remarkable role in the ovary, but more investigation is needed, in particular in the context of human ovarian physiology.

Roles of Nitric Oxide in the Regulation of Reproduction: A Review

Yuxin Luo, 1 , † Yanbin Zhu, 2 , † Wangdui Basang, 2 , † Xin Wang, 1 Chunjin Li,corresponding author 1 , * and Xu Zhoucorresponding author 1 , *

Abstract
Nitric oxide (NO) has attracted significant attention as a stellar molecule. Presently, the study of NO has penetrated every field of life science, and NO is widely distributed in various tissues and organs. This review demonstrates the importance of NO in both male and female reproductive processes in numerous ways, such as in neuromodulation, follicular and oocyte maturation, ovulation, corpus luteum degeneration, fertilization, implantation, pregnancy maintenance, labor and menstrual cycle regulation, spermatogenesis, sperm maturation, and reproduction. However, the mechanism of action of some NO is still unknown and understanding its mechanism may contribute to the clinical treatment of some reproductive diseases.

Endothelial Nitric Oxide Synthase Regulation in Female Genital Tract Structures

Biljana Musicki, PhD, Tongyun Liu, MS, Gwen A. Lagoda, MS, Trinity J. Bivalacqua, MD, PhD, Travis D. Strong, BA, and Arthur L. Burnett, MD

Abstract

Introduction
Female sexual arousal disorder (FSAD) is a major component of female sexual dysfunctions, affecting 25–70% of women. The mechanisms of FSAD are poorly understood. Estrogen contributes to the control of genital blood flow during the sexual response. Vascular effects of estrogen are mostly attributed to its regulation of endothelial nitric oxide (NO) production. However, the role of endothelial NO synthase (eNOS) and the mechanisms that regulate eNOS in female genital tract structures are largely unknown.

Aim
To review available evidence of the mechanisms of eNOS regulation in female genital tract structures.

Methods
This article reviews the literature that relates to the role of NO and eNOS in female sexual arousal and its modulation by estrogen.

Main Outcome Measures
Association between female sexual arousal, NO, and eNOS.

Results

The NO/cyclic guanosine monophosphate pathway is believed to have a primary role in the regulation of clitoral and vaginal blood flow, and smooth muscle relaxation during sexual arousal. Estrogen is critical for maintaining vaginal and clitoral blood flow and vaginal transudate production. Estrogen regulates eNOS by genomic mechanisms, involving augmented mRNA transcription and protein synthesis, and by non-genomic mechanisms, which occur without alterations in gene expression. However, limited studies have evaluated the physiological role of endothelial NO and the molecular mechanisms of eNOS regulation in the female genital tract.

Conclusions

The effects of estrogen on increasing genital blood flow and smooth muscle relaxation have been attributed mostly to regulation of eNOS. However, the exact mechanisms of eNOS regulation in female genital tract structures and the molecular basis for the eNOS defect with aging and vascular diseases warrant further investigation.

Effects of a Green Oat Herb Extract on Cognitive Performance and Neurophysiological Activity: A Randomized Double-Blind Placebo-Controlled Study

Saul Martinez-Horta, 1 , 2 , 3 , * Eran Ivanir, 4 Tania Perrinjaquet-Moccetti, 5 , * Matthias Heinrich Keuter, 5 and Jaime Kulisevsky 1 , 2 , 3

Abstract

Green oat extracts have been used for centuries in traditional medicine in view of their supposed beneficial effects on cognition and mood. Recently, a specific green oat formulation (Neuravena®) showed to have significant bioactive compounds potentially associated with the enhancement of processing speed, working memory and attention. The main aim of the current study was to compare the potential effect of acute administration of 800 mg of Neuravena® with placebo on a set of neurophysiological correlates of processing speed, attention, performance-monitoring and inhibitory control. Twenty healthy participants were randomized to receive either Neuravena® or placebo. Electroencephalographic (EEG) signal acquisition was obtained while participants carried out the modified Eriksen flanker and oddball tasks. Both groups were compared on measures of behavioral task performance, and a set of event-related potentials (ERPs) components related to performance monitoring (the error-related negativity; ERN and the N2), target detection, and attention (P3a/P3b). Following active-intervention N2, ERN, and P3a/P3b were significantly reduced and performance was faster, with no loss of accuracy. Conversely, no neurophysiological differences were found in the placebo group before and after treatment and performance worsened significantly in terms of reaction time and accuracy. Acute administration of 800 mg of Neuravena® appears to enhance the optimization of neural resources and positively influences cognitive performance in tasks associated with executive functions, processing speed and attention. Moreover, Neuravena® prevents the deleterious effects of tiredness during task performance.

Acute and Chronic Effects of Green Oat (Avena sativa) Extract on Cognitive Function and Mood during a Laboratory Stressor in Healthy Adults: A Randomised, Double-Blind, Placebo-Controlled Study in Healthy Humans

David O. Kennedy,1,* Bernd Bonnländer,2 Stefanie C. Lang,2 Ivo Pischel,3 Joanne Forster,1 Julie Khan,1 Philippa A. Jackson,1 and Emma L. Wightman4

Abstract
Green oat (Avena sativa) extracts contain several groups of potentially psychoactive phytochemicals. Previous research has demonstrated improvements in cognitive function following a single dose of these extracts, but not following chronic supplementation. Additionally, whilst green oat extracts contain phytochemicals that may improve mood or protect against stress, for instance species-specific triterpene saponins, to date this possibility has not been examined. The current study investigated the effects of a single dose and four weeks of administration of a novel, Avena sativa herbal extract (cognitaven®) on cognitive function and mood, and changes in psychological state during a laboratory stressor. The study adopted a dose-ranging, double-blind, randomised, parallel groups design in which 132 healthy males and females (35 to 65 years) received either 430 mg, 860 mg, 1290 mg green oat extract or placebo for 29 days. Assessments of cognitive function, mood and changes in psychological state during a laboratory stressor (Observed Multitasking Stressor) were undertaken pre-dose and at 2 h and 4 h post-dose on the first (Day 1) and last days (Day 29) of supplementation. The results showed that both a single dose of 1290 mg and, to a greater extent, supplementation for four weeks with both 430 mg and 1290 mg green oat extract resulted in significantly improved performance on a computerised version of the Corsi Blocks working memory task and a multitasking task (verbal serial subtractions and computerised tracking) in comparison to placebo. After four weeks, the highest dose also decreased the physiological response to the stressor in terms of electrodermal activity. There were no treatment-related effects on mood. These results confirm the acute cognitive effects of Avena sativa extracts and are the first to demonstrate that chronic supplementation can benefit cognitive function and modulate the physiological response to a stressor.

Oat (Avena sativa) Extract against Oxidative Stress-Induced Apoptosis in Human Keratinocytes

Sooji Song,1,† Yoon-Mi Lee,1,2 Yu Young Lee,3,† and Kyung-Jin Yeum1,*
Agnieszka Szewczyk, Academic Editor and Inga Kwiecien, Academic Editor

Abstract
Oat (Avena sativa) is well known for its various health benefits. The protective effect of oat extract against oxidative stress-induced apoptosis in human keratinocytes HaCaT was determined. First,

extracts of two varieties of oat, Daeyang and Choyang, were analyzed for fat-soluble antioxidants such as α-tocotrienol, γ-oryzanols, lutein and zeaxanthin using an UPLC system and for antioxidant activity using a DPPH assay. Specifically, an 80% ethanol extract of Daeyang oat (Avena sativa cv. Daeyang), which had high amounts of antioxidants and potent radical scavenging activity, was further evaluated for protective effect against oxidative stress-induced cell death, intracellular reactive oxygen species levels, the phosphorylation of DNA damage mediating genes such as H2AX, checkpoint kinase 1 and 2, and p53 and the activation of apoptotic genes such as cleaved caspase-3 and 7 and poly (ADP-ribose) polymerase in HaCaT cells. The Daeyang and Choyang oat 80% ethanol extracts had 26.9 and 24.1 mg/100 g γ-oryzanols, 7.69 and 8.38 mg/100 g α-tocotrienol, 1.25 and 0.34 mg/100 g of lutein and 1.20 and 0.17 mg/100 g of zeaxanthin, respectively. The oat 80% ethanol extract treatment (Avena sativa cv. Daeyang) had a protective effect on oxidative stress-induced cell death in HaCaT cells. In addition, the oat 80% ethanol extracts led to a significant decrease in the intracellular ROS level at a concentration of 50–200 μg/mL, the attenuation of DNA damage mediating genes and the inhibition of apoptotic caspase activities in a dose dependent manner (50–200 μg/mL). Thus, the current study indicates that an oat (Avena sativa cv. Daeyang) extract rich in antioxidants, such as polyphenols, avenanthramides, γ-oryzanols, tocotrienols and carotenoids, has a protective role against oxidative stress-induced keratinocyte injuries and that oat may a useful source for oxidative stress-associated skin damage.

Effect of Melissa officinalis (Lemon balm) on Sexual Dysfunction in Women: A Double- blind, Randomized, Placebo-controlled Study

Zahra Darvish-Mofrad-Kashani,a Elham Emaratkar,a Fataneh Hashem-Dabaghian,b Fatemeh Emadi,a,c Firoozeh Raisi,d Jale Aliasl,b Mohammad Kamalinejad,e Seyed Abbas Hasheminejad,a Tahere Eftekhar,f and Nafise Zafarghandig,*

Abstract
Hypoactive sexual desire disorder (HSDD) is the most prevalent female sexual dysfunction (FSD) and its bio-psychosocial multifactorial etiology justifies its multifaceted treatment. In Persian Medicine (PM), the weakness of the main organs (heart, brain and liver) is one of the important causes of lack of sexual desire; hence, their strengthening is a priority during treatment. Melissa officinalis is one of the medicinal plants with tonic characteristics for the main organs in PM and was used for treatment in this study. The aim of the present study was to evaluate the efficacy and safety of M. officinalis in the improvement of HSDD in women. Eighty nine (89) eligible women suffering from decreased sexual desire were randomly assigned to groups. The participants received medication (500 mg of aqueous extract of M. officinalis) or placebo 2 times a day for 4 weeks. Changes in scores of desire, arousal, lubrication, orgasm, satisfaction and pain were evaluated at the end of 4 weeks of treatment using the Female Sexual Function Index (FSFI) questionnaire in the two groups.

Forty three participants completed the study. The increase in desire ($P < 0.001$), arousal ($P < 0.001$), lubrication ($P < 0.005$), orgasm ($P < 0.001$), satisfaction ($P < 0.001$), pain ($P < 0.002$) and FSFI total score ($P < 0.001$) in the M. officinalis group was significantly more than that of the placebo group. The willingness to continue treatment was significantly higher in the M. officinalis as compared to the placebo group ($P < 0.001$). M. officinalis may be a safe and effective herbal medicine for the improvement of HSDD in women.

The Effect of Melissa Officinalis Extract on the Severity of Primary Dysmenorrha

Parvaneh Mirabi,a Mahshid Namdari,b SeidehHanieh Alamolhoda,c and Faraz Mojabd

Abstract
Primary dysmenorrhea refers to painful cramps during menstruation with no organic reason. With respect to its high incidence and adverse outcomes in quality of life and some evidences regarding the sedative and antispasmodic effects of Melissa officinailson smooth muscles as an herb, this double-blind clinical trial was conducted to determine the effects of its capsules on severity of dysmenorrhea in the students of Islamic Azad University of Zanjan in 2014.

110 students were matched in terms of dysmenorrhea severity and experience; age; menarche; body mass index (BMI); occupation as well as educational level of parents; and duration, interval as well as amount of bleeding. Then, they were randomly divided into 2 herb (55 subjects) and placebo (55 subjects) groups. The former was given capsules 330 mg of the herb 3 times a day over 3 days at the onset of hemorrhage while the latter was given placebo in similar capsules containing corn starch with the same protocol. Pain severity was evaluated with a visual analogue scale (0 to 10 cm). Different statistical tests were used for data analysis with SPSS package.
No significant difference was found between the means of pain severity in the groups before the intervention. However, the severity was reduced in both groups after the intervention ($P<0.001$) but the amount of it was more in Melissa group with a significant difference ($P<0.05$). With respect to the findings, it seems that M. officinalismay decrease dysmenorrhea, which may be related to antispasmodic effects of this herb.

The effectiveness and safety of Iranian herbal medicines for treatment of premenstrual syndrome: A systematic review

Nahid Maleki-Saghooni,1 Fatemeh Zahra Karimi,2 Zahra Behboodi Moghadam,3 and Khadigeh

Mirzaii Najmabadi2,*

Abstract

Objective:
Premenstrual syndrome (PMS) is one of the most common problems among women of reproductive age. The popularity of complementary/alternative therapies has grown in recent years, and these treatments have been more commonly used by women (48.9%) than men (37.8%). The aim of this systematic review was to assess effectiveness and safety of Iranian herbal medicines for treatment of premenstrual syndrome.

Methods:
PubMed, Scopus, Cochrane, and Google Scholar were searched along with SID, Magiran and Irandoc up to Dec 2017.
Inclusion criteria consist of Iranian, published, randomized controlled trials (RCTs) using Iranian herbal medicine for treatment of reproductive age women with PMS. Eventually Eighteen RCTs met the inclusion criteria.

Results:
Overall, studies have shown that Vitex agnuscastus, Hypericum perforatum, Matricaria chamomilla, saffron, Curcumin, Melissa officinalis, Zataria multiflora, Wheat Germ Extract, Echinophora platyloba, Foeniculum vulgare, Valerian root extract, Citrus sinensis, Zingiber officinale and Flax seed might alleviate symptoms of PMS.

Conclusion:
This research demonstrated efficacy and safety of Iranian herbal medicines in alleviating PMS. Therefore, herbal medicine can be regarded as an alternative treatment for women suffering from PMS.

A double-blind, randomized pilot study for comparison of Melissa officinalis L. and Lavandula angustifolia Mill. with Fluoxetine for the treatment of depression

Mostafa Araj-Khodaei,1,2,3 Ahmad Ali Noorbala,4 Reza Yarani,5,6 Fatemeh Emadi,1,7 Elham Emaratkar,1 Soghrat Faghihzadeh,8 Zahra Parsian,9 Fatemeh Alijaniha,7 Mohammad Kamalinejad,10 and Mohsen Nasericorresponding author1,7

Abstract

Background:

Depression has rapidly progressed worldwide, and the need for an efficient treatment with low side effect has risen. Melissa officinalis L and Lavandula angustifolia Mill have been traditionally used in Asia for the treatment of depression. Many textbooks of traditional Persian medicine refer to these herbs for the treatment of depression while there are no adequate clinical trials to support this claim.

The present study aimed to evaluate the efficacy of M. officinalis and L. angustifolia compared to fluoxetine for the treatment of mild to moderate depression in an 8-week randomized, double-blind clinical trial.

Methods:
Forty-five adult outpatients who met the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) for major depression, were randomly assigned to 3 groups to daily receive either M. officinalis (2 g) or L. angustifolia (2 g) or fluoxetine (20 mg) and were assessed in weeks 0, 2, 4 and 8 by the Hamilton Rating Scale for Depression (HAM-D) including 17 items.

Results:
Our study showed that M. officinalis and L. angustifolia effect similar to fluoxetine in mild to moderate depression. ($F = 0.131$, $df = 2,42$, $p = 0.877$).

Conclusion:
Due to some restrictions in this study including absence of placebo group, large-scale trials are needed to investigate the anti-depressant effect of these two herbs with more details.

A Review on Plants Used for Improvement of Sexual Performance and Virility

Nagendra Singh Chauhan, 1 , 2 ,* Vikas Sharma, 1 V. K. Dixit, 1 and Mayank Thakur 1 , 3 ,*

Abstract
The use of plant or plant-based products to stimulate sexual desire and to enhance performance and enjoyment is almost as old as the human race itself. The present paper reviews the active, natural principles, and crude extracts of plants, which have been useful in sexual disorders, have potential for improving sexual behaviour and performance, and are helpful in spermatogenesis and reproduction. Review of refereed journals and scientific literature available in electronic databases and traditional literature available in India was extensively performed. The work reviews correlation of the evidence with traditional claims, elucidation, and evaluation of a plausible concept governing the usage of plants as aphrodisiac in total. Phytoconstituents with known structures have been classified in appropriate chemical groups and the active crude extracts have been tabulated. Data on their pharmacological activity, mechanism of action, and toxicity are reported. The present

review provides an overview of the herbs and their active molecule with claims for improvement of sexual behaviour. A number of herbal drugs have been validated for their effect on sexual behavior and fertility and can therefore serve as basis for the identification of new chemical leads useful in sexual and erectile dysfunction.

Shatavari Supplementation in Postmenopausal Women Improves Handgrip Strength and Increases Vastus lateralis Myosin Regulatory Light Chain Phosphorylation but Does Not Alter Markers of Bone Turnover

Mary F. O'Leary,1,* Sarah R. Jackman,1 Vlad R. Sabou,1 Matthew I. Campbell,1 Jonathan C. Y. Tang,2 John Dutton,2 and Joanna L. Bowtell1
Patrick Diel, Academic Editor

Abstract
Shatavari has long been used as an Ayurvedic herb for women's health, but empirical evidence for its effectiveness has been lacking. Shatavari contains phytoestrogenic compounds that bind to the estradiol receptor. Postmenopausal estradiol deficiency contributes to sarcopenia and osteoporosis. In a randomised double-blind trial, 20 postmenopausal women (68.5 ± 6 years) ingested either placebo (N = 10) or shatavari (N = 10; 1000 mg/d, equivalent to 26,500 mg/d fresh weight shatavari) for 6 weeks. Handgrip and knee extensor strength were measured at baseline and at 6 weeks. Vastus lateralis (VL) biopsy samples were obtained. Data are presented as difference scores (Week 6—baseline, median ± interquartile range). Handgrip (but not knee extensor) strength was improved by shatavari supplementation (shatavari +0.7 ± 1.1 kg, placebo −0.4 ± 1.3 kg; p = 0.04). Myosin regulatory light chain phosphorylation, a known marker of improved myosin contractile function, was increased in VL following shatavari supplementation (immunoblotting; placebo −0.08 ± 0.5 a.u., shatavari +0.3 ± 1 arbitrary units (a.u.); p = 0.03). Shatavari increased the phosphorylation of Aktser473 (Aktser473 (placebo −0.6 ± 0.6 a.u., shatavari +0.2 ± 1.3 a.u.; p = 0.03) in VL. Shatavari supplementation did not alter plasma markers of bone turnover (P1NP, β-CTX) and stimulation of human osteoblasts with pooled sera (N = 8 per condition) from placebo and shatavari supplementation conditions did not alter cytokine or metabolic markers of osteoblast activity. Shatavari may improve muscle function and contractility via myosin conformational change and further investigation of its utility in conserving and enhancing musculoskeletal function, in larger and more diverse cohorts, is warranted.

A Double-Blind Randomized Clinical Trial for Evaluation of Galactogogue Activity of Asparagus racemosus Willd.

Mradu Guptaa,* and Badri Shawb

Abstract
Asparagus racemosus Willd. has repeatedly been mentioned as a galactogogue in Ayurvedic literature and has been confirmed through animal experiments as well. This randomized double-blind clinical trial evaluates its galactogogue effect in 60 lactating mothers by measurement of changes in their prolactin hormone level during the study. Several secondary parameters namely mothers' weight, babies' weight, subjective satisfaction of mothers and well-being and happiness of babies were studied to corroborate the primary findings. The oral administration of the research drug led to more than three-fold increase in the prolactin hormone level of the subjects in the research group as compared to the control group. The primary findings were corroborated by the secondary outcome measures and were found to be statistically significant ($p < 0.05$).

Impact of stress on female reproductive health disorders: Possible beneficial effects of shatavari (Asparagus racemosus)

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Abstract
Stress is deeply rooted in the society and women are frequently exposed to psychological, physical and physiological stressors. Psychological stress disturbs reproductive health by inducing generation of reactive oxygen species (ROS) and thereby oxidative stress (OS). The increased OS may affect physiology of ovary, oocyte quality and cause female reproductive health disorders. To overcome stress-mediated reproductive health disorders in women, shatavari (Asparagus racemosus) is frequently recommended in Ayurvedic system of medicine. Although shatavari is one of the major health tonics and most popular rasayana drugs to treat reproductive ailments of women, underlying mechanism of shatavari action at the level of ovary remains poorly understood. Based on the existing studies, we propose that shatavari may improve female reproductive health complications including hormonal imbalance, polycystic ovarian syndrome (PCOS), follicular growth and development, oocyte quality and infertility possibly by reducing OS level and increasing antioxidants level in the body. Further studies are required to elucidate the mechanism of shatavari actions at the level of ovary and oocyte that directly impacts the reproductive health of women.

Toxicological evaluation of a saponin-rich standardized extract of fenugreek seeds (FenuSMART ®): Acute, sub-chronic and genotoxicity studies

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Abstract
The present study investigated the safety of a saponin-rich standardized extract of fenugreek seeds (FenuSMART®; FHE), that has been clinically shown to be effective in ameliorating the postmenopausal discomforts and establishing hormonal balance. The safety was assessed by oral acute (2500 mg/kg b. wt. for 14 days) and subchronic (250, 500 and 1000 mg/kg b. wt. for 90 days) toxicity studies on Wistar rats and mutagenicity studies employing Salmonella typhimurium strains. Administration of FHE did not produce any toxicologically significant changes in clinical/behavioral observations, ophthalmic examinations, body weight, organ weight, feed consumption, urinalysis, hematology and clinical biochemistry parameters when compared to the untreated control group of animals. Highest dose recovery group (1000 mg/kg b. wt.) of animals also showed no mortality or adverse events; with hematological and biochemical parameters at par with those of controls. Terminal autopsy revealed no alterations in relative organ weight or any treatment-related histopathology changes. FHE also showed no mutagenicity upon Ames test employing TA-98, TA-100 and TA-102 Salmonella typhimurium strains with or without metabolic activation. Based on the results of the study, the no observed-adverse-effect level (NOAEL) of FHE was determined as 1000 mg/kg b. wt./day, the highest dose tested.

Efficacy of a novel extract of fenugreek seeds in alleviating vasomotor symptoms and depression in perimenopausal women: A randomized, double-blinded, placebo-controlled study

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Abstract
The present randomized, double-blinded, placebo-controlled study investigated the effect of a standardized fenugreek extract (FHE) on perimenopausal discomforts and its influence on hormonal balance and safety. Healthy women characterized with perimenopausal symptoms (n = 48), as assessed by MRS questionnaire, were randomized either to FHE (n = 24) or placebo (n = 24) and supplemented with 250 mg × 2/day for 42 days. Both inter and intra-group comparison revealed a significant improvement in somatic, psychological, and urogenital scores in FHE group, especially for hot flashes (25.9%), night sweats (26.5%), depression (31.8%), and insomnia

(21.6%). Further hormone analysis revealed an enhancement in serum estradiol (18.9%), free testosterone (38.2%), and progesterone (19.9%) concentrations and a significant decrease in FSH (38.2%) and SHBG (21.1%) concentrations toward establishing a hormonal balance among FHE-group; without significant changes in other clinical safety parameters. Thus, FHE supplementation offered a significant reduction in vasomotor effects and depression in perimenopausal women, without any adverse effects PRACTICAL APPLICATIONS: Fenugreek is a popular kitchen spice and Ayurvedic medicine for a variety of health conditions including diabetes, hypercholesterolemia, hepatotoxicity, gastritis, and also for a variety of hormone-related health conditions such as sexual functions, lactation, osteoporosis, PCOS, and post/perimenopausal discomforts. Fenugreek is rich in alkaloids, steroidal saponins, flavonoids and 4-hydroxyisoleucine. The present randomized-controlled study investigated the plausible application of a standardized hydro-ethanolic extract of fenugreek seeds (FHE) having a unique 3:1 ratio for protodioscin to trigonelline in the management of perimenopausal discomforts. It was observed that FHE at a dosage of 250 mg × 2/day for 42 days significantly reduced the discomforts, especially vasomotor symptoms and depression, and helped to attain a hormonal balance without any adverse effects or deviations in clinical safety parameters. Thus, FHE could be a potential natural agent for the management of post and perimenopausal discomforts and has to be explored in future studies.

Efficacy of a Proprietary Trigonella foenum-graecum L. De-Husked Seed Extract in Reducing Menopausal Symptoms in Otherwise Healthy Women: A Double-Blind, Randomized, Placebo-Controlled Study

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Abstract
Trigonella foenum-graecum seed extract has demonstrated hormone modulatory activity, providing biological plausibility for relieving menopausal symptoms. The study aimed to assess efficacy of a standardized T. foenum-graecum de-husked seed extract in reducing menopausal symptoms in healthy aging women. The study was a double-blind, randomized, placebo-controlled trial that recruited 115 women aged 40 to 65 years of which 59 were allocated to active (n = 54 completed) and 56 to placebo (n = 50 completed). Active treatment was T. foenum-graecum de-husked seed extract, 600 mg per day for 12 weeks. Outcome measures included Menopause-Specific Quality of Life (MENQOL) questionnaire, frequency of hot flushes and night sweats and serum estradiol levels. There was a significant reduction in menopausal symptoms in the active group compared with placebo as assessed by total MENQOL score ($p < 0.001$); reflected by significant improvements in the vasomotor ($p < 0.001$), psychosocial ($p < 0.001$), physical ($p < 0.001$) and sexual symptoms ($p < 0.001$) domains. Vasomotor outcomes correlated with hot flushes, the active group reporting significantly less daytime hot flushes and night sweats at 12 weeks ($p < 0.001$). The

average estradiol levels were similar in both the active group and placebo group after treatment. This study demonstrated that this proprietary T. foenum-graecum de-husked seed extract may reduce menopausal symptoms in healthy women. Copyright © 2017 John Wiley & Sons, Ltd.

Phytoestrogenic effect of fenugreek seed extract helps in ameliorating the leg pain and vasomotor symptoms in postmenopausal women: A randomized, double-blinded, placebo-controlled study

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Background
Fenugreek is a popular spice which has been evaluated for hormone related disorders.

Methods
The present randomized, double-blinded, placebo-controlled study investigated the effect of a unique extract of fenugreek (FHE), at a dose of 250 mg × 2/day for 42 days on hormone balance and postmenopausal discomforts. Postmenopausal women (n = 48) having characteristic postmenopausal symptoms, as assessed by MRS questionnaire, were randomized either to FHE (n = 24) or placebo (n = 24) groups.

Results
The FHE-treated participants reported the feel of well-being within two weeks of supplementation and further improvement was observed in somatic, psychological and urogenital scores towards the end of the study period. There were 2.9, 4.2 and 7.2 times reduction respectively in hot flashes, night sweats and pain on leg muscles and joints with significant improvement in irritability and vaginal dryness when compared to placebo. Hormone analysis revealed significant increase in estradiol, free testosterone, progesterone and decrease in FSH, SHBG and CTX-1 concentrations, though within the safe range, indicating the trend towards attaining a hormonal balance.

Conclusion
Supplementation of FHE regulated various hormones in postmenopausal women and offered a significant reduction in vasomotor effects and leg pain without showing any significant variations in hematological and biochemical parameters.