

HERBAL APHRODISIACS

A REVIEW OF MEDICINAL HERBS WITH BENEFICIAL PROPERTIES FOR SEXUAL HEALTH

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1. OBJECTIVES

The objective of this paper is to study and assess diverse natural alternatives to increase the libido and to improve the sexual well-being also, with the objective of providing a stack of herbal supplements to correctly improve them. The first priority of this paper is to find herbs supported by scientific evidence of weight. We will never assume subjective reports to be true.

2. INTRODUCTION

At this point the necessity of a paper of this kind will be justified and important points will be revealed for better understanding of the entire paper.

CAUSES OF LOW SEXUAL DESIRE

In a recent study, 14.4% of those interviewed reported a prolonged lack of sexual desire over the previous year¹. It was reported that a great majority of these men presented with **erectile dysfunction** as the only cause or as one of the causes for their lack of sexual desire.

ERECTILE DYSFUNCTION

Erectile dysfunction is defined as the **repeated incapacity to have or to maintain an erection firm enough to practice satisfactory sexual relations**.

The prevalence of **erectile dysfunction in men aged 40-70 years old is about 52%**, of which the 17.2% present a mild, the 25.2% moderate, and the 9.6% severe².

Erectile dysfunction, according to its etiology, is classified by its cause which can be organic, psychological, or mixed.

MEASURE THE ERECTILE DYSFUNCTION

Erectile dysfunction is categorized as mild, moderate, or severe. It is important to use a universal scale to measure the severity of an erectile dysfunction. Said scale is the International Index of Erectile Function (IIEF).

There are two types of IIEF according to the number of questions that are in the questionnaire, IIEF-5³ or IIEF-15⁴. The IIEF-5 is a simplified version of the IIEF-15 which contains only the questions specifically related to erectile dysfunction.

WHY TO USE AN HERB EXTRACT COCKTAIL

Having a large number of drugs available to treat erectile dysfunction, what is the interest in investigating the effects of the herb extracts?

Natural medicine presents an annual increment of 15-20%⁵ in sales and it goes up to 80% the amount of people that come up with this kind of medicine globally⁶. The creation of this stack responds to a horse maneuver between marketing (for the good social consideration that natural medicine has) and the interest that the revision of the scientific bibliography presents on this topic and how through its lecture can carry us to the answer of the original question: How to create a libido and erectile capacity improvement cocktail with medicinal herbs?

5. STACK

At this point, how to create a stack to increase libido and erectile capacity will be discussed.

The stack contains the following supplements:

- A base daily consumption supplement without being cycled (maca).
- A supplement taken on demand as needed (yohimbine).
- A daily consumption supplement being cycled (rotating month to month between TTs, Tongkat Ali, and Horny Goat Weed).

They will be taking between **1.5 and 3 g of maca daily** with breakfast along with:

- **100 mg of a 200:1 extract of Tongkat Ali** or,
- **400 mg of a Horny Goat Weed extract** (40% of icariins) or,
- **150 mg of a Tribulus terrestris extract** (60% saponins)

In addition, **0.2 mg / kg of yohimbine will be taken between 30 and 90 minutes before a sexual encounter**.

Total monthly cost of the stack will vary depending the supplement corresponding to the month according to **Table 1**.

Table 1: Quantities and monthly cost of the stack

EXTRACT	MONTH DOSE	PRICE	TOTAL MONTHLY PRICE ACCORDING TO THE CYCLIZED EXTRACT USED
Maca	45- 135 g.	8.25\$	
Yohimbine	16 g.	7.20\$	
Horny Goat Weed	12 g.	12\$	27.50\$
Tribulus Terrestris	4.5- 22.5 g.	1- 4\$	19.50\$
Tongkat Ali	3 g.	5\$	20.5\$

Ten encounters per month and a weight of 80 kilos are assumed. All prices have been calculated following the "worst case scenario" (ie, the case in which the price is higher). The price is calculated according to data obtained from the web www.powdercity.com. In the worst case, 27.5 \$, which correspond to about 24 € (2015 equivalence), will be paid. A box of Viagra® from Pfizer costs around 50 € in Spain and has just 4 tablets.

ADDITIONAL CONSIDERATIONS

By observing the results generated by the studies, we can see that **the stack has very interesting properties in addition to the ability to increase libido and its pro-erectile properties** as, for example, decreased anxiety and depression, increased volume and seminal motility, and even it can improve sexual performance (reduced latency and delay ejaculation).

It is very interesting to conduct a double-blind study with this stack to observe the effects produced in healthy people and the effects produced in erectile dysfunction patients.

While the recommended doses are far from the limits of toxicity, **it is advisable to consult with a health care professional** in order to assess the possible risks of taking these products.

7. CONCLUSIONS

After the elaboration of this work we have reached different conclusions.

- Erectile dysfunction is a problem present in society. Fortunately, it is a problem which can be solved.
- The erection mechanism presents a wide range of points where it is possible to intervene in order to improve this process and, ultimately, improve the quality of the sexual encounter.
- The public seems to associate the natural with the good so it can be very profitable to present a natural alternative to drugs such as PDE5 inhibitors.
- Maca, TTs, HGW, yohimbe and tongkat ali have aphrodisiac activity because they take part in one or more stages of erection.
- We have presented a stack that theoretically should improve sexual function, and improve other aspects of the general welfare (for example, anxiolytic properties).
- Studies are needed to ensure the capabilities of the stack. Such studies are mandatory if a company is interested in bringing this product to market.
- There are a lot of studies that could be performed on these extracts in order to discover their full potential.

3. ERECTION MECHANISM

The erection system is no more that the relaxation of the contracted smooth muscle through a system of low energetic consumption. The nitric oxide is the principal extra cellular sign that inhibits the contraction mechanism. This interacts with the guanylyl cyclase that carries the GTP to cGMP that will unchain the relaxation through the procedure illustrated in **Figure 1**.

Equally, it is convenient to point out those points where our medication is going to act with the result of better understanding the principles that these will follow.

- Through augmenting the nitric oxide concentration.
- Through the inhibition of PDE5.
- Through the inhibition of calcium entry.
- Through augment of testosterone or the androgenic receptor quantity in the brain, which increase the parasympathetic signal to penis.
- Through the increase of dopamine release, this acts as a vasodilator.

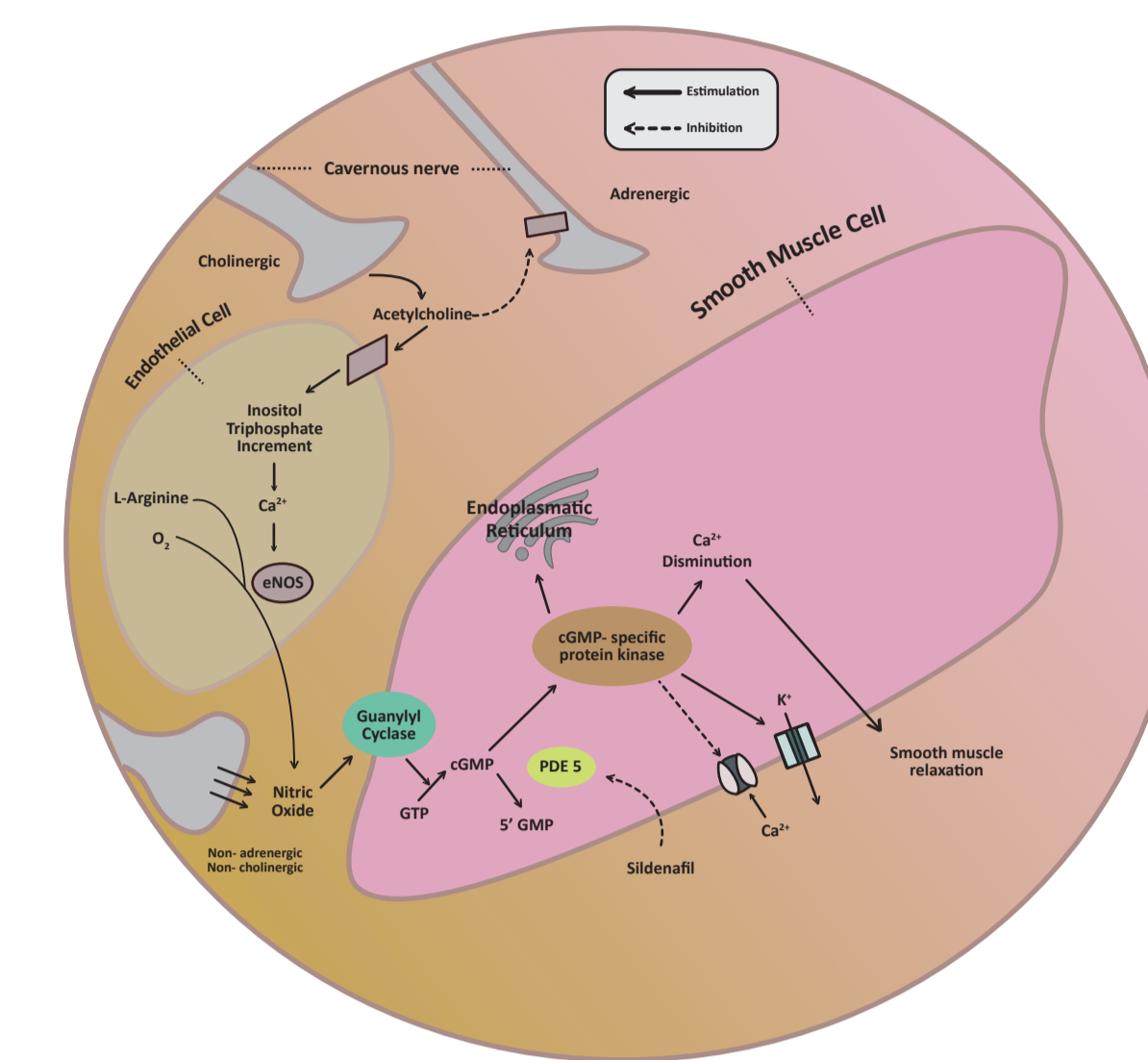


Figure 1. Relaxation mechanism of penile smooth muscle.

4. REVIEW OF HERBAL EXTRACTS OF INTEREST



MACA

Latin name: *Lepidium meyenii*

Principal bioactive compounds: macaenes and macamides⁸.

Mechanism of action: unknown, not related to testosterone⁹ nor estrogen¹⁰ changes.

Additional considerations: proprieties subtly vary between varieties¹¹, may reduce depression and anxiety¹².

Dose: 1.5-3g maca extract^{13,14}



TONGKAT ALI

Latin name: *Eurycoma longifolia*

Principal bioactive compounds: 9-hydroxycanthin-6-one¹⁵ and eurypeptides¹⁶.

Mechanism of action: interacts negatively with the gateway of calcium ion of the calcium bombs of the penile muscles (9-hydroxycanthin-6-one)¹⁵, may increase serum DHEA (eurypeptides)¹⁶.

Additional considerations: Stressed people taking Tongkat Ali experiment improvements in hormonal profile with the consequent improvement of well-being¹⁷.

Dose: 200 mg of 100:1 watery extract (100 mg of 200:1 watery extract)¹⁷.



TRIBULUS TERRESTRIS

Latin name: *Tribulus terrestris*

Principal bioactive compounds: protodioscin (steroidal saponine)¹⁸.

Mechanism of action: thought to be related to an increase of the androgen receptor in smooth muscle and brain (increase parasympathetic signaling to the penis) and increased nitric oxide synthase (NOS)¹⁹.

Additional considerations: TTs is able to improve sexual health tests results tremendously, in both physiological and psychological aspects²⁰. These good results also seem to extend to women with sexual dysfunction²¹.

Dose: 1.33 mg saponins/kg (assuming 60% saponins extract)^{22,23}.



HORNY GOAT WEED (HGW)

Latin name: *Epimedium grandiflorum*

Principal bioactive compounds: icariin (flavonol glycoside)²⁴

Mechanism of action: inhibition of PDE5 in cavernosal smooth muscle^{25,26}, may be able to increase testosterone²⁷.

Additional considerations: Icariin doses vary according to consumer objectives. For increasing libido 1-5 mg / kg is enough^{23,28}, while for increasing testosterone dose of 12 mg / kg must be used^{23,27}.

Latin name: *Pausinystalia yohimbe*

Principal bioactive compounds: yohimbine²⁹

Mechanism of action: Yohimbine, in sufficiently high doses, blocks the alpha-2-adrenergic being able to block one of the routes of induction of flaccid state³⁰.

Additional considerations: it increases impulsivity and anxiety in healthy patients³¹, may trigger panic attacks in patients prone to it³², in bipolar patients, it can trigger both manic and depressive episodes³³. Impossible to buy in Spain³⁴.

Dose: 0.2 mg/kg on demand taken between 30 and 60 minutes before the sexual encounter³⁵.

6. STUDIES OF INTEREST

We will review plant by plant which studies can be made and value the potential importance of each.

MACA: Differences between different ecotypes in humans

TONGKAT ALI: Confirm pro-fertility properties (not enough evidence at this time)

TRIBULUS TERRESTRIS: Liver toxicity claims may be unsubstantiated. Use of *T. alatus* instead of *T. terrestris* because of its more promising results in testosterone increasing³⁶

YOHIMBE: Synergies with sildenafil

HORNY GOAT WEED: Confirm testosterone increases in a double-blind randomized clinical study.

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