

Phytotherapy as an Alternative to Hormone Replacement Therapy in Climacteric Syndrome

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Received: June 03, 2021; Accepted: June 22, 2021; Published: June 30, 2021



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Abstract

The climacteric is a physiological period of the female reproductive cycle, characterised by a decrease in the levels of sex hormones, mainly oestrogen. Hormone replacement therapy (HRT) can improve the symptoms of female reproductive senescence. However, as with any drug treatment, HRT may trigger undesirable side effects, posing risks to the lives of women who adopt this therapeutic approach. Phytotherapy is an interesting alternative to HRT for treating climacteric syndrome, without the risks inherent to HRT. This review aims to analyse phytotherapy as an alternative to HRT, since hypoestrogenism and other climacteric symptoms may be treated by phytoestrogens, as well as other phytotherapeutics.

Keywords: Hormone replacement therapy; Menopause; Phytotherapy; Climacteric.

1. Introduction

Menopause is a process intrinsic to a woman's natural ageing, characterised by a fall in ovarian function and permanent amenorrhoea. This condition appears in the form of low oestrogen levels, often resulting in hot flushes, night sweats, vaginal dryness, urogenital atrophy, osteoporosis, cardiovascular diseases, depression, sleep disorders, and mood disorders [1]. Hormone replacement therapy (HRT) has several proven benefits, such as reducing the incidence of colon cancer, preventing bone loss associated with menopause, improving urogenital symptoms, reducing hot flushes, and reducing vasomotor symptoms, typical of menopause. However, this therapeutic option presents considerable risks, such as an increased chance of thromboembolic events, breast cancer, and stroke [2]. Phytotherapy has been investigated and used to treat symptoms associated with climacteric syndrome. Phytotherapeutics exhibit high pharmacological selectivity by acting upon specific hormonal receptors, mitigating clinical manifestations. Thus, these

Citation: Lima LG, Melo Lisboa RL, Cavalleiro Lima IC, et al. Phytotherapy as an alternative to hormone replacement therapy in climacteric syndrome. J Bio Med Open Access. 2021;2(1):108.

compounds are considered selective oestrogen receptor modulators (SERMs), which, by definition, reduce side effects [3]. Phytoestrogens are one of the alternative and complementary options to HRT, given that these plant compounds have hormonal activity similar to that of oestrogen. Phytoestrogens can be found in many herbal products, such as valerian, black cohosh, camomile, *Hypericum perforatum*, liquorice, fennel, soy, red clover, and sage [4]. Furthermore, the biological activity of phytoestrogens is attributed to their chemical structure, which contains heterocyclic phenolic rings similar to those of natural and synthetic oestrogens; therefore, phytoestrogens are compatible with beta-estrogenic receptors [5]. The phytotherapies most often used to treat climacteric symptoms are *Glycine Max*, *Trifolium pratense*, and *Cimicifuga racemosa*, although a wide variety of phytotherapies exist for this purpose. However, for psychoemotional symptoms that may arise during menopause, there are specific herbal medicines to relieve mild and moderate depression and/or anxiety [3].

2. Discussion

The use of phytoestrogens is one of the most well-known and used alternative therapies for the suppression of climacteric symptoms [6]. These compounds are derived from plants, fruits, and vegetables, and have structural and functional aspects that resemble oestrogen (e.g. isoflavones, coumestans, and lignans) [5]. Although they do not have a steroid structure, phytoestrogens are similar to 17β oestradiol because they compete for the same receptors, albeit with a lower activation capacity, but can exercise a similar mechanism [7]. Phytotherapies can be used both as adjunctive treatment to hormone replacement therapy and as a stand-alone treatment for women who are not receptive to the hormones present in HRT [8]. To alleviate the symptoms caused by the climacteric syndrome, such as hot flashes and neuroendocrine alterations, and knowing the side effects of HRT, many women have resorted to using new herbal measures, either from the prescription of formulas or from the use of phytohormones [9].

Lee et al. [1], addressing the main symptoms present in menopause, along with herbal prescriptions and their patterns of treatment and doses, proposed a questionnaire to 1534 members of the Korean Cooperation for Medical Information (KOMIC), of whom 227 doctors voluntarily responded. Of the 39 types of herbal medicines mentioned in the questionnaire, the most frequently used in the pre-, peri- and post-menopausal phases were reported to be Jiawei shaoyao-san (Gami Soyo-san), Jiawei shaoyao-san (Gami Soyo-san), and Jiawei guipi-decoction (Gami gwibi-tang), respectively [1]. The non-hormonal herbal medicine Serelys is considered as a supplementary food, the main ingredient of PureCyTonin, which is produced by obtaining cytoplasmic extracts from the pollen and pistils of plants of the Gramineae and/or *Pinaceae* family. It has been proposed that PureCyTonin can improve symptoms of both premenstrual tension and menopause, as well as one of the main symptoms of the climacteric syndrome, hot flashes [10]. *Salvia officinalis* extract is a phytoestrogenic compound that attenuates symptoms present in menopause, such as flushing, palpitations, cognitive impairment, muscle and joint pain, depression and anxiety, sleep disorders, and decreased sexual desire [4]. The use of red clover (*Trifolium pratense* L.) leaves, and hop extract from the flowers and buds of *Humulus lupulus* L., are also related to the reduction of menopausal symptoms [11]. Another herb that can act as an adjuvant for the relief of climacteric symptoms, with a focus on hot flashes, consists of *Cimicifuga racemosa* extract, also known as black cohosh [12]. Black cohosh, red clover, hops, and other herbal medicines have also been indicated to increase sexual desire that has decreased during menopause [8]. A randomised, double-blind, controlled study compared the use of a placebo, 250 mg black mulberry (*Morus nigra* L.) leaf powder, 1 mg oestradiol, or 0.5 mg

norethisterone acetate for 60 days against climacteric symptoms. The authors concluded that all three treatments benefitted patients, presenting similar improvements in climacteric symptoms and quality of life [13]. Avocado-soybean unsaponifiables (ASU) are extracts that are primarily composed of a synergy of extracts from avocado fruit and the soybean legume, and come in the form of capsules. Post-menopause, the main function of ASU is to prevent fractures arising from bone fragility, in addition to preventing joint damage and promoting the restoration of cartilage structures [14]. Similarly, soy-based (*Glycine max*) vaginal gel improves the symptoms of vulvovaginal atrophy, vaginal dryness, and dyspareunia, while also improving maturation values, vaginal pH, and the morphology and expression of oestrogen receptors in the vaginal epithelium in post-menopausal women (Fig. 1) [15].

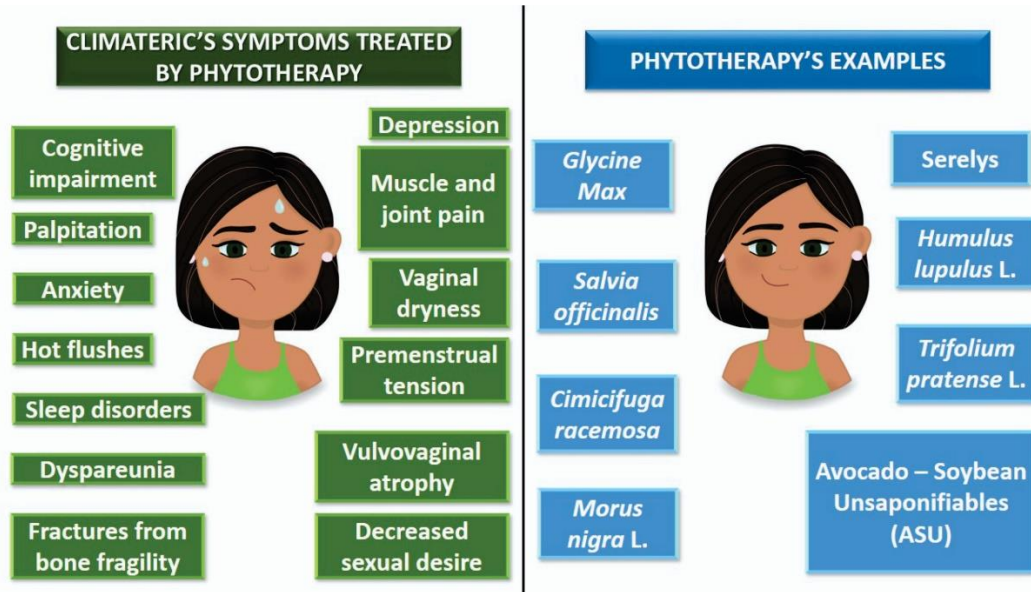


Fig. 1. Key features of alternative hormone replacement therapy. Left: Main climacteric symptoms. Right: Main phytotherapies used as alternatives to hormonal replacement therapy.

3. Conclusion

The climacteric syndrome brings discomfort to the lives of most women, and so the reduction or elimination of the symptoms intrinsic to it is the main objective of any of the therapies used, whether hormonal or not. As HRT is not prescribed in all cases, and because it can cause harm that often outweighs the benefits, a viable alternative is the use of herbal medicines; in particular, phytoestrogens, which are widely used in oriental medicine. Phytotherapy does not have the contraindications presented in HRT but does relieve the same symptoms, such as hot flushes, along with vasomotor and urogenital symptoms. Therefore, the herbal approach may be as effective as HRT for treating climacteric syndrome. Another benefit of some herbal medicines is that they are widespread around the world and are, therefore, viable alternatives to the use of HRT both for women for whom HRT is not suitable and for those who do not wish to use HRT.

4. Acknowledgment

There is no funding for this article.

5. Conflicts of Interest

The authors declare there is no conflicts of interest.

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