

Menopause

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July 2026

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helen.clemow@nhs.net

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Guidelines

1. Hormone blood tests in the menopause transition

Author: British Menopause Society

Publication Date: 2026

Abstract: "This WHC Fact Sheet will help to increase understanding of the hormones that are measured in hormone blood tests and explain why hormone blood tests are generally not helpful in diagnosing and managing the menopause."

URL: https://www.womens-health-concern.org/wp-content/uploads/2026/06/39-NEW-WHC-FACTSHEET-Hormone-blood-tests-in-the-menopause-transition-JUNE2026-B.pdf?utm_source=news&utm_medium=website&utm_campaign=bms-website

2. Menopausal 'brain fog' or dementia? – a practical guide for clinicians

Author: British Menopause Society

Publication Date: 2026

Abstract: Key points:

- Menopausal 'brain fog' is a cluster of cognitive-related symptoms that can be distressing to individuals.
- Brain fog can occur across the lifespan in both men and women. It is not always hormone related and is multifactorial in origin (Denno 2025).
- Addressing brain fog symptoms may include hormone therapy to manage 'triggers' for brain fog, such as poor sleep and tiredness.
- Brain fog symptoms tend to resolve post menopause for most people.
- Dementia under age 65 years is rare – unless there is a family history of early onset dementia and/or unusual presentation and/or a significant and progressive cognitive decline, we can often reassure individuals.
- Lifestyle, nutritional and cognitive approaches are important aspects of improving brain fog symptoms

URL: https://thebms.org.uk/wp-content/uploads/2026/06/26-NEW-BMS-ToolsforClinicians-Menopausal-%E2%80%99brain-fog-or-dementia-JUNE2026-D.pdf?utm_source=news&utm_medium=website&utm_campaign=june-26

Research

1. Obsessive-compulsive disorder and menopause: a scoping review.

Authors: Albanese C.M.;Antaya G. and Gordon, J. L.

Publication Date: 2026

Journal: Menopause 33(3), pp. 364–371

Abstract: Importance and objective: - Obsessive-compulsive disorder (OCD) is a psychiatric condition marked by intrusive thoughts and compulsive behaviors. Female-born individuals are more likely to develop OCD; reproductive events such as menarche and the peripartum are also associated with increased symptom severity. This scoping review identified existing literature on the impact of menopause on OCD onset and symptoms. Method(s): - We conducted a scoping review following Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews reporting guidelines. Four electronic databases (MEDLINE, Embase, PsycInfo, and CINAHL) were searched from inception to April 15, 2025, for original research studies examining the association between menopause and new onset or changes in preexisting obsessive-compulsive symptoms. We described study characteristics, main findings, and gaps in the existing literature. Discussions and conclusion: - Eight studies met criteria for inclusion in this review. All studies used quantitative methods, were cross-sectional, and relied on self-reported retrospective assessment of changes or onset of obsessive-compulsive symptoms in relation to the onset of menopause. Of 373 participants reporting on OCD onset, 17 (4.6%) reported that the initial appearance of their OCD symptoms had coincided with the onset of menopause. Of 265 participants reporting on symptom changes, 72 (27.2%) reported an exacerbation of their symptoms with the onset of menopause, while 30/265 (11.3%) reported an improvement in symptoms. Cross-sectional research suggests that OCD symptoms may change in severity or start with menopause in a subset of individuals. Longitudinal studies prospectively tracking OCD symptoms in the premenopause, perimenopause, and postmenopause phases are needed to confirm these findings. In the meantime, increased symptom monitoring of midlife female-born individuals with OCD is warranted.

2. Hormonal Shifts and Structural Strain: A Literature Review of Menopause and Perimenopause in Relation to Overuse Injuries and Stress Fractures.

Authors: Ansari, Mustafa;Hussain, Faisal;Shopon, Mutasem;Ajmal, Hanfa;Asif, Mueez and David, Sharon

Publication Date: 2026

Journal: Annals of Rehabilitation Medicine

Abstract: Musculoskeletal injury risk in midlife women has traditionally been attributed to estrogen decline, but this narrow focus overlooks the broader biomechanical, neuromuscular, and structural changes associated with menopause. Estrogen plays a multisystem role in maintaining trabecular bone integrity, collagen turnover, and neuromuscular coordination. Its

abrupt loss causes bone demineralization (2%-5% annually in early menopause), impairs tendon repair, and contributes to sarcopenia. Fluctuating estradiol levels during perimenopause may transiently increase ligament laxity, further destabilizing joints. Common injuries such as Achilles and rotator cuff tendinopathies, plantar fasciitis, and stress fractures are amplified by low bone mineral density, prior fracture history, aromatase inhibitor use, and rapid increases in physical activity. Although early initiation of hormone replacement therapy reduces fracture risk by 20%-40%, it is not appropriate for all patients due to contraindications and individualized risk-benefit profiles. Non-hormonal strategies-including resistance training, nutritional optimization, and early screening with dual-energy X-ray absorptiometry and peripheral quantitative computed tomography-remain underutilized, particularly among marginalized populations. This structured narrative review synthesizes evidence from endocrinology, biomechanics, and musculoskeletal epidemiology to evaluate limitations in current research, including reliance on observational data, homogeneous cohorts, and technocentric approaches with limited generalizability. Future efforts should prioritize personalized, hormone-informed exercise prescriptions, biomarker-guided monitoring, and community-based prevention strategies. The prevailing estrogen-centric paradigm may benefit from a broader multidisciplinary framework integrating biological, mechanical, and social determinants of injury risk. We propose a hormone-tissue-load mismatch model that reframes menopause as a modifiable biomechanical window for injury prevention.

3. The role of IL-26 and IL-38 levels on menopause and vasomotor symptoms: a cross-sectional study.

Authors: Can, Sultan;Aktoz, Fatih;Tercan, Can;Vurgun, Eren and Turgut, Abdulkadir

Publication Date: 2026

Journal: Ginekologia Polska

Abstract: **OBJECTIVES:** Investigations into interleukins as predictors of vasomotor symptoms in the postmenopausal period have yielded mixed results. There is a growing interest in defining the complete cytokine profile during menopause. This research aims to provide insights into the potential roles of IL-26 and IL-38 in relation to menopausal symptoms and the transition to postmenopausal status. **MATERIAL AND METHODS:** A total of 168 patients (56 in premenopausal women, 56 in postmenopausal women without vasomotor symptoms, and 56 in postmenopausal women with vasomotor symptoms) aged between 45 and 55 years were included. Serum levels of IL-26 and IL-38 were measured to assess differences in interleukin levels among the patient groups. **RESULTS:** The analysis revealed no significant differences in IL-26 and IL-38 levels between premenopausal and menopausal patients ($p = 0.09$ and $p = 0.66$, respectively). However, the median menopausal duration among individuals experiencing vasomotor symptoms was 24 months shorter compared to those without symptoms ($p = 0.022$). Although IL-26 levels did not vary significantly between groups, the group with vasomotor symptoms exhibited higher IL-38 levels compared to those without symptoms ($p = 0.76$ and $p = 0.029$, respectively). Furthermore, after adjusting for other variables, the odds of vasomotor symptom prevalence increased by 1% with every 1 ng/L increase in IL-38 levels and decreased by 1% with every additional month of menopausal time. **CONCLUSIONS:** In conclusion, this study shows that higher IL-38 levels were associated with the presence of vasomotor symptoms. These results suggest a potential

involvement of IL-38 in the pathophysiology of menopausal symptoms.

4. Reflecting through menopause: introducing the MIRROR cycle to support reflection during the menopause transition.

Authors: Cronin, Camille;Donevant, Sara;Hughes, Kerri-Ann;Kaunonen, Marja;Marcussen, Jette and Wilson, Rhonda

Publication Date: Jun 05 ,2026

Journal: Journal of Research in Nursing 17449871261446828

Abstract: Background: The menopause transition is a complex biopsychosocial life-course event that often coincides with significant role changes, including caregiving responsibilities, evolving family dynamics and sustained workplace participation. Many women describe menopause as disruptive, isolating and threatening to identity, with implications for well-being, work performance and professional engagement. **Aim:** This paper argues for the integration of reflection into nursing practice, including education, clinical encounters and workplace well-being initiatives, to better support women in healthcare who are approaching or experiencing the menopause transition. **Methods:** Peer-reviewed and key grey literature examining menopause-related workplace impacts, healthcare gaps and service provision were reviewed. Established reflective practice models were synthesised and adapted, informed by the authors' body of work on menopause and the nursing workforce. **Results:** An integrated menopause-specific reflective framework, the MIRROR Cycle, was developed. The framework outlines practical reflective strategies including journaling, reflective supervision, Schwartz rounds, structured debriefing, narrative work, mindfulness and appraisal checklists. Socio-cultural and systemic barriers including stigma, silence, fear, limited training, fragmented services and organisational ageism and sexism were identified as factors compounding menopausal distress. **Conclusion:** Embedding the MIRROR Cycle across education, clinical care and workplace policy may enhance coping, identity integration and organisational responsiveness, supporting inclusive and menopause-informed nursing practice.

5. Establishment of harmonized international reference ranges for plasma estradiol concentrations in postmenopausal women.

Authors: Cui, Jinghan;Hankinson, Susan E.;Matsumoto, Alvin M.;Santen, Richard J.;Boutot, Maegan E.;Budd, Jeffrey R.;Dowsett, Mitch;Goetz, Matthew P.;Guranich, Catherine;Houghton, Serena;Ingle, James N.;Jones, Micheal E.;Rinaldi, Sabina;Rosner, Bernard;Schoemaker, Minouk J.;Singh, Ravinder J.;Vesper, Hubert W.;Eliassen, A. Heather;Milne, Roger L.;Swerdlow, Anthony J., et al

Publication Date: 2026

Journal: Journal of Clinical Endocrinology & Metabolism

Abstract: CONTEXT: Prior reports of plasma estradiol concentrations and their reference ranges in postmenopausal women identified marked variation, in part due to assay method and body mass index (BMI). **OBJECTIVE:** To develop an international reference range for

plasma estradiol in postmenopausal women, to support accurate assessment of concentrations during systemic and local (e.g., vaginal) estradiol therapy, and to improve risk prediction for diseases, including osteoporosis, breast and endometrial cancers. **METHODOLOGY:** Estradiol concentrations were measured using primarily liquid chromatography-tandem mass spectrometry (LC-MS/MS) assays in five international cohorts of community-dwelling, postmenopausal women of primarily European ancestry aged 38-100 years who were not using exogenous estrogens (n=7206). Measurements were harmonized to the Centers for Disease Control and Prevention (CDC) reference measurement procedure (RMP) by re-assaying a subset of samples for each cohort and generating recalibration equations. Reference intervals were determined for all women, non-obese women, and specific BMI categories. **RESULTS:** Estradiol concentrations from separate LC-MS/MS assays correlated closely with the CDC RMP, and harmonization minimized inter-assay variability. Estradiol concentrations correlated with BMI but not with chronological age. The reference range (2.5th-97.5th percentile) was 1.1-18.2 pg/mL (4.0 - 66.8 pmol/L) with median of 4.9 pg/mL (18.0 pmol/L) for all postmenopausal women and 1.1-12.5 pg/mL (4.0 - 45.9 pmol/L) with median of 4.1 pg/mL (15.1 pmol/L) for non-obese women (BMI<30). Reference ranges increased progressively with higher BMI categories. **CONCLUSION:** Cross-calibration of estradiol measurements with the CDC RP enabled the development of harmonized plasma estradiol reference ranges for postmenopausal women who were not using exogenous estrogens, suitable for future studies to establish clinical utility. Increasing obesity in postmenopausal women was associated with increasing estradiol concentration and BMI category-specific reference ranges.

6. Incidence of endometrial cancer among postmenopausal women using vaginal estrogen compared to estrogen and progestin combination hormone therapy.

Authors: Daniels, Kimberly;Gandhi, Sampada;Wenziger, Cachet;Parlett, Lauren;Wang, Li;Tave, Arlene;Coley, Bahar;Shanmugasandaram, Saravanan;Wolter, Kevin;Dai, Feng;Azarmina, Pejman;Santos, Ana Cristina;Hoti, Fabian;Wells, Karen;Loyo-Berrios, Nilsa and Lanes, Stephan

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVE: To estimate the incidence of endometrial cancer in women who used low, moderate, or high-dose vaginal estrogen compared with women who used estrogen plus progestogen therapy (EPT). **METHODS:** This cohort study included postmenopausal women from the United States Healthcare Integrated Research Database (HIRD) and the Swedish National Registers. The index date was the date of treatment initiation between January 1, 2007 and December 31, 2021, in the HIRD or between July 1, 2007 and December 31, 2019, in Sweden. Participants had at least 1 year of baseline continuous health plan enrollment or 2 years of Swedish residency, and no history of hormone therapy use, hysterectomy, or endometrial cancer. Hazard ratios (HR) and confidence intervals were estimated using Cox proportional hazards models adjusted for demographic, comorbid, and prescription history. **RESULTS:** In the HIRD, the HR for endometrial cancer when comparing low-dose vaginal estrogen to EPT was 0.74 (0.45-1.22). In the Swedish Registers, this association was 1.34 (0.84-2.13). Moderate-dose vaginal estrogen initiation was positively associated with

endometrial cancer compared with EPT in the HIRD (HR= 1.95 ;0.86-4.45) but not in Sweden (HR=1.15; 0.73-1.83). High-dose Premarin vaginal cream had an association of 0.84 (0.49-1.44) compared with EPT (HIRD). **CONCLUSIONS:** Rates of endometrial cancer among women using low and high-dose vaginal estrogens were comparable to rates among women using EPT.

7. Menopausal hormone therapy in breast cancer survivors: A review.

Authors: Granat L.M.;Pederson H.J. and Kruse, M.

Publication Date: 2026

Journal: Maturitas 208. Article Number: 108929.

Abstract: The use of menopausal hormone therapy (MHT) by breast cancer survivors remains controversial. While MHT is effective for the management of menopausal symptoms in the general population, its safety after breast cancer is uncertain due to limited and heterogeneous data. Menopausal symptoms, including vasomotor and genitourinary complaints, can significantly impair quality of life and adherence to therapy. Non-hormonal treatments are the first-line option but are often insufficient. Evidence suggests that low-dose vaginal estrogen can relieve genitourinary symptoms with minimal systemic absorption and without clear evidence of increased recurrence risk. In contrast, systemic MHT remains highly debated, with conflicting data confounded by differences in study design, hormone formulation, and patient selection. Management should therefore be individualized, balancing symptom severity, recurrence risk, and patient preferences. Until more definitive data are available, multidisciplinary collaboration and shared decision-making remain essential in optimizing quality of life while minimizing oncologic risk.

8. The relationship between adverse childhood experiences, menopausal symptoms, and quality of life.

Authors: Hazar, Seda;Nacar, Gulcin and Altunalan, Asya Ceren

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: The aim of the study is to determine the relationship between adverse childhood experiences (ACEs) and menopausal symptoms and quality of life. **METHODS:** The descriptive and cross-sectional study was completed with 221 women aged 40-65 years who actively used the internet and social media platforms (eg, WhatsApp, Instagram, Facebook). Data were collected using a Personal Information Form, the ACE Scale, the Menopause Rating Scale (MRS), and the Menopause-specific Quality of Life (MENQOL) Scale. **RESULTS:** ACEs were reported by 58.4% of participants. Women with ACEs had significantly higher total MRS scores (16.90 ± 8.14 vs. 12.86 ± 7.20 , $P = 0.001$) and MENQOL scores (2.60 ± 1.43 vs. 1.93 ± 1.20 , $P = 0.009$) than those without ACEs. Significant differences were observed in somatic, psychological, and urogenital MRS domains and in psychosocial, physical, and sexual MENQOL domains ($P < 0.05$). In adjusted regression

models controlling for sociodemographic and clinical variables, ACEs independently predicted greater menopausal symptom severity ($B = 3.21$, $\beta = 0.20$, $P = 0.001$) and poorer MENQOL ($B = 0.81$, $\beta = 0.30$, $P = 0.001$). **CONCLUSIONS:** ACEs were associated with greater menopausal symptom severity and poorer MENQOL. Although causality cannot be inferred due to the cross-sectional design, the findings suggest the potential long-term relationship between early life stress and midlife women's health. Screening for ACEs may help health care professionals identify women at higher risk of severe menopausal symptoms and develop more holistic, trauma-informed management strategies.

9. Global perspectives on perimenopause: a digital survey of knowledge and symptoms using the Flo application.

Authors: Hedges M.S.;HewingsMartin Y.;Karam J.;Castaneda R.;Cunningham A.C.;Xu Y.;Zhaunova L.;Faubion S.S. and Shufelt, C. L.

Publication Date: 2026

Journal: Menopause. Publish Ahead of Print

Abstract: Perimenopause is the time leading up to a woman's last menstrual cycle and includes the 12 months afterward. Studies that systematically compare perimenopause symptoms across diverse cultural and geographic settings are lacking. This study, utilizing data from Flo, an international mobile health application, aimed to assess global knowledge and symptom experiences related to perimenopause. Method(s): - This cross-sectional survey was conducted via the Flo application, offered to users aged 18 years and above. The primary endpoints were knowledge of perimenopause symptoms from all survey participants, and self-reported perimenopause symptoms for survey participants aged 35 years and above. Secondary analyses compared knowledge scores and symptoms across geographic regions. Result(s): - A total of 17, 494 women from 158 countries were included. Commonly recognized perimenopause symptoms included hot flashes (71%), sleep problems (68%), and weight gain (65%). Of the participants, 12, 681 were aged 35 years or above, with the most common self-reported symptoms being fatigue (83%), physical and mental exhaustion (83%), irritability (80%), depressive mood (77%), sleep problems (76%), digestive issues (76%), and anxiety (75%). This pattern of symptoms was similar among those who self-reported being in perimenopause, though higher than in those not in perimenopause. International variation in perimenopause symptom knowledge and symptoms experienced was noted ($P < 0.001$). Conclusion(s): - This survey highlights a discordance between perimenopause knowledge and actual symptoms experienced across diverse global populations. While hot flashes were the most widely recognized symptom, respondents aged 35 years or above most commonly reported experiencing fatigue, physical and mental exhaustion, and irritability.

10. Working as a Registered Nurse During Menopause-A Multiple Methods Study.

Authors: Heta S.;Minna S. and Marja, H.

Publication Date: 2026

Journal: Journal of Advanced Nursing 82(5), pp. 5419–5429

Abstract: Aim: To describe the experiences of Finnish registered nurses aged 45 and over working during menopause. Design(s): Multiple methods study. Method(s): The data were collected from Finnish registered nurses aged 45 and over, using two different methods. Quantitative data (n = 3487), collected in January 2023, were analysed using descriptive statistical methods. Qualitative data were collected during the summer of 2023 through individual interviews (n = 23). The participants were recruited from a survey, where registered nurses (n = 3487) who responded to the survey indicated their willingness to participate in the interview study (n = 718). Participants for the interviews were selected through random sampling, and interviews were conducted until saturation was reached. The quantitative data were analysed with descriptive statistics, and qualitative data were analysed using inductive content analysis. The results of quantitative and qualitative data were combined in the discussion section. Result(s): Limited attention has been given to understanding the menopause and its consequences on the nursing workforce. Menopause remains a taboo topic, with a perceived divide between genders and generations, even within the healthcare sector. However, peer support from female colleagues of a similar age was considered invaluable. During menopause, nurses did not receive sufficient support from their managers or occupational health services, despite experiencing various challenges. Fatigue, for instance, was reported by 76% of nurses aged 45 and over. Nevertheless, nurses continued working despite their symptoms, as taking sick leave was perceived as difficult. Conclusion(s): The consequences of menopause on nursing work are not yet sufficiently recognised within workplaces, or by the leadership and occupational health services. Support for nurses working during menopause seems to be insufficient. Open and informed discussions are needed across various levels of society to increase understanding of the problems of working during menopause. Implications for the Profession and/or Patient Care: The research findings can be used to develop improved occupational health and nursing management practices to support the well-being of menopausal nurses in the workplace. Impact: Currently, there is insufficient knowledge about working as a registered nurse during menopause. However, research findings are enhancing our understanding of the impact of menopause on nursing work and the corresponding needs during this period. Reporting Method: The Standards for Reporting Qualitative Research (SRQR).

11. Impact of social determinants of health on perimenopause symptom burden: insights from the Flo app.

Authors: Hewings-Martin, Yella;Karam, Jana;Cunningham, Adam C.;Hedges, Mary S.;Castaneda, Regina;Zhaunova, Liudmila;Faubion, Stephanie S. and Shufelt, Chrisandra L.

Publication Date: Jun 29 ,2026

Journal: Climacteric 1-8

Abstract: OBJECTIVE: Perimenopause is the time leading up to and including the first 12 months after the final menstrual period. This study examined how social determinants of health (SDOH) including race/ethnicity, income, education and healthcare access influence perimenopause symptom burden. METHOD: A cross-sectional survey was distributed to English, Spanish, Portuguese and French-speaking Flo app users aged 35 years and above. Participants completed the validated Menopause Rating Scale (MRS) and provided data on key SDOH. Associations between SDOH and total MRS and domain scores (psychological,

somatic, urogenital) were evaluated using multivariable linear regression. RESULTS: A total of 12,382 women completed the survey. All examined SDOH were significantly associated with total and domain MRS scores (p p p CONCLUSIONS: SDOH, particularly healthcare access and income, are strongly associated with perimenopause symptom burden. Addressing health inequities is essential to improve perimenopause care and reduce symptom burden.; plain-language-summary Social determinants of health are factors including social, cultural and environmental exposures that can affect a person's health and quality of life. The aim of this study was to study the relationship between perimenopause symptoms and household income, education level, healthcare access and race/ethnicity in a large group of Flo app users aged 35 years and over from around the world. The results show that all of the social determinants of health assessed in the research were linked with perimenopause symptoms. Among all study participants, healthcare access problems had the strongest links with experiencing a higher burden of perimenopause symptoms, followed by insufficient household income and lower education level. When looking specifically at the data from participants who identified as being in perimenopause, insufficient household income had the strongest links with symptoms, followed by healthcare access problems and lower education level. Hispanic/Latino, Black and Asian race/ethnicities also had significant links with symptoms compared with White race/ethnicity. To improve care and reduce the burden of symptoms that those going through perimenopause experience, it is important to address these health inequities. Language: English

12. Effects of Menopausal Hormone Therapy on Uterine Fibroids in Women During Menopausal Transition.

Authors: Huang M.;Chen J.;Gu L.;Yang Y. and Qin, P.

Publication Date: 2026

Journal: International Journal of Women's Health 18. Article Number: 615332.

Abstract: Objective: Uterine fibroids are highly prevalent globally. However, evidence on the effects of menopausal hormone therapy (MHT) on fibroid growth during menopausal transition remains limited. This study explores the association between MHT and the size of uterine fibroids in women during the menopausal transition. Method(s): This retrospective observational study enrolled women during menopausal transition with uterine fibroids who received sequential menopausal hormone therapy (estradiol combined with dydrogesterone) at Nanjing Women and Children's Healthcare Hospital from January 2016 to August 2023. Serial ultrasound examinations were performed to dynamically monitor changes in fibroid cross-sectional area during follow-up. A linear mixed-effects model was applied to explore the long-term impact of menopausal hormone therapy on fibroid size alterations over time. Furthermore, all adverse events occurring during hormone therapy were systematically recorded and summarized. Result(s): A total of 83 patients were enrolled, with a maximum follow-up of 5 years post-treatment. Although statistically significant differences from baseline in fibroid cross-sectional area were observed during the first four years of follow-up, these changes were marginal and clinically unremarkable and undetectable at year 5. Most adverse events were transient and resolved spontaneously. The incidence rates of unexpected bleeding, breast discomfort and gastrointestinal symptoms were 18.07%, 10.84% and 2.41%, respectively. Conclusion(s): Findings suggest that women during menopausal transition that

receiving MHT may experience transient, minor changes in fibroid size. These changes are not considered clinically meaningful, and MHT exhibits an overall favorable safety profile for this group. With regular surveillance and use of the lowest effective dose, MHT represents a safe and practical therapeutic choice. Additional prospective investigations are needed to characterize the long-term dynamic changes of fibroids associated with MHT.

13. The effectiveness of red clover on hot-flash in menopausal women: a GRADE-assessed systematic review and meta-analysis

Authors: Jiang, Wanling and Wu, Kui

Publication Date: Jun 03 ,2026

Journal: European Journal of Obstetrics, Gynecology, & Reproductive Biology 324, pp. 115226

Abstract: **OBJECTIVES:** Red clover (*Trifolium pratense*) isoflavones are widely used as alternatives to hormone therapy for menopausal vasomotor symptoms, yet evidence regarding their efficacy remains inconsistent. To systematically evaluate the effectiveness of red clover supplementation in reducing hot flush frequency and severity in menopausal women. **METHODS:** A systematic review and meta-analysis was conducted following PRISMA guidelines through searching PubMed, Scopus, Web of Science, and Embase data bases for randomized controlled trials comparing red clover isoflavone formulations with placebo in peri- or postmenopausal women experiencing hot flash. Meta-analysis was performed using Comprehensive Meta-Analysis (CMA) software, version 3.7, calculated standardized mean differences (SMD) with 95% confidence intervals. Statistical significance was set at a p-value : A systematic review and meta-analysis was conducted following PRISMA guidelines through searching PubMed, Scopus, Web of Science, and Embase data bases for randomized controlled trials comparing red clover isoflavone formulations with placebo in peri- or postmenopausal women experiencing hot flash. Meta-analysis was performed using Comprehensive Meta-Analysis (CMA) software, version 3.7, calculated standardized mean differences (SMD) with 95% confidence intervals. Statistical significance was set at a p-value **RESULTS:** Nine randomized controlled trials (RCTs) met inclusion criteria, enrolling women aged 40-65 years with baseline hot flush frequencies of 2.1-11.7 per day. Red clover doses ranged from 37.1-160 mg daily isoflavones, with treatment durations of 12 weeks to 12 months. Meta-analysis revealed a statistically significant reduction in frequency of hot flash favoring red clover over placebo (SMD = -0.446; 95% CI: -0.807 to -0.084; p = 0.016), representing a small-to-moderate effect. Sensitivity analyses confirmed result stability, and no publication bias was detected. Most trials exhibited low risk of bias. **CONCLUSION:** Red clover isoflavone supplementation demonstrates modest but statistically significant efficacy in reducing menopausal hot flushes compared with placebo, supporting its potential role as a phytoestrogenic alternative for managing vasomotor symptoms.

14. Redefining menopausal care: a randomized trial of group CBT for vasomotor symptoms in Korean women.

Authors: Jung, Dayi;Park, Jung Yoon;Chung, Kyong-Mee and Kim, Mee-Ran

Publication Date: Jun 09 ,2026

Journal: Climacteric 1-11

Abstract: OBJECTIVE: This study aimed to develop and evaluate a culturally adapted, group-based eight-session cognitive behavioral therapy (CBT) program for perimenopausal/postmenopausal Korean women to reduce vasomotor symptoms (VMS) and improve psychological well-being and quality of life. METHOD: In a non-blinded, parallel-group randomized controlled trial, 50 postmenopausal women were randomly assigned to a group-based CBT intervention group or a wait-list control group. Assessments were conducted at baseline, post intervention and at 4-week follow-up. Primary outcomes were VMS frequency and distress assessed using the Hot Flush Rating Scale (HFRS) and daily interference measured by the Hot Flash Related Daily Interference Scale (HFRDIS). Secondary outcomes included menopause-specific quality of life assessed using the Menopause-Specific Quality of Life Questionnaire (MENQOL), anxiety and depressive symptoms measured by the Hospital Anxiety and Depression Scale, and sleep quality assessed using the Pittsburgh Sleep Quality Index (PSQI). RESULTS: Compared with the control group, the CBT group showed significant improvements in VMS frequency, distress and daily interference. Quality of life improved across all MENQOL domains. Anxiety decreased significantly with sustained effects at follow-up. Depressive symptoms did not change significantly, and sleep improvements were not sustained. CONCLUSIONS: Group-based CBT effectively reduced VMS and improved quality of life and anxiety, supporting its use as a safe non-hormonal intervention for perimenopausal/postmenopausal Korean women.; plain-language-summary Menopausal symptoms such as hot flashes and night sweats can affect women's daily life and emotional health. This study tested an eight-session cognitive behavioral therapy (CBT) program designed specifically for Korean women after menopause. Fifty women took part in the study, with some receiving the CBT program and others waiting as a control group. Women who participated in CBT experienced fewer hot flashes, felt less bothered by their symptoms and reported better quality of life and lower anxiety. These results suggest that this culturally adapted CBT program can be a safe and effective non-hormonal treatment option for menopausal women. Language: English

15. Perimenopausal migraine: a narrative review

Authors: Kamourieh, Salwa and MacGregor, E. Anne

Publication Date: Jun 11 ,2026

Journal: Climacteric 1-9

Abstract: Migraine is a highly prevalent primary headache disorder that disproportionately affects women owing to the effects of sex hormones, particularly estrogen. Hyperestrogenism during early perimenopause, coupled with anovulatory cycles, is associated with an increased frequency and severity of migraine attacks and an increased prevalence of perimenstrual migraine. The natural decline in estrogen levels after menopause is generally associated with migraine improvement; however, this is variable and often complicated by chronic migraine, vasomotor symptoms, cardiovascular risk and use of menopause hormone therapy (MHT). Although there is a trend toward increasing the use of MHT during perimenopause, there are

no research trials regarding migraine in this population, although it appears to have a negative clinical effect. This could be explained by the addition of MHT to the already high and fluctuating endogenous estrogen levels. More appropriate during perimenopause is hormone cycle control. This can be achieved using continuous combined hormonal contraception for women with migraine without aura, whereas progestogen-only regimens, with the option of additional transdermal estrogen, can be used in women with migraine with and without aura. For women choosing to use MHT postmenopause, continuous transdermal regimens are better tolerated than cyclical preparations.; plain-language-summary Migraine is a common headache disorder that affects more women than men. This is likely due to female hormones, such as estrogen. A healthy lifestyle, treating symptoms during attacks and using preventive approaches when necessary can help reduce the impact of migraine. Identifying and addressing the specific hormonal effects on migraine during the menopause transition is also important. In early perimenopause, high estrogen levels, shorter menstrual cycles and lower progesterone levels can cause more frequent and severe migraine attacks, often around menstruation. After menopause, migraine typically improves as estrogen levels naturally decline, although this can vary. For women with migraine with or without aura considering menopause hormone therapy (MHT), transdermal estrogen with continuous progestogen is recommended. However, migraine is more likely to persist after menopause in women using MHT than those not using MHT. No studies have looked at the effects of MHT on migraine during perimenopause although in clinical practice it seems to worsen migraine. This is expected because it adds to the already high and fluctuating levels of estrogen. In contrast, maintaining steady hormone levels by using hormonal contraception can help. Hormonal contraception is an option even for women who do not need contraception, as it can address menopause symptoms, menstrual cycle problems, such as premenstrual symptoms and heavy or painful periods, as well as hormonal migraine. Women who cannot use standard combined hormonal contraceptive pills, for example, due to migraine aura, can use progestogen-only methods with transdermal estrogen, if needed. Language: English

16. Bloating During the Menopause Transition: Observations from the Seattle Midlife Women's Health Study.

Authors: Kamp, Kendra J.; Callan, Nini G. L.; Mitchell, Ellen S.; Heitkemper, Margaret M. and Woods, Nancy F.

Publication Date: May 27 ,2026

Journal: Journal of Women's Health 15409996261455326

Abstract: OBJECTIVE: Across the lifespan, more women than men report abdominal bloating. However, little is known about bloating during the menopause transition (MT). The purpose of this study was to assess patterns of bloating severity during the MT in relation to age, reproductive aging stage, reproductive- and stress-related biomarkers, and stress-related perceptions in a longitudinal cohort study. **METHODS:** This analysis included 291 women from the Seattle Midlife Women's Health Study who provided health diary data and could be classified into reproductive aging stages. A subset of 131 women also provided urine samples, which were assayed for estrone glucuronide, follicle-stimulating hormone, testosterone, cortisol, norepinephrine, and epinephrine levels. Mixed-effects multilevel modeling was used to examine the relationship between bloating severity and age, reproductive aging stages,

reproductive- and stress-related biomarkers, and stress-related perceptions. **RESULTS:** In the univariate model, the early MT stage, tension, and anxiety were associated with increased bloating severity, whereas the early postmenopausal stage and testosterone levels were associated with decreased bloating severity. In the multivariate model, both the early and late MT stages were related to an increase in bloating severity. Age and testosterone levels were associated with decreased bloating severity. Tension was related to increased bloating severity. **CONCLUSIONS:** Tension and anxiety may play a role in increased bloating severity, whereas testosterone levels and age are associated with decreased bloating severity. The MT stage may contribute to bloating through several mechanisms. More research is needed to fully elucidate these relationships.

17. Efficacy and safety of menopausal hormone therapy for depressive symptoms in perimenopausal women: A systematic review and meta-analysis.

Authors: Li Y.;Sun Y.;Bi Y.;Yang L.;Xu Y.;Wu H. and Ma, X.

Publication Date: 2026

Journal: Journal of Affective Disorders 409. Article Number: 121892.

Abstract: Objective (s) Perimenopause is associated with an increased risk of depressive symptoms, potentially related to hormonal fluctuations during the menopausal transition. Although hormone replacement therapy (HRT) is widely used for vasomotor symptoms, its potential effects on depressive symptoms remain uncertain. This meta-analysis evaluated the association between HRT and depressive symptom severity in perimenopausal women. Methods We systematically searched PubMed, Embase, the Cochrane Library, Web of Science, and ClinicalTrials.gov from inception to December 23, 2025 for randomized controlled trials evaluating HRT in perimenopausal women with depressive symptoms. Eligible studies included comparisons of HRT versus placebo, HRT versus HRT combined with antidepressants, and comparisons between different HRT regimens. Standardized mean differences (SMDs) with 95% confidence intervals (CIs) were pooled using random-effects models. Prespecified subgroup analyses were conducted according to hormone type and route of administration. Risk of bias was assessed using the Cochrane RoB 2 tool, and the certainty of evidence was evaluated using the GRADE approach. Results Twelve randomized controlled trials were included. In placebo-controlled comparisons, HRT was associated with a small reduction in depressive symptom severity (SMD = -0.23, 95% CI -0.43 to -0.03). Subgroup analyses suggested larger effect estimates for tibolone or selective tissue estrogenic activity regulator-based regimens; however, tests for subgroup differences were not statistically significant, and the number of studies within subgroups was limited. No clear differences were observed according to route of administration. Evidence from comparisons involving active treatments was limited and did not support firm conclusions. Reported adverse events were generally mild to moderate. Conclusions HRT may be associated with a modest reduction in depressive symptoms in perimenopausal women; however, the magnitude of effect is small and the certainty of evidence is limited. Evidence comparing different HRT strategies remains insufficient to draw firm conclusions. Further well-designed, adequately powered randomized controlled trials are needed to clarify comparative efficacy and long-term safety.

18. Domestic abuse survivors accessing support during perimenopause: a qualitative study with women.

Authors: Mann, Claire;Olewe-Richards, Sally and Hinsliff-Smith, Kathryn

Publication Date: 2026

Journal: Bjgp Open

Abstract: **BACKGROUND:** Menopause awareness in the UK has increased demand for GP appointments and menopausal hormone therapy. However, inequalities persist in accessing menopause care, particularly among ethnic minorities, individuals with disabilities, and those experiencing domestic abuse (DA). DA can exacerbate menopause symptoms and create additional barriers to care. **AIM:** To explore the experiences and healthcare needs of women navigating both DA and perimenopause, identifying key barriers and opportunities for primary care support. **DESIGN & SETTING:** A qualitative study involving women from a national DA survivors' group in the UK with experience of perimenopause. **METHOD:** Semi-structured interviews and focus groups were conducted online with 15 women experiencing perimenopausal symptoms and a history of DA. Data were analysed thematically using the 'one sheet of paper' technique and discursive analysis. **RESULTS:** The following three key themes emerged: 1) confusion over symptoms, with participants struggling to differentiate menopause symptoms from mental health issues, pre-existing conditions, or DA-related trauma; 2) medical avoidance and barriers to accessing support; and 3) experiences in primary care, with some receiving beneficial treatments while others felt dismissed or misdiagnosed, particularly with antidepressants instead of hormone replacement therapy. Participants highlighted missed opportunities for DA disclosure during GP consultations. **CONCLUSION:** The study underscores the need for trauma-informed menopause care in primary care settings. Primary care practitioners should integrate DA screening into menopause consultations and adopt a holistic, patient-centred approach. Further research and training are needed to support tailored interventions for DA survivors experiencing perimenopause.

19. Early menopause and its association with cardiovascular outcomes (PURE): a multinational prospective cohort study

Authors: Marschner, Simone;Quintans, Desi;Li, Wei;Rosengren, Annika;Mat-Nasir, Nafiza;Alhabib, Khalid F.;Gulec, Sadi;Assembekov, Batyrbek;Diaz, Maria Luz;Lopez-Jaramillo, Patricio;Lopez-Flecher, Mavel;Kontsevaya, Anna;Mirrakhimov, Erkin;Khatib, Rasha;Kelishadi, Roya;Polzyn-Zaradna, Katarzyna;Yusuf, Rita;Yeates, Karen;Chifamba, Jephath;Kruger, Iolanthé M., et al

Publication Date: 2026

Journal: The Lancet Obstetrics, Gynaecology, & Women's Health 2(6), pp. e513–e523

Abstract: Background: Premature menopause is a risk factor for cardiovascular disease that is specific to women, but this association between premature menopause and cardiovascular disease has not been systematically assessed across ethnicities or across low-income, middle-income, and high-income countries. We aimed to estimate the prevalence of premature

menopause and its association with cardiovascular events across various income-group countries and ethnicities.

Methods: The Prospective Urban Rural Epidemiologic (PURE) study was a multinational prospective cohort study in which 125 073 women from 28 countries aged 35–70 years were assessed for an association between age of menopause onset (not yet reached menopause, premature menopause [aged <40 years], early menopause [aged 40–45 years], and common age menopause (aged ≥45 years]) and cardiovascular events (myocardial infarction, stroke, or heart failure), using a mixed Cox proportional hazards model adjusted for age and INTERHEART risk score. The risk of early menopause was estimated using current status proportional hazards models. Recruitment varied from community announcements to mail and telephone calls inviting participants to central clinics as practical with an aim to be representative. Data were collected using standardised questionnaires through trained researchers. **Findings:** Between Jan 5, 2005, and Dec 4, 2016, 111 619 women (mean age 50·6 years) from 28 countries (two of which did not have menopause data) were recruited with menopause data. 48 249 (43·2%) of 111 619 women were from rural areas and the median follow-up time was 14·6 years (IQR 12·0–16·1). Women in low-income and middle-income countries (LMICs) had a 53% (95% CI 46–61%) increased risk of premature menopause, with half of them reaching menopause by age 47·5 years compared with 50·6 years in high-income countries. South Asian women had a 34% (95% CI 27–42%) increased risk compared with European women, with half of south Asian women reaching menopause by age 47·4 years compared with 50·7 years for European women. Decreased menopause age was significantly associated with increased risk of major cardiovascular disease events (not yet reached menopause group adjusted hazard ratio 0·90 [95% CI 0·83–0·98]; early menopause group 1·14 [1·05–1·23]; and the premature menopause group 1·27 [1·15–1·40]) compared with common age menopause, adjusting for age and INTERHEART risk score, with similar associations for myocardial infarction and stroke. The findings were consistent across ethnicities and country-income groups. **Interpretation:** Premature menopause was more common in LMICs and south Asian women and consistently associated with cardiovascular events across country-income group and ethnic groups. This finding suggests that women with premature and early menopause could be a target population for cardiovascular preventative interventions.

20. Complementary therapies for management of menopausal symptoms: a systematic review to inform the update of the International Menopause Society recommendations on women's midlife health.

Authors: Maunder A.;Mardon A.K.;Rao V.;Torkel S.;Metri N.J.;Liu J.;Yang G.;Giese N.;Mantzioris E.;Abdul Jafar N.K.;Rodrigues de Souza G.E.;AlKanini I.;Romero L.;Panay N.;Pedder H. and Ee, C.

Publication Date: 2026

Journal: Climacteric 29(2), pp. 165–209

Abstract: Objective: Menopausal hormone therapy is standard treatment, but some women use complementary therapies. This review examines complementary therapies for menopause to inform International Menopause Society (IMS) recommendations. Method(s): A systematic search of six databases (January 2022-December 2024) identified randomized controlled trials

(RCTs) and systematic reviews on complementary therapies for menopause. Outcomes included menopausal, vasomotor, genitourinary, cardiometabolic, sleep symptoms, bone health and safety. The study quality and certainty of evidence were evaluated using Cochrane Risk of Bias (RoB2), A MeaSurement Tool to Assess Systematic Reviews (AMSTAR 2) and Grading of Recommendations, Assessment, Development, and Evaluation (GRADE). Result(s): From 3187 citations, 158 studies were included: one overview, 36 meta-analyses, seven systematic reviews and 114 RCTs. While promising evidence was found for acupuncture, Chinese herbal medicine (CHM), herbs, nutrients, mind-body/touch therapies for a variety of symptoms, most was of low/very low certainty. High-certainty evidence supports vitamin D safety; and moderate-certainty evidence supports black cohosh (vasomotor/menopausal symptoms), CHM (menopausal symptoms, sleep, blood pressure), acupuncture + CHM (sleep) and vitamin D (fracture risk). Most complementary therapies are safe. Conclusion(s): Vitamin D, black cohosh, CHM and acupuncture + CHM may improve some menopausal symptoms, but overall evidence remains limited. More rigorous research is needed on the efficacy and safety of complementary therapies for menopause.

21. MenoPROMPT: co-design of a digital menopause pre-consultation tool for Australian general practice.

Authors: McBride C.; Hunter B.; Davis E.; McMorrow R. and ManskiNankervis, J. A.

Publication Date: 2026

Journal: Climacteric 29(2), pp. 270–276

Abstract: Objective: This study aimed to explore the needs and preferences of women and general practitioners (GPs) in relation to a menopause-related digital pre-consultation screening tool to be used in Australian general practice. Method(s): The qualitative co-design design study brought together GPs and women with lived experience of menopause symptoms to develop a prototype for a digital pre-consultation screening tool for menopause symptoms. Result(s): Twelve participants worked together to co-design a pre-consultation questionnaire. Themes highlighted the barriers around starting conversations about menopause, and the importance of normalizing these discussions. Participants envisioned that a well-designed pre-consultation tool could help address these needs. A prototype of the tool was successfully co-designed, receiving consensus agreement from all participants. Key elements of the tool include the use of signposting, clear language and logical sequencing of questions. Conclusion(s): The tool will be trialed in a pilot implementation study in 10 general practice clinics over a period of 12 months. Qualitative interviews will focus on the tool's functionality and workflow in practice.

22. The Effectiveness of Lifestyle Interventions, Including Exercise, Diet, and Health Education on Symptoms Experienced During Perimenopause: A Systematic Review of Randomized Controlled Trials.

Authors: McNulty K.L.; Murphy M.; Flynn E.; Lane A.; Muldoon A.; Kealy R.; Harrison M.; Windle J. and Heavey, P.

Publication Date: 2026

Journal: Journal of Aging and Physical Activity 34(3), pp. 380–403

Abstract: Background: Perimenopause, the transitional period before menopause, is characterized by various physical and psychological symptoms that can impact women's health, well-being, and quality of life. Lifestyle modifications, including exercise, diet, and health education, might help manage these symptoms, but the current evidence is inconsistent. This systematic review aimed to synthesize and identify gaps in existing randomized controlled trials examining the effectiveness of lifestyle interventions on perimenopause symptoms. Method(s): This review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Four electronic databases (PubMed, CENTRAL, Web of Science, and Scopus) were searched. Two reviewers independently screened the records for eligibility, extracted data, and assessed study quality using a modified Downs and Black checklist and a strategy based on the Grading of Recommendations Assessment Development and Evaluation working group. Result(s): A total of 25 studies met the inclusion criteria. Nine studies evaluated exercise-only interventions, 12 studies investigated a combined intervention, and five studies focused on health education-only interventions. Notably, no studies exclusively examined diet-based interventions. Conclusion(s): The findings suggest that both exercise and health education might offer benefits in managing perimenopausal symptoms. However, due to large between study variances and methodological inconsistencies, evidence-based guidelines for lifestyle interventions during perimenopause remain elusive. Further high-quality research is needed to determine the optimal principles of lifestyle prescription for addressing perimenopause symptoms. Significance: The findings underscore the potential of exercise and health education in alleviating perimenopausal symptoms, while emphasizing the need for more rigorous studies to establish definitive, evidence-based guidelines.

23. Understanding the menopausal experiences of women with intellectual disabilities: A scoping review.

Authors: Moore K.;Reidy M. and Foran, S.

Publication Date: 2026

Journal: Journal of Intellectual Disabilities 30(1), pp. 107–136

Abstract: During the process of ageing, women experience important hormonal, endocrine and biological changes. Menopause is a natural phenomenon in female development, during which women's ovarian function shifts from a reproductive to a non-reproductive state. The experience of menopause is unique for every woman, including women with intellectual disabilities. Globally, the available literature on women with intellectual disabilities and menopause focuses on providing medical insights into onset and symptoms and little attention has been paid to documenting how menopause affects women themselves. This represents a significant gap in understanding how women understand this change in life and has been a key justification for the need for this research. This scoping review aims to consider published studies capturing the perceptions, experiences and attitudes of women with intellectual disabilities and their caregivers as they transition through the menopause.

24. Genitourinary syndrome of menopause in surgical versus natural menopause: standardized clinical scoring.

Authors: Ozmen, Samican;Balci, Mucahit Furkan;Atay, Arif Onur;Nahya Ozdogar, Ozgen and Onal Erdemir, Damla

Publication Date: 2026

Journal: Menopause

Abstract: **OBJECTIVES:** To compare genitourinary syndrome of menopause (GSM) symptoms and objective examination findings between women with surgical and natural menopause, and to evaluate the association between menopausal type and GSM severity. **METHODS:** This retrospective, single-center cross-sectional study included 422 postmenopausal women (218 surgical, 204 natural menopause). GSM was assessed using a standardized eight-component examination score (elasticity, lubrication, tissue integrity, introitus, labia, urethra, rugae, color; total score 0-22) and structured symptom inquiry. Group comparisons were performed with non-parametric and chi2 tests. Multivariable logistic regression analysis was used to explore the association between menopausal type and GSM-related findings. **RESULTS:** Women with surgical menopause had significantly higher total GSM scores and more pronounced impairment in lubrication, tissue integrity, introitus, labial, and urethral components. Genital dryness, dyspareunia, reduced sexual desire, postcoital bleeding, dysuria, and urinary frequency were also more common in this group. In regression analysis, total GSM score was found to be independently associated with surgical menopause (adjusted odds ratio: 1.08, 95% CI: 1.04-1.12). **CONCLUSIONS:** Surgical menopause is associated with a more severe GSM phenotype. The total GSM score may serve as a practical tool to assess symptom severity and support timely clinical management. Routine assessment of GSM, particularly in surgically menopausal women, should be integrated into gynecological care to improve quality of life.

25. Embodied transitions: Cultural framings of menopause among minority ethnic women.

Authors: Pickard, Susan;Waigwa, Susan and Briggs, Paula

Publication Date: Jun 14 ,2026

Journal: Journal of Women & Aging 1-17

Abstract: This article explores how menopause is narrated, embodied, and re-signified by minority ethnic women in the UK, drawing on in-depth qualitative research with participants of Chinese and Black ethnicities. Dominant narratives in the Global North frequently frame menopause through a biomedical lens of loss, dysfunction, and hormonal deficit, or more recently, as a postfeminist site of "ageless empowerment" marked by pharmaceutical rescue. This study challenges both framings by foregrounding the culturally situated accounts of women whose experiences remain marginal within mainstream menopause discourse. Participants often interpreted menopause as a rite of passage - inflected with spiritual, moral, and generational significance - and located this transition within the wider reproductive life

course and within culturally distinct epistemologies. Chinese-heritage women drew on the cosmology of Traditional Chinese Medicine and seven-year life cycles, while Black participants evoked ancestral wisdom, intergenerational legacies, and culturally embedded notions of "strength". While clinical encounters were often fraught with misrecognition or silence, most participants refused narratives of decline and framed their decision not to use Hormone Replacement Therapy (HRT) as a moral and culturally grounded choice rather than an outcome of exclusion. The paper argues for a reconceptualisation of menopause as a culturally mediated life transition and calls for greater narrative plurality in feminist and clinical understandings of ageing. By centring women's own meanings and metaphors, this research contributes to an emergent body of work that resituates midlife not as rupture or rescue, but as a site of reflection, reckoning, and redefinition.

26. Timing and type of menopause are not risk factors for the onset of diabetes: a UK Biobank cohort study.

Authors: Quesada J.A.;BertomeuGonzalez V.;Cordero A.;RuizNodar J.M.;SanchezFerrer F.;LopezAyala J.M.;Cazorla D.;SorianoMaldonado C. and Arrarte, V.

Publication Date: 2026

Journal: Menopause. Publish Ahead of Print

Abstract: Objectives: - Early and premature menopause are positively associated with coronary heart disease and stroke, but there is less evidence regarding its relationship with the onset of diabetes. The primary objective of this study is to assess the association between the timing and type of menopause and the possible development of type 1 or 2 diabetes. Method(s): - Participants from the UK Biobank were enrolled between 2006 and 2010, with follow-up to the end of 2023. The outcome variable was diagnosis of type 1 or 2 diabetes during follow-up, and the main explanatory variable was age at menopause (normal above 45 y, early 40-45 y, and premature below 40 y). Behavioral factors, comorbidities, and blood tests were also collected. Survival models with Weibull distribution were fitted to the time of diabetes onset. Result(s): - Of the 146, 764 women analyzed over a mean follow-up of 14.5 years, 6, 598 women developed diabetes (cumulative incidence 4.5%). Rates were higher in women with earlier menopause (4.2% at age above 45 y, 5.2% at ages 40-45 y, and 7.4% before age 40); however, the multivariate analysis showed no independent association (40-45 y: hazard ratio: 1.00; <40 y, hazard ratio: 0.97), taking the normal age of menopause as the reference. Surgical menopause was likewise not associated with a greater risk of diabetes compared with natural menopause. Conclusion(s): - In a large cohort of women with long-term follow-up, no independent or clinically significant relationship between age or type of menopause and the onset of diabetes was observed.

27. Managing menopause after cancer: a qualitative analysis of healthcare professionals' perspectives.

Authors: Serwaa D.;Chang S.;Gauci L.;Jefford M.;Ee C.;Hickey M.;Rolshoven K.;Marino J.L.;Cohen P.A.;Saunders C.;Susanto N. and Peate, M.

Publication Date: 2026

Abstract: Background: Menopausal symptoms after cancer (MSAC) are common and can affect overall quality of life. Cancer survivors experience a variety of symptoms for which they may seek support from healthcare professionals (HCPs). Yet, managing MSAC may be challenging for some HCPs. Therefore, understanding HCPs' perspectives and challenges in providing MSAC care could help propose solutions to improve care provision. Method(s): Using semi-structured, one-on-one interviews, we explored the perspectives and challenges of 20 HCPs from a range of specialties involved in the care of women with MSAC. Interviews were transcribed and analyzed using a reflexive thematic approach with NVivo v12. Result(s): Twenty HCPs aged 37-68 years were interviewed. The sample comprised females (n = 17), with primary care physicians being the largest HCP grouping (n = 6), of whom half were MSAC specialists. Participants' clinical experience ranged from 1 to 35 years (19.95 +/- 9.88), and their experience in managing MSACs ranged from 3 to 35 years (14.25 +/- 8.69). Five themes with 10 subthemes were identified: (1) contested view of menopause after cancer; (2) HCPs' resilience in patient-centred care; (3) multidisciplinary patient care; (4) trial, adaptation, and the search for symptom relief; and (5) care constrained by uncertainty and risk. Conclusion(s): HCPs recognized the substantial burden of MSAC and have adopted patient-centred care and multidisciplinary approaches. However, the confidence in prescribing menopausal hormone therapy was identified as an area for improvement in clinical practice. For all categories of HCPs, upskilling through targeted education and decision-support tools may improve care. Implications for Cancer Survivors: For cancer survivors, these findings indicate that HCPs recognise the burden of menopausal symptoms after cancer and that improvements in clinician education, decision-support tools and clearer referral pathways should translate into timelier, evidence-informed care (including considered use of MHT where appropriate), better multidisciplinary support and shared decision-making - all of which aim to reduce symptom burden and improve quality of life.

28. The Enablers and Barriers to Accessing Women's Health and Wellbeing Services for Women Aged 40-65 Years: A Qualitative Study.

Authors: Simmons K.;Hyde J.;Harmanci D.;Iwuji C.;Bremner S. and Llewellyn, C.

Publication Date: 2026

Journal: Community Health Equity Research and Policy 46(4), pp. 413–431

Abstract: Introduction: Midlife women, aged 40-65 years, are an under-researched population with poor and inequitable access to Women's Health and Wellbeing Services (WHWS). This study, which was supported by a Patient and Public Involvement group, explored the enablers and barriers to WHWS, with a focus on sexual health and wellbeing services, cervical and breast screening, menopause care, contraception, and incontinence services. Method(s): Semi-structured focus groups and interviews were conducted with sixty self-identifying women and gender non-binary participants aged 40-65 years living in the South-East of England. Recruitment was focused in underserved geographic areas and in underserved groups. Framework Analysis, also using the Socioecological Model, through an intersectionality lens, was used to analyse the enablers and barriers to WHWS. A feminist pragmatist approach was employed to interlink the findings into suggestions to improve access. The study was reported

according to the Consolidated Criteria for Reporting Qualitative Research (COREQ). Result(s): Three main themes emerged: the lack of prioritisation of midlife women; the widespread deficits in knowledge of the needs of midlife women; and the impact of stigma on access to care, particularly sexual health and genitourinary syndrome of menopause services. The intersectional disadvantage of belonging to underserved groups for example due to ethnicity, income, and disability, overlapped across the themes. Participants advocated for integrated, holistic, community-based, women-only services. Conclusion(s): Further research, education, and policy investment is required to address the complex, and often highly sensitive nature of many health and wellbeing issues that face midlife women. These challenges are compounded by belonging to an underserved group.

29. Menopause in rare diseases: Shared research concerns and the case for a dedicated subfield

Authors: Sufian, Sandy

Publication Date: Jun 04 ,2026

Journal: Maturitas 211, pp. 109011

Abstract: Scientific knowledge about menopause in females with rare diseases remains scarce, despite emerging evidence that symptoms of rare diseases and the menopausal transition may interact in clinically significant ways. This narrative review synthesizes the literature on menopause across eight rare diseases: Ehlers-Danlos syndrome (EDS), cystic fibrosis (CF), Huntington's disease (HD), lymphangioleiomyomatosis (LAM), myasthenia gravis (MG), systemic scleroderma (SSc), sickle cell disease (SCD), and Turner syndrome (TS), to identify shared research priorities and propose a coordinated agenda for future investigation. Eight cross-cutting themes emerge: (1) hormonal modulation of disease pathophysiology; (2) sex disparities in populations with rare diseases; (3) earlier onset of menopause; (4) overlapping disease and menopausal symptoms that complicate diagnosis and care; (5) disease-specific symptom profiles and menopause outcomes; (6) menopause hormone therapy; (7) quality-of-life issues; and (8) unmet educational needs among rare-disease specialists and gynecologists. Based on these converging themes, we propose establishing a dedicated subfield within menopause research focused on populations with rare diseases. Such a subfield would enable cross-disease comparative inquiry, promote methodological innovation compatible with small populations, support the development of disease-specific clinical guidelines and a registry that proposes hormonal therapy risks and safe options, and advance provider training at the intersection of rare disease and women's health.

30. Effect of Lactobacillus-based probiotics on genitourinary syndrome of menopause in post-menopausal women: A systematic review.

Authors: Tsuboi I.;Inoue S.;Maruyama Y.;Mitsui Y.;Hirakawa H.;Araki M. and Sadahira, T.

Publication Date: 2026

Journal: Maturitas 208 Article Number: 108921.

Abstract: Background and objective: Genitourinary syndrome of menopause is a chronic condition caused by estrogen deficiency after menopause and includes both vaginal and urinary symptoms that significantly impair quality of life. Although local estrogen therapy is effective, non-hormonal alternatives are needed for women in whom hormonal treatment is contraindicated or unacceptable. We investigated the clinical evidence on the efficacy of Lactobacillus-based probiotic interventions for the management of genitourinary syndrome of menopause. Method(s): In January 2026, PubMed, Scopus, and Embase were searched for studies evaluating oral or intravaginal Lactobacillus-based probiotics in women with genitourinary syndrome of menopause. Result(s): Nine studies with a total of 751 patients were included - five randomized controlled trials and four prospective studies. Five studies evaluated urinary outcomes, including recurrent cystitis, recurrent urinary tract infection, and lower urinary tract symptoms, while four focused on vaginal outcomes such as vaginal microbiota composition, vaginal pH, vaginal health index, and vulvar pain. Intravaginal Lactobacillus showed a preventive effect for recurrent cystitis in single-arm and prospective cohort studies, whereas randomized controlled trials demonstrated mixed or negative results compared with antibiotic prophylaxis. Evidence for improvement in lower urinary tract symptoms and vaginal manifestations of genitourinary syndrome of menopause was limited and heterogeneous, particularly in studies using oral probiotic administration. Conclusion(s): Lactobacillus-based interventions may represent a complementary therapeutic option for selected women with genitourinary syndrome of menopause, especially for urinary manifestations associated with vaginal dysbiosis. However, current evidence is limited by heterogeneity in study design, probiotic formulations, and routes of administration. Well-designed randomized clinical trials, particularly those evaluating intravaginal Lactobacillus formulations, are required to clarify their clinical role in genitourinary syndrome of menopause management. PROSPERO review registration: CRD420251244350.

31. Gut, vaginal, and urinary microbiome alterations in women with genitourinary syndrome of menopause: A systematic review

Authors: Tsuboi, Ichiro;Inoue, Shota;Hirayama, Takashi;Mitsui, Yosuke;Watanabe, Masami;Hirakawa, Hidetada and Sadahira, Takuya

Publication Date: Jun 23 ,2026

Journal: Maturitas 211, pp. 109031

Abstract: BACKGROUND AND OBJECTIVE: Genitourinary syndrome of menopause (GSM) is a chronic condition caused by estrogen deficiency, encompassing vaginal dryness, dyspareunia, and urinary symptoms. Alterations in the vaginal, urinary, and gut microbiome may contribute to GSM pathophysiology. We synthesize the evidence on microbiome composition and diversity across these compartments in postmenopausal women with GSM. **METHODS:** PubMed, Scopus, and Embase were searched from inception to April 2026 for studies assessing the microbiome in postmenopausal women with GSM using 16S rRNA gene sequencing, metagenomics, or culture-based methods. **RESULTS:** Twenty-three studies (5027 participants) were included: 15 examined the vaginal microbiome, seven the urinary microbiome, and one the gut microbiome. Postmenopausal women consistently showed reduced Lactobacillus abundance and increased microbial diversity. Estrogen therapy partially restored Lactobacillus dominance but did not uniformly improve symptoms. In the SWAN

cohort (n = 1320), sexual pain was the only GSM symptom independently associated with a specific community state type (CST IV-C1; OR 2.26, 95% CI 1.20-4.23). Specific species showed associations with distinct symptom domains: *Prevotella* with urinary symptoms, *Finegoldia magna* with recurrent urinary tract infection, and *Streptococcus* with sexual pain. Parallel *Lactobacillus* depletion and pathobiont enrichment across all three compartments pointed toward a vaginal-bladder-gut axis, potentially linked through estrobolome disruption and bacterial translocation. **CONCLUSION:** The postmenopausal genitourinary microbiome is characterized by *Lactobacillus* depletion and increased diversity, but microbiome restoration alone does not predict symptom resolution. The shared microbial alterations across compartments suggest a vaginal-bladder-gut axis that may collectively drive GSM, but this requires multi-compartment longitudinal validation. PROSPERO registration: CRD420261335478.

32. Attention Deficit Hyperactivity Disorder (ADHD) experiences in perimenopause and menopause: a qualitative exploration.

Authors: Vigus V.;Bacon A.M. and Jones, B.

Publication Date: 2026

Journal: Advances in Mental Health

Abstract: Objective: Hormonal fluctuations during menopause can exacerbate symptoms of Attention Deficit Hyperactivity Disorder (ADHD). The present study aimed to understand women's actual lived experiences and the impact on their daily lives. Method(s): Eight women experiencing symptoms associated with perimenopause or menopause were recruited from a UK social media platform for people with ADHD. They participated in semi-structured interviews and data were subject to reflexive thematic analysis. Result(s): Two themes were identified: (1) Revelations, comprising two subthemes: collapse of coping strategies, and unmasking. Participants reported how exacerbation of ADHD symptoms and disruption of established coping mechanisms led to diagnosis seeking. New coping strategies were developed and identity re-evaluated. Theme 2 reflected the need for greater understanding and support from personal and professional networks, underscoring the necessity for increased awareness among healthcare professionals, but also a lack of understanding from family and friends. Participants emphasised the value of peer support and shared experience with other women. Discussion(s): This study contributes to the limited literature on ADHD in midlife women. It highlights the gendered nature of their experience, the specific challenges women face in navigating everyday life, and the importance of tailored neurodiversity-informed interventions to improve quality of life during this period.

33. Menopausal Management: A Tale of Two Countries-A Comparative Look at Advanced Practice Registered Nurse-Led Menopause Care in Ireland and the United States.

Authors: Wade H.;McGowan K. and Lehwaldt, D.

Publication Date: 2026

Abstract: Menopause marks a significant transition in a woman's life, bringing with it a range of physical and emotional symptoms that require tailored medical care. As the global population of menopausal women continues to rise, the role of advanced practice registered nurses (APRNs) in managing menopausal symptoms and postmenopausal bleeding (PMB) has become increasingly vital. This article explores and compares the approaches to APRN-led menopause care in Ireland and the United States, focusing on both hormonal and nonhormonal treatment strategies, patient-centered care models, and the evolving scope of practice. While both countries use evidence-based guidelines, their health care systems and regulatory environments shape how APRNs deliver care. This comparative analysis underscores the crucial role APRNs play in identifying, treating, and educating women about menopause and PMB, as well as their broader impact on advancing women's health through research, advocacy, and health care system reform. Despite differences in policy and infrastructure, both Ireland and the United States demonstrate how APRN-led models can offer high-quality, holistic, and accessible care for menopausal women. Strengthening APRN education, collaboration, and research will be critical to meeting the complex needs of this growing patient population.

34. Social isolation and loneliness associate with early menopause and mortality in women: a UK Biobank cohort study.

Authors: Wang, Yuteng;Qi, Yu;Cao, Zifeng;Xu, Keyan;Xia, Ruoliu;Zhao, Shigang;Cui, Linlin;Wei, Daimin;Zhao, Han;Tang, Shuyan;Qin, Yingying and Guo, Ting

Publication Date: 2026

Journal: BMC Medicine

Abstract: BACKGROUND: Reproductive aging is an emerging public health priority amid demographic shifts. Early menopause (EM), indicative of accelerated reproductive aging, is associated with an elevated risk of premature mortality. While social isolation (SI) and loneliness (LO) are established psychosocial determinants of health, their associations with EM and their combined effects with menopausal status on mortality risk remain unquantified. This study investigated the associations of SI and LO with EM and all-cause mortality. **METHODS:** This study included 79,578 Caucasian women from the UK Biobank cohort, of whom 6,778 experienced EM (menopause at age 40-45) and 72,800 experienced normal menopause (NM, age 46-55). SI (score: 0, 1, ≥ 2) was derived from three indicators: living arrangement, frequency of social contact, and participation in social activities; LO (score 0-2) was assessed based on self-reported loneliness and frequency of confiding in someone close. Multivariable-adjusted models were used to evaluate the odds of EM. All-cause mortality risk was assessed using Cox proportional hazards models, stratified by menopause status. **RESULTS:** Higher levels of SI and LO were independently associated with an increased prevalence of EM (e.g. SI ≥ 2 : OR = 1.09, 95% CI 1.00-1.20; LO = 2: OR = 1.13, 95% CI 1.02-1.25). Critically, the detrimental impact of social adversity on survival was significantly greater in women with EM compared to those with NM. After full adjustment, women with EM and SI index ≥ 2 had a 55% increased mortality risk (HR = 1.55, 95% CI 1.21-1.99), whereas the risk increase for women with NM was 17% (HR = 1.17, 95% CI 1.07-

1.28). A similar pattern was observed for LO (e.g. LO = 2, EM: HR = 1.42, 95% CI 1.07-1.88 vs. NM: HR = 1.14, 95% CI 1.02-1.27). Moreover, Kaplan-Meier curves showed a progressively wider survival gap between EM and NM as SI/LO levels increased. Lower SI and LO were associated with lower EM-related excess mortality. **CONCLUSIONS:** SI and LO were associated with EM and premature mortality. Women with EM are especially vulnerable to the negative effects of social adversity. Integrating psychological and social support into menopause care is essential, and reducing SI and LO may promote healthier aging. **TRIAL REGISTRATION:** NA.

35. Mediation Analysis of Inflammatory Biomarkers in the Association between Migraine and Stroke among Postmenopausal Women: The Women's Health Initiative.

Authors: Xing, Zailing; Raker, Christina A.; Silver, Brian; Pavlovic, Jelena M.; Manson, JoAnn E.; Liu, Longjian; Wissel, Stephanie; Jung, Su Yon and Madsen, Tracy E.

Publication Date: Apr 10, 2026

Journal: Neuroepidemiology 1-14

Abstract: INTRODUCTION: The mechanisms linking migraine to stroke are unclear. Systemic inflammation may contribute, but the mediating role of inflammatory biomarkers is unknown. We evaluated whether systemic inflammatory biomarkers mediate the migraine-stroke association in postmenopausal women. **METHODS:** We analyzed data from 147,730 postmenopausal women without baseline stroke in the Women's Health Initiative, a large US prospective cohort of clinical trials and an observational study. Baseline levels of C-reactive protein (CRP; n = 43,754), tumor necrosis factor-alpha (TNF-alpha; n = 10,610), and interleukin-6 (IL-6; n = 19,637) were assessed as potential mediators. Stabilized inverse probability weighting addressed biomarker subsampling. We used Cox proportional hazards models to estimate associations between migraine history and stroke and of quartile-categorized biomarkers and stroke, linear regression models to estimate associations between migraine history and log-transformed biomarkers, and spline-based Cox models assessed stroke risk across continuous biomarker levels. **RESULTS:** Migraine history was associated with increased risks of total stroke (adjusted hazard ratio [aHR]: 1.10; 95% confidence interval (CI): 1.02-1.19) and ischemic stroke (aHR: 1.14; 95% CI: 1.05-1.25), but not hemorrhagic stroke. Higher CRP and IL-6 levels were consistently related to increased total and ischemic stroke risks. Compared with the lowest quartile (Q1, log-transformed), aHRs (95% CIs) for total stroke across Q2-Q4 were 1.11 (1.00-1.22), 1.18 (1.07-1.30), and 1.50 (1.35-1.65) for CRP, and 2.23 (1.87-2.65), 2.63 (2.22-3.12), and 2.31 (1.94-2.76) for IL-6. In contrast, TNF-alpha showed a different pattern, with an elevated risk at moderate levels and attenuation at higher concentrations. None of the biomarkers were associated with hemorrhagic stroke. No significant associations were observed between migraine history and any of the three biomarkers. The estimated indirect effects of migraine on ischemic stroke through CRP, TNF-alpha, and IL-6 were small and not statistically significant (all p > 0.05). The proportions mediated were 0.65% for CRP, -2.82% for TNF-alpha, and 3.98% for IL-6, indicating minimal contribution of these biomarkers to the migraine-stroke association. **CONCLUSION:** Inflammatory biomarkers did not serve as a mediator in the relationship between migraine and stroke in postmenopausal women, suggesting that the association is likely driven by other biological pathways.

36. Trajectories of blood pressure and influencing factors across menopause: A longitudinal cohort study.

Authors: Yang X.;Liu G.;Huang F.;Tang R.;Feng P.;Fan Y.;Xie Z.;Huang J.;Ma X.;Yang K. and Chen, R.

Publication Date: 2026

Journal: American Journal of Preventive Cardiology

Abstract: Objective: To identify the trajectories of blood pressure (BP) across menopause in Chinese women and analyze influencing factors. Method(s): A total of 526 participants, contributing 4759 measurements, from the Peking Union Medical College Hospital Aging Longitudinal Cohort of Women in Midlife were included in this analysis. Group-based trajectory modeling was used to identify distinct trajectories of systolic blood pressure (SBP), diastolic blood pressure (DBP) and mean arterial pressure (MAP) changes across menopause. Logistic regression and mixed-effects models were used to analyze the associations between sex hormones, body mass index (BMI), waist circumference(WC) and BP trajectories. Sensitivity analyses were conducted on participants who still have natural menstrual cycle at enrollment. Result(s): Three distinct trajectories were identified for SBP, DBP and MAP. Overall, SBP and MAP exhibited an upward trend, while DBP showed a downward trend. For all three parameters, lower estradiol was correlated negatively to BP in the "high" group. But BMI and WC had a significant positive correlations of changes in BP in all three groups. BMI and WC exhibited a negative interactions in influencing BP. Additionally, SBP, DBP and MAP were higher in the "high" BMI trajectory group compared to the remaining two groups. Sensitivity analysis also showed similar findings as that from all the participants. Conclusion(s): Chinese women across menopause experience distinct trajectories for SBP, DBP and MAP, influenced by BMI and WC. This further underscores the necessity for enhanced BP monitoring and weight management among perimenopausal women to promote long-term cardiovascular health.

37. Menopausal symptoms in average-age menopause and premature ovarian insufficiency.

Authors: Zamani, Rehona;Abbasi, Cynthia;Wang, Stella and Wolfman, Wendy

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: There is limited data on the prevalence and severity of menopausal symptoms among the Canadian population. This study aims to characterize and compare the prevalence and severity of menopausal symptoms among Canadian women experiencing menopause around the average age and those with premature ovarian insufficiency. **METHODS:** This cross-sectional observational study included women attending specialized menopause and premature ovarian insufficiency clinics at an academic center in Toronto, Canada. Participants completed a standardized intake questionnaire and the Menopause Rating Scale, a validated instrument assessing psychological, somato-vegetative,

and urogenital symptoms. Symptom prevalence and severity were compared between cohorts using nonparametric and categorical statistical tests. **RESULTS:** The study included 374 women experiencing menopause at an average age (median age 53 y) and 149 women with premature ovarian insufficiency (median age 34 y). Menopausal symptoms were common in both groups, with most women reporting symptoms in at least one domain. Urogenital symptoms were the most prevalent and severe across cohorts. Total Menopause Rating Scale scores were higher among women with menopause compared with premature ovarian insufficiency ($P=0.003$), driven by greater somato-vegetative symptom burden ($P=0.002$); psychological and urogenital symptom scores did not differ significantly between groups. **CONCLUSIONS:** Menopausal symptoms are common and frequently severe for both average-age menopause and premature ovarian insufficiency. Younger age in premature ovarian insufficiency may not confer protection against psychological or urogenital symptoms, given similar symptom burden with average-age menopause. This underscores the need for proactive, comprehensive symptom assessment and management-particularly for urogenital and sexual health-in all individuals experiencing estrogen deficiency.

Sources used:

The following were used in the creation of this bulletin: MEDLINE, Emcare, and Google.

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