

Dr. J. Horny OX-XS MONOGRAPH

CANADA MARKETING
AUTHORIZATION
(NPN: 80058191)

BACKGROUND:

There are many forms of male infertility, includes erectile dysfunction, sexual insufficiency, reduction in sperm density and semen volume and abnormal sperm morphology.

The aphrodisiac are the substances, which stimulates sexual desire. According to the Oxford Learners Dictionary, aphrodisiac means substance or drug arousing sexual desire, while Encyclopedia of Medicinal plants explained aphrodisiac as the one which excites libido and sexual activity.

In a systematic review by Byung-Cheul Shin et al. (2010), authors wrote:

“Sexual problems (or sexual dysfunction) are widespread and adversely affect mood, well-being, and interpersonal relationships. They occur in 20%-30% of men and 40-45% of women according to 18 descriptive epidemiological studies from around the world. Most sexual problems relate to sexual desire in both females and males and male erectile dysfunction (ED).

HORMONES

Hormones are essential chemical mediators that are involved in the various physiological functions, including the sexual function of a living organism. Testosterone is the most important androgen secreted by the testis in humans. Dihydrotestosterone is the other potent androgen secreted by the testis. Testosterone is converted in many target tissues to the much active DHT.

The testis in addition to producing the above mentioned androgens also produce androstenedione and dehydroepiandrosterone (DHEA).

DHEA, regarded as the ‘fountain of youth’, was isolated in 1934

and is the major secretory product of adrenal gland, although the testis produces a small quantity. After production and secretion from these glands, the potentiality of this hormone to enter the androgenic pathway depends on the individual’s medical condition, age and sex, for every individual has a unique biochemical composition. DHEA is metabolized to form dehydroepiandrosterone sulfate (DHEA-S) and both hormones are metabolically interconvertible. In general, androgens are essential for the development of the male external genitalia, the male secondary sexual characters and also in the regulation of erectile response. Sexual desire and activity as well as the nocturnal penile erections are dependent on the circulating androgen levels. Abnormalities in the synthesis and expression of androgens may cause a general decline in libido and sometimes in erectile and ejaculatory functions. The incidence of sexual dysfunction due to hormonal imbalance is estimated to be 20–25% with hypogonadism being the most frequent cause. In ageing, there seems to be a continuous decline in the levels of androgen leading to andropause a term akin to menopause in females. Androgen replacement helps to overcome the symptoms associated with andropause such as fatigue, nervousness, as well as the sexual function and libido. However, the hormonal preparations currently used as a replacement therapy can lead to hypofunction of the hypothalamo-hypophyseal-gonadal axis and also produce adverse effect on prostate gland and liver function, when used indiscriminately.

A phytochemical with similar properties to that of the steroids that can bring about the changes necessary for restoration of general well being, sexual interest and activity without producing the side effects associated with the current hormone replacement therapy will contribute significantly to the

management of erectile dysfunction (ED).

Current pharmacological interventions for the management of sexual problems include oral drugs, intrapenile therapies and penile prosthesis implantation for males and hormonal therapy for females. Although considerable advances have been made, the ideal treatment for ED has not been identified. Furthermore, pharmacological treatments have been shown to result in several adverse effects, including risk of cancer, headache, rhinitis and dyspepsia.

Clearly, the most preferred product by men affected by ED is a product that could work to improve their sexual function and the product should not have any significant side effects. The use of a natural product that has got a good efficacy on the erection quality and on the sexual desire could be the right way to cure and prevent the male sexual and erectile dysfunction.

Herbal therapies for sexual dysfunction include many herbs such as yohimbine (*Pausinystalia yohimbe*), which is burdened with serious adverse effects, ginkgo and red ginseng. Several other botanical therapies for sexual dysfunction have also been introduced. Maca, *Tribulus terrestris*, and Horny Goat Weed, have been reported to be effective for improving sexual function.

In our product **Dr. J. Horny OX-XS**, we included these key medicinal ingredients because they are known traditionally and in modern medicine that its use improves sexual functioning. The following are the details:

THE PRODUCT:

“**DR. J. HORNY OX-XS**” contains ingredients from at least two categories. The most important ingredients in the product that associated to our medical claims are the herbs Maca, *Tribulus Terrestris* and Horny goat weed. The below discussion shows that each component contributes positively to the claimed intended

effects and component doses are complementary (for different roles within intended effects).

To elaborate on this matter, available literature shows that:

Maca Increased seminal volume, sperm count per ejaculum, motile sperm count, and sperm motility, but it was reported that Maca improved sperm production and sperm motility by mechanisms not related to LH, FSH, PRL, T and E₂, while **Tribulus Terrestris** improves the sexual functioning (desire and enhance erection) due to the increase of the levels of testosterone and luteinizing hormone following treatment with Protodioscin (PTN). In fact, it was reported that the Tribulus Terrestris extract contains steroidal glycosides (saponins), the predominant furostanol being Protodioscin (PTN), which has been clinically proven to improve sexual desire and enhance erection via the conversion of protodioscin to De-Hydro-Epi-Androsterone (DHEA).

With regard to the herb **Horny Goat Weed**, as indicated below, its efficacy is found to be related to the potent anti-oxidative ability and its flavonoid components. It is reported also that this herb contains a phosphodiesterase type 5 (PDE5) inhibitory compounds, icariin, which has the same target as sildenafil. In addition to the above key medicinal ingredients, the formula contains the **Royal Jelly** because it provides antioxidants and used in Herbal Medicine as a nutritive tonic.

On these grounds, one may conclude that each component contributes positively to the claimed intended purposes and component doses are complementary (for different roles within intended effects).

TRIBULUS TERRESTRIS

As per Health Canada Monograph, traditionally used in Ayurveda as Vrsya (aphrodisiac) for men; Dose: 3 - 6 Grams per day, dried fruit.

The plant Tribulus terrestris (TT) popularly known as puncture vine

is a perennial creeping herb with a worldwide distribution. Since ancient times it is regarded as an aphrodisiac in addition to its beneficial claims on various ailments.

The plant extract contains steroidal glycosides (saponins) of furostanol type, the predominant furostanol being Protodioscin (PTN), which has been clinically proven to improve sexual desire and enhance erection via the conversion of protodioscin to De-Hydro-Epi-Androsterone (DHEA). The levels of testosterone and luteinizing hormone are increased following treatment with PTN for a period of 30–90 days in patients with hypogonadism. Improvement in sperm count and motility has been reported in patients with low seminological indices following treatment with TT for 3 months. The following some clinical studies on Tribulus Terrestris

1. In a review article, it has been concluded that Tribulus increases sperm count as well as motility levels when it is taken for 30 days. This is a good supplement for men and women to increase their sex drive. *T. terrestris* works by stimulating the anterior pituitary gland to release LH, which is responsible for stimulating the testes to produce testosterone (M. Akram et al., 2011).
2. Sixty-seven women with hypoactive sexual desire disorder were randomly assigned to Tribulus extract (7.5 mg/day) or placebo for 4 weeks. At the end of the 4th week, patients in the Tribulus group had experienced significant improvement in their total FSFI, desire, arousal, lubrication, satisfaction & pain (Elham Akhtari et al., 2014).
3. Also, in a study based on hospital records of female patients of reproductive age, presenting sexual dysfunction, and treated with 250 mg *Tribulus* extract (one

tablet thrice daily for 90 days). It is concluded that the *T. T* extract is safe and effective in the treatment of female sexual dysfunction (Barboza Gama et al., 2014).

4. Recently, sixty-five men with abnormal semen evaluation were included in a study in which they were prescribed with Androsten® (250 mg of Tribulus terrestris dried extract per capsule). The results demonstrated that an increase in dihydrotestosterone levels. Complete semen analysis evaluated at the end of treatment showed significant enhancement in sperm concentration, motility and liquefaction time. Protodioscin, (the main phytochemical component of Tribulus) is known to convert testosterone into dihydrotestosterone, which plays important roles in male attributes (Salgado et al., 2016).

In our product “Dr. J. Horny OX”, the dose of 3150 mg is in line with HC monograph (3 - 6 Grams per day, dried fruit or Root). Accordingly, we are using the same purpose of use that approved by HC (Traditionally used in Ayurveda as aphrodisiac for men)

MACA (LEPIDIUM MEYENII):

As per Health Canada Monograph: Helps to support emotional aspects of sexual health; **Dose:** 3 - 3.5 Grams per day, dried root

Preparations from the Maca root have been reported to improve sexual function in healthy populations. The hypothesis that Maca may be effective in improving sexual function is supported by several lines of evidence. Animal experiments suggest that Maca has spermatogenic and fertility enhancing activities, which are likely due to the phytosterols or phytoestrogens present in the

Maca (Byung-Cheul Shin et al., 2010).

Recent clinical trials have also suggested significant effects of Maca for increasing sperm count and mobility and improving sexual function in humans. The potential bioactive ingredients in Maca include macaridine, macamides, macaene, gluosinolates, and Maca alkaloid. In a study by Gonzales and others (2001) to determine the effect of a four-month oral treatment with tablets of *Lepidium meyenii* on seminal analysis. Serum luteinizing hormone (LH), follicle stimulating hormone (FSH), prolactin (PRL), testosterone (T) and estradiol (E_2) were measured before and after treatment. Study results indicated that treatment with Maca resulted in increased seminal volume, sperm count per ejaculum, motile sperm count, and sperm motility. But Serum hormone levels were not modified with Maca treatment. Authors concluded that Maca improved sperm production and sperm motility by mechanisms not related to LH, FSH, PRL, T and E_2 . (**Gonzales G.F. et al., 2001**)

Afterwards, Gonzales and associates (2002) published the results of another study to demonstrate if effect of Maca on subjective report of sexual desire was because of effect on mood or serum testosterone levels. Fifty-seven healthy subjects were included in the study. An improvement in sexual desire was observed with Maca. Serum testosterone and oestradiol levels were not different in men treated with Maca and in those treated with placebo (P: NS).

Also, Zenico and others carried out a double-blind clinical trial on 50 Caucasian men affected by mild erectile dysfunction (ED), randomised to treatment with Maca root (2400 mg), or placebo. Study data supported a small but significant effect of Maca supplementation on subjective perception of general and sexual well-being in adult patients with mild ED (Zenico, et al., 2009).

To summarize, the above studies show that there are significant effects of Maca for increasing sperm count & mobility and on improving sexual function in humans by mechanisms not related to LH, FSH, PRL, T and E_2 .

In our product “**Dr. J. Horny OX-XS**” we are recommending **three grams of Maca root powder per day. This daily dose is in line with HC monograph recommended daily dose. Also, we use the claim that the product “Helps to support emotional aspects of sexual health” as per HC monograph**

EPIMEDIUM (Horny Goat Weed)

Herba Epimedii is a Chinese herbal medicine with proven efficacy in treating cardiovascular diseases and in improving sexual and neurological functions. This efficacy is found to be related to the potent anti-oxidative ability of *Herba Epimedii* and its flavonoid components, with icarrin as the main effective constituent, along with polysaccharides and vitamin C. These ingredients have been proven to be effective against oxidative-stress related pathologies (cardiovascular diseases, Alzheimer’s disease and inflammation). Their anti oxidative properties are found to be related to an inductive effect on endogenous free radical scavenging enzymes such as catalase and glutathione peroxidase and the inherent electron-donating ability of flavonoids (Stephen Cho Wing Sze et al., 2007). Also, as per Pornanong Aramwit and S Wirotsaengthong review (2012), this herb contains a phosphodiesterase type 5 (PDE5) inhibitory compounds, icariin, which has the same target as sildenafil

In the “Chinese Herbal Medicine: Materia Medica” the herb tonifies the kidney and fortify the yang for patterns of kidney yang deficiency with such symptoms as impotence and infertility. The

recommended dose is 3 to 9 grams per day (Bensky D. et al., 2004).

Also, in the “Oriental materia medica: a concise guide” (Hsu H-Y, et al., 1996), It is indicated that the traditional application of this herb is the impotence. The herb has aphrodisiac actions mainly because it stimulates secretion of semen causing the filling up of the scrotum, thereby stimulating the sensing nerves and indirectly promoting sexual desire. The reference recommended 6 to 12 grams per day

“**Dr. J. Horny OX-XS**” dose is in line with the dosages that recommended by available references.

ROYAL JELLY:

Royal Jelly Provides antioxidants and Used in Herbal Medicine as a nutritive tonic

Health Canada Recommended Dose for Adults:

Antioxidant: Up to 6 g royal jelly, per day

Nutritive tonic: 0.8 - 6 g royal jelly, per day

Honey and other bee products, such as royal jelly and propolis may be used as functional foods because of their naturally high antioxidant potential.

Apart from sugars, Honey and Propolis form part of traditional medicine in many cultures. Chemical analysis indicated that honey is composed of at least 181 components and Propolis, found to contain at least 300 compounds in its composition. Royal jelly is the exclusive food of the queen honeybee (*Apis mellifera*) larva. Chemically royal jelly comprises water (50% to 60%), proteins (18%), carbohydrates (15%), lipids (3% to 6%), mineral salts (1.5%), and vitamins together with a large number of bioactive substances. Royal jelly has been demonstrated to possess numerous functional properties such as antibacterial activity, anti-inflammatory activity, vasodilative and hypotensive activities, antioxidant activity,

antihypercholesterolemic activity, and antitumor activity.

Phenolic compounds in their many forms are the main components responsible for the functional properties associated with many foods, such as antioxidant capacity

In honey, propolis, and royal jelly, most of the phenolic compounds are in the form of flavonoids (Viuda-Martos et al. 2008)

In a study by Morita and others to evaluate the effects of long-term royal jelly ingestion on humans, a randomized placebo-controlled, double-blind trial was conducted on 61 healthy volunteers. Workers concluded that the six-month ingestion of RJ in humans improved erythropoiesis, glucose tolerance and mental health. Acceleration of conversion from Dehydroepiandrosterone sulfate (DHEA-S) to Testosterone by RJ may have been observed among these favorable effects. (Morita et al., 2012).

EVIDENCE ON EFFECTS OF ANTIOXIDANTS ON FERTILITY

1. A systematic review of randomized studies was conducted by **Ross and others** to evaluate the effects of oral antioxidants on sperm quality and pregnancy rate in infertile men. 14 of the 17 (82%) trials showed an improvement in either sperm quality or pregnancy rate after antioxidant therapy. Ten trials examined pregnancy rate and six showed a significant improvement after antioxidant therapy. The use of oral antioxidants in infertile men could improve sperm quality and pregnancy rates (**Ross et al. 2010**).

2. Administration of antioxidants to infertile men has been assessed in numerous clinical studies with at least 20 reports highlighting its effect on measures of oxidative stress in human spermatozoa.

Studies results revealed that 19 of the 20 showed a significant reduction relating

to some measure of oxidative stress in these cells. Strong evidence also supports improved motility, particularly in asthenospermic patients. However, of these studies, only 10 reported pregnancy-related outcomes, with 6 reporting positive associations (Parviz Gharagozloo and R. John Aitken, 2011).

3. Infertile men possess substantially more sperm DNA damage than do fertile men, damage that may impact negatively on reproductive outcomes. In this era of assisted reproductive technologies there is mounting concern regarding the safety of utilizing DNA-damaged spermatozoa in this setting. Therefore, it is important to identify strategies that may reduce sperm DNA damage. Zini and others at Royal Victoria Hospital, McGill University, Canada reviewed the literature on antioxidants and sperm DNA damage. The data suggest that dietary antioxidants may be beneficial in reducing sperm DNA damage, particularly, in men with high levels of DNA fragmentation (**Armand Zini et al., 2009**).

“Dr. J. Horny OX-XS” dose is 2 grams per day which is much higher than most products that available in the market

DOSAGE & CONDITIONS OF USE:

DIRECTIONS FOR USE:

Daily Dose: 1.5 Scoop (about seven grams), two times per day. Take with meals. (mix with Juice, yogurt or cereal).

DURATION OF USE:

Continue to use as necessary (No restriction for duration of use)

PACKAGING & FLAVORS:

Packaging:

Available in a black PET plastic Jar.

Each Jar contains 210 g (adequate for 15 days).

Flavors:

Available in two flavors:

- Lemon-Lime flavor and
- Vanilla - Caramel flavor

PRODUCT EFFICACY:

Consume at least two jars (for one month) before seeing benefits. However, benefits could appear after one to two weeks.

PRODUCT SAFETY:

1. There are no known adverse reactions associated with product components use
2. There are no known interactions (e.g. with other medicinal products, or foods) except the information listed on the product label
3. The benefits of product ingredients outweighing the potential risks (if any) of the combination;
4. All medicinal ingredients are safe for over-the-counter purposes under the recommended conditions of use. Product contains no ingredients that may cause an unpleasant reaction
5. Review of literature show that there are no additive adverse reactions reports on the Interactions between product components
6. There are no significant differences between the recommended duration of use of the components.

RISK INFORMATION:

Consult a health care practitioner prior to use if you are taking antidepressants, or are taking blood thinners or If you have high blood pressure or If you suffer from any psychological disorder and/or condition such as frequent anxiety or depression

If you are pregnant or breastfeeding, consult a health care practitioner prior to use.

CONTRAINDICATIONS:

If you have a history of asthma or allergies, do not use this product

KNOWN REACTIONS:

Hypersensitivity, such as allergy, has been known to occur; in which case, discontinue use immediately. Diuretic effect may occur.

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