

Eshre 2021

NATURAMedicatrix

FERTILITY SOLUTIONS



All the energy
to love living
your life!



INODYS FERTILITY

A GLOBAL NATURAL SOLUTION TO IMPROVE FERTILITY IN WOMEN SUFFERING FROM PCOS

- 1. Female fertility booster**
- 2. Improvement of menstrual cycles**
- 3. A patented combination of myo- and d-chiro-inositol at ratio 3,6:1**
- 4. Enhanced in glutathione, zinc, vitamin D and folic acid (active form of Quatrefolic®)**



3X MORE
pregnancies
3X LESS
miscarriages

PCOS leads to a large number of metabolic disorders and about 15 to 20% of the population women of childbearing age.



The ultimate product on the market

- Inodys Fertility is based on the most recent studies on Polycystic Ovaries Syndrome (PCOS).
- It increases pregnancy rates by 188% compared to the current market leader!
- Its natural formula contains highly concentrated ratio of Myo- and DCI-Inositol

Indications

For women wishing to improve their fertility, in case of polycystic ovary syndrome (hyperandrogenism, metabolic syndrome (obesity, hypertension, insulin resistance...)).

The strength of "INODYS FERTILITY" ?

It contains 1.100 mg of MYO and 300 mg of DCI, and is expressed by a ratio of 3.6:1 which is equivalent to the inositol ratio in the ovaries. The physiological ratio of MYO and DCI is 40:1, but it does not allow to enjoy fully the benefits of the use of the inositol's!

The Right Nutrients to Make Your Pregnancy Plan a Reality

MYO & DCI in a 3.6:1 ratio (patented formulation) *

- Ratio of inositol found in the ovaries
- ➔ 3x more pregnancies
- ➔ 3x fewer miscarriages

Active vitamin B9 (Quatrefolic® patent) acts in synergy with inositol and has a structure similar to the reduced and active form of folic acid found in the body.

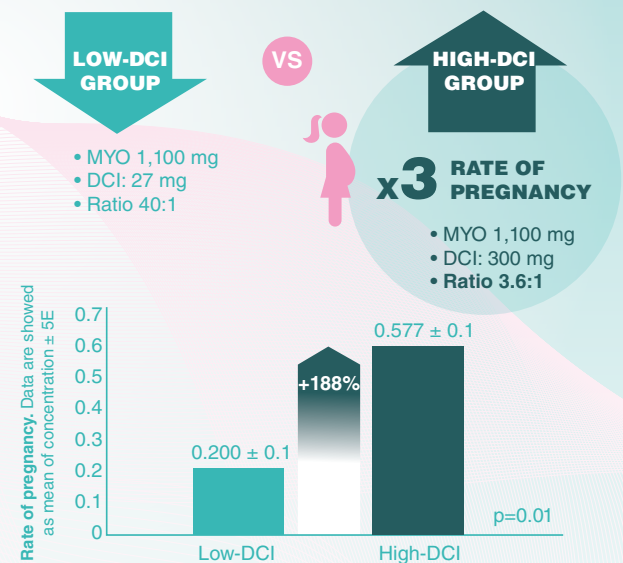
➤ It completely bypasses the limiting step of MTHFR (mutable gene) conversion and delivers a «finished» folate that the body can immediately use without any form of metabolism.

➤ Unlike traditional folic acid, which requires intermediate enzymatic steps to obtain the active form of vitamin B9, Inodys Fertility contains active folic acid used directly by the body!

Vitamin B9 promotes the growth of maternal tissues (placenta, breasts, uterus) during pregnancy (EFSA claim).

Glutathione protects cells from oxidative stress and Vitamin D, which acts as a hormone in the body, with receptors in most organs. In particular, it is involved in the processes of cell division.

*Results of the clinical study



This graph compares women with PCOS either receiving a low or highly concentrated DCI treatment. As you can see on the right side, women receiving a high DCI treatment, as offered in Inodys Fertility, have a pregnancy rate 3 times higher than the low DCI group.

Inodys Fertlity composition

2 tablets	Components
1.100 mg 300 mg	CARONOSITOL - Myo-inositol - D-Chiro Inositol
20 mg	Glutathione
7,5 mg	Zinc
200 µg	Folic acid (as Quadrefolic®)
5 µg	Vitamin D3

Presented in a box of 60 tablets.

Dosage

2 tablets per day with water.

And for the future dad... FertilHom®

FertilHom® is a natural dietary supplement that enhances male fertility. It improves all the parameters of the spermogram (motility, concentration and quantity). Our randomized double-blind clinical study is published in the «Journal of Andrology» and is also available on www.fertilhom.eu.



More information on <http://inodys.eu/>

Source : 1. Mendoza, N., Diaz-Ropero, M. P., Aragon, M., Maldonado, V., Llanea, P., Lorente, J., ... Fonolla, J. (2019). Comparison of the effect of two combinations of myo-inositol and D-chiro-inositol in women with polycystic ovary syndrome undergoing ICSI: A randomized controlled trial. *Gynecological Endocrinology*, 35(8), 695-700. doi:10.1080/09513590.2019.1576620

COMPARISON OF THE EFFECT OF TWO COMBINATIONS OF MYO-INOSITOL AND D-CHIRO-INOSITOL IN WOMEN WITH POLYCYSTIC OVARY SYNDROME UNDERGOING ICSI: A RANDOMIZED CONTROLLED TRIAL

Study design

Double-blind, multicenter randomized clinical trial with quadruple masking (Participant, Care Provider, Investigator and Outcomes Assessor).

Inclusion criteria

- Age: 18- 40 years
- Women with PCOS according to the Rotterdam criteria
- Women undergoing ICSI
- BMI< 30
- Normal uterine activity

Study population

	Study group "High DCI"	Control group "Low DCI"
	N=30	N=41
Age, years	31.67 (0.86)	31.74 (0.89)
BMI	25.51 (0.86)	24.88 (0.69)
Time of sterility (years)	3.35 (0.36)	3.35 (0.36)

Intervention

Capsule with 550mg of MYO + 150mg of DCI twice daily (3.6:1) or 550mg of MYO + 13.8mg of DCI twice daily (40:1) over 12 weeks until the day of ovarian puncture.

Test and outcome measures

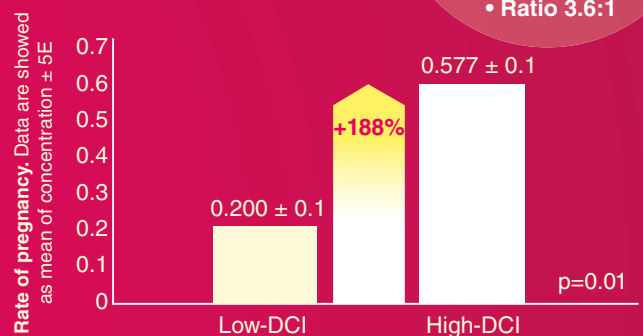
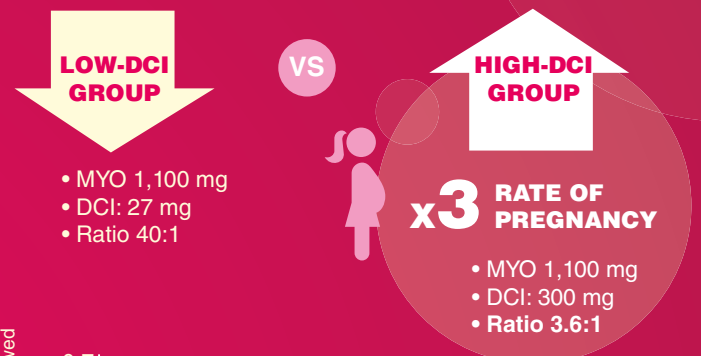
- Stimulation: initial dose of 150 units of FSH for 5 days
- After simulation, triggering with 0.25mg of hCG
- Follicular puncture schedule approximately 36-37h after triggering
- Pregnancy rate
- Oocyte maturation
- Embryo quality
- Testosterone levels
- Insulin sensitivity

Results

- The pregnancy rate was significantly higher in the study group than in the control group (65.5% vs. 25.9%, p= .003).
- Miscarriage was of 15% in the study group versus 45% in the control group

Conclusion

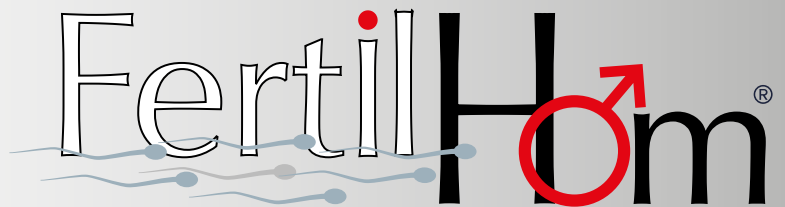
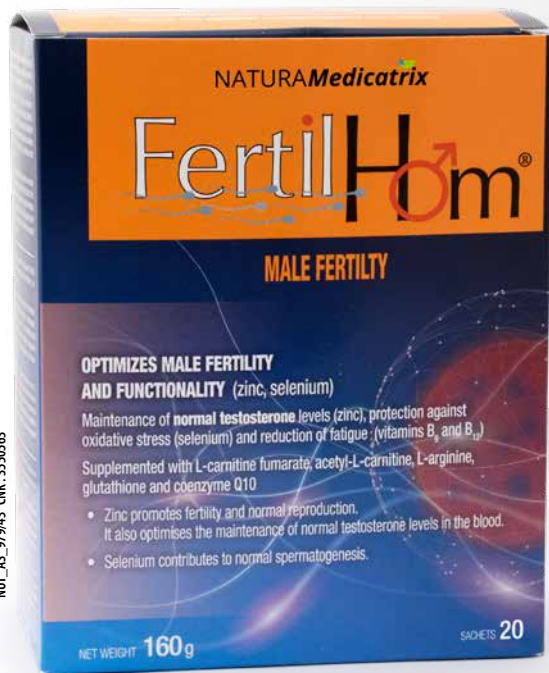
The combination of MYO-DCI at high doses of DCI improves the live-birth rate (and all other rates) with respect to its physiological concentration. This same combination reduces a risk of OHSS. These results highlight the importance of DCI supplementation in women with PCOS undergoing ICSI.



LOW-DCI GROUP
43% of miscarriages

HIGH-DCI GROUP
15% of miscarriages

Mendoza, N., Diaz-Roperro, M. P., Aragon, M., Maldonado, V., Llaneza, P., Lorente, J., . . . Fonolla, J. (2019). Comparison of the effect of two combinations of myo-inositol and D-chiro-inositol in women with polycystic ovary syndrome undergoing ICSI: A randomized controlled trial. *Gynecological Endocrinology*, 35(8), 695-700. doi:10.1080/09513590.2019.1576620



- **MALE FERTILITY**
- **SPERMATOZOA SYNTHESIS**
- **Maintenance of testosterone levels**

MALE FERTILITY IN DECLINE

Approximately 15% of couples attempting their first pregnancy meet a failure. Most authorities define these patients as primarily infertile if they have been unable to achieve a pregnancy after one year of unprotected intercourse. Conception normally is achieved within twelve months in 80-85% of couples who use no contraceptive measures, and persons presenting after this time should therefore be regarded as possibly infertile and should be evaluated. Data available over the past twenty years reveal that in approximately 30% of cases pathology is found in the man alone, and in another 20% both the man and woman are showing reduced fertility. Therefore, the male factor is at least partly responsible in about 50% of infertile couples.

ETIOLOGICAL FACTORS OF MALE INFERTILITY⁴⁸

Male infertility may be various in origin. First of all we make a difference between infertility and reduced fertility. Infertility can be classified as follows:

- **Pre-testicular** factors of endocrine origin due to hypothalamic and pituitary disorders. The problems of hypogonadism or the consequence of problems connected with intercourse can be given as examples (anomalies of the penis, difficulties with erection, ejaculation, etc.).
- **Testicular** factors of genetic origin (deletion on the Y chromosome), of congenital origin (cryptorchidism), of infectious origin (viral orchitis) or even due to the action of toxic agents (chemical, physical or biological) which adversely affect the physiological control process and affect normal gonad function.
- **Post-testicular** factors due either to unilateral or bilateral congenital or acquired obstruction of the genital tract, with variable consequences for fertility, or to an acute or chronic infection such as urethritis, or to an immunological cause.

In such cases remedies for infertility may be note easy or even being impossible to cure.

- **Reduced fertility** on the other hand has different causes and will mostly reflect in decreased mobility of spermatozoids, malformations, reduced sperm count and other factors causing decrease of semen quality. Such factors may be:

- **Contact with toxic agents** which may be gonadotoxic or antispermatogenic. There exist a lot of such substances with which we daily may have contact, professional or in our all-day life. These substances affect a significant proportion of the population.

- **Organochlorines** (DDT, PCB, dioxin), used as pesticides in agriculture or even while gardening. These substances have oestrogenic effects in man and block the androgen receptors. They also induce changes in the quality of the sperm and in the size of the testicles.

- **Heavy metals** used in the industry but also present in many products like batteries, paint, ink...

- **Tobacco and smoking** causes a harmful effect on the number, mobility and morphology of the spermatozoa by adversely affecting spermatogenesis. Furthermore, cigarette smoke is the source of the creation of activated oxygenated substances (free radicals) which are also harmful to spermatozoa. Currently there is also an increase in the consumption of **so-called recreational drugs** (marijuana, cocaine).

- Chronic **alcohol** consumption causes a reduction in the count and number of normal spermatozoa. In the case of alcoholism, sexual function is also adversely affected.

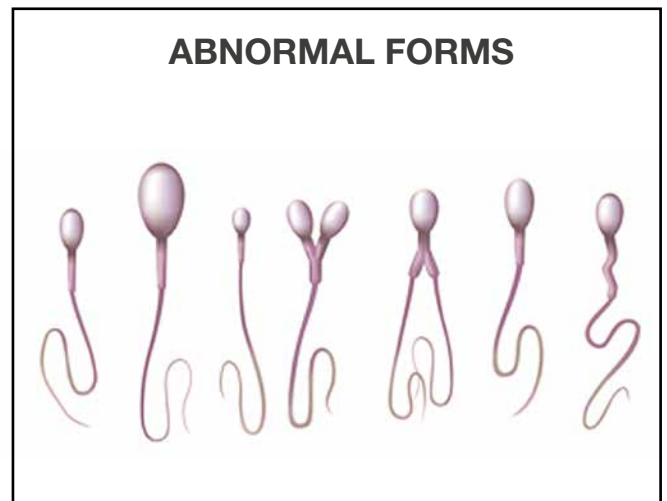


FIGURE 1 : NORMAL AND ABNORMAL MORPHOLOGY - FORMS

- **Pharmacological agents** affect fertility according to the dose used and the period over which they are prescribed.

- Antimicrobials (tetracyclines and neomycins) disrupt the proper functioning of the spermatozoa and spermatogenesis.
- The antineoplastics used in chemotherapy and the X and Y rays used in radiotherapy block spermatogenesis and cause structural anomalies in the spermatozoa.
- Cyclosporine, used as an immunosuppressant after transplantation, has a hypoandrogenic effect.
- Hormones. Our meat is normally hormone-free, although some practices still may occur. Hormones are stored in the adipose tissue of

meat and in this way they can enter our body after consumption. Unfortunately there is still an abuse in the world of sport where hormones still are used as doping products.

- **Physical gonadotoxic** events may affect us to a greater extent as they involve a large proportion of the male sex (for example: an increase in temperature in the scrotum). This may be due to wearing tight clothes (jeans for instance) but also remaining seated for many hours (office work, bus, truck and taxi drivers, long airplane flights etc.).

In order to determine the biological criteria which define a man's fertility status, the WHO (World Health Organisation) has drawn up standards for analysing sperm.

WHO CLASSIFICATION OF “NORMAL” SEMEN PARAMETERS:

Parameter	Lower reference limit
Semen volume (ml)	1,5
Total sperm number (10 ⁶ per ejaculate)	39
Sperm concentration (10 ⁶ per ml)	15
Total motility (PR + NP, %)	40
Progressive motility (PR, %)	32
Vitality (live spermatozoa, %)	58
Sperm morphology (normal forms, %)	4

WHO laboratory manual for the examination and processing of human semen, 5th ed

Only the results of a spermogram can reveal whether there is hypofertility, normal fertility or even hyperfertility.

In cases of hypofertility confirmed by the spermogram, several nutrients have proved to be useful for improving the deficient parameters.

FERTILHOM® offers a unique combination of these useful nutrients

FertilHom®: GOOD NUTRIENTS USEFUL FOR FERTILITY AT RISK!

Nutrient composition	Daily (for 1 sachet)
L-carnitine fumarate	2,9 g
Acetyl-L-carnitine	500 mg
L-arginine	250 mg
Glutathione	100 mg
Coenzyme Q10	40 mg
Zinc	7,5 mg
Vitamin B ₉	200 µg
Selenium	50 µg
Vitamin B ₁₂	2 µg

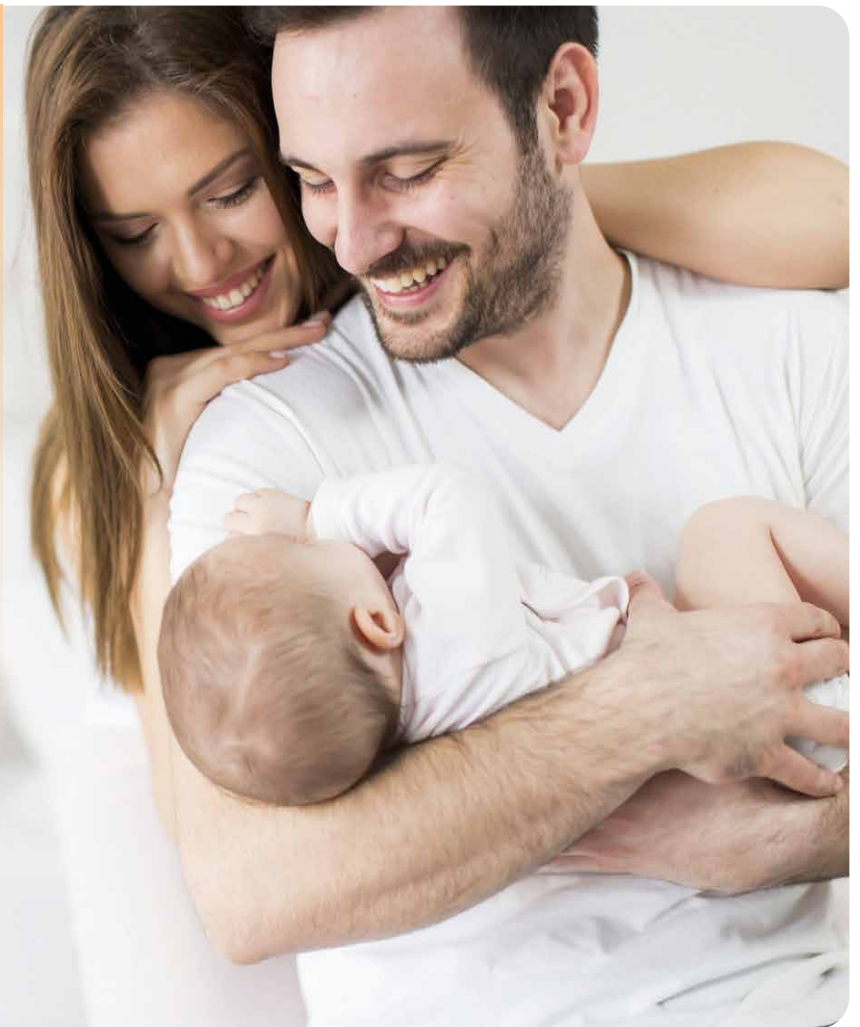
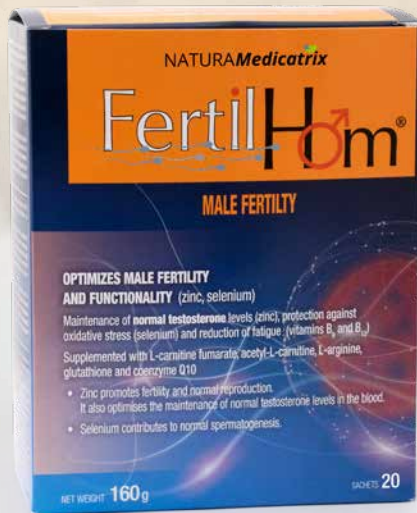
Fertilhom® composition provides useful nutrients in order to increase male fertility : L-carnitine fumarate, acetyl-L-carnitine, L-arginine, Glutathione, Coenzyme Q10, Zinc, Vitamin B₉, Selenium, Vitamin B₁₂.

Recommended use:

1 sachet per day to be dissolved in a glass of water before dinner. Continuous cure until a progressive pregnancy is achieved. Store in a dry place, away from direct sunlight.

Product presentations:

20 - 60 sachets.



FertilHom: MECHANISMS OF ACTION OF THE ACTIVE INGREDIENTS

L-carnitine fumarate and acetyl-L-carnitine are the main ingredients of FertilHom. Chemically, carnitine is related to the amino acids but is not a constituent of proteins. It serves as a transporter of fatty acids to their oxidation site so that these undergo mitochondrial β -oxidation and thus provide the energy necessary for **spermatozoid mobility**. Correlations are seen in hypofertile men between the concentration of carnitine and **mobility and sperm count**. A supplementation of 3 g of L-Carnitin per day for 3 to 4 months to men suffering from idiopathic asthenospermia has made it possible to increase the number of mobile spermatozoa by 10% and bring about an 8% increase in spermatozoa with rapid linear progression^{12-20,27,32,44-45}

Arginine is a non-essential amino acid but which is necessary for the production of high-quality sperm. The physiological production of arginine reduces with age and a supplement of arginine has proved to be effective in older men. Studies show that taking

supplements for several months increases the **quality and quantity of the spermatozoa**^{8,9} and therefore fertility^{10,11}.

Glutathione acts as an antioxidant. The glutathione enzymes peroxidase and reductase play crucial roles in combatting oxidative stress damaging the quality of the sperm. Any reduction in the levels of glutathione (GSH) during spermatogenesis is clearly linked to defects in the integrity of the membrane of the spermatozoa⁴⁹⁻⁵¹.

Coenzyme Q10 is another liposoluble antioxidant, useful for spermatozoa morphology. Its endogenous synthesis requires the presence of vitamins C, B₂, B₅, B₆ and B12 but it reduces gradually with age after 25 years of age. Ubiquinone is extremely concentrated in the mitochondria of the intermediate part of the spermatozoa where it has a dual function: as a powerful antioxidant AND as an intermediary of the respiratory chain. Coenzyme Q10 is therefore essential for the production of energy in the spermatozoa. It performs vital functions for the spermatozoa. Indeed their great mobility involves

an enormous energy requirement. Coenzyme Q10 helps to increase the number and **mobility of the spermatozoa**²⁴.

Zinc is a really essential element to the reproductive function of men. In the area of fertility, it is indispensable for testicular development, spermatogenesis, the mobility of the spermatozoa and 5- α -reductase activity (the enzyme necessary for converting testosterone into 5- α -dihydrotestosterone, a biologically active form of testosterone). A **zinc** deficiency as a cause of oligospermia, impotence and hypogonadism has long been known about in rodents and in man⁵.

Apart from its well-studied function as an antioxidant, **selenium** plays a role in the biosynthesis of testosterone and in the formation and development of the spermatozoa. A group of researchers has moreover identified a keratinoid selenium protein called GPX4: this structural protein is associated with the mitochondrial capsule of the spermatozoa. It makes up 50% of this capsule and thus provides the integrity required by the **flagellum to ensure its mobility and stability**. Unlike the other glutathione peroxidases, GPX4 does not have any direct antioxidant action at this level. Other glutathione peroxidases take care of this. It plays a role in the structure formation and thus does not act as a catalyser of reaction²⁵.

Several studies have reported that in men with fertility problems, their **vitamin B₉ and B₁₂** statuses were deficient^{1-3,17,18}.

Indeed, any vitamin B₁₂ deficiency is correlated with a loss of mobility and a reduced number of spermatozoa. Also, when folic acid (vitamin B₉) is administered together with zinc to hypofertile men, their sperm quality is significantly better compared with administration of either vitamin B₉ or zinc alone^{22,46}.



- **FertilHom® comes to the aid of men who want to improve their fertility.**
- **Completely natural and without side effects, FertilHom® makes it possible to increase the number of spermatozoa and their mobility.**

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INFLUENCE OF A NOVEL NUTRIENT COMBINATION ON A SUB-FERTILE MALE POPULATION: REPORT

STUDY DESIGN Double-blind placebo-controlled prospective parallel group multi-center clinical trial

INCLUSION CRITERIA

- Age: 21-50 years
- Idiopathic oligo- (<15 million/ml) and/or astheno- (<32% progressive motility) and/or teratozoospermia (<4% normal forms)
- Infertility of a couple for at least 12 month before enrollment
- Healthy female

INTERVENTION 1 sachet of FertilHom® or placebo every day for 4 months.

TESTS AND OUTCOME MEASURES

- spermogram performed according to WHO-5 proto-col at visits month 0 (T0), 2 (T2), and 4 (T4)
- Progressive sperm motility (%) at T0 and T4
- Relative change in total sperm count (*10⁶), concentration (*10⁶/ml), viability (%)
- Number of abnormal variables in spermogram (0, 1, 2, >2)
- Number of pregnancies

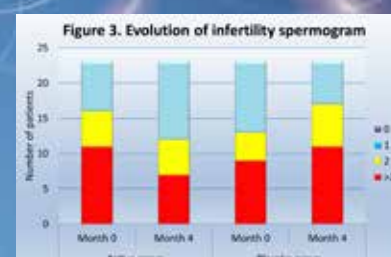
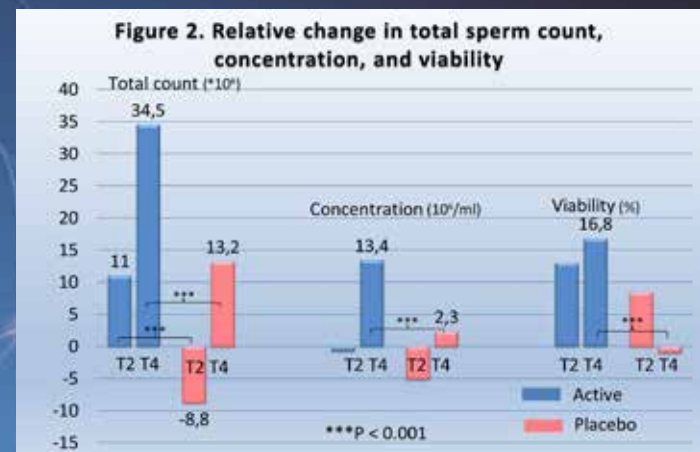
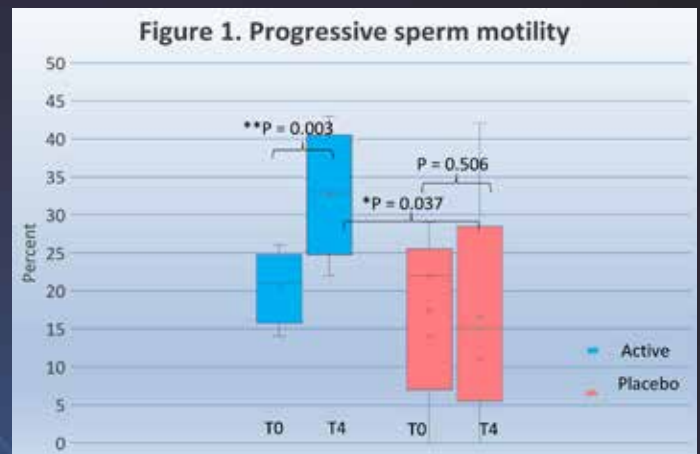
RESULTS

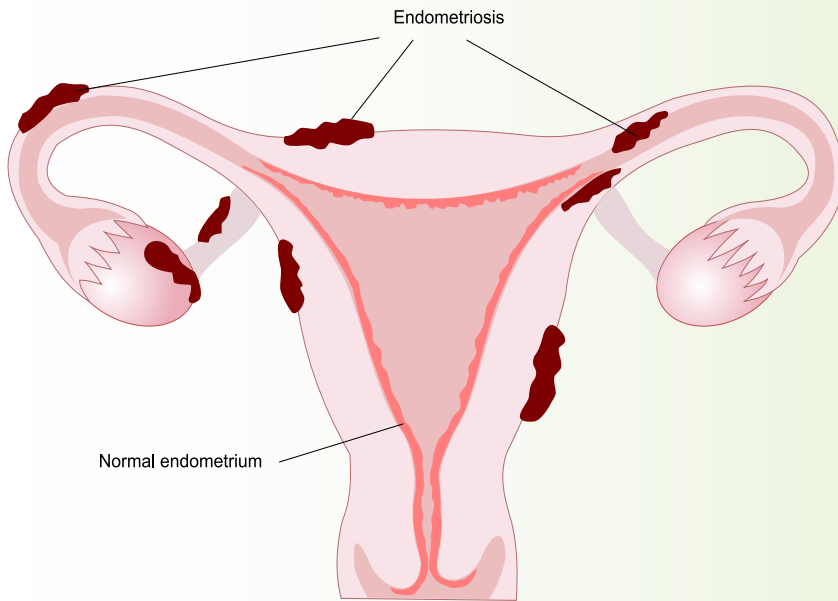
- Four-month use of FertilHom® showed significant change in values of main spermogram variables. Progressive sperm activity significantly increased on month 4 as compared with baseline (Figure 1)
- Relative change in total sperm count, concentration, and viability was more pronounced in the active group compared to the placebo group (Figure 2)
- After 4 months, in the active group the number of spermograms with more than two abnormal variables decreased, while in the placebo group this number increased (Figure 3)
- 10 of 42 females in the active and 2 of 41 females in the placebo group got pregnant (z-test for proportion differences P = 0.017) (Figure 4)

CONCLUSIONS

- FertilHom® may serve as an important dietary supplement in idiopathic male infertility

STUDY POPULATION	Active N=42	Placebo N=41
Age, years	34.0 (6.1)	33.9 (5.1)
BMI, kg/m ²	24.8 (2.7)	24.7 (2.9)
Sperm concentration, 10 ⁶ /ml	33.3 (16.9-91.0)	29.0 (14.0-79.0)
Progressive motility, %	21.0 (14.3-26.3)	22.0 (14.3-29.1)
Normal forms, %	10.5 (4.8-16.0)	16.0 (4.0-20.0)





Endometriosis, an estrogen-dependent inflammatory disease, is one of the most common chronic gynecological disorders affecting women in reproductive age. It is characterized by the presence of endometrial-like tissue outside the uterus. The exact pathophysiology of endometriosis is not still well-known, but the immune system, estrogens and inflammation have been considered as pivotal factors in disease progression.

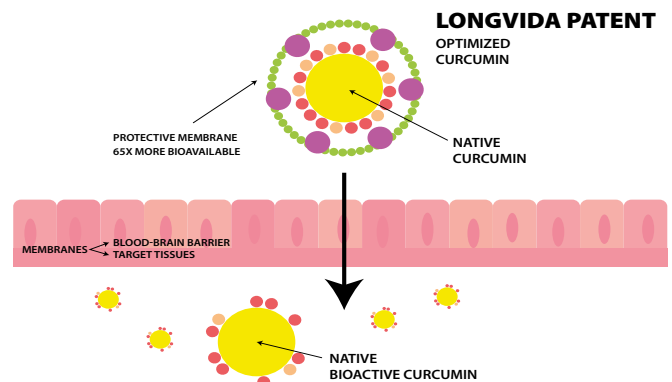
ENDOCRIBWAY

GOOD NUTRIENTS USEFUL AGAINST ENDOMETRIOSIS PAINS

NUTRITIONAL COMPOSITION	ACTIONS	RESULTS ON ENDOMETRIOSIS
Turmeric optimized Longvida® – Of which curcumin	Anti-inflammatory Anti-antioxydant	✓ Pain reduction ✓ Inflammation reduction
BroccoRaphanin® Activated – Of which glucoraphanin	Anti-inflammatory Anti-oxydant anti-oestrogenic	
Zinc picolinate – Of which zinc element	Anti-inflammatory Immunity	
Natural Vitamins E Tocopherols	Anti-oxydant	
Active vitamin B6	anti-oestrogenic	
Active vitamin B9	Immunity	
Vitamin D3	Anti-inflammatory Immunity	

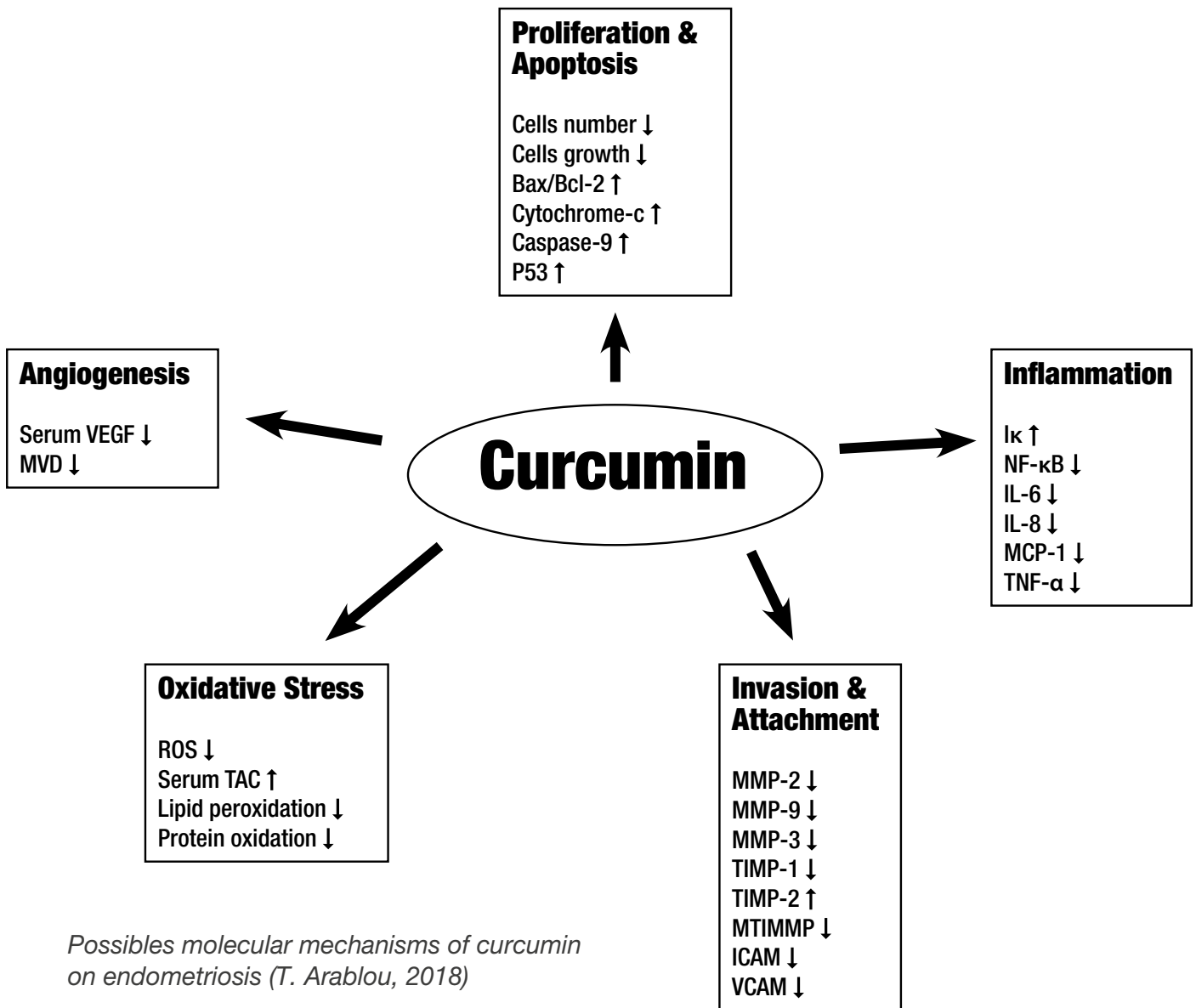
OPTIMIZED CURCUMIN LONGVIDA®

Longvida® is a patented, finely-tuned lipophilic matrix brought together in a gentle, multi-step process. The end product preserves and protects the curcumin from the harsh environment of the stomach, dissolves it at the point of absorption in the GI tract, and delivers the free form of curcumin (also called intact or native curcumin) into the blood stream and target tissues.



Several evidence have shown the anti-inflammatory, antioxidant, anti-tumor, anti-angiogenesis, and anti-metastatic activities of curcumin.

A review identified relevant scientific articles on the effect of curcumin on endometriosis (T. Arablou, 2018).



Avantages of optimized curcumin longvida®

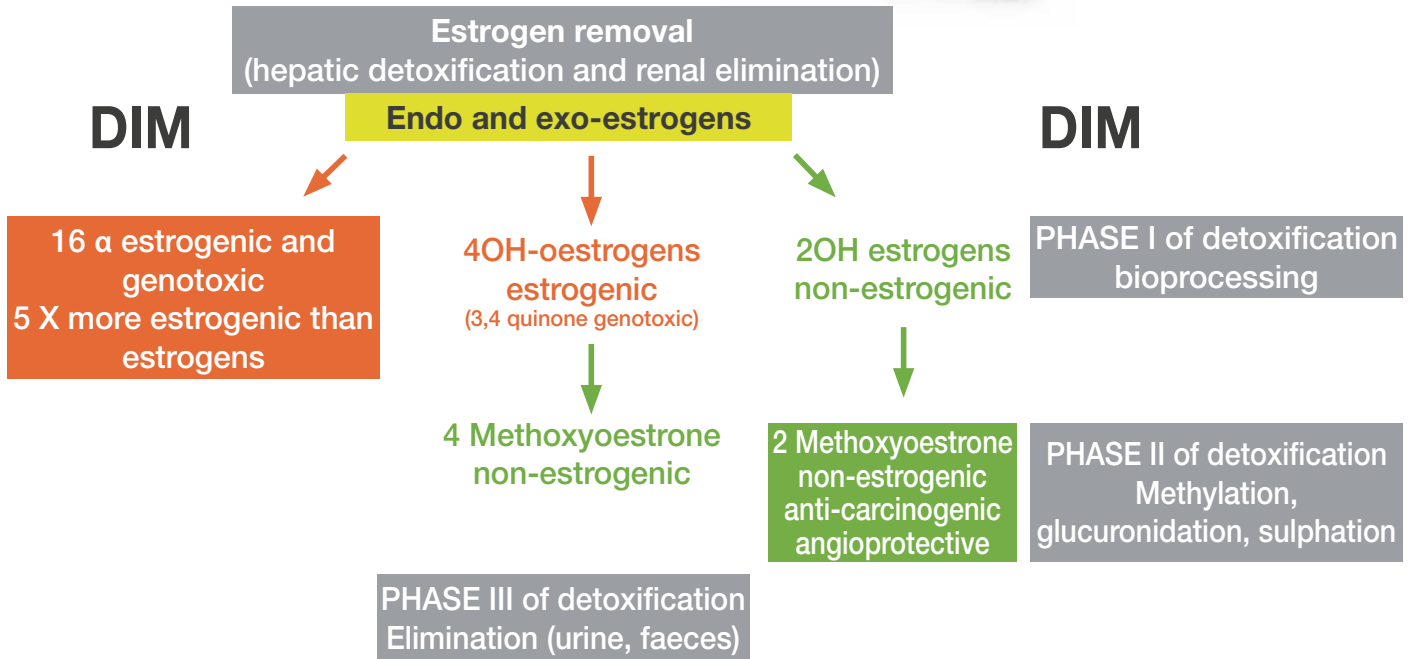
- At least 65x more bioavailable than traditional curcumin.
- Well tolerated and digested!
- Crosses the blood-brain barrier to reach the brain!
- Without piperine from pepper (no interaction with liver functions).

BROCCORAPHANIN® ACTIVATED

BroccoRaphanin® Activated broccoli extract is a highly concentrated source of glucoraphanine, a precursor to sulforaphane, a sulphur-rich component. Moreover, myrosinase is present in our BroccoRaphanin® Activated. This enzyme of the gut microflora is responsible for the conversion of the precursor Glucoraphane to Sulforaphane.

The latter would have the property of reducing prostaglandin E2 highly inflammatory by inhibiting

microsomal prostaglandin E synthase 1 (Jiping Zhou et al, 2012). Broccoli extract also contains Indol 3 Carbinol (I3C), a molecule that increases levels of non-estrogenic 2 hydroxyestrone and decreases the level of highly estrogen-16- α -hydroxyestrone (Michnovicz et al, 1997).



ACTIVE VITAMINS B6 AND B9

- Active vitamin B6, pyridoxal form, is useful for phase II of hepatic detoxification of estrogens via methyltransferases (Hodges RE et al, 2015).
- Active vitamin B9 is essential for the immunity functions.
- These active vitamins B6 and B9 mimic the natural vitamins present in our body. They are the most bioavailable forms of vitamins B9 and B6.

VITAMIN D3 AND ZINC PICOLINATE

- It was noted that vitamin D and zinc levels were low in women who had endometriosis (Messalli et al., 2014).
- Endocriway contains 50 μ g (2000 IU) of vitamin D per 2 capsules. A study showed a significant linear correlation between 25-OH-D3 serum levels and the diameter of ovarian endometrioma emerged (Ciavattini et al, 2017).
 - Zinc picolinate is the best assimilated form of zinc. It plays essential roles in immunity and inflammation management.

NATURAL VITAMINS E TOCOPHEROLS

In a clinical study, administration of antioxidants (vitamins C and E) reduces chronic pelvic pain and inflammatory markers in the peritoneal fluid of women with endometriosis (Santanam et al, 2013).

ADVICE FOR USE

- 1 to 2 capsules per day with water, during meals.
- Outside menstruation (if amenorrhea):**
Take one Endocriway capsule per day, on demand, or continuously, especially for women who have a treatment that stops menstruation.
- During menstruation:**
Take into account the fluidifying action of curcumin on the blood, especially in case of heavy menstruation. In this case, provide sufficient protection or stop during menstruation in favour of ginger.
- Contra-indication**
Anyone with a hypothyroid or thyroid treatment should first consult their doctor (broccoli).
Not recommended for people on anticoagulants (curcumin).



ENDOCRIWAY: GOOD NUTRIENTS USEFUL AGAINST ENDOMETRIOSIS PAINS

Endocriway composition

Nutritional composition	2 capsules
Turmeric optimized Longvida® – Of which curcumin	500 mg 100 mg
BroccoRaphanin® Activated – Of which glucoraphanin	115 mg 11 mg
Zinc picolinate – Of which zinc element	47,3 mg 10 mg (100%*)
Natural Vitamins E Tocopherols	30 mg (250%*)
Active vitamin B6	2 mg (143%*)
Active vitamin B9	400 µg (800%*)
Vitamin D3	50 µg (2000 UI) (1000%*)

*Daily reference reports.

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Santanam N, Kavtaradze N, Murphy A, Dominguez C, Parthasarathy S. "Antioxidant Supplementation Reduces Endometriosis Related Pelvic Pain in Humans". Transl Res. 2013 Mar;161(3): 189–195.

ENDOCRIWAY

SUMMARY OF THE PROTECTIVE EFFECTS OF « ENDOCRIWAY » ON ENDOMETRIOSIS

Endocriway decreases the pain and inflammation associated with endometriosis

- Rich in components often deficient in case of endometriosis: zinc, vitamin D
- Anti-inflammatory (Zinc, Longvida® Curcumin, BroccoRaphanin® Activated Broccoli, Vitamin D)
- Antioxidant (Vitamin E, Longvida® Curcumin, BroccoRaphanin® Activated Broccoli)
- Anti-estrogen (vitamin B6, BroccoRaphanin® Activated broccoli)