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Review

Cognitive-behavioral, behavioral, and mindfulness-based therapies for menopausal depression: A review

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ABSTRACT

Menopause is a natural transition that all women go through in their lives that is often accompanied by a number of physical and emotional symptoms. Upwards of 40% of women report depression symptoms associated with menopause (Timur & Sahin, 2010) [1]. Treatments for menopausal depression include pharmacological agents such as antidepressants and hormone therapy (HT) as well as psychological approaches. This paper provides a review of cognitive-behavioral, behavioral, and mindfulness based (CBBMB) therapies in treating depression during the menopausal transition. After conducting an electronic database search, only two studies specifically using CBBMB methods were found, both had positive results. Since so few studies existed that specifically evaluated CBBMB treatments for menopausal depression ($n = 2$), a larger net was cast. Studies that assessed depression symptoms as an outcome measure in an evaluation of CBBMB treatments for hot flashes or menopausal symptoms more broadly, were included. The review revealed that interventions targeting hot flashes or menopausal symptoms using CBBMB methods mostly proved to have had a positive impact on depression symptoms in the *mild* range of severity. Directions for future research are discussed including the need for more CBBMB interventions targeting depression during the menopausal transition to establish their efficacy.

Contents

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1. Introduction

Unlike a disorder or disease, menopause is a natural transition that all women go through in their lives. Nevertheless, the transition can be accompanied by a number of commonly reported physical and emotional symptoms including vasomotor symptoms [2], sleep difficulties [3], urogenital concerns and sexual dysfunction [4], anxiety and depression [1,5–7]. It is estimated that roughly 75–85% of women will experience some if not all these symptoms [8], which can begin as early as a year prior to the cessation of menses, also known as perimenopause, through into postmenopause.

Compared to men, women have been known to carry a 1.5–1.7 time's higher lifetime risk of developing a depressive episode [9]. This increase in risk is not observed until after puberty as the rates of depression in boys and girls prior to sexual maturity is essentially the same [10]. However, after puberty women are more likely to experience a major depressive disorder [11] and this has been consistently observed throughout the world [12]. Moreover, the prevalence of depression increases for women specifically during the reproductive years and the menopausal transition [13]. Recent research has shown that women going through menopause are up to four times more likely to experience a major depressive episode (13 times more likely if there is a history of depression) during this time in life [5,14,15] and have an even greater likelihood of experiencing some level of depressive symptomatology. This increase in prevalence has resulted in researchers referring to the menopausal transition as a "window of vulnerability" for depression [16,17]. The fluctuation of gonadal hormones during this window is thought to increase vulnerability to mood disorders [17]. Specifically, levels of estrogen, progesterone, and androgen are constantly changing during menopause and these hormones are believed to influence areas in the brain that are crucial for mood regulation. Most cross-sectional [18,19] and prospective epidemiologic studies [5,20,21] have confirmed a window of vulnerability associated with the menopausal transition for depresssion.

In addition to hormonal fluctuation, another proposed theory for the increase in rate of depression observed during the menopausal transition is that depression is linked to, or a consequence of, vasomotor symptoms and sleep disruptions [22]. Women experiencing vasomotor symptoms such as hot flashes during perimenopause have been found to be at four times greater risk of experiencing depression than their counterparts who were not experiencing vasomotor symptoms [22]. Further, research has demonstrated [23] an association between sleep disruption with higher depressive scores. However, a depressive episode has been observed during the menopausal transition even if one does not experience vasomotor symptoms or sleep disruption [24].

Further, there are factors that have been identified to confer risk for experiencing a depressive episode during the menopause transition. For instance, if one has a history of depression there is an increased risk of developing depression during the menopause transition, especially if there are a number of negative life stressors occurring at the same time [5]. Moreover, women who have experienced depression in the past associated with hormonal changes (e.g., pregnancy or postpartum periods, pre-menstrual) are also at increased risk for an episode of depression during menopause [25,26]. In addition, lifestyle behaviors such as being a smoker, having other medical conditions, ethnicity, age, and employment status, are all associated with increased risk for developing a depressive episode during menopause [7,20,23,27,28].

Taken together, depression in midlife women, like in other life stages, is a complex multifaceted phenomenon that can be influenced by many identified risk factors. Given the heightened prevalence of a depressive episode during the menopausal transition, clinical attention is warranted to identify the emergence of symptoms and provide appropriate intervention ideally tailored to address the unique features that may be associated with the emergence of depression during this life phase.

1.1. Treatments for major depressive disorder during the menopausal transition

In general, treatment strategies specifically targeting the management of major depressive disorder (MDD) during the menopausal transition are scarce [29]. In the general population, MDD has been successfully treated through use of antidepressants such as Selective Serotonin Reuptake Inhibitors (SSRI) and Selective Norepinephrine Reuptake Inhibitors (SNRI), which remain the first choice of pharmacological management of depression in any given age or reproductive staging group [30]. Several open trials have demonstrated the effectiveness of these medications in treating depression during the menopausal transition [30,31] however, controlled trials are lacking. Hormone Therapy (HT), including transdermal estradiol, has also been shown to be efficacious for the treatment of major depressive disorder in menopausal women [32,33]. However, the findings from the Women's Health Initiative (WHI) [34] demonstrated that, in some women, HT was associated with an increased risk for breast cancer and cardiovascular events. Some, women may prefer not to take medication treatment or may be unable to take HT due to associated risks. Thus, additional treatment approaches are needed and psychological approaches to treating MDD provide a good alternative option.

Cognitive behavioral therapy (CBT), a time-limited, structured psychological treatment, has been extensively investigated in research studies and shown to be highly effective for reducing symptoms across a range of mental health and health-related conditions including MDD [35]. A review of meta-analyses specifically examining the outcomes of depression recovery demonstrated large effect sizes for CBT for MDD [35]. CBT is premised on the notion that one's thoughts and behaviors play an important role in determining emotional responses. Negative emotional states such as depression may be altered by changing one's cognitive appraisals and behavioral choices. Various CBT approaches have been developed placing different levels of emphasis on cognition and behavior. Cognitive-focused approaches pioneered by Beck et al. [36] and Ellis and Harper [37] target maladaptive appraisals with the goal of increasing one's ability to shift one's perspective or way of thinking about a situation from negative and distorted to one that is more balanced or accurate. In these approaches, behavioral strategies such as behavioral experiments are used to collect data to ultimately change cognition. Other approaches places greater focus on behavioral strategies based on a behavioral conceptualization of depression as resulting from a lack of reinforcement. For example, behavioral activation which is a strategy that aims to counter depression-related withdrawal by increasing both mastery and pleasure-based activities [38].