OvaPress

70 gr / Code FE2712

OvaPress is a food supplement based on *myo*- and *chiro*-inositol, acetyl L-carnitine, vitamin B12, folate and chromium.

HEALTH CLAIMS (EU Regulation 432/2012): *Chromium contributes to maintaining normal blood glucose levels.*

Vegan. Ovo-lactovegetarian. Gluten free. Dairy free.

FORMAT: 70 gr.

FORMULA

Ingredients: *myo*-Inositol, acetyl-L-carnitine hydrochloride, D-*chiro*-inositol, methylcobalamin (vit. B12), calcium-L-methylfolate, chromium picolinate, bulking agent (microcrystalline cellulose).

Nutritional information:	**2 scoops**	**NRV***
40:1 inositol, providing:		
Myo-inositol	2 000 mg	
D-*chiro* inositol	50 mg	
Acetyl-L-carnitine hydrochloride (providing 212,5 mg of acetyl-L-carnitine)	250 mg	
Vitamin B_{12} (methylcobalamin)	1 000 µg	40 000%
Folate (calcium-L-methylfolate)	800 µg	400%
Chromium (from chromium picolinate)	500 µg	1 250%

*NRV: Nutrient Reference Value in %.

Cautions:

Not recommended during pregnancy and breast-feeding. Consult a health-care practitioner prior to use if you have a special medical condition such as liver disease, kidney disease, diabetes, or a seizure disorder. In some cases it may cause digestive discomfort.

Recommended daily dose:

1 scoop twice daily, dissolved in water or juice. Consult a health-care practitioner for use beyond 6 months. Do not exceed the stated recommended daily dose.

Indications and uses:

- Helps improve dysmenorrhoea and other symptoms of polycystic ovary syndrome.
- Helps improve menstrual cycle regularity (oligomenorrhoea, etc.)
- Supports healthy glucose metabolism.

DETAILS

NewRoots Herbal's OvaPress promotes healthy glucose metabolism and improves ovarian function in women with oligomenorrhoea and polycystic ovary syndrome (PCOS).

Inositol plays a fundamental role in reproductive physiology. It acts as a direct messenger for insulin and improves glucose uptake in various reproductive tissues [(1)]. It also participates in follicular maturation with the progression of the menstrual cycle and in embryogenesis processes, such as neural tube closure [(2,3)].

INGREDIENTS:

INOSITOL: a meta-analysis of randomised trials investigated the treatment of anovulation in women with PCOS using inositol[(4)]. This study included 10 randomised controlled trials with a total of 362 women taking inositol (257 with *myo*-inositol and 105 with D-*chiro* inositol), 60 with metformin (an antidiabetic drug) and 179 with placebo. Treatment with inositol significantly improved the ovulation rate compared to placebo. Inositol was also associated with a higher frequency of menstrual cycles compared to placebo.

A meta-analysis of randomised controlled trials investigated the effects of *myo*-inositol alone or in combination with D-*chiro* inositol on endocrine and metabolic abnormalities in women with PCOS [5]. The nine randomised controlled trials, which included 247 inositol cases and 249 controls, found a significant decrease in fasting insulin ($p = 0.009$) and the homeostasis model assessment index (HOMA) ($p = 0.041$) after supplementation with *myo*-inositol. The study also found a slight trend toward a reduction in testosterone concentration in individuals treated with *myo*-inositol compared to controls ($p = 0.099$). Treatment with *myo*-inositol for 16 weeks had no significant effect on SHBG (sex hormone-binding globulin, which binds to sex hormones, making them less biologically active) levels compared to controls ($p = 0.958$), while supplementation with *myo*-inositol for 24 weeks revealed a significant increase in SHBG levels compared to other treatments ($p = 0.026$).

The effect of *myo*-inositol, compared to metformin (an antidiabetic drug), on hormonal and glycolipid profiles in women with polycystic ovary syndrome (PCOS) has been the subject of several studies. A systematic review and updated meta-analysis of randomised controlled trials included a total of 9 studies with a total of 612 patients with PCOS, of whom 306 were treated with *myo*-inositol and 306 with metformin [6]. Compared to metformin, *myo*-inositol was more effective in reducing triglyceride levels ($p = 0.0001$) and avoiding side effects ($p < 0.00001$). No significant differences were found between *myo*-inositol and metformin in terms of indicators related to body fat, glycolipid metabolism, and glucose metabolism (in particular, HOMA-IR and FINS).

Myo-inositol has also been studied as a pretreatment for women without PCOS undergoing in vitro fertilisation (IVF) cycles [7]. In a randomised controlled trial involving 100 patients without PCOS undergoing IVF, the addition of 4 g/d of MI to the control treatment of 150 IU/d of follicle-stimulating hormone (FSH) and 400 µg of folate resulted in a significantly lower amount of exogenous FSH required to achieve follicular maturation [8]. A prospective controlled observational trial investigated 3 months of pretreatment with 4 g/d of *myo*-inositol and 400 µg/d of folate or folate alone in 76 patients without PCOS who responded poorly during IVF [9]. Treatment with *myo*-inositol resulted in a higher number of oocytes retrieved in metaphase II (MII) ($p = 0.01$) and a higher ovarian sensitivity index to gonadotropins ($p < 0.05$), suggesting a role for *myo*-inositol in improving ovarian response to gonadotropins.

Myo-inositol/D-_chiro_ inositol (40:1)

Several authors have examined the benefits of administering different combinations of *myo*-inositol/D-*chiro* inositol. An expert opinion on inositols in the treatment of polycystic ovary syndrome and non-insulin-dependent diabetes mellitus highlights that the physiological ratio of *myo*-inositol/D-*chiro* inositol is 40:1 in plasma and 100:1 in the ovary, and that *myo*-inositol, alone or with D-*chiro* inositol, in the physiological ratio of 40:1, is effective in the treatment of PCOS and type 2 diabetes [10].

A clinical study compared different ratios of *myo*-inositol/D-*chiro* inositol [11]. In this study, 56 women with PCOS were treated with of *myo*-inositol/D-*chiro* inositol formulations: D-*chiro* inositol alone, 1:3.5; 2.5:1; 5:1; 20:1; 40:1 and 80:1. Each received 2 g of inositols twice daily for 3 months. The authors concluded that the of *myo*-inositol/D-*chiro* inositol ratio of 40:1 was the best for the treatment of PCOS, aimed at restoring ovulation and normalising important parameters in these patients. These improvements included the return of menstruation, restoration of ovulation, demonstrated by a greater increase in progesterone levels, decreased LH levels, increased SHBG and E2 levels, decreased free testosterone and HOMA, and decreased basal and postprandial insulin levels. The 40:1 ratio achieved the greatest improvements, followed by the 20:1 and 80:1 ratios.

L-CARNITINE, CHROMIUM, FOLATE (5-MTHF) AND VITAMIN B_{12}:

A systematic review included six articles to evaluate the potential role of carnitine in women with PCOS [12]. Two observational studies showed that serum carnitine levels were inversely related to glycaemic status, body mass index, and waist circumference. Four clinical trials examining the effect of carnitine supplementation in patients with PCOS revealed improvements in weight loss, glycaemic status, oxidative stress, follicle production, and ovarian cell size; no significant effects on sex hormones or lipid profile were reported.

Two randomised, double-blind, placebo-controlled studies examined the effect of 12 weeks of supplementation with 200 µg/d of chromium picolinate plus 1,000 mg/d of carnitine or placebo in 54 overweight and obese women with PCOS [13,14]. Study participants who received carnitine and chromium had significantly lower total testosterone levels ($p = 0.002$) and hirsutism (excessive hair growth in women) ($p = 0.02$) compared to the placebo group. In addition, co-supplementation with carnitine and chromium decreased weight, BMI, fasting plasma glucose, insulin resistance, triglycerides, and total and LDL cholesterol, and increased insulin sensitivity. Co-supplementation resulted in lower levels of high-sensitivity C-reactive protein (a marker of inflammation) and malondialdehyde (a marker of oxidative stress) and higher levels of total antioxidant capacity. In addition, supplementation positively regulated the gene expression of interleukin 6 (IL-6) and tumour necrosis factor alpha TNF-α compared to placebo.

Folate has an established role in the prevention of neural tube defects [15]. A retrospective study investigating women undergoing assisted reproductive technology associated supplementation with 5-methyltetrahydrofolate (5-MTHF or calcium

L-methylfolate) and vitamin B_{12} with possible improvement in embryonic development and better pregnancy outcomes [16]. In this study, 111 women received 5-MTHF and vitamin B_{12}, and 158 women received folic acid alone. The 5-MTHF plus vitamin B_{12} group had a higher percentage of clinical pregnancies and live births compared to the folic acid group ($p = 0.01$ and $p = 0.02$, respectively). The mean number of oocytes in metaphase II (MII) and the 2PN fertilisation rate (FR) in the 5-MTHF plus vitamin B12 group were higher compared to the folic acid-only group ($p = 0.04$ and $p = 0.05$, respectively).

Case studies of naturopathic treatment with OvaPress

Gender, age, treatment compliance	Side effects	Total duration	Considerations	Results
Female, 29 years old, 100%	None	1 month	Possible polycystic ovary syndrome, very long cycles, intermenstrual bleeding, possible fibroid.	The cycles went from every 8 weeks to every 6 weeks.
Female, 40 years old, 100%	None	6 months	Cystadenoma, TDPM, fibroids, dysmenorrhea, and menorrhagia	No pain during ovulation, much better mood after ovulation.
Female, 28 years old, 100%	None	5 months	Polycystic ovary syndrome, 2 to 6 periods per year	The cycles went from every 12 to 18 weeks to 7 weeks, and now to 5 weeks. An improvement in dysmenorrhoea was observed.
Female, 29 years old, 75%, difficulty remembering to take it twice a day	None	3 months	Anovulation, menorrhagia, acne, spotting	Folic acid helped stop intermenstrual bleeding and spotting. With OvaPress, she had two regular cycles and her acne improved. There is no more spotting.

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16) Cirillo, Michela, et al. "5-methyltetrahydrofolate and vitamin B12 supplementation is associated with clinical pregnancy and live birth in women undergoing assisted reproductive technology." International journal of environmental research and public health 18.23 (2021): 12280.