

The Role of Meditation and Pranayama in Managing Mood Swings and Memory Lapses Among Menopausal Women: A Review

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ABSTRACT

Menopause is a natural biological transition that often brings with it significant physiological, psychological challenges, including mood swings, anxiety, irritability, and memory lapses, hot flashes, night sweats, vaginal dryness, irregular menstruation, sleep disturbances, depletion of bone health, weight gain and a decrease in sexual desire—typically occurring in the late 40s to early 50s, although the exact timing can vary from person to person (Kuruville S.E et.al Dec 2023). These symptoms are primarily linked to fluctuating estrogen levels, which impact neurotransmitter balance and cognitive function. Although hormone replacement therapy (HRT) is commonly used to manage menopausal symptoms, it may not be suitable for all women due to potential side effects and contraindications. As a result, there is growing interest in holistic, non-pharmacological approaches such as meditation and pranayama. This paper examines the role of meditation and pranayama—key components of yogic practice—in managing emotional and cognitive disturbances during menopause. Drawing from both ancient yogic texts and modern scientific research, the study explores how these practices influence the autonomic nervous system, lower cortisol levels, and promote neuroplasticity. Specific techniques such as Anuloam-Viloam Pranayama (Alternate Nostril Breathing), Bhramari Pranayama, and mindfulness meditation have shown promise in enhancing mood stability, reducing stress, and improving memory retention.

Keywords: Menopause, Mood Swings, Memory Lapses, Meditation, Pranayama

As we know, NARI (Women) is the foundation of every family; if the foundation is weak, then the whole family may fall apart. Women's well-being, encompassing physical health, mental health, emotional health, and spiritual health, is key to a healthy life and a happy family. That's why it has been said that "A Healthy woman is the mother of a healthy society."

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Received: May 29, 2025; Revision Received: June 20, 2025; Accepted: June 24, 2025

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Etymologically, the origin of the word menopause lies in the Greek words “meno” (menses, month) and “pause” (stop, cease), typically occurring between the ages of 40 and 55. Menopause refers to the permanent cessation of menstrual cycles due to the decline in ovarian follicular function. Natural menopause is officially confirmed when a woman has experienced 12 consecutive months without menstruation and there is no identifiable underlying pathological or physiological reason for this absence.

Biological mechanisms associated with menopause originate from changes that occur in the structure and function of the ovaries. The onset of menopause is marked by a significant shift in hormonal balance, characterized by a decline in estrogen levels and an increase in FSH and LH hormones. (Maharana, S et al., 2023, Effect of Bhramari Pranayama on Menopausal Women, SBV Journal of Basic, Clinical and Applied Health Science, Volume 6 Issue 4 (October–December 2023)) This hormonal shift often leads to a variety of psychological and cognitive symptoms, most notably mood swings, irritability, anxiety, and memory lapses. (Freeman et al., 2014)

It is a crucial period in every woman’s life. Quality of life declines during this time due to the various problems associated with estrogen deficiency and aging, coinciding with the increasing life expectancy of women. The menopause transition is experienced by 1.5 million women each year. (Pant et al., 2021)

While hormone replacement therapy (HRT) has been the conventional treatment for managing menopausal symptoms, concerns about its long-term risks, such as cardiovascular issues and cancer, have prompted women and healthcare professionals to seek safer, holistic, and non-pharmacological alternatives (Rossouw et al., 2002). Among these, meditation and pranayama, rooted in ancient yogic practices, have garnered growing attention for their stress-reducing, mood-stabilizing, and cognitive-enhancing benefits.

Meditation has been shown to improve emotional regulation, reduce symptoms of anxiety and depression, and enhance attentional control and memory by positively influencing brain plasticity and reducing cortisol levels (Goyal et al., 2014; Tang et al., 2015). Pranayama, or yogic breathing, balances the autonomic nervous system, promotes oxygenation to the brain, and has been linked to reductions in perceived stress and improvements in cognitive performance (Saoji et al., 2019; Sharma et al., 2013).

This review aims to explore existing literature on the efficacy of meditation and pranayama in managing mood swings and memory lapses in menopausal women and to discuss the physiological and psychological mechanisms underlying their effectiveness. By doing so, it highlights the potential of these practices as complementary tools in menopausal care, supporting holistic well-being and improving quality of life during this significant life transition.

Symptoms of Menopause

The symptoms of menopause can be distressing, especially as they arise at a time when women hold significant roles in society, within the family, and in the workplace. Hormonal changes during the menopausal transition affect various biological systems. Consequently, the signs and symptoms of menopause include disorders related to the central nervous system; metabolic, weight gain, cardiovascular, and musculoskeletal changes; urogenital and skin atrophy; and sexual dysfunction. (Monteleone, P. et al. 2018).

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The symptoms of menopause are diverse, varying in severity and duration among individuals. They are broadly categorized into vasomotor, psychological, somatic, urogenital, and sexual symptoms. Vasomotor symptoms, including hot flashes and night sweats, are among the most common, reported by up to 75% of menopausal women (Freeman et al., 2007). Psychological symptoms, such as mood swings, irritability, anxiety, depression, and memory lapses, are also prevalent; they are often exacerbated by sleep disturbances and life stressors (Joffe et al., 2011).

Furthermore, somatic symptoms may include fatigue, joint pain, and headaches, while urogenital symptoms such as vaginal dryness and urinary incontinence result from the thinning of the urogenital tissues (Avis et al., 2009). Sexual dysfunction, including decreased libido and painful intercourse, is also a commonly reported issue during this phase.

Some common symptoms of Menopause are as follows:

- 1. Vasomotor Symptoms**
 - Hot flashes
 - Night sweats
- 2. Psychological/Neuropsychological Symptoms**
 - Mood swings
 - Irritability
 - Anxiety
 - Depression
 - Memory lapses
 - Difficulty concentrating ("brain fog")
- 3. Somatic Symptoms**
 - Fatigue
 - Sleep disturbances
 - Joint and muscle pain
 - Headaches
- 4. Urogenital Symptoms**
 - Vaginal dryness
 - Pain during intercourse
 - Urinary incontinence or urgency
- 5. Sexual Dysfunction**
 - Decreased libido
 - Discomfort during sex

Psychological Symptoms of Menopause

Psychological symptoms are among the most frequently reported and distressing manifestations of menopause, significantly impacting mental well-being and overall quality of life. These symptoms are largely attributed to fluctuating and declining levels of estrogen and other hormones, which influence neurotransmitter systems involved in mood regulation, cognition, and emotional stability (Burger et al., 2007).

Mood disturbances such as irritability, sadness, anxiety, and depression are commonly experienced by women during the perimenopausal and postmenopausal phases. Studies have shown that women are at an increased risk for the onset or exacerbation of depressive symptoms during the menopausal transition, particularly those with a history of mood disorders (Freeman et al., 2014). Anxiety is another prevalent symptom, often presenting as

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generalized worry, panic attacks, or tension without a clear external cause (Soares & Frey, 2010).

Another significant psychological symptom is cognitive decline, particularly memory lapses and difficulty concentrating. Many women report episodes of “brain fog,” forgetfulness, and reduced mental clarity during menopause. These cognitive changes are believed to be linked not only to hormonal changes but also to poor sleep quality, stress, and vasomotor symptoms (Weber et al., 2013).

Furthermore, sleep disturbances, which may include insomnia, frequent awakenings, or poor sleep quality, often co-occur with psychological symptoms and can exacerbate mood swings and cognitive complaints (Kravitz et al., 2003).

These psychological symptoms, while common, are not universal and can vary based on cultural, environmental, and individual factors such as stress levels, social support, and coping strategies.

Effect of Psychological Symptoms on Menopausal Women

- **Emotional and Social Impact:** Mood disturbances during menopause often lead to emotional instability, irritability, and a heightened stress response. Women may experience increased conflict in relationships, feelings of loneliness, and social withdrawal (Dennerstein et al., 2000). The decline in emotional well-being is often linked with reduced self-confidence and a negative self-image (Avis et al., 2009).
- **Cognitive and Occupational Impact:** Cognitive symptoms like memory lapses, decreased attention span, and "brain fog" impair work performance and interfere with routine responsibilities (Weber et al., 2013). Many women report difficulty in multitasking and decision-making, which may result in decreased productivity and increased error rates (Maki & Sundermann, 2009).
- **Physical and Behavioral Consequences:** Psychological stress during menopause is often accompanied by sleep disturbances, which include fatigue, irritability, and mental exhaustion (Xu et al., 2016). This cyclical relationship between poor sleep and mood disorders contributes to a general decline in daily life satisfaction and coping ability.
- **Long-Term Implications:** When unmanaged, these psychological symptoms may increase the risk of long-term mental health issues such as chronic anxiety or major depressive disorder, further lowering quality of life (Freeman et al., 2014).
- **Effect of Pranayama & Meditation on Psychological Symptoms during Menopause:** As we know, Yoga is a great way to recover our ability to “feel ourselves.” Yoga is a path that encompasses not only physical and mental discipline but also emotional and spiritual exploration. It integrates asanas (physical postures), pranayama (breath control), dhyana (meditation), Mudra & Bandhas, and ethical guidelines to promote holistic health. Among these, pranayama and meditation have gained significant attention in recent years for their therapeutic potential in managing stress-related disorders and promoting neurocognitive health (Telles et al., 2018). Pranayama, derived from the Sanskrit words "*prana*" (life force) and "*ayama*" (control), refers to the regulation of breath to influence the flow of vital energy within the body. It is believed to balance the autonomic nervous system, reduce oxidative stress, and enhance emotional stability (Saoji, Raghavendra, & Manjunath, 2019).

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Typically, we say that 'pranayama' is 'breath control,' but this does not convey the full meaning of the term. Pranayama is more than just a method for increasing oxygen intake; it involves the entire realm of vitality and the pranamaya kosha. The various pranayama practices can also promote relaxation of the body, mind, and emotions, as well as overall balance within the organism. If we discuss Anuloam-Viloam (Alternate Nostril Breathing), then this technique induces tranquility, clarity of thought, and concentration, and is recommended for those engaged in mental work. But most importantly, it also balances the flow of the breath through the two nostrils, so it balances the activities of the two sides of the brain, causing sushumna nadi to flow. It is one of the most recommended pranayama techniques for balancing the nervous system, reducing mental stress, and promoting psychological well-being. It improves oxygen supply to the brain, enhances neural communication, and supports better concentration and recall. It calms the hyperactive mind, regulates melatonin release, and helps the body prepare for restful sleep, thereby improving emotional resilience.

Bhramari Pranayama

Bhramari Pranayama, often referred to as the "humming bee breath," is a yogic breathing technique characterized by a gentle humming sound during exhalation that produces soothing vibrations in the head and sinuses. This pranayama is known for its calming effect on the nervous system and is increasingly recognized for its potential benefits in mental health management. During menopause, hormonal fluctuations, particularly in estrogen and progesterone, can disrupt neurotransmitter balance, leading to mood swings, anxiety, irritability, and cognitive disturbances such as memory lapses and reduced concentration (Greendale et al., 2010). Bhramari Pranayama has been found to alleviate these symptoms by promoting parasympathetic dominance, reducing sympathetic overactivity, and improving emotional and cognitive regulation. Studies show that Bhramari Pranayama enhances vagal tone, stabilizes heart rate variability (HRV), and reduces cortisol levels, all of which are associated with decreased stress and improved mood (Telles et al., 2010). Additionally, it may improve attention span and working memory by calming the mind and reducing internal distractions, making it especially beneficial for menopausal women facing concentration difficulties (Gupta & Khera, 2015). A clinical trial conducted by Pooja et al. (2021) reported significant reductions in anxiety and mood-related symptoms in perimenopausal women following a six-week Bhramari Pranayama intervention. Participants also reported improved clarity of thought, sleep quality, and reduced mental fatigue.

- Given its simplicity, non-invasive nature, and minimal physical exertion, Bhramari Pranayama can serve as an accessible and effective tool for managing mood and memory-related symptoms during menopause. Regular practice may contribute to overall emotional stability, better cognitive function, and improved quality of life for menopausal women.

Meditation, a core component of traditional yogic practices, involves the focused training of attention and awareness to cultivate a mentally clear, emotionally calm, and stable state. It is increasingly recognized as a powerful mind-body intervention with therapeutic benefits for emotional and cognitive health, particularly relevant to the challenges faced by women during menopause.

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Menopause, characterized by the natural decline in ovarian hormone production, particularly estrogen, is often associated with symptoms such as **mood instability, anxiety, irritability, sleep disturbances, and memory lapses**. Estrogen plays a crucial role in modulating brain areas involved in emotion and memory, such as the **hippocampus and prefrontal cortex** (Maki & Henderson, 2016). The hormonal decline during menopause disrupts the neurochemical balance, contributing to increased psychological vulnerability and cognitive deficits.

Meditation has been shown to **reduce activity in the amygdala**, a region associated with stress and fear responses, while enhancing **prefrontal cortex activation**, which is linked to emotional regulation and executive functioning (Tang, Hölzel, & Posner, 2015). This shift supports emotional balance and reduces the severity and frequency of **mood swings**. Additionally, regular meditation increases **gray matter volume** in brain areas related to memory and attention, which may help alleviate **memory lapses** commonly reported during the menopausal transition (Luders et al., 2009).

Numerous studies support the efficacy of **Mindfulness-Based Stress Reduction (MBSR)** and other meditation-based programs in improving **menopausal symptoms**. In a randomized controlled trial, Innes et al. (2018) found that postmenopausal women practicing mindfulness and breathing exercises reported significant reductions in **perceived stress, anxiety, depressive symptoms, and improvements in cognitive function**.

Furthermore, meditation enhances the **autonomic nervous system balance**, reduces **cortisol levels**, and improves **sleep quality**, all of which contribute indirectly to better emotional and cognitive health (Goyal et al., 2014). These outcomes are particularly relevant for menopausal women, for whom sleep disturbances often exacerbate memory and mood-related symptoms.

CONCLUSION

Menopause, though a natural biological transition, brings with it a spectrum of psychological challenges such as mood swings, anxiety, irritability, depression, and memory lapses, all of which significantly impact a woman's quality of life. As this review highlights, meditation and pranayama, especially techniques like Anulom Vilom and Bhramari, offer safe, non-pharmacological, and holistic interventions to mitigate these symptoms. By regulating the autonomic nervous system, enhancing emotional resilience, and improving neurocognitive function, these yogic practices provide a path toward psychological healing and inner balance. Their integration into daily routines can empower menopausal women to navigate this phase with greater calmness, clarity, and confidence. Thus, meditation and pranayama should be encouraged not only as complementary therapies but as essential tools for women's mental well-being, especially during menopause.

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Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Kumari, A., Tewari, P., Suman, S. & Diwakar, A. (2025). The Role of Meditation and Pranayama in Managing Mood Swings and Memory Lapses Among Menopausal Women: A Review. *International Journal of Indian Psychology*, 13(2), 4170-4177. DIP:18.01.368.20251302, DOI:10.25215/1302.368