

## Review Article

# Climacteric syndrome and vitamin E: A Mini review

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## Abstract

The climacteric syndrome, commonly known as menopause, is a normal stage of a woman's life that is characterised by numerous physiological and psychological changes. These modifications might cause symptoms like hot flashes, mood swings, cognitive impairments, and genitourinary issues, which can interfere with daily life. The search for efficient therapies has raised interest in natural

medicines as women navigate this transitional phase, with vitamin E emerging as a leading contender. This mini review explores the intriguing connection between climacteric sickness and vitamin E in an effort to give readers a thorough evaluation of what is known at this time.

## Key words

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Climacteric syndrome, Vitamin E, Hot flashes, Balancing emotions, Neuroprotective.

## Introduction

The climacteric syndrome, which includes the physical and mental changes that occur between perimenopause and menopause, poses a serious health risk to women throughout [1]. A multitude of symptoms, from vasomotor instability to mood problems and cognitive changes, characterise this transformative phase, which is fueled by the termination of ovarian function and consequent hormonal oscillations [2]. The quality of life and general wellbeing of a woman might be significantly impacted by these manifestations [3].

Numerous therapeutic approaches, including hormone replacement therapy, lifestyle changes, and alternative interventions, have been researched in the effort to lessen the difficulties caused by climacteric syndrome [4]. Among the latter, vitamin E has come to the attention of researchers with growing interest.

Many studies of research has been done on vitamin E, a lipophilic antioxidant, to see if it can help with climacteric symptoms. Vitamin E is a promising choice for treating the wide range of symptoms related to climacteric syndrome because, in addition to its traditional antioxidant role, it also has hormone-modulating and neuroprotective actions [5, 6]. A compelling justification for investigating the therapeutic potential of vitamin E is the interaction of oxidative stress, hormonal alterations, and neural changes in the context of climacteric syndrome [7].

The goal of this mini review is to summarise the body of material that has been written about the connection between vitamin E and climacteric

sickness. We intend to present a thorough overview of the efficacy and safety profile of vitamin E supplementation as a supplemental intervention for treating climacteric symptoms by analysing the findings of clinical trials and observational research. Additionally, we look at important factors including dose, food sources, and potential interactions to help healthcare professionals and women who are looking for evidence-based approaches to navigating this crucial stage of life.

## Effect of Climacteric on the Psychology and Behavior of Women

Numerous mental and physical problems are caused by menopause. These include gaining weight, heavy or irregular periods, hot flashes, palpitations, night sweats, migraines, inability to sleep, and mood swings. A defining symptom of menopause, hot flashes result from a hypothalamus reaction and diminishing oestrogen production. Due to the stimulation of luteinizing hormone (LH), which has vasodilatory effects and causes flushing, gonadotropin-releasing hormone is released as a result of this. Urinary and vaginal changes, gastrointestinal discomfort, and other psychological issues like low self-esteem, forgetfulness, anxiety, and sadness are also symptoms [8]. Menopause is also linked to higher stress levels, an increased risk of osteoporosis, and cardiovascular disease.

Menopausal symptoms can be treated in a variety of ways. These include alterations to one's lifestyle, prescription drugs like hormone therapy, and complementary therapies. To treat the symptoms of low oestrogen levels, hormone treatment, which uses bio identical hormone formulations, is used. While certain treatments

help improve bone strength and lower risks of heart disease and osteoporosis, others, such as antidepressants and seizure medications, have shown promise in lessening the severity of hot flashes. Incorporating foods high in calcium and vitamin D while reducing saturated fats and sodium in the diet can also help with general wellbeing [9]. Consuming foods like soybeans, chickpeas, and lentils, which are rich in the powerful phytoestrogens known as isoflavones, is one of the home remedies. Mild hot flashes can be reduced with vitamin E consumption, and other nutrients including licorice, black cohosh, and wild yam have also been found to be helpful. Menopause is a highly personalised experience for women, and it can range from symptom-free transitions to more severe manifestations. Various sorts of assistance and intervention are available to help women during this transitional era, regardless of the symptoms [10-12].

### **Vitamin E: The Potential Ally**

Vitamin E is a well-known fat-soluble antioxidant with numerous biological functions. Beyond its recognised role in scavenging free radicals, it is now known to have the capacity to regulate hormones, safeguard neurological regions, and reduce inflammation [13, 14]. These qualities place vitamin E as a potential remedy for climacteric symptoms.

### **Vitamin E for hot flashes**

A defining characteristic of climacteric syndrome is hot flashes, which are characterised by sudden, acute feelings of heat. Physically painful and emotionally upsetting, these episodes frequently interfere with sleep and daily activities. A falling oestrogen level causes changes in the hypothalamus that result in an increased release of luteinizing hormone (LH) and gonadotropin-releasing hormone (GnRH), which is the mechanism behind hot flashes. The typical flushing sensation is caused by these hormonal changes as well as the vasodilatory effects of LH.

The potential of vitamin E in lowering the frequency and severity of hot flashes has been

examined in a number of researches. Despite conflicting findings, some studies have found that supplementing with vitamin E significantly lessens the symptoms of hot flashes [15, 16]. To determine the ideal vitamin E supplementation dose and duration, however, in order to properly manage hot flashes, more research is required.

### **Vitamin E for balancing emotions**

During climacteric syndrome, mood swings, anxiety, and depression are frequent psychological symptoms. The quality of life and interpersonal interactions of women can be severely impacted by these emotional swings. Vitamin E is an attractive possibility for treating mood disorders due to its neuroprotective qualities, which may help lower oxidative stress in the brain and alter neurotransmitter activity.

Clinical research on the effects of vitamin E on mood has showed promise, with some studies indicating reductions in symptoms of anxiety and depression [17, 18]. To validate these results and demonstrate vitamin E's effectiveness in controlling mood disorders during climacteric syndrome, larger-scale trials are required.

### **Vitamin E for cognitive changes/ Neuroprotective**

Women who are undergoing climacteric syndrome may find cognitive changes upsetting, such as memory lapses and attention problems. Hormonal shifts and sleep issues are thought to be involved, while the precise mechanisms behind these changes are yet not entirely known. The fascinating potential of vitamin E's ability to protect cognitive function is suggested by its neuroprotective qualities [19]. Vitamin E may benefit menopausal women's cognitive function, according to preliminary research. To clarify the processes underlying these effects and establish the most effective dosages, further research is required, including long-term trials and neuroimaging analyses.

### **Vitamin E for genitourinary symptoms**

The genitourinary symptoms of climacteric syndrome, including as urine alterations, vaginal dryness, and itching, can have a serious impact on sexual function. Vitamin E is a likely candidate for treating these symptoms because of its anti-inflammatory effects [20-25]. There have been improvements in vaginal health and comfort in clinical trials looking at the effects of vitamin E on genitourinary symptoms, but further study is necessary to develop clear recommendations for supplementation in this situation. The antioxidant and anti-inflammatory qualities of vitamin E may also provide relief for women experiencing gastrointestinal pain, sleep problems, or other symptoms during climacteric syndrome.

## Conclusion

In conclusion, the climacteric syndrome is a critical period in a woman's life that is characterized by a complex interaction of physical and psychological symptoms. With its anti-inflammatory, neuroprotective, and antioxidant qualities, vitamin E stands out as a potentially effective natural treatment for these symptoms. Vitamin E continues to be an exciting option for improving the quality of life during climacteric syndrome as the landscape of women's health changes. This mini review provides insightful information into the present body of knowledge, opening the door for additional research and well-informed choices in the quest for better wellbeing throughout this life-changing stage for women.

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