

# Rational Phytotherapy in Gynecological Conditions

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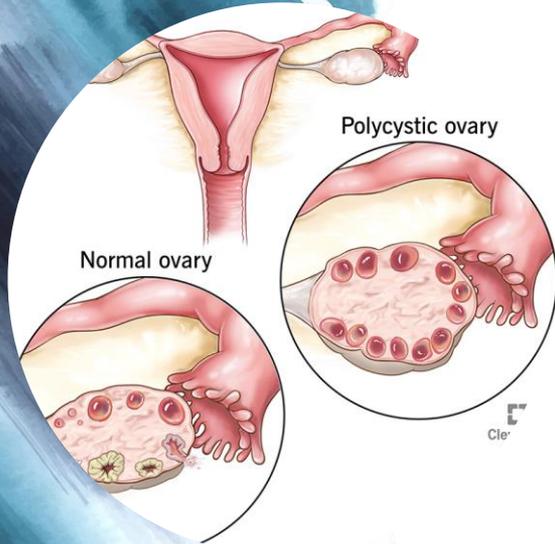
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# PCOS & Endometriosis



# Polycystic Ovarian Syndrome (PCOS)

# PCOS: introduction

- A very prevalent heterogeneous female endocrine reproductive disorder
- It affects 4-18% of women during their reproductive years.
- Generally characterized by anovulation and overproduction of ovarian androgens
- Wide range of complications:
  - Metabolic: obesity, cardiovascular disease, type 2 diabetes
  - Reproductive: miscarriage, infertility, neonatal and pregnancy complications
  - Psychological: stress, depression and anxiety

## PCOS SYMPTOMS



HAIR LOSS



HIRSUTISM



PELVIC PAIN



INFERTILITY



OVERWEIGHT



IRREGULAR PERIODS



FATIGUE



HIGH TESTOSTERONE LEVELS



ACNE

## POLYCYSTIC OVARY SYNDROMS (PCOS)



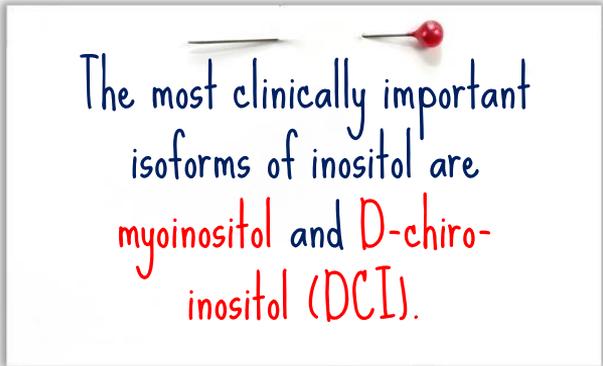
# PCOS: standard treatment

- **Woman not pursuing pregnancy:**
  - **Menstrual dysfunction:** combined estrogen-progestin oral contraceptive (COC) therapy
  - **Hyperandrogenic syndrome:** COC (spironolactone might be added)
  - **Metabolic disorders:** specific interventions for diabetes and dyslipidemia
- **Women pursuing pregnancy:**
  - **Anovulatory infertility and ovulation induction:** aromatase inhibitors (letrozole)

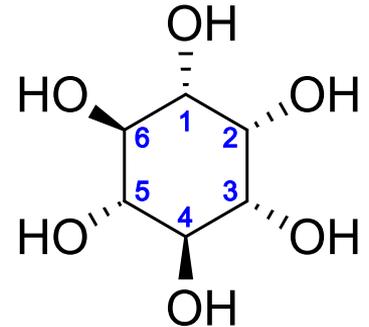


# Myoinositol-DCl

- Although it's often referred to as vitamin B8, inositol is not a vitamin but rather a type of sugar with several functions:
  - **Metabolic conditions (diabetes, insulin resistance)**
- **Dietary sources:**
  - fruits, beans, grains, and nuts
  - Your body can also produce inositol **from the carbohydrates** you eat.
- Inositol may be transformed into nine stereoisomers through epimerization of its hydroxyl groups.



The most clinically important isoforms of inositol are myoinositol and D-chiro-inositol (DCI).



# Myoinositol-DCI

- Inositol supplements may improve PCOS symptoms, particularly when combined with **folic acid**.
  - Reducing triglyceride levels
  - Improving insulin function
  - Slightly lowering blood pressure
  - Promoting ovulation in fertility issues
- **Dosing:**
  - **Best myoinositol to DCI ratio:** 40:1
  - The use of 2 × 2000 mg myo-inositol + 2 × 200 µg folic acid per day is a safe and promising practice

# Myoinositol-DCl



Average amount per 4 capsules		% NRV*
Myo-inositol	2000 mg	—**
D-chiro inositol	50 mg	—**
Folic acid	400 µg	200

\* Nutrient Reference Value according to Regulation (EU) 1169/2011 || \*\* No reference value available



## Supplement Facts

Serving Size: 4 capsules  
Servings Per Container: 15

	Amount Per Serving	% Daily Value
Myo-Inositol	2000 mg	**

\*\* Daily Value not established

# Chromium

- **Activity:**
  - Decreasing serum insulin and free testosterone
  - Improving BMI
- **Doses (reported to be effective in clinical trials):** 200-1000 mcg/day for 8-24 weeks
- × **Interaction:** levothyroxine
  - Decreasing levothyroxine efficacy
  - levothyroxine  $\xrightarrow{30 \text{ min}}$  chromium  $\xrightarrow{3-4 \text{ h}}$  levothyroxine



# Cinnamon

- **Activity:**
  - Weight reduction
  - Improving insulin resistance
  - Lowering fasting blood sugar
  - Lowering total cholesterol and LDL levels
- **Doses (reported to be effective in clinical trials):** 1.5 g/day for 12 weeks

*Ceylon*



*Cassia*





# Cinnamon



Supplement Facts	
Serving Size: 3 Capsules / Serving Per Container: 17	
Amount per Serving	% Daily Value <sup>††</sup>
<i>Cinnamomum verum</i>	*
eq. to 1500 mg Cinnamon Bark Powder	*
Chromium 300 mcg	250%
<sup>††</sup> Percent daily value based on a 2,000 calorie diet.	
** Daily value not established.	



	in 100 g	pro 2 Tabletten	% des empf. Tagesbedarfs pro 2 Tabletten*	% des empf. Tagesbedarfs pro 2 Tabletten**
Vitamin B <sub>1</sub>	0,08 g	1,0 mg	71 %	100 %
Vitamin B <sub>2</sub>	0,09 g	1,2 mg	75 %	100 %
Vitamin B <sub>6</sub>	0,09 g	1,2 mg	60 %	100 %
Vitamin B <sub>12</sub>	0,0002 g	3,0 µg	300 %	100 %
Zink	0,4 g	5,0 mg	33 %	50 %
Chrom	0,002 g	30 µg	***	***
Zimt	79 g	1000 mg	***	***

# Zinc

- **Activity:**

- ✓ Beneficial effects on alopecia, hirsutism, and plasma MDA levels
  - *MDA (malondialdehyde): an indicator of chronic oxidative states, which may be pathologically found in PCOS patients*
- ✗ Not affecting hormonal profiles, inflammatory cytokines, and other biomarkers of oxidative stress

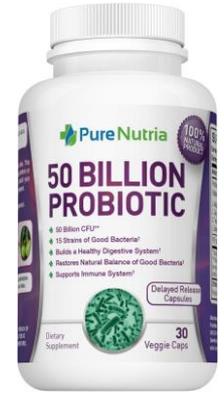
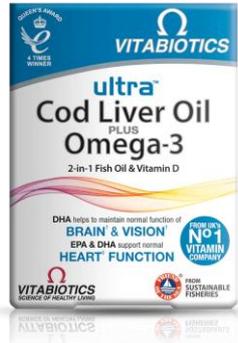
- **Doses (reported to be effective in clinical trials):** 50 mg/day elemental zinc for **8 weeks**

- *220 mg zinc sulfate  $\equiv$  50 mg elemental zinc*
- *54.9 mg zinc sulfate monohydrate  $\equiv$  20 mg elemental zinc*
- *UL: 40 mg/day*





# Promising Natural Supplements





# Endometriosis

# Endometriosis: introduction

- Ectopic endometrial tissue
- Estrogen-dependent, benign, inflammatory disease
- Affects premenarchal, reproductive, and postmenopausal hormonal stage
- Severely debilitating:
  - Dysmenorrhea, dyspareunia, chronic pain, and infertility



# Endometriosis: standard treatment

- **Treatment of pelvic pain:**
  - NSAIDs and hormonal contraceptives
  - GnRH analogs: elagolix, luprolide acetat, gosereline, etc.
  - Aromatase inhibitors / danazol
  - *No recommendations regarding complementary therapies*
- **Treatment of infertility**



# Endometriosis: complementary medicine???

- There are no dietary recommendation.
  - *One study reported a lower risk of developing endometriosis with high intake of green vegetables and fruits and an increased risk with red meat*

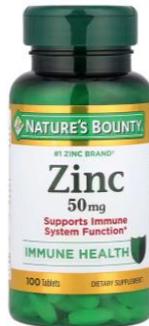


- Risk of endometriosis is **NOT ASSOCIATED** with, coffee, fish, and milk
  - *Rather correlated with dysmenorrhea – not exclusively in patients with endometriosis*



# Endometriosis: complementary medicine???

- The following supplements have either been **INEFFECTIVE** in human studies or **THE RESULTS WERE INCONCLUSIVE** →
- The following supplements **HAVE NOT BEEN STUDIED IN HUMAN** ↓



# Endometriosis: complementary medicine???

- The following supplements **HAVE PROVEN TO BE EFFECTIVE TO SOME EXTENT** in human studies:





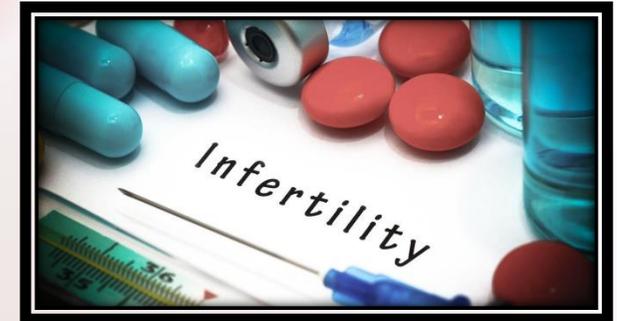
# Infertility



# Infertility: introduction

- A failure to achieve pregnancy after 12 months of unprotected and routine sexual intercourse
- **Complementary therapies:**
  - Multiple-micronutrient supplementation
  - Antioxidants
  - Estrogenic herbs
  - Dietary considerations

STUDIES ARE  
SCARCE.



Vitex Chasteberry

[www.herbazest.com](http://www.herbazest.com)





# Multiple-micronutrient supplementation

- In women who are diagnosed as infertile, **lower than recommended levels** of certain micronutrients have been reported.
  - PCOS & endometriosis
- Adequate levels are important for oocyte quality, maturation, fertilization, and implantation.
- Some micronutrients show **antioxidative properties**:
  - Vitamin A, C, and E
  - Oxidative stress impairs fertility





# Antioxidants

- Oxidative stress plays an essential role in developing infertility.
  - Idiopathic infertility
  - Recurrent miscarriage
  - Development of **PCOS & endometriosis**
  - Ovum damage
  - Impairing the entire process of embryogenesis
- Common antioxidants for infertility:
  - Vitamin A, C, & E
  - Inositol
  - l-Carnitine
  - N-Acetylcysteine (NAC)
  - Alpha lipoic acid (ALA)
  - Choline
  - Q10 coenzyme
  - Antioxidant herbs (grape seed extract, etc.)





# Estrogenic Herbs

- Estrogen plays a role in **ovulation** and **thickens the lining of endometrium** to prepare it for pregnancy.

**⚠ NOTE:** Chronic estrogen exposure suppresses LH.



CHASTERBERRY  
(VITEX AGNUS-CASTUS)



RED CLOVER  
(TRIFOLIUM PRATENSE)

# Common Supplements for Infertility



### SUPPLEMENT FACTS

Serving Size: 2 softgel capsules		Serving Per Container: 30	
Amount per serving	% Daily value	Amount per serving	% Daily value
Vitamin C	90 mg	150	13
Vitamin E	100 IU	333	100
Vitamin D3	600 IU	150	100
Vitamin B1	8mg	533	100
Vitamin B2	5mg	294	*
Vitamin B6	10 mg	500	100
Vitamin B12	0.02mg	333	*
Folic acid	0.4 mg	100	*
Selenium	0.05 mg	71	*
Zinc	15 mg	100	*
Niacin	20 mg	100	60
Biotin	0.1 mg	33	*
EPA	180 mg	*	50 mg
DHEA	25 mg	*	5000 IU
		Magnesium	45 mg
		Iodine	0.15 mg
		Iron	18 mg
		Copper	2 mg
		Choline	50 mg
		Manganese	2 mg
		Chasteberry	100 mg
		Lipoic Acid	50 mg
		Inositol	1000 mg
		L- Arginine	100 mg
		Pantothenic acid	6 mg
		N-acetyl-L-cysteine	50 mg
		Coenzyme Q10	50 mg
		Vitamin A(Betacaroten)	5000 IU



### Supplement Facts

Serving Size: 3 capsules  
Servings Per Container: 30

	Amount Per Serving	% Daily Value
Vitamin C (as ascorbic acid)	100mg	110%
Calcium (from Coral Calcium)	52mg	4%
Proprietary Blend	1109 mg	**

Proprietary Blend: L-Arginine, N-Acetyl L-Cysteine, Lactobacillus Acidophilus, Grape Seed Extract.

\*\* Daily Value not established



### Supplement Facts

Serving Size: 3 capsules  
Servings Per Container: 30

	Amount Per Serving	% Daily Value
Vitamin A (as beta carotene)	1200mcg	133%
Vitamin C (as ascorbic acid)	85mg	94%
Vitamin D3 (as cholecalciferol)	10mcg	50%
Vitamin E (as d-alpha tocopheryl succinate)	67mg	447%
Thiamin (as thiamine HCl)	1.5mg	125%
Riboflavin	1.7mg	131%
Niacin	20mg	125%
Vitamin B6 (as pyridoxal 5-phosphate)	2mg	118%
Folate (as L-5-methyltetrahydrofolate, calcium)	1020mcg DFE	255%
Vitamin B12 (as methylcobalamin)	6mcg	250%
Pantothenic Acid (as d-calcium pantothenate)	10mg	200%
Iron (as iron bisglycinate chelate)	18mg	100%
Iodine (as potassium iodide)	150mcg	100%
Magnesium (as magnesium oxide)	320mg	76%
Zinc (as zinc gluconate)	15mg	136%
Selenium (as L-selenomethionine)	70mcg	127%
Copper (as copper gluconate)	2mg	222%
Proprietary Blend	620 mg	**

Proprietary Blend: Red Clover (*Trifolium pratense*) (blossom) Extract, PABA (para-aminobenzoic acid), *Eleutherococcus senticosus* (root) Extract, Chaste Tree Berry (*Vitex agnus-castus*) Extract (4:1), Ginkgo biloba (leaf) Extract.

\*\* Daily Value not established

# Dietary Considerations



Mediterranean diet vs.  
Western-style diet



## Diet characteristics

	Source of fat or fat type	Meat and fish	Dairy	Grains and legumes	Fruits and vegetables	Other	Influence on fertility	References
Mediterranean diet	MUFAs and PUFAs from nuts and olive oil	Poultry, moderate fish consumption	High consumption	Whole grain cereals, high consumption of legumes	Mostly fresh vegetables and fruits, high intake of dietary fiber	Moderate consumption of red, dry wine, low consumption of sweets	Direct: Increases chances of fertilization, supports ART	(17–19, 28–32)
Western-style diet	SFAs and TFAs from processed foods, meat, and fast-food	Red meat, processed meat	Low consumption	Refined cereals, low consumption of legumes	Low intake of fresh fruits, vegetables, and dietary fiber	High consumption of sweets and sweetened beverages	Indirect: Increases the risk of IR, T2D, and PCOS; impairs ovulation	(5, 23, 24)

ART, assisted reproductive technology; IR, insulin resistance; PCOS, polycystic ovary syndrome; T2D, type 2 diabetes; TFA, *trans*-fatty acid.

# Recurrent Simple Cystitis in Women



# Introduction

- **Recurrent urinary tract infection (UTI):**  $\geq 2$  infections in 6 months or  $\geq 3$  infections in one year
  - Commonly as acute simple cystitis
  - Mostly reinfection rather than relapse
- **Risk factors:**
  - Frequent sexual intercourse
  - Spermicide use during the past year
  - Mechanical/physiologic factors that impede bladder emptying



# Preventive Strategies

- Increasing fluid intake (2–3 litres per day)
- Avoiding spermicides
- Postcoital voiding
- Vaginal estrogen (for postmenopausal women only)
- **Antibiotic-sparing strategies:**
  - Methenamine
  - **Cranberry**
- Antibiotic prophylaxis



# Cranberry

*(Vaccinium macrocarpon)*

- May reduce the frequency in women without underlying urologic abnormalities
- **Mechanism:** inhibiting adherence of pathogens to uroepithelial cells
- **Dose:**
  - 240 ml (one glass) of cranberry juice QD/BD
  - Cranberry concentrate tablets 500-1000 mg daily

*Might predispose patient  
to nephrolithiasis*



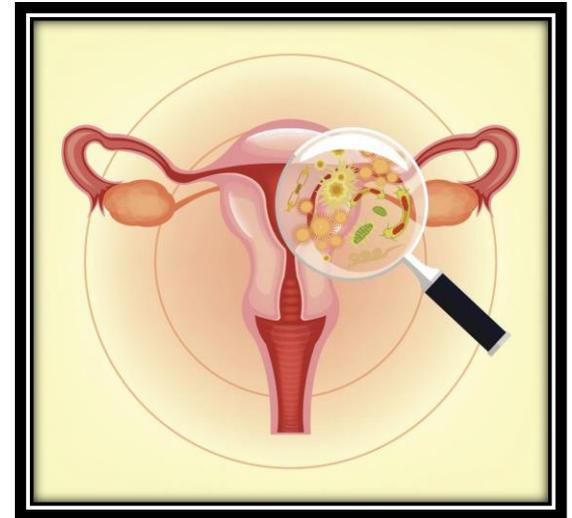
The image features a large, detailed, blue-tinted microscopic view of a cell, possibly a bacterium or yeast, with a highly textured, bumpy surface. The cell is positioned in the upper left quadrant. The background is a vibrant blue field filled with various chemical structures and molecular formulas, including  $\text{SO}_3\text{H}$ ,  $\text{HOCH}_2$ ,  $\text{H}_2\text{N}$ ,  $\text{H}_2\text{C}$ ,  $\text{N}$ ,  $\text{O}$ , and  $\text{C}$ , suggesting a biochemical or medical context. A thick, dark blue curved line separates the top half from the bottom half of the slide.

# Vaginal Infections



# Introduction

- Vaginitis refers to a few different conditions that can cause infection or inflammation of vagina.
- Most common during **reproductive years**.
- Vaginitis is **NOT** the same as a sexually transmitted infection (STI).



# Introduction

## Types of vaginitis

Bacterial vaginosis (BV)

Yeast infections

Trichomoniasis

## Atrophic vaginitis

*Atrophic vaginitis* isn't an infection, but it can increase chances of developing infections. The patient might notice signs that resemble symptoms of other infections, like vaginal itching, burning, dryness, and changes in discharge.

## Predisposing factors

Reduced estrogen levels

Douching

Soap, body wash, and perfume

Spermicidal contraceptives

Tight-fitting or synthetic clothing

Detergent and fabric softener

# Clinical Findings and Standard Treatments

Parameter	Normal findings	Vulvovaginal candidiasis	Bacterial vaginosis	Trichomoniasis
Symptoms	None or mild, transient	Pruritus, soreness, dyspareunia	Malodourous fishy discharge, no dyspareunia	Malodourous discharge, burning, postcoital bleeding, dyspareunia, dysuria
Signs	Normal discharge (1-3 ml per 24 h), white or transparent, thin or thick, and mostly odourless	Vulvar erythema and/or edema, discharge may be white and clumpy and may or may not adhere to vagina	Thin white/gray discharge that covers the vagina	Thin green-yellow discharge, vulvovaginal erythema
Treatment	-	Fluconazole	Metronidazole	Metronidazole

# Natural Products for Vaginitis

Parameter	Atrophic vaginitis	Vulvovaginal candidiasis	Bacterial vaginosis	Trichomoniasis
Treatment	Hops (along with vaginal estrogen)	Shirazi thyme Garlic Black cumin	Shirazi thyme Garlic Black cumin	Shirazi thyme



Vagiheal Barij  
*Humulus lupulus* (hops)  
One applicator every night  
for a week, then twice  
weekly

**MUST BE USED ALONG  
WITH VAGINAL ESTROGEN.**



Leucorex Barij  
*Zataria multiflora*  
(Shirazi thyme)  
One applicator every  
night for 7-10 nights



Mycosin Goldarou  
*Allium sativa* (garlic)  
One applicator every  
night for 7 nights



Phytovagex Exir Gostar  
*Nigelle sativa* (black cumin)  
One suppository every night  
for 7 nights

# PREMENSTRUAL SYNDROME (PMS)





# INTRODUCTION

- Premenstrual syndrome (PMS) is a monthly pattern of symptoms that start about a week before period and tend to go away within four days after starting period. Symptoms include:
  - Bloating
  - Digestive issues
  - Headaches
  - Breast tenderness
  - Mood swings
  - Irritability
  - Anxiety
  - Insomnia
  - Confusion
  - Depressed mood





# CHASTE BERRY (VITEX AGNUS-CASTUS)



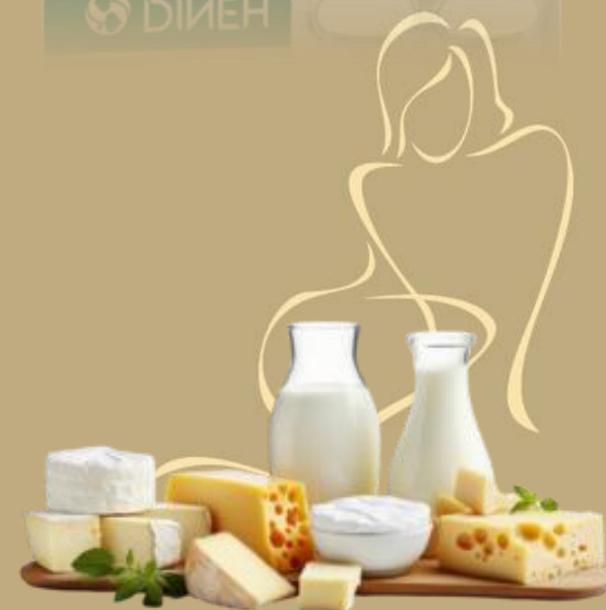
- Particularly helpful for physical symptoms, including bloating, breast pain, and headaches.
- **Safety:**
  - Talk to your doctor before taking chasteberry if you have a hormone-sensitive condition, such as **ER-positive breast cancer**.
  - Chasteberry may interact with **oral contraceptives** and **antipsychotics**.
- Dose: 1.6-3 mg of concentrated extract BD / 20-40 mg fruit extract daily





# CALCIUM

- Calcium levels change during the menstrual cycle.
- Helps to reduce bloating and fatigue.
- Start by adding calcium-rich fruit to your diet. If it doesn't work:
  - Dose: start by 500 mg daily.  
Don't exceed 1000 mg.
- **Safety:**
  - May cause constipation at high dose.
  - Should be taken at different times with **antibiotics** or **thyroid hormones**.
  - Not OTC in **kidney stones** or other **health issues**.





# VITAMIN B6

- Several small studies: may help with psychological symptoms (moodiness, irritability, anxiety)
- Conclusions are **still limited**.
- **Dietary sources:**
  - chickpeas
  - tuna, salmon, and other fish
  - potatoes and other starchy veggies
  - beef liver and organ meats
- If you can't get enough from your diet:
  - Dose: 50-100 mg daily
- **Safety:** Don't take it with **cycloserine**, **theophylline**, and **anti-seizure medications**.





# MAGNESIUM

- Supplementing with a combination of **magnesium** and **vitamin B6** helps ease depression, anxiety, insomnia, water retention, and breast tenderness.
- **Dietary sources:**
  - almonds
  - green leafy vegetables
  - peanuts
- Dose: 200-250 mg daily – **don't exceed 350 mg**
- **Safety:** take at different times with **PPIs, diuretics, antibiotics,** and **bisphosphonates.**



# MAGNESIUM: DON'T OPT FOR THESE





# ESSENTIAL FATTY ACIDS: EVENING PRIMROSE OIL



- Content: linoleic acid (omega-6) and gamma-linoleic acid or GLA (omega-6)
- Anti-inflammatory properties
- Symptom improvements in the long run (6 months)
- Dose: 1-2 g daily
- **Safety:**
  - Possible interaction with **anticoagulants** and **antipsychotics**
  - Patient must add omega-3-rich foods to their diet (salmon, fish oil, flax seed, chia seed, walnuts, soybeans, etc.)
  - **GLA MIGHT LOWER SEIZURE THRESHOLD.**





# GINKGO BILOBA



- A clinical study in 2009 evaluated its use for treating PMS symptoms. Researchers found that taking **40 mg tablets, 3 times per day** reduced the severity of both **physical and psychological** symptoms in the students studied.
- Dose: 40 mg TDS - take for about 10 to 14 days from mid-cycle until a day or two after your period.
- Safety:
  - Serious interactions with blood thinners
  - Interaction with clozapine and carbamazepine
  - Can lower blood sugar levels





# ST. JOHN'S WORT (*HYPERICUM PERFORATUM*)

- Improves both physical and emotional symptoms, particularly **depression** and **anxiety**.
- Dose: variable – follow the manufacturer instructions – **don't take for longer than 6 weeks**
- Safety:
  - Several serious interactions including **antidepressants commonly used to treat PMS**, birth control, heart and blood pressure medications
  - Apply sunscreen when going outside



# Menopause





Menopause describes the stage of a woman's life when her menstrual periods stop permanently, and she can no longer get pregnant.



# Menopause Symptoms

- Night sweats
- Hot flashes
- Trouble sleeping
- Mood swings
- Genitourinary atrophy symptoms



# Black cohosh (*Actaea racemosa*)



- Helps relieve ***night sweats*** and ***hot flashes***
  - Does not significantly decrease symptoms of anxiety or depression.
- **Dose:** 6.5-160 mg daily for 1-12 months
  - Effects begin in ***2 weeks*** and maximize in ***8 weeks***
- **Safety:**
  - Not recommended in liver disease
    - Alcohol consumption must be limited
  - Might cause mild nausea and stomach upset
  - Might induce skin rashes



Each coated tablet contains:  
Dried extract of:  
**Cimicifuga racemosa** 6.5mg

Equivalent to 0.12 - 0.18 mg Triterpene  
Glycosides as 27 - deoxyactein

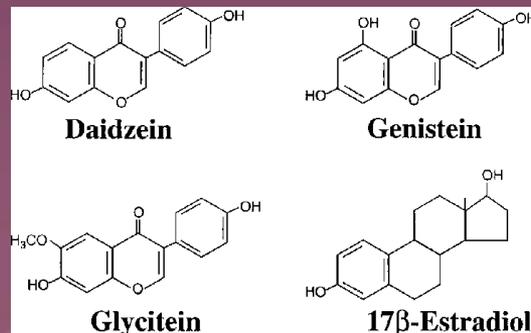


# Red clover (*Trifolium pratense*)

- Rich source of isoflavones
  - helps alleviate symptoms associated with the decline in estrogen and therefore cardiovascular protection
- **Dose:** 40-80 mg of total isoflavones daily (crude plant extract 240 mg approximates to 40 mg of isoflavones)
- **Safety:**
  - Not recommended in breast cancer or hormone-sensitive conditions



Ingredients: isoflavones (from dry extract of *Trifolium pratense* L. 8%):  
Formononetin, Biochanin A, Daidzein, Genistein.....40 mg



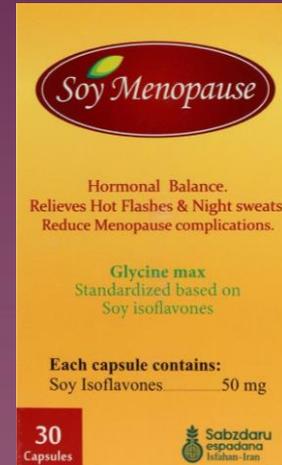
# Soy (*Glycine max*)



- Rich source of ***isoflavones***
  - helps alleviate symptoms associated with the ***decline in estrogen*** and therefore ***cardiovascular and bone health protection***
- **Dose:** 22.7-300 mg of total isoflavones daily (1 g of soy protein approximates to 3.5 mg of isoflavones)
- **Safety:**
  - Women with current or a history of estrogen-dependent tumors, including breast cancer, should consult their physician prior to consuming soy in amounts higher than those typically found in food.



**Composition:**  
Each coated tablet contains  
*Isoflavones of Glycine max* (seeds) 50 mg  
**Standardized by:** 20-27 mg Genistin.





# Chasteberry (*Vitex agnus-castus*)

- Helps with anxiety and hot flashes
  - No significant changes in depression or sexual dysfunction
- **Dose:** 1.6-3 mg of concentrated extract BD / 20-40 mg fruit extract daily
- **Safety:**
  - Might not be safe in hormone-sensitive conditions
  - May interact with antipsychotic medications, birth control pills, and medications for Parkinson's disease



# Combinations



۴۰ mg	عصاره ریشه بلک کوهوش
۳.۵ - ۵ g	عصاره پنج انگشت
۵۶ mg	سویا



<b>Ingredients:</b>		
Vitex agnus – castus	16.67 mg	
Trifolium pratense	50 mg	
Cimicifuga racemosa	16.67 mg	
Dioscorea villosa	16.67 mg	
Indol-3-carbinol	33.33 mg	



# Flax seed (*Linum usitatissimum*)



- Rich source of **lignans** which exert **estrogen-like effects**
- Helps with **hot flashes**, **night sweats**, **difficulty falling asleep**, and **bone loss**
- **Dose:** 10 g of powder daily
- Nutrient-dense and considered very safe



# Valerian (*Valeriana officinalis*)



- Helps with insomnia and hot flashes
- **Dose (for insomnia):** 300 to 600 mg of valerian root 30 minutes to two hours before bedtime.



# Hops (*Humulus lupulus*)



- Helps with vaginal atrophy
- Must never be considered a substitute to vaginal estrogen!!!





# *Sexual Dysfunction*

# Clinical Approach

- *Thorough evaluation for underlying factors:*
  - *Depression*
  - *Arthritis*
  - *Genitourinary syndrome of **menopause***
  - *Pelvic pain*
  - *Anemia*
  - *Medication-induced sexual dysfunction (**antidepressants, methadone**)*
  - *Urinary/fecal incontinence*
- *Interventions:*
  - *Psychotherapy (counseling)*
  - *Hormonal therapies*
  - *Non-hormonal therapies*
    - *Bupropion*
    - *PDE-5 inhibitors (not approved for women)*
    - *Herbal supplements: patient must be informed about limited clinical evidence and high cost.*



# *Ginseng (Panax ginseng)*

- *Particularly effective for **menopausal women***
- *Mechanism:*
  - *Relaxing effect on clitoral cavernous and vaginal smooth muscle*
  - *Estrogenic properties*
- *Dose: 1 g of powder daily (might be divided) for 4-8 weeks*
- ***NOTE:** Ginseng might exacerbate **insomnia** and **anxiety** in menopausal women.*



## *Caltrop (Tribulus terrestris)*

- *Effective in young and menopausal women*
- *Mechanism: affecting follicle-stimulating hormone (FSH) and luteinizing hormone (LH)*
- *Dose:*
  - *Non-menopause-related issues: 7.5 mg of extract QD for 4 weeks*
  - *Menopausal women: 250 mg of powder TDS for 90-120 days*



## *Maca (Lepidium meyenii)*

- *Effective for SSRI-induced sexual dysfunction*
- *Mechanism: not well-defined*
- *Dose: 3 g daily (might be divided) for 12 weeks*



## *Saffron (Crocus sativa)*

- *Effective for fluoxetine-induced sexual dysfunction*
- *Effective for either young or menopausal women*
- *Dose: 15 mg of powder BD for 4-6 weeks*



# Common supplements



**LIBIDOFEM**  
Support Healthy sexual drive, function & pleasure  
For WOMEN

**Supplement Facts** Serving size: 1 capsule

Lepidium meyenii extract	200 mg
Witania somnifera extract	125 mg
Eleutherococcus senticosus extract	75 mg
Rhodiola rosea extract	75 mg



**ARGINMAX FORTE**  
LONG-TERM IMPROVEMENT OF SEXUAL AND PARTNER LIFE  
for women

Nutritional Values	In 1 capsule	In% DDD
L-Arginine	500 mg	NR
Vitamin E (D- $\alpha$ -tocopherol)	44.8 mg	200%
Biotin	50 $\mu$ g	300%
Vitamin B6	1 mg	214%
Vitamin B12	3 $\mu$ g	360%
Folic Acid	100 $\mu$ g	150%
Zink (ZnO)	1.65 mg	40%
Selenium	17.3 $\mu$ g	94.4%
dry extract of natural Tribulus (Tribulus terrestris)	68 mg	NE
dry extract of flower saffron (Crocus sativus)	10 mg	NE
dry extract of ginseng (Panax ginseng)	100 mg	NE



**EuRho Macavit F**  
For active women  
With zinc & B vitamins  
For energy release and regulation of hormonal activity  
Also provides maca extract & guarana extract

Average amount per 2 capsules	% NRV*
Selenium	55 $\mu$ g 100
Zinc	10 mg 100
Vitamin B2	1.4 mg 100
Vitamin B6	1.4 mg 100
Vitamin B12	2.5 $\mu$ g 100
Maca extract	650 mg --**
Guarana extract (with 10.5 mg caffeine)	105 mg --**



**Nutrax Female Boost**  
HELPS BOOST WOMEN LIBIDO  
Maca, Horny Goat Weed, Tribulus, L-Arginine  
Helps Maintain Hormonal Balance



# Thanks

Do you have any questions?

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