

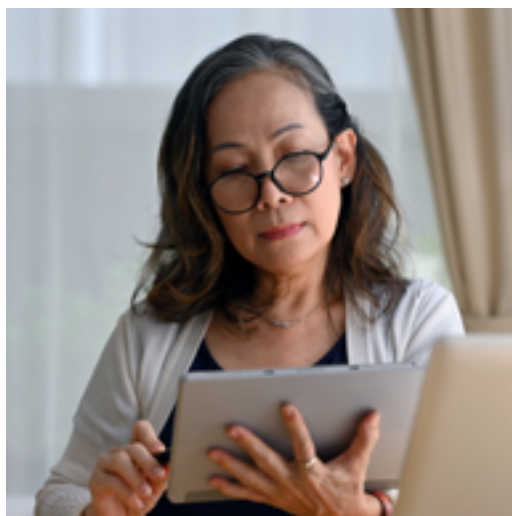


AMERICAN
PSYCHOLOGICAL
ASSOCIATION

Women's Health and Well-Being During Midlife and Menopause:

Research Gaps and Recommendations

APA PRESIDENTIAL TASK FORCE ON WOMEN'S HEALTH AND WELL-BEING DURING MIDLIFE AND MENOPAUSE



APPROVED BY APA COUNCIL OF REPRESENTATIVES, AUGUST 2026

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INTENDED USE OF THIS REPORT

This report intends to provide information drawn from professional literature and clinical experience, to improve understanding of women's health and well-being during midlife and the menopause transition, including medical and mental health care considerations. The views and recommendations in this report reflect the work of the Presidential Task Force and are intended to identify research gaps and priorities. This report is a task force report and is not an APA professional practice guideline, clinical practice guideline, standard of care, or enforceable APA policy unless separately approved through applicable APA governance processes. It does not intend to create a requirement for practice. It is not meant to restrict scope of practice in licensing laws for psychologists or other independently licensed professionals, nor limit coverage for reimbursement by third-party payers. The report is also not intended to be used within a legal or judicial context to imply that psychologists or other independently licensed professionals are required to comply with any of its recommendations.

This report is not intended to be mandatory or exhaustive and may not be applicable to every professional and clinical situation. It is not definitive and not intended to take precedence over the judgment of psychologists.

The panel members based their recommendations on the professional literature, published position statements, and expert consensus from Task Force members but did not conduct or formally evaluate systematic reviews of the literature for this report. Readers are encouraged to consider the companion clinical report written by this Task Force: *APA Presidential Task Force Report on Women's Health and Well-Being During Midlife and Menopause: Recommendations to Improve Access to and Quality of Medical and Mental Health Care*.

Clinicians are also encouraged to consider the report from the APA Presidential Task Force on Evidence-Based Practice (2006), *Evidence-Based Practice in Psychology*, as well as APA's (2021) *Professional Practice Guidelines on Evidence-Based Psychological Practice in Health Care*, both of which emphasize the integration of best available research to date with patient characteristics, culture, and preferences, and clinical expertise when making treatment decisions. Ultimately, when clinicians are developing treatment plans, they are encouraged to do so in a shared decision-making process with the patient in which all relevant information about options is presented to help inform the process.

Executive Summary / Primary Recommendations

The menopause transition, typically occurring during midlife, is a near-universal biopsychosocial transition for women.¹ It is characterized by menstrual cycle changes and ultimately, cessation, marked sex hormone changes, and for many women, menopausal symptoms such as vasomotor symptoms (VMS), sleep problems, and sexual changes. These biological changes interact with midlife psychosocial changes—such as caregiving, workplace demands, and changing social roles—to influence mental health. While many women experience resilience and positive psychological growth during this period, for a significant number of women, the menopause transition is also associated with increased mental health symptoms and disorders that require attention. Treatments for mental health concerns during the menopause transition include both pharmacological and behavioral approaches, although data on the efficacy of these interventions specific to the menopause transition are slim. Social and structural determinants—including socioeconomic status, workplace conditions, trauma exposure, discrimination, and access to care—can substantially shape symptom burden and mental health outcomes and contribute to disparities across populations. Despite the fact that menopause affects over half of the population and that women spend up to one half of their lives in their peri- and postmenopausal years, there are major gaps in the science of midlife and menopause transition, particularly as it pertains to mental and behavioral health.

This American Psychological Association (APA) 2025 Presidential Task Force report summarizes key research findings in the area of menopause, midlife, and mental health. The Task Force puts forth broad recommendations, identifying research gaps and priorities to advance the science of women's health during midlife and menopause for stakeholders, including federal and nonfederal research funders, researchers and scientists, women's health advocacy groups, professional societies, and philanthropic entities. The evidence-informed recommendations have the goal of advancing the understanding of mental health during midlife and menopause and of empirically supported approaches to mental and behavioral health care at this important juncture of the lifespan.

Primary Recommendations

1. Better understand the **range of mental health conditions** that the menopause transition may impact, including but not limited to anxiety disorders, mood disorders, substance use disorders, psychotic disorders, posttraumatic stress disorder, and eating disorders. Prospective, longitudinal studies across the menopause transition allow for disentangling of the effects of menopause transition beyond that of aging alone. Employment of validated symptom inventories and clinical diagnostic interviews across transdiagnostic symptom experiences allow for rigorous characterization of mental health during this stage of the lifespan.
2. Move beyond a sole focus on poor mental health to provide a greater characterization of the **positive aspects of midlife aging and menopause**. New clinical approaches can leverage these strengths to improve women's mental health during midlife and menopause.
3. **Identify mechanisms** that may underlie vulnerability—or resilience—to mental health conditions during menopause, with consideration of psychosocial, biological, and neurological pathways.
4. Elucidate **key structural, workplace, and social role factors** in conjunction with individual factors to better understand the determinants of mental health during midlife and menopause.
5. Characterize and address the mental health experiences during menopause by population factors, including race and ethnicity, LGBTQ+ status, neurodiversity, and disability status, and develop culturally tailored intervention approaches to managing mental health concerns.
6. Conduct rigorous trials of **pharmacological and behavioral treatments** tailored to the needs of midlife and menopausal women in order to improve mental health.

Midlife and menopause are critical windows of the lifespan. Advancing the science of mental health during midlife and menopause is imperative to supporting women's health as they age.

1 Nonbinary, transgender, and individuals who do not identify as women can also experience menopause.

Although we primarily use the term “women” in this report, the American Psychological Association recognizes the need for more inclusive language, classifications, and recommendations to highlight understanding and respect for intersecting gender diversity of persons who receive care and participate in research in traditional women's health settings. ACOG (2025); APA (2023).

Introduction

Midlife, often defined as the age range from 40 to 65, is a major life transition for women.² As of 2024, approximately 52 million women in the United States are in midlife (U.S. Census Bureau, 2024). Midlife for women includes the menopause transition, a universal biopsychosocial transition. Women spend nearly half of their lives in peri- and postmenopausal years. The beginning of this transition is marked by menstrual irregularity and skipping, known as the perimenopause, and total cessation of menses, which after 12 months of amenorrhea is known as the postmenopause. Among women living in the United States, the average age of the final menstrual period, marking the postmenopause, is 51 years. The perimenopause typically occurs in women's mid- to late 40s and early 50s. However, some women may experience an early menopause before age 45) or a premature menopause (before age 40) or a menopause secondary to surgery (e.g., bilateral oophorectomy) or certain medical treatments (e.g., chemotherapy). Further, the timing, pattern, and intensity of the menopause experiences vary markedly between women.

The menopause transition is a major, multisystem, biopsychosocial transition. Hallmark changes of the menopause include changes in sex hormones, such as estradiol and follicle stimulating hormone, and characteristic symptoms, such as VMS (e.g., hot flashes, night sweats), sleep problems, and cognitive symptoms. Up to three quarters of women experience VMS; up to half of women experience sleep problems; 40%–60% of women experience cognitive symptoms. The frequency, severity, persistence, and bothersome nature of these symptoms vary widely. Physical changes are also prevalent during menopause, including changes in body weight and composition, bone mineral density, cardiovascular health, and urogenital health. In addition to these symptomatic and physical changes, social changes are also common with midlife and menopause, including changes in romantic partnerships, parenting relationships, and caregiving. In addition to close social relationships, broader social, workplace, and structural factors impact women's health and well-being during menopause. For a substantial number of women, menopause comes with mental health concerns, such as depression, anxiety, irritability, and other mental health conditions, particularly if women experienced these conditions earlier in life. However, while midlife and menopause can be a challenging time for many women, they are also an important period of psychological growth and resilience for many women, including a time of self-confidence, authenticity, and

self-empowerment. Psychological and behavioral interventions can serve an important role in helping women manage menopausal symptoms, treat any mental health conditions, and support women's physical health as they age.

A substantial body of research has elucidated the many changes that accompany the menopause transition. However, multiple gaps remain. This document provides a brief overview of select scientific literature on menopause and mental health, including the epidemiology and etiology of mental health concerns during menopause, social and structural factors and specific population considerations, and interventions to support mental health and menopausal symptoms management. It emphasizes scientific gaps and future research directions.

² Nonbinary, transgender, and individuals who do not identify as women can also experience menopause.

Although we primarily use the term “women” in this report, the American Psychological Association recognizes the need for more inclusive language, classifications, and recommendations to highlight understanding and respect for intersecting gender diversity of persons who receive care and participate in research in traditional women's health settings. ACOG (2025); APA (2023).

The Charge of the Task Force and the Current Report

The 2025 APA Presidential Task Force on Midlife and Menopause Health and Wellness was appointed by the 2025 APA president, Dr. Debra M. Kawahara. The Task Force's charge was to address research gaps and recommendations, clinical care, education, and training, as well as advocacy and policy matters necessary to improve outcomes among midlife women and persons experiencing menopause. The Task Force membership included colleagues across disciplines and settings with expertise in biomedical, psychophysiological, psychological, behavioral, cognitive, sexual, lifespan, and sociocultural aspects of midlife and menopause health and wellness, with a specific focus on research and clinical care in diverse individuals, communities, and populations.

Dr. Kawahara appointed coauthors to lead the Task Force: one research and clinical expert (Rebecca C. Thurston, PhD, FABMR, FSBSM, FAHA) and two clinical experts (Abbey Krupper, PsyD, ABPP and Helen L. Coons, PhD, ABPP) in midlife and menopause. They invited interested psychologists with relevant expertise to share their background. The coauthors, together with Dr. Kawahara, reviewed the range of expertise for interested psychologists and Dr. Kawahara made final appointments to the Task Force. The Task Force was divided

into research and clinical care workgroups. The full Task Force, as well as the individual workgroups, held regular meetings. Task Force members and the APA Science Knowledge and Expertise unit conducted informal literature searches to identify relevant publications. The panel based its research and clinical care recommendations on the professional literature, published consensus documents and position statements, and expert consensus from the Task Force, but did not conduct or formally evaluate systematic reviews of the literature for the two reports. The Task Force formed recommendations by consensus via discussion over a series of calls and working drafts. Task Force members wrote two final reports with research and clinical care recommendations, with multiple opportunities to review and share any feedback. They also shared drafts with select content experts outside the Task Force and addressed and/or incorporated feedback before finalizing the reports in spring of 2026. The 2025 APA Presidential Task Force Reports on Women's Health and Well-Being During Midlife and Menopause includes *Research Gaps and Recommendations* and *Recommendations to Strive to Improve Access to and Quality of Medical and Mental Health Care*.

Epidemiology

The menopause transition has historically been highlighted as a time of mental health concern, when reports of mental health symptoms are common. Given the co-occurrence of reproductive aging (menopause) with chronologic or broader somatic aging, disentangling the relative roles of menopause and aging in the occurrence of key mental health conditions is a central consideration that requires longitudinal designs. This section reviews the epidemiology of common mental health symptoms and conditions and evidence for a role of menopause in the occurrence of these experiences, emphasizing findings from longitudinal studies.

DEPRESSION SYMPTOMS AND DISORDERS (UNIPOLAR DEPRESSION)

Depression is a key women's health issue. Depression is twice as common among women compared to men, with increased prevalence beginning in puberty and persisting across the

lifespan (Weissman et al., 1996). Some cross-sectional studies indicate that between 45% and 68% of women report elevated depressive symptoms during perimenopause, with one meta-analysis reporting a global prevalence of clinically significant depressive symptoms during midlife/menopause in women as 43% (Maki et al., 2018; Fang et al., 2024). However, findings of whether depressive symptoms increase over the menopause transition have been mixed. Key longitudinal studies in the United States include the prospective longitudinal Study of Women's Health Across the Nation (SWAN, $n = 3,302$), one of the largest multiethnic prospective studies of the menopause transition, and the Penn Ovarian Aging Study ($n = 436$), both of which observed an increased likelihood of depressive symptoms in the menopause transition and early postmenopause relative to premenopausal levels (odds ratios ranging from 1.3 to 5.4) (Bromberger et al., 2007; Freeman et al., 2006). However, other studies in

China and Australia have found only a small proportion of women to experience an increase in depressive symptoms with the menopause transition (Tang et al., 2019; Hickey et al., 2016). Similarly, an analysis of 12 prospective studies on the risk for depressive symptoms increasing with the menopause transition produced mixed findings (Brown et al., 2024).

In contrast to studies of depressive symptoms, only two studies have prospectively characterized through clinical interview diagnoses of major depressive disorder over the menopause transition. A SWAN ancillary study of 221 women studied longitudinally found twofold to fourfold increased odds of a major depressive episode during the perimenopause and postmenopause relative to the premenopause, with the effect strongest among women with a history of major depression (Bromberger et al., 2011). While the likelihood of a depressive episode was highest among women with a prior history of depression, 28% of women without a history of depression newly had a depressive episode during the menopause transition (Bromberger et al., 2015). In contrast, a Swiss study of 168 women found no increased risk of major depression associated with the menopause transition (Rössler et al., 2016).

Thus, while the specific role of the menopause transition in any increased incidence of depressive symptoms or disorders at midlife beyond the effects of age alone remains a topic of debate, depressive symptoms and disorders are prevalent at midlife and during menopause in women and warrant clinical consideration.

ANXIETY

The lifetime prevalence of anxiety disorders among women is 40%, twice that of men (McLean et al., 2011). Anxiety is one of the most common mental health concerns endorsed over the menopause transition; in fact, one study reported a 51% global prevalence of elevated anxiety during menopause (Fang et al., 2024). In the Penn Ovarian Aging Study, 24% of women reported severe anxiety during the early menopause transition (Freeman et al., 2008). Four prospective studies have examined the trajectory of anxiety symptoms across the transition, with mixed findings. SWAN (n = 2,956; Bromberger et al., 2013) and an Australian study (n = 711; Mulhall et al., 2018) found that those without a history of anxiety were at increased risk of anxiety symptoms in the peri- and early postmenopausal phase. However, two other prospective studies, in Switzerland (n = 168; Rössler et al., 2016) and China (n = 430; Tang et al., 2019) found no increased risk of elevated anxiety symptoms associated with perimenopause. It is notable that most existing studies have exclusively examined anxiety symptoms, with limited information on how risk for anxiety disorders may vary over the menopause transition. Also lacking is an examination of the links between anxiety and menopausal symptoms; notably, studies have demonstrated an important role of anxiety in

VMS that warrants further investigation (Freeman et al., 2005; Fu et al., 2014).

Thus, clinically significant anxiety symptoms are common during midlife, but whether the incidence of elevated anxiety symptoms or disorders increase during the menopause transition relative to the premenopause, as well as the role of menopausal symptoms, requires further elucidation with well-designed prospective studies using validated symptom inventories and clinical diagnostic interviews.

POSTTRAUMATIC STRESS DISORDER (PTSD)

PTSD is characterized by distress and interference from re-experiencing symptoms, avoidance, negative thoughts and feelings, and hyperarousal persisting months or years after a traumatic exposure. Women are twice as likely to develop PTSD following trauma compared to men, with an estimated lifetime prevalence rate of 10%–12% (Blanco et al., 2018). PTSD has been associated with menopause symptoms (sleep difficulty, urinary symptoms, vaginal symptoms, VMS) among midlife women (Thomas et al., 2024; Gibson et al., 2019) and increased risk of hysterectomy and/or bilateral oophorectomy (Nishimi et al., 2022). However, only one cross-sectional study (n = 6,093) examined the prevalence of PTSD symptoms in trauma exposed pre-, peri-, and postmenopausal women; this study found symptom severity to peak in perimenopause relative to pre- and postmenopause (Michopoulos et al., 2023), highlighting the need for more research in this area.

SCHIZOPHRENIA AND PSYCHOTIC DISORDERS

Schizophrenia affects an estimated <1% of women, with typical onset in early adulthood. Some studies have shown a small increase in new-onset schizophrenia among women (and not among men) in midlife; research hypothesized that this increase was related to the onset of menopause (Jauhar et al., 2022; Díaz-Pons et al., 2022). However, other recent work has not supported this contention. No increased incidence of schizophrenia onset in the perimenopause was observed in self-reported menopausal timing and psychiatric history data among UK Biobank participants (n=128,924) (Shitomi-Jones et al., 2024). Findings of an exacerbation (Szeliga et al., 2021; Tiwari et al., 2023; Brown et al., 2024) in positive symptoms (such as hallucinations and delusions) during midlife among women with schizophrenia or psychotic disorders has also been observed. These data underscore the importance of better understanding the role of menopause in the incidence, recurrence, and symptom profile in psychotic disorders.

BIPOLAR DISORDER

Approximately 2.3% of women worldwide experience bipolar disorder, which brings recurrent and distinct episodes of depression and mania or hypomania and an elevated risk for

suicide and premature mortality (Nierenberg et al., 2023). A systematic review of nine cross-sectional or retrospective studies found that a high proportion (26%-91%) of individuals with a diagnosis of bipolar disorder recall experiencing increased mood symptoms during the perimenopause (Perich et al., 2017). However, there is a lack of prospective studies of bipolar disorder across the menopause transition.

SUBSTANCE USE DISORDERS

An estimated 7%–9% of women meet criteria for past-year substance use disorder (Green et al., 2024), or the recurrent use of alcohol or other drugs causing clinically significant impairment. Though substance use disorders are less common among women than men, women tend to experience more adverse medical, psychiatric, and social consequences of substance use; are at higher risk for “telescoping effects” with accelerated progression from use to dependence; and are less likely to engage and remain in substance use treatment relative to men (Polak et al., 2023). Some research has suggested increased onset or exacerbation of alcohol use disorders during menopause (Milic et al., 2018). Recent findings suggest that hazardous drinking may increase during the menopause transition. Cannabis use is an emerging area, especially for menopausal symptom self-management. Cannabis use for the management of menopause-related and aging-related symptoms might contribute to risk for cannabis use disorder during midlife and menopause (Babyn et al., 2023). Other work among midlife women with chronic pain found that higher-risk patterns of opioid use were associated with a greater menopausal symptom burden (Gibson et al., 2019).

EATING DISORDERS

The estimated lifetime prevalence of eating disorders among women is 0.46%–1.42%, with binge eating disorder and anorexia nervosa the most common presentations (Galmiche et al., 2019). However, these rates likely underestimate the true prevalence of eating disorders, as they also do not reflect common disordered eating that may not meet criteria for a clinical disorder but that may confer significant adverse health outcomes (U.S. Preventive Services Task Force et al., 2022). The role of menopause in the onset or exacerbation of eating disorders is not well understood. Preliminary data suggest that life stressors, severe menopause symptoms, and changes in body shape and weight might contribute to the development of or recurrence of disordered eating in midlife (Mangweth-Matzek et al., 2023). During the menopause transition, the most common eating disorder symptoms are restrictive patterns, binge eating, and compensatory behaviors. However, high-quality prospective data are limited.

TRANSDIAGNOSTIC PSYCHOPATHOLOGY

Many psychological symptoms that women experience do not fall into existing diagnostic categories. For example, recent research suggests that feelings of irritability, impatience, and being out of control increase in the early menopause transition relative to the late reproductive phase (Woods et al., 2025; Soares, 2025). One cross-sectional study found that over 60% of the 1,263 midlife women surveyed reported “not feeling like myself” most of the time. Other work indicates that the experience of “mood swings” are also commonly reported (Coslov et al., 2024). Some limited data suggest these symptoms may be associated with more severe VMS and estradiol fluctuations, as well as the sleep disturbance common during menopause (de Wit et al., 2021).

POSITIVE PSYCHOLOGICAL GROWTH AND WELLBEING

Although the menopausal transition is often framed around symptom burden and psychological distress, emerging research highlights that midlife can also be a period of psychological growth and positive identity transformation. Key longitudinal studies underscore a high level of well-being and increases in positive affect and life satisfaction during midlife (Dennerstein et al., 2002; Dennerstein 1994; Lachman et al., 2015). Resilience both buffers the distress from symptoms and increases as one gains understanding of and navigates the menopausal changes (Steffan & Potočník, 2025). Positive shifts in emotion regulation, self-concept, and prioritization of personal wellbeing unfold during the menopausal transition, particularly as caregiving roles evolve and social expectations shift (Deeks & McCabe, 2004; Woods et al., 2025). Strengthened relationships among women—through shared experiences and peer support—help cope with symptoms and enhance wellbeing during midlife and menopause (Hayfield et al., 2024; Steffan & Potočník, 2025).

RESEARCH RECOMMENDATIONS

- » Large-scale prospective studies investigating the role of menopause across a range of mental health conditions are critical to addressing key questions about mental health during menopause and disentangling the role of menopause from that of age. A key research gap is information on mental health conditions beyond unipolar depression alone including anxiety disorders, PTSD, schizophrenia, bipolar disorder, and psychotic disorders, substance use disorders (SUD, including alcohol, cannabis, opiates, stimulants, and other substances), and eating disorders. Optimally designed research would employ validated measures of mental health symptoms as well as clinical diagnostic interviews to characterize clinical syndromes.

- » Optimal studies would consider both clinical syndromes as well as the continuum of symptomatology and their variation over the menopause transition.
- » Future research can expand beyond a sole focus on diagnostic categories to consider transdiagnostic symptoms, such as anger, irritability, and emotional lability over midlife and the menopause transition.
- » This research can investigate whether the menopause transition represents a window for risk of new onset of mental health conditions versus recurrence of mental health conditions experienced earlier in life.
- » Elucidation of positive psychological changes during midlife and the menopause transition, as well as sources of resilience (psychological, behavioral, interpersonal) that support positive psychological health during midlife and menopause, are key priority areas.
- » Future work can shed light on the implications of any increased mental health symptoms/clinical syndromes during menopause for women's health and social, emotional, and role functioning.
- » Clarification of the relationship between menopausal symptoms (e.g., VMS, sleep problems, urogenital changes) and mental health is a priority area. This research can elucidate any shared phenomenology of mental health and menopausal symptoms (e.g., VMS, anxiety) and any etiologic role of menopausal symptoms in the onset, expression, exacerbation, or maintenance of mental health conditions (e.g., unipolar and bipolar depression, anxiety, PTSD, SUD).

Etiology

There are multiple drivers of mental health concerns over midlife and the menopause transition, including menopausal symptoms (e.g., VMS, sleep problems), changes in sex hormones, changes in sexual function, concerns about aging and mortality, as well as changes in social relationships including with a partner or spouse, children, and parents.

MENOPAUSAL SYMPTOMS

Hallmark menopausal symptoms include VMS and sleep disturbance. Most (60%–80%) women experience VMS during menopause, and frequent VMS persist for on average 7–10 years (Freeman et al., 2011; Avis et al., 2015). Sleep disturbance is experienced by 40%–60% of women during the menopause transition, and for one in four women, sleep disturbances and associated functional impairments rise to the level of clinical insomnia (Ohayon, 2006). For over 20% of women, insomnia symptoms are persistent. The “domino hypothesis” posits that mood disturbance during the menopause transition is secondary to VMS that disrupt sleep to, in turn, drive negative mood. Some evidence, albeit limited, supports this model, yet there is also increasing appreciation that sleep disturbance can occur in the absence of VMS and has negative impacts on quality of life, mood, and anxiety (Soares et al., 2026).

SLEEP PROBLEMS

Other sleep disorders including obstructive sleep apnea, periodic limb movement disorder, and restless legs syndrome may increase in postmenopause relative to the premenopause, although data are limited. Further, findings with objective

measures of sleep have produced more mixed findings (Baker et al., 2018; Matthews et al., 2021; Young et al., 2003). Sleep problems and clinical sleep disorders, particularly when experienced persistently, are well-established risk factors for poor mental health (Freeman et al., 2020), although further investigation of the role of sleep problems in mental health during the menopause transition, particularly across a range of mental health conditions, is warranted.

SEXUAL CHANGES

Changes in sexual function are common during midlife and the menopause transition and have a bidirectional relationship with mental health concerns. Domains of sexual function in women include desire, arousal, orgasm, pain, and satisfaction. Some estimates indicate that almost half of women (48%) experience sexual problems during the menopause transition, with the most common change being that of low sexual desire; however, only 15% of women report sexual problems that are accompanied by distress, which is a criterion for a diagnosis of sexual dysfunction (Wang et al., 2025b). Adverse changes in sexual function can both be a driver of mental health concerns for women and have an impact on social and relationship functioning (Avis et al., 2024).

REPRODUCTIVE HORMONE AND CENTRAL NERVOUS SYSTEM CHANGES

Evidence suggests a possible direct effect of menopause-related reproductive hormonal changes on the risk of poor mental health. Changes in reproductive hormone dynamics with

particular relevance to mental health include decreased exposure to postovulatory rises in progesterone coupled with increased exposure to periods of hyper- and hypo-estrogenism (Hale & Burger, 2009; Hale et al., 2007; Santoro et al., 2020). Estradiol fluctuation directly acts on the brain to impact risk for mental illness (Fidecicchi et al., 2024). Observational (Andersen et al., 2024; Gordon et al., 2021) and experimental research directly manipulating estradiol levels (Schmidt et al., 2015; Schmidt et al., 1998; Wei et al., 2025) suggest that individuals can exhibit affective sensitivity to estradiol changes that fluctuate in either direction. Thus, periods of both hyper- and hypo-estrogenism occurring in the menopause transition may trigger psychological symptoms, even in the absence of other menopausal symptoms (e.g., VMS, sleep problems; Gordon et al., 2021).

Decreased serotonergic function and altered responsiveness to reward have received the most attention as potential mechanisms underlying the adverse psychological effects of estradiol withdrawal (Hynd et al., 2025; Peters et al., 2025). There is also some research suggesting that exposure to estradiol withdrawal decreases GABAA receptor sensitivity (Wihlbäck et al., 2007). However, the mechanisms underlying the negative mood effects of rises in estradiol remain largely unknown, though enhanced dopamine signaling contributing to aggression has been hypothesized as one potential mechanism (Peters et al., 2025). Research investigating genetic markers predicting risk for perimenopausal depression have focused on variants in the ESR1 and ESR2 genes (estrogen receptors α and β , respectively) (Grub et al., 2024; Różycka et al., 2016) and the CYP19A1 gene, which produces the enzyme involved in the production of estrogen that converts androgens to estrogens (Ancelin et al., 2020).

Notably, the attention the role of reproductive hormones on psychological functioning of women transitioning through menopause has largely been on estradiol, and future work can consider a wider array of reproductive hormones. Future work should move beyond measuring circulating hormone levels to investigate downstream neurobiological mechanisms, including neurosteroid modulation and receptor plasticity, which may mediate the effects of ovarian hormones on perimenopausal mood. Also required is a better understanding of the impact of exogenous hormone administration, including hormonal contraceptives and menopausal hormone therapy, on mental health during the menopause transition, with consideration of optimal dose, formulation, and route of delivery.

RESEARCH RECOMMENDATIONS

- Research is needed on the underlying neurobiology of menopause and menopause-related increases in mental health conditions, including anxiety, depression, PTSD, and SUD. Research can also provide a better understanding of the neurobiological underpinning of resilience and responses to intervention.

- Research on mental health during midlife and menopause would optimally take a biopsychosocial approach, jointly considering biological, social, physical, and interpersonal contributions to mental health.
- The contribution of social and interpersonal transitions to the onset and maintenance of mental health problems during menopause warrants elucidation.
- Use of state-of-the-art research methods, including objective and subjective measures of menopausal symptoms, blood-based and neuroimaging-based biomarker assessments, ecological momentary assessments, diagnostic clinical interviews, and pharmacological probe studies that induce ovarian hormone alterations would allow for insight into mechanisms underlying menopause's impact on mental health and responses to interventions.
- Longitudinal research examining the relationship of other reproductive mood disorders, including those related to the menstrual cycle and pregnancy, to risk for mental health concerns during the menopause transition would advance the field.
- Future research can provide a better understanding of individual differences in affective sensitivity to sex hormone changes, ideally considering a range of hormones, including not only estradiol but other estrogens, progesterone, downstream neurosteroids, and androgens.
- Research can investigate the relationship of sleep problems and other menopausal symptoms to mental health concerns during menopause. Optimal research would consider a range of sleep problems, including not only insomnia but also other sleep problems such as sleep-disordered breathing, and would use both objective and subjective measures of sleep.
- A priority area is understanding how treatment of menopausal symptoms (e.g., VMS, sleep problems, sexual changes) impacts women's mental health at midlife and beyond.
- Increased understanding of the impact of exogenous hormonal therapies (e.g., hormonal contraceptive, menopausal hormone therapy), on mental health during the menopause transition is warranted, with consideration of the type, dose, formulation, and route of delivery of hormonal therapies.

Social Factors

Social factors at multiple levels—structural and interpersonal—play major roles in shaping midlife women's mental health. Biological changes (hormonal fluctuations, sleep disruption, physical symptoms) interact with these factors, often exacerbating mood, anxiety, and stress.

STRUCTURAL

Workplace. Menopause will affect almost half of the middle-aged U.S. workforce, or 15 million women (U.S. Bureau of Labor Statistics, 2023, 2024). These midlife changes have little work disruption for the majority of menopausal women (Faubion et al., 2023). However, women who experience severe or frequent menopausal symptoms tend to report lower self-rated performance, stress, absences, and burnout (Atkinson et al., 2021; Faubion et al., 2023; Potočník et al., 2025). The lack of medical and workplace support for menopause contribute to financial implications: Women with earlier onset and/or more severe symptoms tend to reduce employment hours or leave the workforce (Evandrou et al., 2021), which can contribute to widening gender gaps in leadership and income (Bryson et al., 2022; Grandey et al., 2020). This lack of support and withdrawal due to distressing symptoms helps to explain the \$5.4 billion in lost productivity in the United States (Heissel et al., 2025) and \$26 billion annually in lost workdays and medical expenses attributed to menopause (Faubion et al., 2023). Work conditions contribute to these costs; menopausal women tend to report fewer or less distressing symptoms when full-time and managerial versus part-time or line employees (Bariola et al., 2017), while stressful job conditions, physical demands, night shifts, and job insecurity are linked to worse symptoms (Hardy et al., 2018; Safwan et al., 2024). In sum, the menopause transition has little impact on work performance for most working women, but financial and productivity costs emerge for women with severe and untreated menopausal symptoms that are in unsupportive work conditions.

Socioeconomic Status (SES) & Healthcare Access. Lower SES (indicated by lower income, lower educational attainment, fewer work hours, and greater financial strain) is linked to greater psychological distress, more menopausal symptoms, and possibly an earlier menopause onset (Bariola et al., 2017; Blackson et al., 2024; Gold et al., 2013; Gold et al., 2006). Women who seek treatment and receive diagnoses of menopausal symptoms require greater medical and pharmacy health care costs than demographically matched controls (Kleinman et al., 2013). Access to and coverage of menopause-related healthcare, including for menopausal hormone therapy and other treatments, can vary markedly by employment status, insurance type, and socioeconomic resources.

INTERPERSONAL

Social Role Changes. Role changes such as caring for aging parents, shifting responsibilities at work, retirement, or children leaving or entering adolescence have been reported to contribute to stress, identity distress, or feelings of loss of purpose (Blackson et al., 2024). Qualitative studies highlight that changes in family roles and expectations can exacerbate emotional burden (Zou et al., 2021). Further, there have been marked increases in the rates of divorce at midlife and beyond, often termed the “graying of divorce,” with 36% of U.S. divorces now occurring among those aged 50 and above and a slightly higher likelihood of a 50+ divorce among women than among men (Brown & Lin, 2022); however, the role of menopause in this divorce and relationship transitions is not well known.

Social Isolation & Inadequate Social Support. Midlife women reporting low social support experience more severe menopause-related symptoms and worse mental health outcomes (Bromberger et al., 2019; Bromberger et al., 2007; Polat et al., 2022). Notably, social isolation (e.g., living in remote areas, working remotely with limited social interaction) can exacerbate the sense of loneliness, reduce access to informal support, and delay help-seeking (Zou et al., 2021; Hong et al., 2023). Conversely, close friends and other social supports can be an important buffer against the occurrence of depression during midlife and menopause (Bromberger & Epperson, 2018). Some evidence indicates that in the workplace, social support for menopause, especially from one's supervisor, is associated with better coping with menopausal symptoms (Bariola et al., 2017), self-rated work performance, and job retention for menopausal women (Steffan & Potocnik, 2025).

Discrimination and Stigma. Midlife women may experience discrimination and stigma for their gender, age, race or ethnicity, sexual orientation, or body habitus, among other identities. Discrimination has been associated with a greater frequency of VMS, particularly among Black women in the United States (Reeves et al., 2024). Some research indicates for women in leadership positions in the workplace, racism and ageism heightened negative experience of menopause (Targett & Beck, 2022). In recent studies, working women report anticipating stigma due to menopause (Atkinson et al., 2021; Riach & Jack, 2021), which can in turn reduce the likelihood of disclosure of experiences and receipt of support (Atkinson et al., 2021; Jack et al., 2016). Labeling VMS as menopausal enhanced negative judgments, suggesting that menopausal symptoms carry more stigma than menopausal identity (Grandey et al., 2026).

Trauma. Estimates indicate that over 25% of women experience abuse or neglect in childhood and that 40% of women experience interpersonal or sexual trauma as adults (Smith et al., 2018; Kim et al., 2017; Wildeman et al., 2014). Research underscores the importance of trauma exposure for women's experience of the menopause transition and their mental and physical health during and after this transition. Trauma exposure is a well-established risk factor for multiple adverse mental health outcomes across the lifespan (Hogg et al., 2023). Women with trauma histories, particularly interpersonal or sexual trauma, may also experience a more symptomatic menopause, including more VMS, poorer sleep, more genitourinary symptoms, and poorer sexual function in the general population and among U.S. veterans (Kapoor et al., 2021; Saadedine et al., 2023; Thurston et al., 2008; Carson & Thurston, 2019; Jakubowski et al., 2025; Gibson et al., 2019; Travis et al., 2024). Emerging data also indicate that women exposed to trauma, particularly sexual violence or intimate partner violence, also have a more adverse pattern of cardiovascular and brain health over the menopause transition (Thurston et al., 2014; Thurston et al., 2022a; Thurston et al., 2021; Thurston et al., 2022b). PTSD does not often explain, but might amplify, associations between trauma and menopausal symptoms (Gibson et al., 2019; Bornefeld-Ettmann et al., 2018).

RESEARCH RECOMMENDATIONS

- In addition to existing qualitative research, quantitative studies of menopause and social and workplace factors would track progress and inform policy. Studies can con-

sider utilizing both subjective and objective workplace measures.

- Research on whether and to what degree menopause is associated with transitions in relationships, divorce, and relationship quality and functioning in a key priority area.
- Future research can examine how life course trajectories of social factors, and their timing, impact midlife health. Longitudinal, time-lagged designs are well positioned to capture how dynamic within-person symptoms relate to outcomes.
- Understanding of menopause and workplace factors among workers with fewer resources or lower status such as service, blue-collar, and farm workers is a research gap.
- Future research can explore how positive social and occupational environments enhance well-being at midlife and beyond.
- Future work can address how access to women's health-care and menopause-specific treatments—including across insurance plans and Employee Assistance Programs targeting menopause—impact women's health, functioning, productivity, and career advancement.
- A research priority is to better understand the mechanisms underlying trauma-exposed women's greater mental and physical health risk during the menopause transition. Research can also consider whether trauma-focused interventions may mitigate some of the adverse health risks experienced by trauma-exposed women.

Population Considerations

Menopause is a multifaceted experience shaped by biological, psychological, and social factors, and its mental health impacts vary across diverse populations and menopause types.

RACE AND ETHNICITY

Racially and ethnically minoritized women, particularly Black and Latina women, typically experience earlier menopause and more intense vasomotor symptoms (Gold et al., 2013; Avis et al., 2015). Findings from SWAN indicate that Black women have the most frequent, severe, bothersome, and persistent VMS: for up to 10 years compared to 6.5 years among non-Latina White women and 4.8 years in Japanese American women (Avis et al., 2024). At baseline, 43% of Latinas in SWAN reported depressive symptoms compared to 14%–27% in other racial and ethnic groups (Bromberger

et al., 2004; Thurston & Joffe, 2011). Importantly, these racial and ethnic differences were not significant after adjusting for socioeconomic and lifestyle factors, underscoring the importance of social factors such as financial strain, education, and social support (Gold et al., 2013; Avis et al., 2015). Moreover, chronic psychosocial stress and healthcare access inequities may compound symptoms burden in these populations (Cortés & Marginean, 2022). Cultural beliefs also shape menopause perceptions, influencing symptom reporting and coping strategies (Wood et al., 2025).

SEXUAL ORIENTATION AND GENDER IDENTITY

LGBTQ+ individuals may face unique stressors, including stigma and limited access to affirming care, which can exacerbate mental health challenges (APA, 2021; Meyer, 2003).

The extent to which these experiences impact the menopausal transition remains poorly understood. Limited evidence suggests some differences in menopause symptom experience among LGBTQ+ individuals compared to heterosexual peers, including more VMS (VanKim et al., 2024) but better sexual functioning with and a lower impact of genitourinary symptoms (Muratore et al., 2025). Understanding the role of menopause in mental health among gender-diverse individuals requires further research.

VETERANS

Higher rates of hormone therapy use (Gerber et al., 2015) and a greater impact of menopause symptoms on quality of life (Katon et al., 2016) have also been observed among military service members and veterans, who may be particularly vulnerable to a high burden of menopause symptoms and earlier age at menopause in light of military environmental exposures (Gibson et al., 2025), traumatic exposures (Travis et al., 2024), and common mental health and medical comorbidities (Creech et al., 2019).

MEDICAL CONDITIONS

Women undergoing early, surgical, or pharmacological menopause often report more severe psychological symptoms, including depression and anxiety, due to abrupt hormonal changes and underlying health conditions (Shifren & Avis, 2007). Women with chronic conditions such as HIV, autoimmune diseases, and chronic pain report higher rates of mood disorders and menopause symptoms and thus may use hormone therapy more frequently (Wood et al., 2025; Strand et al., 2025).

NEURODIVERGENCE AND DISABILITY STATUS

Little is known about the experience of menopause among neurodivergent women or women with physical or intellectual disabilities. A small literature suggests that women with autism may experience a high level of menopause symptom severity and impact of symptoms on mental health and daily functioning as well as substantial barriers to care, underscoring the need for inclusive, tailored menopause care across all populations (Grant et al., 2025).

RESEARCH RECOMMENDATIONS

- A key priority area is research on the feasibility, acceptability, accessibility, and efficacy of frontline treatments for menopause-related mood disorders and menopause symptoms among racial and ethnic minority women. Future research might consider adaptation and evaluation of interventions to improve mental health and menopausal symptoms across cultural groups.
- Future work can elucidate why Black women have a greater burden of menopausal symptoms, particularly VMS, than other groups.
- Research can help understand the experiences of menopause and inform optimal menopause management among LGBTQ+ individuals.
- A better understanding of the role of military environmental and traumatic exposures on menopause features as well as optimal interventions to support trauma-exposed populations is recommended.
- Research on the safety, feasibility, acceptability, accessibility, and efficacy of frontline treatments for menopause-related mood disorders and menopause symptoms among women with chronic health conditions (e.g., autoimmune disorders, HIV) is warranted.
- Future research advancing our understanding of the experience of menopause and mental health among neurodivergent women or women with physical or intellectual disabilities, and strategies to optimally support the needs of these populations is recommended.

Intervention³

This section summarizes research gaps and select evidence. It does not recommend any specific treatment for any individual and is not a substitute for individualized clinical judgment, informed consent, and applicable professional, ethical, and legal requirements.

PHARMACOLOGICAL INTERVENTIONS

Several large, randomized trials have tested the efficacy of antidepressant medication for the treatment of major depressive disorder in perimenopausal and postmenopausal individuals, consistently finding them to be more effective than placebo (Wu et al., 2020). Desvenlafaxine, a serotonin-norepinephrine reuptake inhibitor (SNRI), has been the most extensively tested and associated with response rates of approximately 60% (Clayton et al., 2013; Kornstein et al., 2014; Kornstein et al., 2015; Kornstein et al., 2010; Soares et al., 2010). There have yet to be any randomized trials investigating pharmacological interventions for mental health problems other than major depression and depressive symptoms in the menopause transition. Whether the menopause transition impacts the efficacy of pharmacologic interventions for mental health concerns as women transition through menopause is not well understood.

Two small, double-blind, placebo-controlled randomized trials have found four (Schmidt et al., 2000) and 12 (Soares et al., 2001) weeks of transdermal estradiol (0.1 mg) to improve perimenopausal depressive mood. Another trial of 12 months of transdermal estradiol (0.1 mg) in euthymic peri- and early postmenopausal individuals found that those assigned to transdermal estradiol were less likely to develop clinically significant depressive symptoms relative to those randomized to placebo (18% vs. 32%). Micronized progesterone was administered every 2–3 months; however, depressive mood was not assessed during progesterone administration. Studies of older postmenopausal individuals have mostly found hormone therapy to be ineffective in treating depressive mood (Morrison et al., 2004; Yalamanchili & Gallagher, 2012). Thus, menopausal hormone therapy may confer some benefit during the perimenopause, when sex hormones show the greatest fluctuation and when many menopausal symptoms begin. Two post hoc analyses of randomized controlled trials (Schneider et al., 2001; Schneider et al., 1997) as well as two small open trials (Rasgon et al., 2007; Zanardi et al., 2007) suggest that the efficacy of antidepressants may improve or accelerate in postmenopausal individuals taking estradiol therapy.

A meta-analysis of 36 randomized trials supports the use

of appropriately dosed and FDA-regulated testosterone for low sexual desire causing distress in postmenopausal women (Islam et al., 2019). However, the efficacy of testosterone for mental health concerns such as depression and anxiety, either alone or in combination with other treatments, is less well known. Although studies did not suggest an antidepressant effect of testosterone (Islam et al., 2019), two recent retrospective observational cohort studies by the same team suggest that transdermal testosterone, when paired with estradiol therapy (with or without progesterone) may improve mood in patients either presenting with a combination of negative mood and sexual complaints (Glynne et al., 2025) or presenting with menopausal symptoms more broadly (Glynne et al., 2025). However, interpreting these observational data warrants caution, and drawing conclusions requires well-powered randomized trials.

BEHAVIORAL INTERVENTIONS

Evidence-based psychotherapy approaches that have been well-studied across the lifespan, including cognitive behavioral therapy (CBT), behavioral activation, interpersonal psychotherapy, and mindfulness-based cognitive therapy for depression, as well as CBT and mindfulness-based approaches for anxiety, eating disorders, and stress (Hofmann et al., 2012), are expected to similarly benefit women in and after the menopause transition. However, research examining the efficacy of nonpharmacological, behavioral approaches to manage mental health concerns specifically among women transitioning through the menopause is limited. A small literature suggests benefits of CBT and mindfulness-based interventions for depressive symptoms and anxiety specifically among women in midlife and/or the menopause transition (Kim & Yu, 2024; Spector et al., 2024; Wang et al., 2025a). In a meta-analysis of randomized trials of psychosocial interventions limited to symptomatic peri- and postmenopausal women, CBT and mindfulness-based approaches had small but significant effects on depressive symptoms, while CBT had small and mindfulness-based interventions had medium to large effects on anxiety. The small number of studies in this area, which include variable measurement of symptoms, heterogeneity of intervention protocols, and samples characterized by mood and menopause symptoms without clinical diagnostic interviews (Spector et al., 2024), limits interpretation.

Behavioral interventions have been used to address menopausal symptoms among peri- and postmenopausal women, and particularly insomnia (McCurry et al., 2016) and meno-

³ The panel based its recommendations on the professional literature, published position statements, and expert consensus from Task Force members but did not conduct or formally evaluate systematic reviews of the literature for this report.

pause symptoms including VMS (Green et al., 2019; Hunter, 2021). Cognitive behavioral therapy for insomnia (CBT-I) is the gold standard treatment for clinical insomnia, and both individual and group-based CBT-I have been shown to be effective in treating insomnia among women in the menopause transition. In a clinical trial of CBT-I compared to education control among peri- and postmenopausal women with insomnia and VMS, CBT-I resulted in significant improvement in insomnia as well as VMS interference and negative mood (McCurry et al., 2016). Two validated CBT protocols (CBT-MENO and MENOS) have been developed to address menopause symptoms and specifically studied with peri- and postmenopausal women with frequent VMS (Green et al., 2019; Hunter, 2021). Both CBT protocols have been shown to effectively reduce bother and interference related to VMS. Trials of group-based CBT-MENO, which contain separate modules for multiple symptoms and mood concerns common in the menopause transition, also showed improvement in depressive symptoms, insomnia, and sexual concerns (Green et al., 2019; Hunter, 2021).

Other behavioral interventions considered have included physical activity, mindfulness interventions, and other mind-body interventions. Physical activity has well-established benefits for depression, anxiety, and stress management across the lifespan. While not as well studied in relation to mental health during menopause, studies do show that physical activity improves quality of life among peri- and post-menopausal women (Anekwe et al., 2025; Wąsowicz, et al., 2024). Studies of mindfulness-based and mind-body interventions for sleep in the menopause transition are limited, but findings also generally suggest beneficial effects (Xu et al., 2024; Wang et al., 2025). Among midlife women, studies of mind-body exercise, most notably yoga, suggest improved sleep, stress, psychological symptoms, and menopause-related quality of life (Anekwe et al., 2025; Jorge et al., 2016; Cramer et al., 2012; Cramer et al., 2015; Reed et al., 2014). Clinical hypnosis, a mind-body therapy that can be self- or therapist-delivered, cultivates a deeply relaxed state of focused attention with individualized mental imagery and suggestion. Clinical hypnosis has demonstrated efficacy in improving sleep (Otte et al., 2020), VMS, and sexual function among peri- and postmenopausal women (Johnson et al., 2019). One randomized trial of women in the menopause transition has examined mindfulness-based stress reduction and demonstrated clinically meaningful improvement in menopause-related quality of life and sleep quality, and to potentially the bother associated with VMS (Carmody et al., 2011). Mindfulness-based interventions also hold promise in addressing low sexual desire, which is common among midlife women; several randomized clinical trials indicate that mindfulness may improve sexual function, desire, arousal, and/or distress among women with distressing low sexual desire (Brotto & Basson, 2014; Brotto et al., 2021; Rashedi et al., 2022), yet with the exception of one small trial, data addressing midlife women specifically is limited (Thomas et al., 2023).

Behavioral interventions may be delivered virtually through synchronous and asynchronous digital platforms, providing potential for scalable, cost-effective solutions to increase access. A review of web-based interventions for menopause noted a paucity of web-based intervention studies (Im et al., 2017). Researchers have studied both self-managed and therapist-guided internet-based delivery of the MENOS CBT protocol for menopause symptoms, with demonstrated feasibility and efficacy (Atema et al., 2019). Some early data suggest support the use of mobile apps to deliver self-hypnosis for VMS management (Scheffrahn et al., 2025).

RESEARCH RECOMMENDATIONS

- Research on whether and how the efficacy of psychotropic medications change over the menopause transition is recommended. This research can consider medications for a range of mental health conditions, including but not limited to mood and anxiety disorders, PTSD, psychotic disorders, and SUD.
- Research can address the mental health impact of exogenous hormone administration (hormonal contraceptives, menopausal hormone therapy), as well as predictors of differential responsivity. This research would optimally consider a range of hormonal formulations and routes of delivery, reaching beyond a focus on estrogens to also consider other hormonal interventions (e.g., progesterone, testosterone).
- Research can identify subgroups of women whose mental health would most benefit from exogenous hormone administration during menopause, such as by menopause stage, mental health history, history of reproductive related mental health conditions, and concomitant menopausal symptoms. Research is also needed to investigate potential adverse effects.
- Future research can consider emerging interventional approaches (e.g., TMS) as well as use psychedelic approaches for the management of mental health concerns during menopause, where legally permissible and ethically approved.
- Future research might consider innovations in care models, such as peer support and remote models of care.
- High-quality randomized trials should evaluate the efficacy of evidence-based behavioral and nonpharmacological interventions on mental health during menopause.
- Development and investigation of nonpharmacological and behavioral interventions or the management of menopausal symptoms, including VMS, sleep problems, and poor sexual function/low sexual desire is a key priority area.

References

- American College of Obstetricians and Gynecologists (ACOG). (2025). *Inclusive Language: Statement of Policy*. <https://www.acog.org/clinical-information/policy-and-position-statements/statements-of-policy/2025/inclusive-language>
- American Psychological Association (APA), APA Task Force on Psychological Practice with Sexual Minority Persons. (2021). *Guidelines for psychological practice with sexual minority persons*. <https://www.apa.org/about/policy/psychological-practice-sexual-minority-persons.pdf>
- American Psychological Association. (2023). *Inclusive language guide* (2nd ed.). <https://www.apa.org/about/apa/equity-diversity-inclusion/language-guidelines.pdf>
- Ancelin, M. L., Norton, J., Canonico, M., Scarabin, P. Y., Ritchie, K., & Ryan, J. (2020). Aromatase (CYP19A1) gene variants, sex steroid levels, and late-life depression. *Depression and Anxiety*, 37(2), 146–155. <https://doi.org/10.1002/da.22974>
- Andersen, E. H., Nagpal, A., Eisenlohr-Moul, T. A., & Gordon, J. L. (2024). A novel method for quantifying affective sensitivity to endogenous ovarian hormones. *Psychoneuroendocrinology*, 167, 107095. <https://doi.org/10.1016/j.psyneuen.2024.107095>
- Anekwe, C. V., Cano, A., Mulligan, J., Ang, S. B., Johnson, C. N., Panay, N., Schaedel, Z., Akam, E. Y., Porterfield, F., Wang, E., & Nappi, R. E. (2025). The role of lifestyle medicine in menopausal health: a review of non-pharmacologic interventions. *Climacteric*, 28(5), 478–496. <https://doi.org/10.1080/13697137.2025.2548806>
- Atema, V., van Leeuwen, M., Kieffer, J. M., Oldenburg, H. S. A., van Beurden, M., Gerritsma, M. A., Kuenen, M. A., Plaisier, P. W., Lopes Cardozo, A. M. F., van Riet, Y. E. A., Heuff, G., Rijna, H., van der Meij, S., Noorda, E. M., Timmers, G. J., Vrouwenraets, B. C., Bollen, M., van der Veen, H., Bijker, N., Hunter, M. S., ... Aaronson, N. K. (2019). Efficacy of internet-based cognitive behavioral therapy for treatment-induced menopausal symptoms in breast cancer survivors: Results of a randomized controlled trial. *Journal of Clinical Oncology*, 37(10), 809–822. <https://doi.org/10.1200/JCO.18.00655>
- Atkinson, C., Beck, V. A., Brewis, J., Davies, A., & Duberley, J. (2021). Menopause and the workplace: New directions in HRM research and HR practice. *Human Resource Management Journal*, 31(1), 49–64. <https://doi.org/10.1111/1748-8583.12294>
- Avis, N. E., Crawford, S. L., Greendale, G., Bromberger, J. T., Everson-Rose, S. A., Gold, E. B., Hess, R., Joffe, H., Kravitz, H. M., Tepper, P. G., Thurston, R. C., & Study of Women's Health Across the Nation (2015). Duration of menopausal vasomotor symptoms over the menopause transition. *JAMA Internal Medicine*, 175(4), 531–539. <https://doi.org/10.1001/jamainternmed.2014.8063>
- Avis, N. E., Crawford, S. L., Hess, R., Colvin, A., Neal-Perry, G., & Waetjen, L. E. (2024). The role of sexual function in quality of life among midlife and older women: The Study of Women's Health Across the Nation. *Journal of Women's Health*, 33(4), 426–434. <https://doi.org/10.1089/jwh.2023.0439>
- Babyn, K., Ross, S., Makowsky, M., Kiang, T., & Yuksel, N. (2023). Cannabis use for menopause in women aged 35 and over: A cross-sectional survey on usage patterns and perceptions in Alberta, Canada. *BMJ Open*, 13(6), e069197. <https://doi.org/10.1136/bmjopen-2022-069197>
- Baker, F. C., Lampio, L., Saaresranta, T., & Polo-Kantola, P. (2018). Sleep and sleep disorders in the menopausal transition. *Sleep Medicine Clinics*, 13(3), 443–456. <https://doi.org/10.1016/j.jsmc.2018.04.011>
- Bariola, E., Jack, G., Pitts, M., Riach, K., & Sarrel, P. (2017). Employment conditions and work-related stressors are associated with menopausal symptom reporting among perimenopausal and postmenopausal women. *Menopause*, 24(3), 247–251. <https://doi.org/10.1097/GME.0000000000000751>
- Blackson, E. A., McCarthy, C., Bell, C., Ramirez, S., & Bazzano, A. N. (2024). Experiences of menopausal transition among populations exposed to chronic psychosocial stress in the United States: A scoping review. *BMC Women's Health*, 24, Article 487. <https://doi.org/10.1186/s12905-024-03329-z>
- Blanco, C., Hoertel, N., Wall, M. M., Franco, S., Peyre, H., Neria, Y., Helpman, L., & Limosin, F. (2018). Toward understanding sex differences in the prevalence of posttraumatic stress disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of Clinical Psychiatry*, 79(2), 16m11364. <https://doi.org/10.4088/JCP.16m11364>
- Bornefeld-Ettmann, P., Steil, R., Lieberz, K. A., Bohus, M., Rausch, S., Herzog, J., Priebe, K., Fydrich, T., & Müller-Engelmann, M. (2018). Sexual functioning after childhood abuse: The influence of post-traumatic stress disorder and trauma exposure. *The Journal of Sexual Medicine*, 15(4), 529–538. <https://doi.org/10.1016/j.jsxm.2018.02.016>
- Bromberger, J. T., Harlow, S., Avis, N., Kravitz, H. M., & Cordal, A. (2004). Racial/ethnic differences in the prevalence of depressive symptoms among middle-aged women: The Study of Women's Health Across the Nation (SWAN). *American Journal of Public Health*, 94(8), 1378–1385. <https://doi.org/10.2105/ajph.94.8.1378>
- Bromberger, J. T., Matthews, K. A., Schott, L. L., Brockwell, S., Avis, N. E., Kravitz, H. M., Everson-Rose, S. A., Gold, E. B., Sowers, M., & Randolph, J. F., Jr. (2007). Depressive symptoms during the menopausal transition: The Study of Women's Health Across the Nation (SWAN). *Journal of Affective Disorders*, 103(1–3), 267–272. <https://doi.org/10.1016/j.jad.2007.01.034>
- Bromberger, J. T., & Epperson, C. N. (2018). Depression during and after the perimenopause: Impact of hormones, genetics, and environmental determinants of disease. *Obstetrics and Gynecology Clinics of North America*, 45(4), 663–678. <https://doi.org/10.1016/j.ogc.2018.07.007>
- Bromberger, J. T., Kravitz, H. M., Chang, Y.-F., Cyranowski, J. M., Brown, C., & Matthews, K. A. (2011). Major depression during and after the menopausal transition: Study of Women's Health Across the Nation (SWAN). *Psychological Medicine*, 41(9), 1879–1888. <https://doi.org/10.1017/S003329171100016X>

- Bromberger, J. T., Kravitz, H. M., Chang, Y., Randolph, J. F., Jr., Avis, N. E., Gold, E. B., & Matthews, K. A. (2013). Does risk for anxiety increase during the menopausal transition? Study of Women's Health Across the Nation (SWAN). *Menopause*, 20(5), 488–495. <https://doi.org/10.1097/GME.0b013e3182730599>
- Bromberger, J. T., Schott, L., Kravitz, H. M., & Joffe, H. (2015). Risk factors for major depression during midlife among a community sample of women with and without prior major depression: Are they the same or different?. *Psychological Medicine*, 45(8), 1653–1664. <https://doi.org/10.1017/S0033291714002773>
- Bromberger, J. T., Schott, L. L., Avis, N. E., Crawford, S. L., Harlow, S. D., Joffe, H., Kravitz, H. M., & Matthews, K. A. (2019). Psychosocial and health-related risk factors for depressive symptom trajectories among midlife women over 15 years: Study of Women's Health Across the Nation (SWAN). *Psychological Medicine*, 49(2), 250–259. <https://doi.org/10.1017/S0033291718000703>
- Brotto, L. A., & Basson, R. (2014). Group mindfulness-based therapy significantly improves sexual desire in women. *Behaviour Research and Therapy*, 57, 43–54. <https://doi.org/10.1016/j.brat.2014.04.001>
- Brotto, L. A., Zdaniuk, B., Chivers, M. L., Jabs, F., Grabovac, A., Lalumière, M. L., Weinberg, J., Schonert-Reichl, K. A., & Basson, R. (2021). A randomized trial comparing group mindfulness-based cognitive therapy with group supportive sex education and therapy for the treatment of female sexual interest/arousal disorder. *Journal of Consulting and Clinical Psychology*, 89(7), 626–639. <https://doi.org/10.1037/ccp0000661>
- Brown, S. L., & Lin, I. F. (2022). The graying of divorce: A half century of change. *The Journals of Gerontology: Series B*, 77(9), 1710–1720. <https://doi.org/10.1093/geronb/gbac057>
- Brown, L., Hunter, M. S., Chen, R., Crandall, C. J., Gordon, J. L., Mishra, G. D., Rother, V., Joffe, H., & Hickey, M. (2024). Promoting good mental health over the menopause transition. *The Lancet*, 403(10430), 969–983. [https://doi.org/10.1016/S0140-6736\(23\)02801-5](https://doi.org/10.1016/S0140-6736(23)02801-5)
- Bryson, A., Conti, G., Hardy, R., Psycheva, D., & Sullivan, A. (2022). The consequences of early menopause and menopause symptoms for labour market participation. *Social Science & Medicine*, 293, 114676. <https://doi.org/10.1016/j.socscimed.2021.114676>
- Carmody, J. F., Crawford, S., Salmoirago-Blotcher, E., Leung, K., Churchill, L., & Olendzki, N. (2011). Mindfulness training for coping with hot flashes: Results of a randomized trial. *Menopause*, 18(6), 611–620. <https://doi.org/10.1097/gme.0b013e318204a05c>
- Carson, M. Y., & Thurston, R. C. (2019). Childhood abuse and vasomotor symptoms among midlife women. *Menopause*, 26(10), 1093–1099. <https://doi.org/10.1097/GME.0000000000001366>
- Clayton, A. H., Kornstein, S. G., Dunlop, B. W., Focht, K., Musgnung, J., Ramey, T., Bao, W., & Ninan, P. T. (2013). Efficacy and safety of desvenlafaxine 50 mg/d in a randomized, placebo-controlled study of perimenopausal and postmenopausal women with major depressive disorder. *The Journal of Clinical Psychiatry*, 74(10), 1010–1017. <https://doi.org/10.4088/JCP.12m08065>
- Cortés, Y. & Marginean, V. (2022). Key factors in menopause health disparities and inequities: Beyond race and ethnicity. *Current Opinion in Endocrine and Metabolic Research*, 26. <https://doi.org/10.1016/j.coemr.2022.100389>
- Coslov, N., Richardson, M. K., & Woods, N. F. (2024). “Not feeling like myself” in perimenopause—What does it mean? Observations from the Women Living Better survey. *Menopause*, 31(5), 390–398. <https://doi.org/10.1097/GME.0000000000002339>
- Cramer, H., Lauche, R., Langhorst, J., & Dobos, G. (2012). Effectiveness of yoga for menopausal symptoms: A systematic review and meta-analysis of randomized controlled trials. *Evidence-Based Complementary and Alternative Medicine*, 2012, 863905. <https://doi.org/10.1155/2012/863905>
- Cramer, H., Rabsilber, S., Lauche, R., Kümmel, S., & Dobos, G. (2015). Yoga and meditation for menopausal symptoms in breast cancer survivors: A randomized controlled trial. *Cancer*, 121(13), 2175–2184. <https://doi.org/10.1002/cncr.29330>
- Creech, S. K., Pulverman, C. S., Crawford, J. N., Holliday, R., Monteith, L. L., Lehavot, K., Olson-Madden, J., & Kelly, U. A. (2019). Clinical complexity in women veterans: A systematic review of the recent evidence on mental health and physical health comorbidities. *Behavioral Medicine*, 47(1), 69–87. <https://doi.org/10.1080/08964289.2019.1644283>
- de Wit, A. E., Giltay, E. J., de Boer, M. K., Nathan, M., Wiley, A., Crawford, S., & Joffe, H. (2021). Predictors of irritability symptoms in mildly depressed perimenopausal women. *Psychoneuroendocrinology*, 126, 105128. <https://doi.org/10.1016/j.psyneuen.2021.105128>
- Deeks, A. A., & McCabe, M. P. (2004). Well-being and menopause: An investigation of purpose in life, self-acceptance and social role in premenopausal, perimenopausal and postmenopausal women. *Quality of Life Research*, 13(2), 389–398. <https://doi.org/10.1023/B:QURE.0000018506.33706.05>
- Dennerstein, L. (1994). In pursuit of happiness: Well-being during the menopausal transition. *The modern management of the menopause: A perspective for the 21st century* (pp. 151–159). Parthenon Publishing Group.
- Dennerstein, L., Leher, P., & Guthrie, J. (2002). The effects of the menopausal transition and biopsychosocial factors on well-being. *Archives of Women's Mental Health*, 5(1), 15–22. <https://doi.org/10.1007/s007370200018>
- Díaz-Pons, A., González-Rodríguez, A., Ortiz-García de la Foz, V., Seeman, M. V., Crespo-Facorro, B., & Ayesa-Arriola, R. (2022). Disentangling early and late onset of psychosis in women: Identifying new targets for treatment. *Archives of Women's Mental Health*, 25(2), 335–344. <https://doi.org/10.1007/s00737-022-01210-2>
- Evandrou, M., Falkingham, J., Qin, M., & Vlachantoni, A. (2021). Menopausal transition and change in employment: Evidence from the National Child Development Study. *Maturitas*, 143, 96–104. <https://doi.org/10.1016/j.maturitas.2020.09.010>
- Fang, Y., Liu, F., Zhang, X., Chen, L., Liu, Y., Yang, L., Zheng, X., Liu, J., Li, K., & Li, Z. (2024). Mapping global prevalence of menopausal symptoms among middle-aged women: A systematic review and meta-analysis. *BMC Public Health*, 24(1), 1767. <https://doi.org/10.1186/s12889-024-19280-5>

- Faubion, S. S., Enders, F., Hedges, M. S., Chaudhry, R., Kling, J. M., Shufelt, C. L., Saadedine, M., Mara, K., Griffin, J. M., & Kapoor, E. (2023). Impact of menopause symptoms on women in the workplace. *Mayo Clinic Proceedings*, 98(6), 833–845. <https://doi.org/10.1016/j.mayocp.2023.02.025>
- Fidecicchi, T., Giannini, A., Chedraui, P., Luisi, S., Battipaglia, C., Genazzani, A. R., Genazzani, A. D., & Simoncini, T. (2024). Neuroendocrine mechanisms of mood disorders during menopause transition: A narrative review and future perspectives. *Maturitas*, 188, 108087. <https://doi.org/10.1016/j.maturitas.2024.108087>
- Freeman, E. W., Sammel, M. D., Lin, H., Liu, L., & Gracia, C. R. (2006). Associations of hormones and menopausal status with depressed mood in women with no history of depression. *Archives of General Psychiatry*, 63(4), 375–382. <https://doi.org/10.1001/archpsyc.63.4.375>
- Freeman, E. W., Sammel, M. D., Lin, H., Gracia, C. R., Kapoor, S., & Ferdousi, T. (2005). The role of anxiety and hormonal changes in menopausal hot flashes. *Menopause*, 12(3), 258–266. <https://doi.org/10.1097/01.gme.0000142440.49698.b7>
- Freeman, E. W., Sammel, M. D., Lin, H., Gracia, C. R., & Kapoor, S. (2008). Symptoms in the menopausal transition: Hormone and behavioral correlates. *Obstetrics and Gynecology*, 111(1), 127–136. <https://doi.org/10.1097/01.AOG.0000295867.06184.b1>
- Freeman, E. W., Sammel, M. D., Lin, H., Liu, Z., & Gracia, C. R. (2011). Duration of menopausal hot flashes and associated risk factors. *Obstetrics and Gynecology*, 117(5), 1095–1104. <https://doi.org/10.1097/AOG.0b013e318214f0de>
- Freeman, D., Sheaves, B., Waite, F., Harvey, A. G., & Harrison, P. J. (2020). Sleep disturbance and psychiatric disorders. *The Lancet Psychiatry*, 7(7), 628–637. [https://doi.org/10.1016/S2215-0366\(20\)30136-X](https://doi.org/10.1016/S2215-0366(20)30136-X)
- Fu, P., Matthews, K. A., & Thurston, R. C. (2014). How well do different measurement modalities estimate the number of vasomotor symptoms? Findings from the Study of Women's Health Across the Nation FLASHES Study. *Menopause*, 21(2), 124–130. <https://doi.org/10.1097/GME.0b013e318295a3b9>
- Galmiche, M., Déchelotte, P., Lambert, G., & Tavolacci, M. P. (2019). Prevalence of eating disorders over the 2000–2018 period: A systematic literature review. *The American Journal of Clinical Nutrition*, 109(5), 1402–1413. <https://doi.org/10.1093/ajcn/nqy342>
- Gerber, M. R., King, M. W., Pineles, S. L., Wiltsey-Stirman, S., Bean-Mayberry, B., Japuntich, S. J., & Haskell, S. G. (2015). Hormone therapy use in women veterans accessing veterans health administration care: A national cross-sectional study. *Journal of General Internal Medicine*, 30(2), 169–175. <https://doi.org/10.1007/s11606-014-3073-9>
- Gibson, C. J., Huang, A. J., McCaw, B., Subak, L. L., Thom, D. H., & Van Den Eeden, S. K. (2019). Associations of intimate partner violence, sexual assault, and posttraumatic stress disorder with menopause symptoms among midlife and older women. *JAMA Internal Medicine*, 179(1), 80–87. <https://doi.org/10.1001/jamainternmed.2018.5233>
- Gibson, C. J., Cao, G., Inslicht, S., Altman, A. D., Haas, C. E., Schneiderman, A., & Dursa, E. (2025). Military exposures and early menopause: Findings from the Gulf War Era Cohort Study (GWECs). *Women's Health Issues*, 35(4), 276–282. <https://doi.org/10.1016/j.whi.2025.05.001>
- Glynne, S., Kamal, A., Kamel, A. M., Reisel, D., & Newson, L. (2025). Effect of transdermal testosterone therapy on mood and cognitive symptoms in peri- and postmenopausal women: A pilot study. *Archives of Women's Mental Health*, 28(3), 541–550. <https://doi.org/10.1007/s00737-024-01513-6>
- Gold, E. B., Colvin, A., Avis, N., Bromberger, J., Greendale, G. A., Powell, L., Sternfeld, B., & Matthews, K. (2006). Longitudinal analysis of the association between vasomotor symptoms and race/ethnicity across the menopausal transition: Study of Women's Health Across the Nation. *American Journal of Public Health*, 96(7), 1226–1235. <https://doi.org/10.2105/AJPH.2005.066936>
- Gold, E. B., Crawford, S. L., Avis, N. E., Crandall, C. J., Matthews, K. A., Waetjen, L. E., Lee, J. S., Thurston, R., Vuga, M., & Harlow, S. D. (2013). Factors related to age at natural menopause: longitudinal analyses from SWAN. *American Journal of Epidemiology*, 178(1), 70–83. <https://doi.org/10.1093/aje/kws421>
- Gordon, J. L., Sander, B., Eisenlohr-Moul, T. A., & Tottenham, L. S. (2021). Mood sensitivity to estradiol predicts depressive symptoms in the menopause transition. *Psychological Medicine*, 51(10), 1733–1741. <https://doi.org/10.1017/S0033291720000483>
- Grandey, A. A., Gabriel, A. S., & King, E. B. (2020). Tackling taboo topics: A review of the three Ms in working women's lives. *Journal of Management*, 46(1), 7–35. <https://doi.org/10.1177/0149206319857144>
- Grandey, A. A., Burke, V., Zeytun, D., Frasca, T. J., & Matsick, J. L. (2026). Do hot flashes get the cold shoulder? Menopausal symptoms and disclosure influence leader ratings. *Journal of Business and Psychology*, 41(1), 27–45. <https://doi.org/10.1007/s10869-025-10039-2>
- Grant, A., Axbey, H., Holloway, W., Caemawr, S., Craine, M., Lim, H., Shaw, S. C. K., & Ellis, R. (2025). Autism and the menopause transition: A mixed-methods systematic review. *Autism in Adulthood*, 25739581251369452. Advance online publication. <https://doi.org/10.1177/25739581251369452>
- Green, S. M., Donegan, E., Frey, B. N., Fedorkow, D. M., Key, B. L., Streiner, D. L., & McCabe, R. E. (2019). Cognitive behavior therapy for menopausal symptoms (CBT-Meno): A randomized controlled trial. *Menopause*, 26(9), 972–980. <https://doi.org/10.1097/GME.0000000000001363>
- Green, V. R., Kennedy-Hendricks, A., Saloner, B., & Bandara, S. (2024). Substance use and treatment characteristics among pregnant and non-pregnant females, 2015–2019. *Drug and Alcohol Dependence*, 254, 111041. <https://doi.org/10.1016/j.drugalcdep.2023.111041>
- Grub, J., Willi, J., Süß, H., & Ehlert, U. (2024). The role of estrogen receptor gene polymorphisms in menopausal symptoms and estradiol levels in perimenopausal women: Findings from the Swiss Perimenopause Study. *Maturitas*, 183, Article e107942. <https://doi.org/10.1016/j.maturitas.2024.107942>
- Hale, G. E., & Burger, H. G. (2009). Hormonal changes and biomarkers in late reproductive age, menopausal transition and menopause. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 23(1), 7–23. <https://doi.org/10.1016/j.bpobgyn.2008.10.001>

- Hale, G. E., Zhao, X., Hughes, C. L., Burger, H. G., Robertson, D. M., & Fraser, I. S. (2007). Endocrine features of menstrual cycles in middle and late reproductive age and the menopausal transition classified according to the Staging of Reproductive Aging Workshop (STRAW) staging system. *Journal of Clinical Endocrinology & Metabolism*, 92(8), 3060–3067. <https://doi.org/10.1210/jc.2007-0066>
- Hardy, C., Thorne, E., Griffiths, A., & Hunter, M. S. (2018). Work outcomes in midlife women: The impact of menopause, work stress and working environment. *Women's Midlife Health*, 4, Article 3. <https://doi.org/10.1186/s40695-018-0036-z>
- Hayfield, N., Moore, H., & Terry, G. (2024). "Friends? Supported. Partner? Not so much ...": Women's experiences of friendships, family, and relationships during perimenopause and menopause. *Feminism & Psychology*, 34(3), 443–463. <https://doi.org/10.1177/09593535241242563>
- Heissel, J. A., Donofry, S. D., Bonheur, A., Shinnick, D., Rollison, J., & Troxel, W. M. (2025). *The economic impacts of menopause in the United States*. RAND. https://www.rand.org/pubs/research_reports/RRA4292-1.html
- Hickey, M., Schoenaker, D. A. J. M., Joffe, H., & Mishra, G. D. (2016). Depressive symptoms across the menopause transition: Findings from a large population-based cohort study. *Menopause*, 23(12), 1287–1293. <https://doi.org/10.1097/GME.0000000000000712>
- Hofmann, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy and Research*, 36(5), 427–440. <https://doi.org/10.1007/s10608-012-9476-1>
- Hogg, B., Gardoki-Souto, I., Valiente-Gómez, A., Rosa, A. R., Fortea, L., Radua, J., Amann, B. L., & Moreno-Alcázar, A. (2023). Psychological trauma as a transdiagnostic risk factor for mental disorder: an umbrella meta-analysis. *European Archives of Psychiatry and Clinical Neuroscience*, 273(2), 397–410. <https://doi.org/10.1007/s00406-022-01495-5>
- Hong, J.H., Nakamura, J.S., Berkman, L.F., Chen, F.S., Shiba, K., Chen, Y., Kim, E.S., VanderWeele, T.J. (2023). Are loneliness and social isolation equal threats to health and well-being? An outcome-wide longitudinal approach. *SSM-Population Health*, 23, 101459. <https://doi.org/10.1016/j.ssmph.2023.101459>
- Hunter M. S. (2021). Cognitive behavioral therapy for menopausal symptoms. *Climacteric*, 24(1), 51–56. <https://doi.org/10.1080/13697137.2020.1777965>
- Hynd, M., Gibson, K., Walsh, M., Phillips, R., Prim, J., Eisenlohr-Moul, T., Walsh, E., Dichter, G., & Schiller, C. (2025). Estradiol modulates resting-state connectivity in perimenopausal depression. *Journal of Affective Disorders*, 371, 253–260. <https://doi.org/10.1016/j.jad.2024.11.068>
- Im, E. O., Lee, Y., Chee, E., & Chee, W. (2017). Web-based interventions for menopause: A systematic integrated literature review. *Maturitas*, 95, 24–30. <https://doi.org/10.1016/j.maturitas.2016.10.009>
- Islam, R. M., Bell, R. J., Green, S., Page, M. J., & Davis, S. R. (2019). Safety and efficacy of testosterone for women: A systematic review and meta-analysis of randomised controlled trial data. *The Lancet Diabetes & Endocrinology*, 7(10), 754–766. [https://doi.org/10.1016/S2213-8587\(19\)30189-5](https://doi.org/10.1016/S2213-8587(19)30189-5)
- Jack, G., Riach, K., Bariola, E., Pitts, M., Schapper, J., & Sarrel, P. (2016). Menopause in the workplace: What employers should be doing. *Maturitas*, 85, 88–95. <https://doi.org/10.1016/j.maturitas.2015.12.006>
- Jakubowski, K., Riedmann, C. A., Chang, Y., Koenen, K. C., Maki, P. M., & Thurston, R. C. (2025). Trauma history and persistent poor objective and subjective sleep quality among midlife women. *Menopause*, 32(3), 207–216. <https://doi.org/10.1097/GME.0000000000002480>
- Jauhar, S., Johnstone, M., & McKenna, P. J. (2022). Schizophrenia. *Lancet*, 399(10323), 473–486. [https://doi.org/10.1016/S0140-6736\(21\)01730-X](https://doi.org/10.1016/S0140-6736(21)01730-X)
- Johnson, A., Roberts, L., & Elkins, G. (2019). Complementary and alternative medicine for menopause. *Journal of Evidence-Based Integrative Medicine*, 24, 2515690X19829380. <https://doi.org/10.1177/2515690X19829380>
- Jorge, M. P., Santaella, D. F., Pontes, I. M., Shiramizu, V. K., Nascimento, E. B., Cabral, A., Lemos, T. M., Silva, R. H., & Ribeiro, A. M. (2016). Hatha yoga practice decreases menopause symptoms and improves quality of life: A randomized controlled trial. *Complementary Therapies in Medicine*, 26, 128–135. <https://doi.org/10.1016/j.ctim.2016.03.014>
- Kapoor, E., Okuno, M., Miller, V. M., Rocca, L. G., Rocca, W. A., Kling, J. M., Kuhle, C. L., Mara, K. C., Enders, F. T., & Faubion, S. S. (2021). Association of adverse childhood experiences with menopausal symptoms: Results from the Data Registry on Experiences of Aging, Menopause and Sexuality (DREAMS). *Maturitas*, 143, 209–215. <https://doi.org/10.1016/j.maturitas.2020.10.006>
- Katon, J. G., Gray, K. E., Gerber, M. R., Harrington, L. B., Woods, N. F., Weitlauf, J. C., Bean-Mayberry, B., Goldstein, K. M., Hunt, J. R., Katon, W. J., Haskell, S. G., McCutcheon, S. J., Gass, M. L., Gibson, C. J., & Zephyrin, L. C. (2016). Vasomotor symptoms and quality of life among veteran and non-veteran postmenopausal women. *The Gerontologist*, 56(Suppl 1), S40–S53. <https://doi.org/10.1093/geront/gnv104>
- Kim, H., Wildeman, C., Jonson-Reid, M., & Drake, B. (2017). Lifetime prevalence of investigating child maltreatment among US children. *American Journal of Public Health*, 107(2), 274–280. <https://doi.org/10.2105/AJPH.2016.303545>
- Kim, J. H., & Yu, H. J. (2024). The effectiveness of cognitive behavioral therapy on depression and sleep problems for climacteric women: A systematic review and meta-analysis. *Journal of Clinical Medicine*, 13(2), 412. <https://doi.org/10.3390/jcm13020412>
- Kleinman, N. L., Rohrbacher, N. J., Bushmakina, A. G., Whiteley, J., Lynch, W. D., & Shah, S. N. (2013). Direct and indirect costs of women diagnosed with menopause symptoms. *Journal of Occupational and Environmental Medicine*, 55(4), 465–470. <https://doi.org/10.1097/JOM.0b013e3182820515>
- Kornstein, S. G., Clayton, A. H., Soares, C. N., Padmanabhan, S. K., Guico-Pabia, C. J., & Tourian, K. A. (2010). Efficacy of desvenlafaxine 50 mg/d for prevention of relapse in major depressive disorder: A placebo-controlled trial. *Journal of Clinical Psychiatry*, 71(10), 1254–1261. <https://doi.org/10.4088/jcp.12m07974>

- Kornstein, S. G., Clayton, A. H., & Soares, C. N. (2014). A pooled analysis of the efficacy of desvenlafaxine for the treatment of major depressive disorder in perimenopausal and postmenopausal women. *Journal of Women's Health, 23*(7), 620–628. <https://doi.org/10.1089/jwh.2014.4900>
- Kornstein, S. G., Toups, M. S., Rush, A. J., Wisniewski, S. R., Thase, M. E., Luther, J., Warden, D., Fava, M., & Trivedi, M. H. (2015). Do menopausal status and use of hormone therapy affect antidepressant treatment response? Findings from STAR*D. *Journal of Women's Health, 24*(2), 121–131. <https://doi.org/10.1089/jwh.2012.3479>
- Lachman, M. E., Teshale, S., & Agrigoroaei, S. (2015). Midlife as a pivotal period in the life course: Balancing growth and decline at the crossroads of youth and old age. *International Journal of Behavioral Development, 39*(1), 20–31. <https://doi.org/10.1177/0165025414533223>
- Maki, P. M., Kornstein, S. G., Joffe, H., Bromberger, J. T., Freeman, E. W., Athappilly, G., Bobo, W. V., Rubin, L. H., Koleva, H. K., Cohen, L. S., & Soares, C. N. (2018). Guidelines for the evaluation and treatment of perimenopausal depression: Summary and recommendations. *Menopause, 25*(10), 1069–1085. <https://doi.org/10.1097/GME.0000000000001174>
- Mangweth-Matzek, B., Kummer, K. K., & Hoek, H. W. (2023). Update on the epidemiology and treatment of eating disorders among older people. *Current Opinion in Psychiatry, 36*(6), 405–411. <https://doi.org/10.1097/YCO.0000000000000893>
- Matthews, K. A., Lee, L., Kravitz, H. M., Joffe, H., Neal-Perry, G., Swanson, L. M., Evans, M. A., & Hall, M. H. (2021). Influence of the menopausal transition on polysomnographic sleep characteristics: A longitudinal analysis. *Sleep, 44*(11), zsab139. <https://doi.org/10.1093/sleep/zsab139>
- McCurry, S. M., Guthrie, K. A., Morin, C. M., Woods, N. F., Landis, C. A., Ensrud, K. E., Larson, J. C., Joffe, H., Cohen, L. S., Hunt, J. R., Newton, K. M., Otte, J. L., Reed, S. D., Sternfeld, B., Tinker, L. F., & LaCroix, A. Z. (2016). Telephone-based cognitive behavioral therapy for insomnia in perimenopausal and postmenopausal women with vasomotor symptoms: A MsFLASH randomized clinical trial. *JAMA Internal Medicine, 176*(7), 913–920. <https://doi.org/10.1001/jamainternmed.2016.1795>
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research, 45*(8), 1027–1035. <https://doi.org/10.1016/j.jpsychires.2011.03.006>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Michopoulos, V., Huibregtse, M. E., Chahine, E. B., Smith, A. K., Fonkoue, I. T., Maples-Keller, J., Murphy, A., Taylor, L., Powers, A., & Stevens, J. S. (2023). Association between perimenopausal age and greater posttraumatic stress disorder and depression symptoms in trauma-exposed women. *Menopause, 30*(10), 1038–1044. <https://doi.org/10.1097/GME.0000000000002235>
- Milic, J., Glisic, M., Voortman, T., Borba, L. P., Asllanaj, E., Rojas, L. Z., Troup, J., Kiefe-de Jong, J. C., van Beeck, E., Muka, T., & Franco, O. H. (2018). Menopause, ageing, and alcohol use disorders in women. *Maturitas, 111*, 100–109. <https://doi.org/10.1016/j.maturitas.2018.03.006>
- Morrison, M. F., Kallan, M. J., Ten Have, T., Katz, I., Tweedy, K., & Battistini, M. (2004). Lack of efficacy of estradiol for depression in postmenopausal women: A randomized, controlled trial. *Biological Psychiatry, 55*(4), 406–412. <https://doi.org/10.1016/j.biopsych.2003.08.011>
- Mulhall, S., Andel, R., & Anstey, K. J. (2018). Variation in symptoms of depression and anxiety in midlife women by menopausal status. *Maturitas, 108*, 7–12. <https://doi.org/10.1016/j.maturitas.2017.11.005>
- Muratore, L. A., Blanken, A. E., Huang, A. J., & Gibson, C. J. (2025). Sexual orientation and sexual functioning in midlife women veterans. *Menopause, 32*(1), 5–11. <https://doi.org/10.1097/GME.0000000000002449>
- Nierenberg, A. A., Agustini, B., Köhler-Forsberg, O., Cusin, C., Katz, D., Sylvia, L. G., Peters, A., & Berk, M. (2023). Diagnosis and treatment of bipolar disorder: A review. *JAMA, 330*(14), 1370–1380. <https://doi.org/10.1001/jama.2023.18588>
- Nishimi, K., Thurston, R. C., Chibnik, L. B., Roberts, A. L., Sumner, J. A., Lawn, R. B., Tworoger, S. S., Kim, Y., Koenen, K. C., & Kubzansky, L. D. (2022). Posttraumatic stress disorder symptoms and timing of menopause and gynecological surgery in the Nurses' Health Study II. *Journal of Psychosomatic Research, 159*, 110947. <https://doi.org/10.1016/j.jpsychores.2022.110947>
- Ohayon M. M. (2006). Severe hot flashes are associated with chronic insomnia. *Archives of Internal Medicine, 166*(12), 1262–1268. <https://doi.org/10.1001/archinte.166.12.1262>
- Otte, J. L., Carpenter, J. S., Roberts, L., & Elkins, G. R. (2020). Self-hypnosis for sleep disturbances in menopausal women. *Journal of Women's Health, 29*(3), 461–463. <https://doi.org/10.1089/jwh.2020.8327>
- Perich, T., Ussher, J., & Meade, T. (2017). Menopause and illness course in bipolar disorder: A systematic review. *Bipolar Disorders, 19*(6), 434–443. <https://doi.org/10.1111/bdi.12530>
- Peters, J. R., Schmalenberger, K. M., Eng, A. G., Stumper, A., Martel, M. M., & Eisenlohr-Moul, T. A. (2025). Dimensional affective sensitivity to hormones across the menstrual cycle (DASH-MC): A transdiagnostic framework for ovarian steroid influences on psychopathology. *Molecular Psychiatry, 30*(1), 251–262. <https://doi.org/10.1038/s41380-024-02693-4>
- Polak, K., Haug, N. A., Dillon, P., & Svikis, D. S. (2023). Substance use disorders in women. *The Psychiatric Clinics of North America, 46*(3), 487–503. <https://doi.org/10.1016/j.psc.2023.04.006>
- Polat, F., Orhan, I., & Şimşek Küçükkeleşçe, D. (2022). Does social support affect menopausal symptoms in menopausal women? *Perspectives in Psychiatric Care, 58*(3), 1062–1070. <https://doi.org/10.1111/ppc.12899>
- Potočník, K., Steffan, B., & Zheng, S. (2025). Managing menopause transition in the workplace: The double-edged sword of flexible work. *Journal of Occupational and Organizational Psychology, 98*(2). <https://doi.org/10.1111/joop.70032>
- Rasgon, N. L., Dunkin, J., Fairbanks, L., Altshuler, L. L., Truong, C., Elman, S., ... & Rapkin, A. (2007). Estrogen and response to sertraline in postmenopausal women with major depressive disorder: A pilot study. *Journal of Psychiatric Research, 41*(3–4), 338–343. <https://doi.org/10.1016/j.jpsychires.2006.03.009>

- Rashedi, S., Maasoumi, R., Vosoughi, N., & Haghani, S. (2022). The effect of mindfulness-based cognitive-behavioral sex therapy on improving sexual desire disorder, sexual distress, sexual self-disclosure and sexual function in women: A randomized controlled clinical trial. *Journal of Sex & Marital Therapy*, 48(5), 475–488. <https://doi.org/10.1080/0092623X.2021.2008075>
- Reed, S. D., Guthrie, K. A., Newton, K. M., Anderson, G. L., Booth-LaForce, C., Caan, B., Carpenter, J. S., Cohen, L. S., Dunn, A. L., Ensrud, K. E., Freeman, E. W., Hunt, J. R., Joffe, H., Larson, J. C., Learman, L. A., Rothenberg, R., Seguin, R. A., Sherman, K. J., Sternfeld, B. S., & LaCroix, A. Z. (2014). Menopausal quality of life: RCT of yoga, exercise, and omega-3 supplements. *American Journal of Obstetrics and Gynecology*, 210(3), 244.e1–244.e11. <https://doi.org/10.1016/j.ajog.2013.11.016>
- Reeves, A. N., Lewis, T. T., Hood, M. M., Thurston, R. C., Avis, N. E., Burnett-Bowie, S. M., Cortés, Y. I., Neal-Perry, G., & Harlow, S. D. (2024). Does everyday discrimination account for the increased risk of vasomotor symptoms in Black women? The Study of Women's Health Across the Nation (SWAN). *Menopause*, 31(6), 484–493. <https://doi.org/10.1097/GME.0000000000002357>
- Riach, K., & Jack, G. (2021). Women's health in/and work: Menopause as an intersectional experience. *International Journal of Environmental Research and Public Health*, 18(20), 10793. <https://doi.org/10.3390/ijerph182010793>
- Rössler, W., Ajdacic-Gross, V., Riecher-Rössler, A., Angst, J., & Hengartner, M. P. (2016). Does menopausal transition really influence mental health? Findings from the prospective long-term Zurich study. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 15(2), 146–154. <https://doi.org/10.1002/wps.20319>
- Różycka, A., Stopeń, R., Stopeń, A., Dorszewska, J., Seremak-Mrozikiewicz, A., Lianeri, M., Maciukiewicz, M., Warenik-Szymankiewicz, A., Grzelak, T., Kurzawińska, G., Drews, K., Klejewski, A., & Jagodziński, P. P. (2016). The MAOA, COMT, MTHFR and ESR1 gene polymorphisms are associated with the risk of depression in menopausal women. *Maturitas*, 84, 42–54. <https://doi.org/10.1016/j.maturitas.2015.10.011>
- Saadedine, M., Faubion, S., Kingsberg, S., Enders, F., Kuhle, C., Kling, J. M., Mara, K., & Kapoor, E. (2023). Adverse childhood experiences and sexual dysfunction in midlife women: Is there a link? *The Journal of Sexual Medicine*, 20(6), 792–799. <https://doi.org/10.1093/jsxmed/qdad053>
- Safwan, N., Saadedine, M., Shufelt, C. L., Kapoor, E., Kling, J. M., Chaudhry, R., & Faubion, S. S. (2024). Menopause in the workplace: Challenges, impact, and next steps. *Maturitas*, 185, 107983. <https://doi.org/10.1016/j.maturitas.2024.107983>
- Santoro, N., El Khoudary, S. R., Nasr, A., Gold, E. B., Greendale, G., McConnell, D., ... & Crawford, S. (2020). Daily luteal serum and urinary hormone profiles in the menopause transition: Study of Women's Health Across the Nation. *Menopause*, 27(2), 127–133. <https://doi.org/10.1097/GME.0000000000001453>
- Scheffrahn, K., Hall, C., Muñiz, V., & Elkins, G. (2025). User outcomes for an app-delivered hypnosis intervention for menopausal hot flashes: Retrospective analysis. *JMIR Formative Research*, 9, e63948. <https://doi.org/10.2196/63948>
- Schmidt, P. J., Nieman, L., Danaceau, M. A., Adams, L. F., & Rubinow, D. R. (1998). Differential behavioral effects of gonadal steroids in women with and in those without premenstrual syndrome. *New England Journal of Medicine*, 338(4), 209–216. <https://doi.org/10.1056/NEJM199801223380401>
- Schmidt, P. J., Nieman, L., Danaceau, M. A., Tobin, M. B., Roca, C. A., Murphy, J. H., & Rubinow, D. R. (2000). Estrogen replacement in perimenopause-related depression: A preliminary report. *American Journal of Obstetrics and Gynecology*, 183(2), 414–420. <https://doi.org/10.1067/mob.2000.106004>
- Schmidt, P. J., Ben Dor, R., Martinez, P. E., Guerrieri, G. M., Harsh, V. L., Thompson, K., Koziol, D. E., Nieman, L. K., & Rubinow, D. R. (2015). Effects of estradiol withdrawal on mood in women with past perimenopausal depression: A randomized clinical trial. *JAMA Psychiatry*, 72(7), 714–726. <https://doi.org/10.1001/jamapsychiatry.2015.0111>
- Schneider, L. S., Small, G. W., Hamilton, S. H., Bystritsky, A., Nemeroff, C. B., & Meyers, B. S. (1997). Estrogen replacement and response to fluoxetine in a multicenter geriatric depression trial. *The American Journal of Geriatric Psychiatry*, 5(2), 97–106. <https://doi.org/10.1097/00019442-199700520-00002>
- Schneider, L. S., Small, G. W., & Clary, C. M. (2001). Estrogen replacement therapy and antidepressant response to sertraline in older depressed women. *The American Journal of Geriatric Psychiatry*, 9(4), 393–399. <https://doi.org/10.1097/00019442-200111000-00007>
- Shifren, J. L., & Avis, N. E. (2007). Surgical menopause: Effects on psychological well-being and sexuality. *Menopause*, 14(3 Pt 2), 586–591. <https://doi.org/10.1097/gme.0b013e318032c505>
- Shitomi-Jones, L. M., Dolman, C., Jones, I., Kirov, G., Escott-Price, V., Legge, S. E., & Di Florio, A. (2024). Exploration of first onsets of mania, schizophrenia spectrum disorders and major depressive disorder in perimenopause. *Nature Mental health*, 2(10), 1161–1168. <https://doi.org/10.1038/s44220-024-00292-4>
- Smith, S.G., Zhang, X., Basile, K.C., Merrick, M.T., Wang, J., Kresnow, M., Chen, J. (2018). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2015 data brief – updated release*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. <https://stacks.cdc.gov/view/cdc/60893>
- Soares, C. N., Almeida, O. P., Joffe, H., & Cohen, L. S. (2001). Efficacy of estradiol for the treatment of depressive disorders in perimenopausal women: A double-blind, randomized, placebo-controlled trial. *Archives of General Psychiatry*, 58(6), 529–534. <https://doi.org/10.1001/archpsyc.58.6.529>
- Soares, C. N., Frey, B. N., Haber, E., & Steiner, M. (2010). A pilot, 8-week, placebo lead-in trial of quetiapine extended release for depression in midlife women: Impact on mood and menopause-related symptoms. *Journal of Clinical Psychopharmacology*, 30(5), 612–615. <https://doi.org/10.1097/JCP.0b013e3181f1d0f2>
- Soares C. N. (2025). Beyond moods and cycles: A closer look at anger and anxiety throughout midlife reproductive stages. *Menopause*. Advance online publication. <https://doi.org/10.1097/GME.0000000000002634>

- Soares, C. N., Briggs, P., Dinkel-Keuthage, C., Schoof, N., Moeller, C., Nguyen, J., Genga, K., Drakeley, S., Modi, K., & Maki, P. M. (2026). The burden of sleep disturbances on quality of life and mental well-being in nearly 50,000 perimenopausal and postmenopausal women with and without concurrent vasomotor symptoms from the United States and Europe. *Menopause*, 33(3), 261–269. <https://doi.org/10.1097/GME.0000000000002654>
- Spector, A., Li, Z., He, L., Badawy, Y., & Desai, R. (2024). The effectiveness of psychosocial interventions on non-physiological symptoms of menopause: A systematic review and meta-analysis. *Journal of Affective Disorders*, 352, 460–472. <https://doi.org/10.1016/j.jad.2024.02.048>
- Steffan, B., & Potočník, K. (2025). Responding to menopause at work as an identity threat: Resilience as resource for cognitive and emotional identity work. *British Journal of Management*, 36(3), 1290–1302. <https://doi.org/10.1111/1467-8551.12895>
- Strand, N. H., D'Souza, R. S., Gomez, D. A., Whitney, M. A., Attanti, S., Anderson, M. A., Moeschler, S. M., Chadwick, A. L., & Maloney, J. A. (2025). Pain during menopause. *Maturitas*, 191, 108135. <https://doi.org/10.1016/j.maturitas.2024.108135>
- Szeliga, A., Stefanowski, B., Meczekalski, B., Snopek, M., Kostrzak, A., Smolarczyk, R., Bala, G., Duszewska, A., Smolarczyk, K., & Maciejewska-Jeske, M. (2021). Menopause in women with schizophrenia, schizoaffective disorder and bipolar disorder. *Maturitas*, 152, 57–62. <https://doi.org/10.1016/j.maturitas.2021.07.003>
- Tang, R., Luo, M., Li, J., Peng, Y., Wang, Y., & Liu, B. (2019). Symptoms of anxiety and depression among Chinese women transitioning through menopause: Findings from a prospective community-based cohort study. *Fertility and Sterility*, 112(6), 1160–1171. <https://doi.org/10.1016/j.fertnstert.2019.08.005>
- Targett, R., & Beck, V. (2022). Menopause as a well-being strategy: Organizational effectiveness, gendered ageism and racism. *Post Reproductive Health*, 28(1), 23–27. <https://doi.org/10.1177/20533691211060098>
- Tiwari, S., Prasad, R., Wanjari, M. B., & Sharma, R. (2023). Understanding the impact of menopause on women with schizophrenia-spectrum disorders: A comprehensive review. *Cureus*, 15(4), e37979. <https://doi.org/10.7759/cureus.37979>
- Thomas, H. N., Brotto, L. A., de Abril Cameron, F., Yabes, J., & Thurston, R. C. (2023). A virtual, group-based mindfulness intervention for midlife and older women with low libido lowers sexual distress in a randomized controlled pilot study. *The Journal of Sexual Medicine*, 20(8), 1060–1068. <https://doi.org/10.1093/jsxmed/qdad081>
- Thomas, J. L., Blanken, A. E., Huang, A. J., Maguen, S., Gibson, C. J., & Sumner, J. A. (2024). Dimensions of posttraumatic stress disorder and menopause related health in midlife women veterans. *Menopause*, 31(10), 842–852. <https://doi.org/10.1097/GME.0000000000002410>
- Thurston, R. C., Bromberger, J., Chang, Y., Goldbacher, E., Brown, C., Cyranowski, J. M., & Matthews, K. A. (2008). Childhood abuse or neglect is associated with increased vasomotor symptom reporting among midlife women. *Menopause*, 15(1), 16–22. <https://doi.org/10.1097/gme.0b013e31805fea75>
- Thurston, R. C., & Joffe, H. (2011). Vasomotor symptoms and menopause: Findings from the Study of Women's Health across the Nation. *Obstetrics and Gynecology Clinics of North America*, 38(3), 489–501. <https://doi.org/10.1016/j.ogc.2011.05.006>
- Thurston, R. C., Chang, Y., Derby, C. A., Bromberger, J. T., Harlow, S. D., Janssen, I., & Matthews, K. A. (2014). Abuse and subclinical cardiovascular disease among midlife women: the study of women's health across the nation. *Stroke*, 45(8), 2246–2251. <https://doi.org/10.1161/STROKEAHA.114.005928>
- Thurston, R. C., Jakubowski, K., Chang, Y., Koenen, K., Maki, P. M., & Barinas Mitchell, E. (2021). Sexual assault and carotid plaque among midlife women. *Journal of the American Heart Association*, 10(5), e017629. <https://doi.org/10.1161/JAHA.120.017629>
- Thurston, R. C., Chang, Y., Matthews, K. A., Harlow, S., El Khoudary, S. R., Janssen, I., & Derby, C. (2022a). Interpersonal trauma and risk of incident cardiovascular disease events among women. *Journal of the American Heart Association*, 11(7), e024724. <https://doi.org/10.1161/JAHA.121.024724>
- Thurston, R. C., Jakubowski, K. P., Wu, M., Aizenstein, H. J., Chang, Y., Derby, C. A., Koenen, K. C., Barinas-Mitchell, E., & Maki, P. M. (2022b). Sexual assault and white matter hyperintensities among midlife women. *Brain Imaging and Behavior*, 16(2), 773–780. <https://doi.org/10.1007/s11682-021-00536-2>
- Travis, K. J., Huang, A. J., Maguen, S., Inslicht, S., Byers, A. L., Seal, K. H., & Gibson, C. J. (2024). Military sexual trauma and menopause symptoms among midlife women veterans. *Journal of General Internal Medicine*, 39(3), 411–417. <https://doi.org/10.1007/s11606-023-08493-w>
- U.S. Bureau of Labor Statistics. (2023). *Women in the labor force: A databook*. U.S. Department of Labor. <https://www.bls.gov/opub/reports/womens-databook/2023/>
- U.S. Bureau of Labor Statistics. (2024). *Women in the labor force: A databook*. U.S. Department of Labor. <https://www.bls.gov/opub/reports/womens-databook/2024/>
- U.S. Census Bureau. (2024). American Community Survey 1-year estimates: Table S0101, age and sex. <https://data.census.gov>
- U.S. Preventive Services Task Force, Davidson, K. W., Barry, M. J., Mangione, C. M., Cabana, M., Chelmos, D., Coker, T. R., Davis, E. M., Donahue, K. E., Jaén, C. R., Kubik, M., Li, L., Ogedegbe, G., Pbert, L., Ruiz, J. M., Silverstein, M., Stevermer, J., & Wong, J. B. (2022). Screening for eating disorders in adolescents and adults: US Preventive Services Task Force recommendation statement. *JAMA*, 327(11), 1061–1067. <https://doi.org/10.1001/jama.2022.1806>
- VanKim, N. A., Charlton, B. M., Berzansky, I., Fields, N. D., Whitcomb, B. W., Hankinson, S. E., Sievert, L. L., & Bertone-Johnson, E. R. (2024). Natural menopause timing and menopause symptoms among lesbian, bisexual, and heterosexual women in the Nurses' Health Study II. *Menopause*, 31(12), 1049–1054. <https://doi.org/10.1097/GME.0000000000002442>
- Wang, H., Wang, H., Kwok, J. Y. Y., Tang, S., & Sun, M. (2025a). The effectiveness of mindfulness-based interventions on menopausal symptoms: A systematic review and meta-analysis of randomized controlled trials. *Journal of Affective Disorders*, 381, 337–349. <https://doi.org/10.1016/j.jad.2025.04.029>

- Wang, Y., Islam, R. M., Bond, M., Skiba, M. A., & Davis, S. R. (2025b). Sexual dysfunction in women at midlife: A cross-sectional study of data from the Australian Women's Midlife Years study. *The Lancet Obstetrics & Women's Health*, 1(3), e198–e208. <https://doi.org/10.1016/j.lanogw.2025.100024>
- Wąsowicz, A., Sztyler-Krąkowska, M., Siwiec, J., Smyl, N., Szatkowska, J., Śpiołek, O., Teofilak, M., Słowikowska, A., Kędziora, F., & Fabian, D. (2024). Impact of physical exercise on menopause symptoms and health-related quality of life: A literature review. *Journal of Education, Health and Sport*, 76, 56485. <https://doi.org/10.12775/JEHS.2024.76.56485>
- Wei, S.-M., Wakim, P., Martinez, P. E., Nieman, L. K., Rubinow, D. R., & Schmidt, P. J. (2025). Differential effects of ovarian steroids in women with and without premenstrual dysphoric disorder: A replication and extension of findings. *American Journal of Psychiatry*, 182(10), 922–934. <https://doi.org/10.1176/appi.ajp.20240596>
- Weissman, M. M., Bland, R. C., Canino, G. J., Faravelli, C., Greenwald, S., Hwu, H. G., Joyce, P. R., Karam, E. G., Lee, C. K., Lellouch, J., Lépine, J. P., Newman, S. C., Rubio-Stipec, M., Wells, J. E., Wickramaratne, P. J., Wittchen, H., & Yeh, E. K. (1996). Cross-national epidemiology of major depression and bipolar disorder. *JAMA*, 276(4), 293–299. <https://doi.org/10.1001/jama.1996.03540040037030>
- Wihlbäck, A. C., Nyberg, S., Andersson, A., Bixo, M., Bäckström, T., & Sundström-Poromaa, I. (2007). Allopregnanolone serum concentrations and neurosteroid sensitivity during withdrawal from postmenopausal hormone therapy. *Gynecological Endocrinology*, 23(10), 590–596. <https://doi.org/10.1080/09513590701550015>
- Wildeman, C., Emanuel, N., Leventhal, J. M., Putnam-Hornstein, E., Waldfogel, J., & Lee, H. (2014). The prevalence of confirmed maltreatment among US children, 2004 to 2011. *JAMA Pediatrics*, 168(8), 706–713. <https://doi.org/10.1001/jamapediatrics.2014.410>
- Wood, K., McCarthy, S., Pitt, H., Randle, M., & Thomas, S. L. (2025). Women's experiences and expectations during the menopause transition: a systematic qualitative narrative review. *Health Promotion International*, 40(1), daaf005. <https://doi.org/10.1093/heapro/daaf005>
- Woods, N. F., Pike, K., & Mitchell, E. S. (2025). Anger, aging, and reproductive aging: observations from the Seattle Midlife Women's Health Study. *Menopause*, 32(10), 930–939. <https://doi.org/10.1097/GME.0000000000002587>
- Wu, C. K., Tseng, P. T., Wu, M. K., Li, D. J., Chen, T. Y., Kuo, F. C., Stubbs, B., Carvalho, A. F., Chen, Y. W., Lin, P. Y., Cheng, Y. S., & Sun, C. K. (2020). Antidepressants during and after menopausal transition: A systematic review and meta-analysis. *Scientific Reports*, 10(1), 8026. <https://doi.org/10.1038/s41598-020-64910-8>
- Xu, H., Liu, J., Li, P., & Liang, Y. (2024). Effects of mind-body exercise on perimenopausal and postmenopausal women: a systematic review and meta-analysis. *Menopause*, 31(5), 457–467. <https://doi.org/10.1097/GME.0000000000002336>
- Yalamanchili, V., & Gallagher, J. C. (2012). Treatment with hormone therapy and calcitriol did not affect depression in older postmenopausal women: no interaction with estrogen and vitamin D receptor genotype polymorphisms. *Menopause*, 19(6), 697–703. <https://doi.org/10.1097/gme.0b013e31823bcec5>
- Young, T., Finn, L., Austin, D., & Peterson, A. (2003). Menopausal status and sleep-disordered breathing in the Wisconsin Sleep Cohort Study. *American Journal of Respiratory and Critical Care Medicine*, 167(9), 1181–1185. <https://doi.org/10.1164/rccm.200209-1055OC>
- Zanardi, R., Rossini, D., Magri, L., Malaguti, A., Colombo, C., & Smeraldi, E. (2007). Response to SSRIs and role of the hormonal therapy in post-menopausal depression. *European Neuropsychopharmacology*, 17(6–7), 400–405. <https://doi.org/10.1016/j.euroneuro.2006.11.001>
- Zou, P., Waliwitiya, T., Luo, Y., et al. (2021). Factors influencing healthy menopause among immigrant women: A scoping review. *BMC Women's Health*, 21, Article 189. <https://doi.org/10.1186/s12905-021-01327-z>



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