



Immuno Modulators in Medicinal Plants- A Review

Sourav Sharma¹, Bandapalle Dattu Narayan²

1P.G.Scholar, Dept. of Rachana Shareera, Parul Institute of Ayurveda, Parul University, Vadodara, Gujarat.
2 Professor & HOD, Dept. of Rachana Shareera, Parul Institute of Ayurveda, Parul University, Vadodara, Gujarat.

For Correspondence: bandapalle.dattu18576@paruluniversity.ac.in

ABSTRACT

Menopause is the natural decline of female reproductive hormone production and conclusion of a woman's menstrual cycles. It usually begins during your 40s or 50s. The different menopause symptoms are hot flashes, dryness in vagina, chills, sweating during night time, weight gain, change in moods, sleeping difficulties, headache, anxiety and depression. Menopause is a bio psychosocial phenomenon of transition period which happens in every female's life from being fertile changing to infertile. Normally women uses herbs with medicinal properties to manage menopausal symptoms thereby improving their quality of life. These herbs also help to manage various symptoms associated with menopause like hot flashes, dryness in vagina, chills, sweating during night time, weight gain, change in moods, sleeping difficulties, headache, anxiety and depression. Here in this article discusses about the various medicinal plants with their natural extracts that can produce effect on different complications due to Menopause.

Keywords: Menopause, Medicinal herbs, bio psychosocial phenomenon

Received 13.11.2021

Revised 14.01.2022

Accepted 30.01.2022

INTRODUCTION

Menopause is the natural decline of female reproductive hormone production and conclusion of a woman's menstrual cycles. It usually begins during your 40s or 50s. [1] Menopause is a period which happens in female's life 12 months after the last period of them. Menopausal transition or peri menopause is the stage where the women may have changes in their monthly cycle associating with hot flashes etc. symptoms. Common menopause symptoms include:

- a) Hot flashes
- b) vaginal dryness
- c) chills
- d) night sweats
- e) weight gain
- f) irregular periods
- g) labile moods
- h) decreased sex drive
- i) poor sleep
- j) bone loss
- k) headaches
- l) anxiety
- m) depression. [2]

The transitional period is experienced by 1.5 million women each year and often involves troublesome symptoms including;

- i. vasomotor symptoms
- ii. vaginal dryness
- iii. decreased libido
- iv. insomnia
- v. fatigue
- vi. joint pain. [3-5]

Menopause is the stage of life in females which follow the end of the menstrual cycle. Late natural menopause are often associated with:

- a) lower rates of cardiovascular disease (CVD)
- b) osteoporosis

c) reduced mortality. [6]

Menopausal transition: The period of change in ovarian function from being fertile to infertile. It is a natural and the change which cannot be avoided by all women. Even though menopause is considered to be an universal phenomenon, it is associated with different socio-cultural involvement and the experiences during menopausal transition are being handled by women in different ways [7].

These can be included under three stages namely:

- i. **Peri menopause:** The menopausal transition / perimenopause usually begin several years before the last period of a women. During this time women may experience symptoms like:
 - a) spotty menstrual cycles
 - b) hot flashes
 - c) other changes on the body. The time of transition which starts before menopause and which includes twelve months that follow a females last period.
- ii. **Menopause:** Menopause starts by 12 months after the last period. Also starts when the menstruation has been stopped due to medical interventions like the removal of ovaries.
- iii. **Post menopause:** **Post menopause** refers to the years after the menopause.[8]

HERBAL SUPPLEMENTS DURING MENOPAUSE

1) *Agnus castus*: It is the herb of choice for treating PMS symptoms during the peri-menopause when big hormonal changes take place. Other names include:

- a. Chaste Berry
- b. Chaste Tree
- c. Chaste Tree Berry
- d. Chinese Vitex.[9]

It is most commonly used to treat:

- premenstrual syndrome (PMS)
- menstrual disorders
- infertility
- Acne
- menopause

Extracts taken from the berries of the Chaste Berry are effective in treating menstrual symptoms who is still having their monthly cycle. [10] *Vitex agnus-castus* is cultivated mainly in warm temperate and subtropical regions. They grow upto a height of 1–5 m (3–16 ft). For its full growth, it requires exposure to the full sun with partial shade along with well-drained soil. [11] It is commonly used in conditions like Premenstrual syndrome (PMS), Infertility, Acne etc. This will help to reduce Constipation, Irritability, Depressed Mood, Migraine, Breast Pain and Tenderness over Breast due to Post Menopausal Syndromes [12]. Study by M. Diana van Die et.al shows that *Vitex agnus-castus* have good effect in decreasing levels of the hormone prolactin. This also helps in balancing other hormones which includes estrogens and progesterone there by reducing premenstrual syndrome symptoms [13].



Fig. 1 *Agnus castus* Plant (Source: Google Images)

2) Black cohosh (*Cimicifuga racemosa*): Root of black cohosh have effects similar like the female hormone-Estrogen. In some parts of the body, black cohosh might increase the effects of estrogen where as in in other parts of the body, black cohosh might decrease the effects of Estrogen. The root of this plant contains phytoestrogens which are responsible for initiating the female body's Estrogen. Different studies prove that *Cimicifuga racemosa* has been advocated as an alternative for hormone-replacement therapy & Estrogen. The therapeutic effects of black cohosh and tibolone [a synthetic selective tissue estrogenic

activity regulator (STEAR)] have estrogenic, progestogenic and androgenic effects on climacteric syndrome and the incidence of adverse reactions was lower. Also black cohosh can be used as an alternative medicine to estrogen for treating menopausal osteoporosis without causing adverse effects on the breast and uterus.[14]



Fig 2. *Cimicifuga racemosa* Plant (Source: Google Images)

3) Red clover (*Trifolium pratense*): It is a legume. It contains phytoestrogens, isoflavones which helps to reduce hot flushes and night sweats. It is more effective in women who are in postmenopausal (after menopause) phase other than perimenopausal (around the time of menopause) phase. Phytoestrogens have a similar chemical makeup with the Estrogen, the female hormone that declines with menopause [15]. By Charlotte Atkinson et. al, where women took supplements of red clover isoflavones versus a placebo, the women who took the supplement lost significantly less bone density than the women who took the placebo [16]. By Clara Cricosta et.al an animal study reported in Phytotherapy indicated that red clover may help reduce skin aging by increasing collagen levels which could have connection with an impact on menopausal conditions like vaginal atrophy [17]. Red clover which is a botanical dietary supplements which can be used in the treatment of menopause symptoms, maintaining the bone strength and cardiovascular health.



Fig. 3 *Trifolium pratense* Plant (Source: Google Images)

4) *Asparagus racemosus*: It is a traditional Ayurvedic herb used as a general female tonic for their health. It is having good action on libido by improves general wellbeing. Shatavari contains steroidal saponins which look structurally similar with Estrogen [18]. A study by E. Steels et.al demonstrated a combination of *Tinospora cardifolia*, *Asparagus racemosus*, *Withania somnifera* and *Commiphora mukul* and proved to be a safe and effective treatment for reducing menopausal symptoms in healthy menopausal women over the duration of 12 weeks [19].



Fig. 4 *Asparagus racemosa* (Source: Google Images)

5) *Tinospora cordifolia*: It contains alkaloids, diterpenoids, lactones, glycosides, steroids, sesquiterpenoids, phenolics, aliphatic compounds and poly saccharides [20]. Study by Ganesan Abhiramasundari *et.al* shows that *Tinospora cordifolia* act as a selective estrogen receptor modulator producing prostimulatory effects on the bone and not on the reproductive organs like breast or cervix [21].



Fig. 5. *Tinospora cordifolia* (Source: Google Images)

Conclusion

Menopause is the stage of natural decline of reproductive hormone production in the female with the concluding stage of woman's menstrual cycles. It usually begins around 40 years or 50 years age.. Menopause, perimenopause and postmenopause are the various stages in a woman's life when her monthly period stops. Perimenopause is the first stage and can start 8 to 10 years before menopause. Menopause is the stage when a woman no longer has menstrual periods for at least 12 months. Postmenopause is the stage after menopause [22]. There are various medicinal herbs with their natural extracts that can be effective on different complications arising due to menopause.

REFERENCES

1. <https://www.healthline.com/nutrition/menopause-herbs>.
2. <https://www.healthline.com/nutrition/menopause-herbs>.
3. Dennerstein, L., Dudley, E. C., Hopper, J. L., Guthrie, J. R., & Burger, H. G. (2000). A prospective population-based study of menopausal symptoms. *Obstetrics & Gynecology*, 96(3), 351-358.
4. Sherman, S., Miller, H., & Nerukar, L. (2005). NIH State-of-the-science conference on management of menopause-related symptoms, March 21–25, 2005. *Am J Med*, 118(suppl 2), 1-172.
5. Cohen, L. S., Soares, C. N., Vitonis, A. F., Otto, M. W., & Harlow, B. L. (2006). Risk for new onset of depression during the menopausal transition: the Harvard study of moods and cycles. *Archives of general psychiatry*, 63(4), 385-390.
6. Santoro, N., Epperson, C. N., & Mathews, S. B. (2015). Menopausal symptoms and their management. *Endocrinology and Metabolism Clinics*, 44(3), 497-515.
7. [https://www.amjmed.com/article/S0002-9343\(05\)01039-9/fulltext](https://www.amjmed.com/article/S0002-9343(05)01039-9/fulltext)
8. <https://www.medicalnewstoday.com/articles/155651>

9. <https://www.webmd.com/vitamins/ai/ingredientmono-968/vitex-agnus-castus>
10. <https://www.avogel.co.uk/health/menopause/menopause-treatment>.
11. https://en.wikipedia.org/wiki/Vitex_agnus-castus
12. <https://www.healthline.com/nutrition/vitex>.
13. van Die, M. D., Burger, H. G., Teede, H. J., & Bone, K. M. (2013). Vitex agnus-castus extracts for female reproductive disorders: a systematic review of clinical trials. *Planta medica*, 79(07), 562-575.
14. Da, Y. M., Niu, K. Y., Liu, S. Y., Wang, K., Wang, W. J., Jia, J., ... & Bai, W. P. (2017). Does Cimicifuga racemosa have the effects like estrogen on the sublingual gland in ovariectomized rats?. *Biological research*, 50(1), 1-12.
15. <https://www.jeanhailes.org.au/health-a-z/natural-therapies-supplements/menopause-herbs>.
16. Atkinson, C., Compston, J. E., Day, N. E., Dowsett, M., & Bingham, S. A. (2004). The effects of phytoestrogen isoflavones on bone density in women: a double-blind, randomized, placebo-controlled trial. *The American Journal of clinical nutrition*, 79(2), 326-333.
17. Circosta, C., Pasquale, R. D., Palumbo, D. R., Samperi, S., & Occhiuto, F. (2006). Effects of isoflavones from red clover (*Trifolium pratense*) on skin changes induced by ovariectomy in rats. *Phytotherapy Research: An International Journal Devoted to Pharmacological and Toxicological Evaluation of Natural Product Derivatives*, 20(12), 1096-1099.
18. <https://www.jeanhailes.org.au/health-a-z/natural-therapies-supplements/menopause-herbs>.
19. Steels, E., Steele, M., Harold, M., Adams, L., & Coulson, S. (2018). A double-blind, randomized, placebo-controlled trial evaluating safety and efficacy of an ayurvedic botanical formulation in reducing menopausal symptoms in otherwise healthy women. *Journal of Herbal Medicine*, 11, 30-35.
20. Panchabhai, T. S., Kulkarni, U. P., & Rege, N. N. (2008). Validation of therapeutic claims of *Tinospora cordifolia*: a review. *Phytotherapy Research: An International Journal Devoted to Pharmacological and Toxicological Evaluation of Natural Product Derivatives*, 22(4), 425-441.
21. Abiramasundari, G., Gowda, C. M., & Sreepriya, M. (2018). Selective Estrogen Receptor Modulator and prostimulatory effects of phytoestrogen β -ecdysone in *Tinospora cordifolia* on osteoblast cells. *Journal of Ayurveda and Integrative Medicine*, 9(3), 161-168.
22. <https://my.clevelandclinic.org/health/diseases/15224-menopause-perimenopause-and-postmenopause>

CITATION OF THIS ARTICLE

Sourav Sharma, Bandapalle Dattu Narayan. Immuno Modulators in Medicinal Plants- A Review, Herbal Supplements In Menopause. *Bull. Env. Pharmacol. Life Sci.*, Vol 11[3] Feb 2022 : 197-201.