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Menopause

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September 2026

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Are you looking for a bite-size bulletin that focuses on the staff experience of menopause and its symptoms?

Contact Helen Clemow at Salisbury NHS Foundation Trust to receive a blend of news and information based on topics discussed at their *Menopause Tea and Talk* sessions: helen.clemow@nhs.net

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Guidelines

1. **Hormone therapy (HT) in women with premature ovarian insufficiency or early menopause: Time to think of a new paradigm for healthy aging. A joint FIGO and IMS position paper.**

Authors: Benedetto, Chiara;Khadilkar, Suvarna S.;Nappi, Rossella E.;Genazzani, Andrea R.;Frezet, Federica;Cucinella, Laura;Divakar, Hema;Anagnostis, Panagiotis and Panay, Nick

Publication Date: 2026

Journal: International Journal of Gynaecology & Obstetrics

Abstract: Premature ovarian insufficiency (POI) and early menopause (EM) affect millions of women worldwide. Compared with normal menopause, they confer a longer duration of estrogen deficiency and are associated not only with a shorter lifespan, but with a reduced healthspan, owing to an increased risk of cardiovascular, skeletal, cognitive and psychological morbidity, and sexual health concerns. Therefore, interventions in POI/EM represent some of the most actionable opportunities to reduce long-term disability and promote healthy longevity. However, current approaches to hormone therapy (HT) in POI/EM remain fragmented, delayed, and overly influenced by paradigms derived from older postmenopausal populations. We propose a shift toward a life-course model of care. POI and EM should no longer be managed as variants of menopause at normal age but recognized as chronic endocrine conditions and sentinel events for accelerated aging in women. HT should be reframed as a hormonal replacement aimed at preventing long-term disability. Timely initiation, adequate dosing, and long-term continuation of HT should be considered foundational to POI/EM care, alongside integrated preventive strategies. FIGO and IMS, therefore, call for a globally coordinated effort to strengthen awareness, professional education, and research on POI/EM, and to ensure equitable access to multidisciplinary care, with the goal of improving women's health and supporting the long-term sustainability of healthcare systems. Copyright © 2026 The Authors. Published by John Wiley & Sons Ltd. on behalf of FIGO and Informa UK, trading as Taylor & Francis Group.

Available from: https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.71217

2. **'Healthy menopause': The European menopause and andropause society (EMAS) 2026 framework for precision, digital, and interdisciplinary midlife health: EMAS position statement 2026.**

Authors: Stute P.;Pavicic E.;Armeni E.;Boban J.;Ceausu I.;Erel C.T.;Hillard T.;Kiesel L.;Simoncini T.;Smetnik A.;Goldstajn M.S.;van Dijken D.;Rees M. and Lambrinoudaki, I.

Publication Date: 2026

Journal: Maturitas 212(pagination), pp. Article Number: 109060. Date of Publication: Setember 2026

Abstract: Introduction: On average, women now spend more than one-third of their lives in the

post-reproductive period, yet menopause care across Europe remains fragmented and uneven. Since the first publication of its model of care by the European Menopause and Andropause Society (EMAS) in 2016, major advances in precision medicine, digital phenotyping, biomarkers derived from data collected by wearable devices, artificial intelligence, hybrid care delivery, and workplace health have reshaped clinical opportunities and societal expectations. At the same time, population aging, rising multimorbidity, and increasing public and employer awareness position menopause as a public health inflection point rather than a narrow reproductive transition.
Aim(s): This updated EMAS Position Statement, 'Healthy Menopause', sets out a future-oriented framework for the coming decade.
Material(s) and Method(s): This Position Statement was developed through iterative consultation and consensus among the authors, informed by current evidence, existing clinical guidance, and relevant regulatory frameworks.
Result(s) and Conclusion(s): The framework integrates risk stratification, validated digital tools, and clinical decision support. It also structures menopause healthcare considerations into a scalable tiered care architecture comprising digital access, trained menopause healthcare professionals, multidisciplinary specialist centers, and a supportive policy and governance environment. It provides actionable recommendations for clinicians, health systems, professional societies, employers, and researchers, including on competency-based training and accreditation, quality standards, governance requirements for digital health and artificial intelligence, and mechanisms to monitor outcomes and equity. By linking clinical innovation, digital ecosystems, and societal determinants, this Position Statement outlines a blueprint for equitable, preventive, and personalized menopause care across Europe.
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Available from: https://www.sciencedirect.com/science/article/pii/S0378512226002379

Research

1. **Theory-informed design and dissemination of multilingual menopause CoMICs: the Menopause MEET initiative.**

Authors: Armeni E.;Barac U.;Kaur E. and Kempegowda, P.

Publication Date: 2026

Journal: Frontiers in Digital Health 8. Article Number: 1813555.

Abstract: Objective - To characterise patterns of dissemination, including reach, interaction, and sustained engagement over time, and compare how these patterns vary across different social media platforms and linguistic contexts. Methods - This prospective dissemination and engagement study was conducted at the University of Birmingham between April 2024 and September 2025. Videos on menopause education were co-created using CoMICs (Concise Medical Information Cines) framework by clinicians and patient advocates and translated into 12 languages. The video creation was informed by established learning and implementation theories. The videos were released across YouTube, Facebook, Instagram, TikTok, and X/Twitter. Engagement metrics, including views, likes, shares, comments, and saves, were collected at 3 and 12 months post-release. Analyses of absolute engagement and percentage

growth were performed using Python (pandas v2.2, matplotlib v3.9). Results - Sustained and heterogeneous engagement was observed across languages and platforms. The largest relative increases in views between 3 and 12 months were seen in Georgian (+205%), Gaeilge (+178%), Malay (+160%), Serbian (+128%), and Spanish (+100%). Moderate growth was observed for Portuguese (+43%), Hindi (+27%), and Romanian (+16%). Turkish (+11%) and English (+6%) content showed stable engagement over time. Conclusions - The Menopause MEET initiative provides a practical framework for scalable, multilingual patient education with sustained global engagement.
Copyright © 2026 Armeni, Barac, Kaur, Kempegowda and DEVI Collaboration.

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2. **Bridging the menopause data gap: a scoping review of status, symptoms, and trends in electronic health records.**

Authors: Austin, Robin R.;Lalich, Malin B.;Song, Meijia;Holt, Jeana M. and Gibson, Carolyn

Publication Date: 2026

Journal: Menopause

Abstract: IMPORTANCE AND OBJECTIVE: Gaps in menopause status classification, reproductive stage documentation, and symptom capture (eg, vasomotor symptoms) within electronic clinical information systems, including electronic health records (EHRs), limit clinical care and menopause research. This scoping review examined how menopause-related data are structured and operationalized within EHR systems and identified gaps in documentation that limit clinical care and research. **METHODS**: We searched Ovid MEDLINE, Scopus, CINAHL, and IEEE Xplore (2004 to March 2026) using terms related to menopause, climacteric, perimenopause, and EHR documentation, supplemented by backward citation searching. Two reviewers independently screened studies, with discrepancies resolved by consensus. Quality appraisal was conducted using the Johns Hopkins Evidence-based Practice framework. Rayyan and Excel facilitated article management, data extraction, and synthesis. **DISCUSSION AND CONCLUSION**: Nineteen studies met the inclusion criteria. Most were retrospective cohort or cross-sectional analyses conducted in US health systems (2013-2026), with sample sizes from 45 to 307,512 women. Thirteen studies relied on International Classification of Diseases, Ninth and Tenth Revisions (ICD-9/ICD-10) codes to identify menopause-related experiences; however, only nine reported the codes used. Across studies, three interrelated themes emerged: documentation limitations (including the absence of structured reproductive stage fields and reliance on unstructured text), undertreatment of documented symptoms, and underreporting of menopause-related symptoms in the EHR data. Menopause remains inconsistently represented in EHRs, reflecting structural documentation gaps that constrain longitudinal tracking, clinical decision-making, and research reproducibility. Development of standardized menopause common data elements, including structured stage and symptom documentation, will require coordinated, multidisciplinary efforts to improve data quality and support scalable menopause research.

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3. **Development of a menopause-specific questionnaire: Content and face validation using a modified Delphi technique.**

Authors: Calvin A.;Udo C. and Erlandsson, K.

Publication Date: 2026

Journal: Women's Health 22

Abstract: Background: Menopause is a universal life stage, yet many women face persistent knowledge gaps, misconceptions, and unequal access to care. Existing instruments assess isolated aspects of menopause but do not capture women's access to the conditions necessary for making informed choices about their health.
Objective(s): The aim of this study was to develop and establish content and face validity of a menopause-specific questionnaire designed to assess women's access to the preconditions for making informed choices about their health during the menopausal transition and beyond, using a modified Delphi technique.
Design(s): A modified Delphi study.
Method(s): Five Delphi rounds were conducted in 2025 involving an expert group (n = 9), a Public and Patient Involvement (PPI) group (n = 7), and a pilot test group (n = 48). Experts reviewed and refined an initial 39-item draft, the PPI group assessed face validity and readability, and experts conducted item prioritization using predefined consensus thresholds. Pilot testing evaluated usability and respondent burden. Final consensus required >=80% expert agreement. The study followed CREDES guidelines.
Result(s): Following content and face validation, the final instrument comprised 29 items. Expert review informed revisions to terminology, neutrality of menopausal hormone therapy items, and language accessibility. PPI contributors highlighted readability challenges and supported clearer wording. Nine items were removed, five merged into two, and one item added. Pilot testing confirmed acceptable usability and respondent burden. Final expert consensus reached 87.5%.
Conclusion(s): A consensus-based, user-informed questionnaire was developed, following content and face validation, to assess women's access to conditions for informed choice during menopause. The instrument may support the identification of barriers and facilitators to informed decision-making in menopause-related care and research.

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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.

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5. **Menopausal hormone therapy, migraine history, and headache severity: Results from the Women's Health Initiative Hormone Therapy clinical trials.**

Authors: Crowe, Holly M.;Madsen, Tracy E.;Rich-Edwards, Janet W.;Shadyab, Aladdin H.;Liu, Longjian;Farland, Leslie V.;Schnatz, Peter F.;Manson, JoAnn E.;Rexrode, Kathryn M. and Stefanick, Marcia L.

Publication Date: 2026

Journal: Headache

Abstract: OBJECTIVE: The aim of this study was to evaluate the association of oral menopausal hormone therapy (estrogen only [E-only] or estrogen and progestin [E+P]), as compared to placebo on postmenopausal headache severity among females with and without a history of migraine in the Women's Health Initiative Hormone Therapy (WHI-HT) trials. BACKGROUND: Migraine is three times more common among females than males and is a major source of pain and disability among women throughout the life course. Previous observational research found a positive association between menopausal hormone therapy (MHT) use and migraine prevalence, but the longitudinal association of MHT with postmenopausal migraine severity is unclear. METHODS: We examined changes in self-reported headache severity between baseline and year 1 in 22,876 females (average age 64 years) across the United States enrolled in the WHI-HT trials between 1993 and 1998. We conducted a secondary, stratified analysis of data of two parallel, randomized, placebo-controlled clinical trials to estimate the association of MHT and headache severity overall and stratified by history of migraine at baseline. Additionally, we assessed the association between MHT and headache trajectory, based on whether headaches worsened over the follow-up period. RESULTS: At baseline, the prevalence of a lifetime migraine diagnosis was 10%. Among participants with a history of migraine, randomization to E-only MHT was not associated with more severe headache at 1 year (adjusted odds ratio [aOR] = 1.14, 95% confidence interval [CI]: 0.90-1.44), or worsening headache trajectory (adjusted risk ratio [aRR] = 0.98, 95% CI: 0.71-1.34) after 1 year. Randomization to E+P MHT was modestly associated

with more severe headache, although estimates did not reach statistical significance (aOR = 1.21, 95% CI: 0.98-1.50). E+P MHT was significantly associated with worsening headache trajectory (aRR= 1.53, 95% CI: 1.14-2.03). Among those without a migraine history, E-only MHT was not strongly associated with moderate-to-severe headache severity (aOR: 1.11, 95% CI: 1.01-1.21) or worsening headache trajectory (aRR = 1.08 95% CI: 0.96-1.22) after 1 year. However, E+P MHT was associated with modestly increased odds of moderate-to-severe headache severity (aOR = 1.14, 95% CI: 1.06-1.23) and a higher likelihood of worsening headache trajectory (aRR = 1.18, 95% CI: 1.07-1.30) after 1 year. CONCLUSIONS: In this study of MHT in the WHI hormone therapy trial participants, E-only MHT was not associated with increased odds of more severe postmenopausal headache severity. Among those with a history of migraine, E+P MHT was associated with more severe and worsening postmenopausal headache. Further research on the effect of newer MHT formulations on postmenopausal headache is warranted.

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6. **Menopause matters: a qualitative exploration of knowledge acquisition and menopause care among midlife women in Ireland.**

Authors: Giggins, Oonagh M.;Cullen-Smith, Suzanne;McLysaght, Aoife and Doyle, Julie

Publication Date: Aug 06 ,2026

Journal: Sexual & Reproductive Healthcare : Official Journal of the Swedish Association of Midwives 49, pp. 101259

Abstract: INTRODUCTION: Women's experiences of accessing information and navigating healthcare during menopause remain underexplored in the Irish context. While menopause-related information is increasingly available through diverse sources, variations in access, quality, and healthcare support may shape women's experiences. This study aimed to examine menopause knowledge among midlife women in Ireland, investigate how they acquire this knowledge, and explore their experiences of seeking and receiving menopause-related care. METHODS: A qualitative design was employed using focus group interviews. Data were analysed thematically to identify key patterns. RESULTS: Two overarching themes were identified: (1) Knowledge is Power, which reflected the importance of access to reliable information, the role of peer networks, and how preparedness shaped women's experiences of menopause; and (2) Navigating Menopause Care, which highlighted women's varied experiences with healthcare providers, systemic gaps in care, and the resilience required to seek support. DISCUSSION: Findings demonstrate that some women accessed beneficial treatments and supportive care. However, many had limited prior knowledge while encountering dismissive attitudes, gaps in professional knowledge, and a lack of accessible resources. Supporting women with timely accurate information and improving healthcare provider knowledge are critical to enhancing menopause care in Ireland.

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7. **Cost-Effectiveness Analysis of Menopausal Hormone Therapy.**

Authors: Gill, Elizabeth;Zeng, Wu;Shvartsman, Katerina and Brown, Jill

Publication Date: 2026

Journal: Obstetrics & Gynecology

Abstract: OBJECTIVE: To evaluate the cost effectiveness of menopausal hormone therapy (MHT) based on the risk-benefit profiles of current MHT formulations. METHODS: We used a Markov model to examine the cost effectiveness of MHT for hypothetical 50-year-old women with vasomotor symptoms compared with transdermal estradiol (E2) alone for patients without a uterus and transdermal E2 in combination with micronized progesterone for patients with a uterus, assuming 5 years of use. Using a health system perspective, we expressed the effectiveness in quality-adjusted life years (QALYs), and the willingness-to-pay threshold was set to $100,000 per QALY gained. We derived probabilities, cost data, and utilities from the literature and estimated the incremental cost-effectiveness ratios between the MHT and no MHT strategies as our primary outcome. Secondary outcomes included the number of cases of cardiovascular disease, breast cancer, colon cancer, and hip fracture and the number of deaths. RESULTS: Use of MHT demonstrated absolute dominance over not using MHT for both the E2 and E2+micronized progesterone arms. Per 10,000 patients over a lifetime, E2 compared with no MHT was $135,396,560 less expensive, resulted in a gain of 33,196 QALYs, and was associated with 259 fewer cases of atherosclerotic cardiovascular disease (ASCVD), 105 fewer colon cancer cases, 87 more breast cancer cases, 181 fewer hip fractures, and 647 fewer deaths. Micronized progesterone compared with no MHT was $127,738,990 less expensive, resulted in a gain of 33,083 QALYs, and was associated with 285 fewer cases of ASCVD, 18 more colon cancer cases, 46 more breast cancer cases, 183 fewer hip fractures, and 615 fewer deaths. Sensitivity analysis showed that variables related to ASCVD had the most effect on the model. Probabilistic sensitivity analysis revealed absolute dominance for both MHT strategies at all willingness-to-pay thresholds up to $200,000. CONCLUSION: Our model suggests that MHT is cost effective for typical patients experiencing menopausal symptoms with initiation of MHT at age 50 years and use for 5 years. The reduction in ASCVD risk by MHT is the largest driver of cost effectiveness in the model.

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8. **Menopausal Transition and Thyroid Function Trajectories: A Large-Scale Longitudinal Study of Healthy Women.**

Authors: Hayashi, Seiko;Fukui, Sho;Leung, Angela M.;Noto, Hiroshi and Inoue, Kosuke

Publication Date: 2026

Journal: Journal of Clinical Endocrinology & Metabolism

Abstract: CONTEXT: Thyroid dysfunction and menopause both affect cardiovascular risk, but the specific influence of the menopausal transition on thyroid function independent of aging remains unclear. OBJECTIVE: To examine longitudinal changes in thyroid function across the menopausal transition among a large cohort of healthy midlife women. DESIGN: Longitudinal cohort study (2004-2024) using annual health checkup data and interrupted time-series analyses within mixed-effects linear models. SETTING: Annual health screening program at St. Luke's International Hospital, Tokyo, Japan. PARTICIPANTS: 7,644 Japanese women who experienced natural menopause and had at least one health checkup both before and after menopause. Those with hormone therapy or surgical menopause were excluded. MAIN OUTCOME MEASURES: Serum TSH and free thyroxine (fT4) levels. Secondary outcomes

included abnormal TSH categories (>4.5, >10.0, : Serum TSH and free thyroxine (fT4) levels. Secondary outcomes included abnormal TSH categories (>4.5, >10.0, : Serum TSH and free thyroxine (fT4) levels. Secondary outcomes included abnormal TSH categories (>4.5, >10.0, RESULTS: Over a median 13.7-year follow-up (86,967 visits), TSH increased by 0.014 mIU/L per year (95% CI, 0.010 to 0.019) before menopause, with no significant slope change at menopause (additional change, -0.006 mIU/L per year [CI, -0.012 to 0.000]). fT4 levels decreased by 0.005 ng/dL per year (CI, -0.006 to -0.005) before menopause and stabilized thereafter (additional slope change, +0.005 ng/dL per year [CI, 0.004 to 0.005]). The prevalence of abnormal TSH and thyroid disorders increased with age, but there were no distinct changes at menopause. CONCLUSIONS: Menopause was not associated with clinically meaningful changes in thyroid function beyond aging. Age-related factors, rather than the menopausal transition, may largely explain increasing thyroid abnormalities in midlife women.

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9. **Associations of employment characteristics and psychosocial work factors with severe menopausal symptoms among working women: a longitudinal study.**

Authors: Iida, Miho;Toki, Ryota;Miyake, Atsuko;Matsumoto, Minako;Hirata, Aya;Edagawa, Shun;Miyagawa, Naoko;Harada, Sei and Takebayashi, Toru

Publication Date: 2026

Journal: Occupational & Environmental Medicine

Abstract: OBJECTIVES: To investigate whether employment characteristics and psychosocial work factors are associated with the development of severe menopausal symptoms among working women. METHODS: We longitudinally analysed 648 working women aged 35-55 years without menopausal symptoms interfering with daily life at baseline (2012-2014). Employment characteristics included employment status, managerial position, shift work and working hours. Psychosocial work factors included workload, job control, job strain and effort-reward imbalance. At follow-up (2018-2020), women in the menopausal transition or postmenopause who reported menopausal symptoms that interfered with daily life during follow-up were classified as having developed severe menopausal symptoms. Associations between baseline work factors and the development of severe menopausal symptoms were examined using modified Poisson regression adjusted for age, follow-up duration, body mass index, smoking, drinking and educational attainment. Symptom domains (vasomotor, psychological and physical) were also evaluated. RESULTS: During 5.3+/-0.5 years of follow-up, 68 women (10.5%) developed severe menopausal symptoms. Per 1-SD increase, higher workload (risk ratio (RR) 1.34, 95% CI 1.04 to 1.73), job strain ratio (RR 1.30, 95% CI 1.10 to 1.54) and effort-reward ratio (RR 1.23, 95% CI 0.99 to 1.51) were associated with a higher risk, whereas higher job control was protective (RR 0.78, 95% CI 0.63 to 0.97). Results were similar after additional adjustment for menopausal, marital and parental status. Domain-specific analyses showed similar associations across symptoms, strongest for physical symptom severity. CONCLUSIONS: Psychosocial work factors, particularly high workload, low job control and high job strain, were associated with the development of severe menopausal symptoms. These findings highlight the importance of psychosocial work environments in supporting women during the menopausal transition.

10. **Vaginal Laser Treatment for Genitourinary Syndrome of the Menopause: A Dose-Determining Study in Breast Cancer Survivors.**

Authors: Jacobsen, Sine;Glavind-Kristensen, Marianne;Jensen, Anders Bonde;Forman, Axel;Bertelsen, Vibe Munk and Bor, Pinar

Publication Date: 2026

Journal: Lasers in Surgery & Medicine

Abstract: OBJECTIVES: Breast cancer survivors (BCSs) receiving endocrine therapy frequently develop genitourinary syndrome of menopause, characterized by vaginal dryness, pain, and urinary symptoms. Fractional CO_2 vaginal laser therapy has been proposed as a non-hormonal management option, but the optimal number of treatment sessions remains unclear. As preparation for a forthcoming randomized, blinded, sham-controlled trial, this dose-determining study evaluated how the number of fractional CO_2 laser sessions influences urogenital symptoms and objective vaginal parameters to identify session-dependent dose-response patterns. METHODS: This single-center dose-determining study was conducted at Randers Regional Hospital, Denmark. Thirty BCSs on endocrine therapy with symptomatic genitourinary syndrome of menopause underwent five monthly sessions of fractional microablative CO_2 vaginal laser using a standardized intravaginal probe protocol. Outcomes were evaluated at baseline and 4 weeks after the third, fourth, and fifth sessions. The primary outcome was vaginal dryness (VAS 0-10). Secondary outcomes included vaginal pain, itching, and soreness (VAS); sexual function (FSFI, SCS-W); urinary symptoms (UDI-6, ICIQ-FLUTSsex); and vaginal health (VHI). Statistical analyses involved paired within-participant comparisons across time points. RESULTS: Twenty-seven participants (90%) completed all five sessions. Vaginal dryness decreased significantly after three treatments, with a further incremental reduction by the fifth, representing the largest session-dependent change. FSFI scores increased significantly from baseline, with additional improvements across later sessions. SCS-W and ICIQ-FLUTSsex scores decreased steadily, while UDI-6 improved from baseline but remained stable across subsequent assessments. Treatments were well tolerated, with no serious adverse events. CONCLUSIONS: Fractional CO_2 vaginal laser therapy demonstrated incremental, session-dependent changes in urogenital symptoms and vaginal health measures, with the greatest improvements after five sessions. The protocol was feasible and acceptable for BCSs receiving endocrine therapy. Overall, these findings provide clinically relevant dose-response insight to help guide optimization of treatment parameters ahead of future randomized, sham-controlled trials overall.

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11. **Association between exposure to air pollution and age at natural menopause: The Study of Women's Health Across the Nation.**

Authors: Jang, Heeseon;Harlow, Sioban D.;Zhang, Wenzhiyuan;Reeves, Alexis;Ebisu, Keita;Wu, Xiangmei;Gold, Ellen B.;Derby, Carol A.;Kravitz, Howard M.;Greendale, Gail A.;Schwartz, Joel and Park, Sung Kyun

Publication Date: 2026

Journal: Journal of Clinical Endocrinology & Metabolism

Abstract: CONTEXT: Air pollution is a recognized risk factor for women's subfertility, yet its association with the timing of natural menopause remains understudied. OBJECTIVES: To examine the association between exposure to ambient air pollution and age at natural menopause (ANM). DESIGN AND SETTING: Longitudinal cohort study, the Study of Women's Health Across the Nation (SWAN), across six U.S sites (1999-2015). PARTICIPANTS: 1,457 midlife women aged 45-56 years from five racial/ethnic groups, after excluding those with hysterectomy or oophorectomy, or reproductive hormone use at baseline. METHODS: Annual exposures to PM2.5, NO2, and O3 were estimated using 1-km2 resolution data linked to residential addresses. Age at menopause was treated as a time-to-event outcome using accelerated failure time models to estimate the time ratios (TRs) and 95% confidence intervals (CIs). RESULTS: Women in the highest exposure quartile experienced natural menopause approximately one year earlier than those in the lowest quartile, with TRs (95% CIs) of 0.983 (0.971-0.995; p for trend=0.04) for NO2 and 0.983 (0.971-0.996; p for trend=0.004) for O3, whereas PM2.5 was not significantly associated with ANM. CONCLUSIONS: The approximately one-year earlier ANM among women exposed to the highest quartile of NO2 and O3 is comparable to the 0.8-year earlier menopause observed in current smokers relative to never smokers. These findings support the hypothesis that higher exposure to ambient air pollution is associated with an earlier onset of natural menopause.

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12. **Financial burden of menstrual and menopausal symptoms: productivity loss from absenteeism and presenteeism among working-age women.**

Authors: Kasahara S.;Goto R.;Suzuki S.;Sakamoto H. and Okamoto, S.

Publication Date: 2026

Journal: Reproductive Health 23(1) Article Number: 153.

Abstract: Background: Women's participation in the workforce not only promotes equal opportunity but also contributes to strengthening the social and economic development by addressing declining labour force participation rates linked to population ageing. Women have unique sexual and reproductive health needs, which can hinder their workplace participation and advancement. Therefore, understanding those needs is vital to make a work environment gender-responsive and equitable to ensure that all women can fully engage in social and economic activities. This study aims to provide evidence on the financial burden of productivity loss related to menstruation and menopause.
Method(s): To assess the financial impact of productivity loss due to menstruation- and menopause-related symptoms, we conducted an internet-based, cross-sectional survey in Japan in September 2022. The survey included 10,000 individuals with 4,950 women aged 25-59, of which we analysed 3,046 responses from those in paid work and with necessary information. Using the validated work productivity and activity impairment questionnaire, we assessed the financial burden of productivity loss, focusing on absenteeism and presenteeism, and estimated the national-level cost among working women aged 25 to 59.
Result(s): Results show that approximately 7.0-8.8% of working women experienced absenteeism or reduced working hours because of the symptoms. Specifically, menstruation- and menopause-related absenteeism accounted for 2-3 days off and a reduction of 2-5 working hours in the preceding three months. Additionally, 79.7% of women reported that menstrual or menopausal symptoms impacted their work productivity. Our estimate suggests

that the annual financial burden of productivity loss arising from the symptoms at the national level is approximately JPY 2,296.30 billion (USD 14.65 billion), comprising JPY 323.95 billion (USD 2.07 billion) from absenteeism and JPY 1,972.35 billion (USD 12.59 billion) from presenteeism.
Discussion(s): This study highlights the potential of addressing menstruation- and menopause-related symptoms among working-age women in generating positive economic impacts. These findings underscore the need for workplaces to implement gender-responsive strategies that meet the sexual and reproductive health needs of women in order to ensure gender equality and women's empowerment at workplace.
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13. **Oestrogen modulators as augmentation to antipsychotics for the treatment of post- and perimenopausal psychosis: a systematic review.**

Authors: Keen C.;Hassoulas A. and Richardson, J.

Publication Date: 2026

Journal: Therapeutic Advances in Psychopharmacology 16

Abstract: Background: It is theorised that oestrogen provides neuroprotection against psychosis. Oestrogen levels drop during post- and perimenopausal periods, creating a window for the onset of psychotic symptoms. Oestrogen treatment using hormonal therapy (HT) or selective oestrogen receptor modulators (SERMs) as an adjunct to antipsychotics could provide a new treatment option for post- and perimenopausal women.
Objective(s): This review investigated the effectiveness of oestrogen agents as adjunctive treatment to antipsychotic medications in post- and perimenopausal women with psychosis.
Design(s): Systematic review. Data sources and methods: A systematic search of major databases identified trials examining oestrogen or SERMs as adjuncts to antipsychotics in women aged 40+ with psychosis. Studies were assessed for quality using the Cochrane Risk of Bias tool and the Joanna Briggs Institute (JBI) critical appraisal tools.
Result(s): Ten studies met inclusion criteria: one using oestrogen HT and nine using raloxifene. Reductions in total Positive and Negative Syndrome Scale (PANSS) scores support evidence for the adjunctive use of raloxifene in improving psychotic symptoms. Of the nine included clinical trials, six reported statistically significant improvements with oestrogen-modulating agents: four in total PANSS reduction, and two in positive PANSS domain only. Quality assessments identified publication bias, inconsistent data reporting and variability in study design. Conclusion(s): Raloxifene shows potential as an adjunctive treatment in post- and perimenopausal psychosis, but further high-quality clinical trials are needed to inform practice and develop hormone-informed treatment protocols. Trial registration: Not registered.

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14. **Menopausal hormone therapy and incident benign paroxysmal positional vertigo in postmenopausal women: A prospective cohort study using UK Biobank data.**

Authors: Li L.;Chen J.;Han X.;Xiao D.;Li J.;Cui X.;Yu H. and Wang, X.

Publication Date: 2026

Journal: Maturitas 212. Article Number: 109076.

Abstract: Objectives: Menopausal hormone therapy and benign paroxysmal positional vertigo, a disorder linked to postmenopausal estrogen deficiency, have not been examined together in a large cohort. We assessed whether hormone therapy is associated with incident positional vertigo and its persistence after cessation. Study design: We constructed a prospective cohort of 160,617 postmenopausal women from the UK Biobank, excluding prevalent cases, and ascertained hormone therapy status, duration, and time since cessation from self-report. Incident cases were modelled with cause-specific Cox regression on the attained-age scale, adjusting for sociodemographic, lifestyle, cardiometabolic, and comorbidity covariates.
Main Outcome Measure(s): Incident benign paroxysmal positional vertigo, from the first hospital (ICD-10 H81.1) or primary-care record.
Result(s): In 157,245 women with complete covariate data (2627 events), the fully adjusted hazard ratio was 1.22 (95% confidence interval 1.09 to 1.38) for current use and 1.28 (1.17 to 1.39) for past use versus never use, stable across adjustment. Risk rose with duration (1.50 at 10 or more years; p for trend <0.001) and persisted after cessation (1.39 at 10 or more years since stopping). The duration-response relationship was stronger for recurrent than single-episode disease (hazard ratio at ten or more years, 1.83 versus 1.41). The association varied with attained age. Exploratory formulation and bone-mineral analyses were inconclusive.
Conclusion(s): Menopausal hormone therapy use was positively associated with incident positional vertigo, with a duration-response relationship and persistence after cessation. These pooled estimates are attained-age-averaged and hypothesis-generating; they warrant prospective validation and do not justify changing an individual woman's menopausal hormone therapy regimen. Copyright © 2026 The Author(s)

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15. **Age at Menopause and Trajectories of Multimorbidity Progression to Mortality: A Multi-State Analysis of UK Biobank Data.**

Authors: Li M.;Liu T.;Zhou H.;Yu X.;Wang H.;Zheng L.;Wang Z.;Han X.;Ren X.;Lu X. and Tian, W.

Publication Date: 2026

Journal: BJOG: An International Journal of Obstetrics and Gynaecology 133(10), pp. 1866–1875

Abstract: Objective: To investigate whether age at menopause is associated with the trajectory of multimorbidity progression.
Design(s): A retrospective cohort study.
Setting(s): The UK Biobank. Population: 121 017 postmenopausal women aged 40-69 years with complete baseline and menopausal data.
Method(s): Cox proportional hazards models were used to explore the associations between menopausal age and both multimorbidity and mortality. Multi-state models were further employed to evaluate the association of menopausal age with transitions from a health state to the first chronic disease (FCD), to multimorbidity, and to mortality from each state.
Main Outcome Measure(s): Multimorbidity (defined as >= 2 of 35 chronic conditions) and mortality.
Result(s): Over a median follow-up period of 8.6 years, 86 821 women developed the FCD,

42237 multimorbidity, and 10 527 participants died. In the multi-state models analysis, from health to FCD, compared with women who experienced menopause after age 50 years, the risks increased by 32%, 14%, and 3% among women with premature, early, and relatively early menopause, respectively (HR = 1.32, 95% CI: 1.28-1.36; HR = 1.14, 95% CI: 1.11-1.17; HR = 1.03, 95% CI: 1.01-1.05). Similarly, for the transition from FCD to multimorbidity, the risks increased by 22% (HR = 1.22, 95% CI: 1.17-1.27), 13% (HR = 1.13, 95% CI: 1.09-1.16), and 6% (HR = 1.06, 95% CI: 1.03-1.08), respectively.
Conclusion(s): Earlier menopause was associated with an increased risk of multimorbidity and mortality, mainly affecting two trajectories, from health to FCD and FCD to multimorbidity.
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16. **Real-world safety signals of fezolinetant in women with menopausal vasomotor symptoms: a pharmacovigilance analysis of the WHO VigiAccess database.**

Authors: Li, Yan;Zhai, Lu;Wang, Limantian;Deng, Shudan;Zhao, Bomeng;Niu, Huiyan;Zhang, Lu and Gao, Xiaoling

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: To characterize the real-world safety profile of fezolinetant, a neurokinin-3 receptor antagonist approved for the treatment of menopausal vasomotor symptoms, using adverse event reports from the WHO VigiAccess database. METHODS: Adverse event reports were retrieved from VigiAccess. Disproportionality analyses using reporting odds ratio, proportional reporting ratio, information component, and empirical Bayes geometric mean were applied to identify safety signals. A signal was defined as meeting all four criteria (reporting odds ratio [ROR] lower 95% CI > 1, proportional reporting ratio >= 2 with chi2 >= 4, IC025 > 0, EBGM05 > 2). RESULTS: A total of 1,091 individual case safety reports comprising 2,143 adverse events were identified, with most reports in women (96.7%) aged 45-64 years (42.16%) and a marked increase in 2024 (n=1,037). Forty-two preferred terms were identified and consistently detected across all methods. The strongest signals included menopausal symptoms (ROR=139.86, 95% CI=75.09-260.53) and facial discomfort (ROR=104.90, 95% CI=33.77-325.87). Liver-related abnormalities showed consistent signals, including increased alanine aminotransferase (ROR=20.60), aspartate aminotransferase (ROR=22.95), and bilirubin (ROR=12.52), suggesting a clustered hepatic signal. Neurological and psychiatric events included insomnia, headache, dizziness, migraine, brain fog, and sleep disorder, whereas gastrointestinal symptoms such as diarrhea and abdominal pain were also observed. Vasomotor symptom-related terms likely reflected the underlying disease rather than treatment effects. CONCLUSIONS: This exploratory analysis found that fezolinetant's real-world safety profile was broadly consistent with phase 3 trials, with efficacy in reducing menopausal vasomotor symptoms. Disproportionality signals mainly involved liver and neurological events. These findings do not reflect absolute risk or incidence and should be considered hypothesis-generating. In view of its established benefit, they support a balanced benefit-risk assessment for clinical use.

17. **Salivary human mRNA and lncRNA in postmenopausal burning mouth syndrome: Linking inflammation, pain, and comorbidities at the RNA level.**

Authors: Lu, Dingzhuo;Su, Zhonghao;Wen, Na;Wang, Jian;Wang, Bing and Qin, Zhenxia

Publication Date: Aug 24 ,2026

Journal: Journal of Oral Biosciences 68(5), pp. 100809

Abstract: OBJECTIVE: Burning mouth syndrome (BMS), a heterogeneous idiopathic orofacial pain disorder mainly affecting postmenopausal females, is frequently accompanied by anxiety and sleep disturbances. Existing BMS molecular studies have focused primarily on oral bacterial DNA, whereas systematic human salivary transcriptomic profiling remains poorly explored. This study aimed to characterize salivary mRNA and lncRNA signatures in postmenopausal patients with BMS and uncover the transcriptomic mechanisms underlying the pathogenesis of BMS and associated comorbidities. METHODS: Twenty-one patients with BMS and 21 age-matched postmenopausal healthy controls were enrolled. Salivary samples were pooled into three sequencing replicates per group. Whole-transcriptome sequencing was performed to identify differentially expressed RNAs (|log2FoldChange|>1, $p < 0.05$). GO/KEGG enrichment and lncRNA–mRNA ceRNA network analyses were performed, and core transcripts were validated using RT-qPCR. RESULTS: BMS-associated transcripts were enriched in neuroinflammation, nociceptive sensitization, hormonal signaling, neuronal function, and sleep and emotional regulation. Key hub genes (TLR4, IL1B, PTGS2, FOS) mediate oral neuroinflammatory pain, whereas other transcripts are correlated with BMS-associated comorbidities. NEAT1 and lncRNA105310 form a core inflammation-metabolism ceRNA network, and key changes in expression were experimentally validated. These salivary signatures reflect local oral pathogenesis and systemic physiological and psychological alterations in patients with BMS. CONCLUSIONS: This study establishes a novel salivary transcriptomic profile and ceRNA regulatory network for postmenopausal BMS, providing molecular links between oral neuroinflammatory pain, and hormonal and emotional comorbidities. The non-invasive RNA signatures offer promising auxiliary diagnostic biomarkers and therapeutic targets for BMS, awaiting further prospective cohort validation and refined transcriptomic analyses for clinical translation.

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18. **Dancing Through Menopause: 16-Week Jazz Dance Program Reduces Stress, Not Urogenital Symptoms.**

Authors: Martins J.B.B.;Fausto D.Y.;da Silveira J.;Aleixo I.M.;Luz C.M.D. and Guimaraes, A. C. A.

Publication Date: 2026

Journal: Journal of Dance Medicine & Science 30(3), pp. 322–332

Abstract: Introduction: There is an ongoing search for evidence based on unconventional modalities that can treat the physical and psychological symptoms resulting from menopause. The main objective of this study was to analyze the effects of Jazz Dance, compared to the control group, on stress, urinary incontinence, and sexual function in menopausal women in

the short and long term, as well as to investigate stress as a predictor of sexual function and urinary incontinence.
Method(s): Two-arm randomized clinical trial (Jazz Dance Intervention Group (JDIG) (n=23) and Control Group (CG) (n=24)) with 47 women (53.41+/-2.8years). Data collection was carried out at four timepoints: baseline, post-intervention, and 6-month and 12-month follow-ups. The instruments used were the Female Sexual Function Index (FSFI); Perceived Stress Scale (PSS), and International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF).
Result(s): Positive results over time were found in the JDIG for stress (P=.030) and sexual function in the domains of satisfaction (P=.041), desire (P=.018), and orgasm (P=.033) in the long term. Stress was a predictor of sexual dysfunction and urinary incontinence.
Discussion(s): Jazz Dance is a effective, and low-cost modality for managing stress. For sexual function, the benefits need to be looked at in the long term, and this modality does not seem to be an effective management alternative for urinary incontinence.

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19. **Development of a menopause education programme for women with a learning disability.**

Authors: McFeeters, Claire;McGinn, Deborah and Pedlow, Katy

Publication Date: Aug 20 ,2026

Journal: Journal of Intellectual Disabilities 17446295261479218

Abstract: Menopause affects every woman however those with an intellectual disability experience it earlier than the general population. Women with an intellectual disability also experience disparities in health services and information. Despite a recognised need, there are currently no established evidence-based education programmes to support women with an intellectual disability to prepare for menopause. This study aimed to develop, deliver and design a menopause education programme to women with an intellectual disability in the community setting. Additionally, the study aimed to identify any adaptions required within the programme and evaluation methods, to enhance its acceptability from the perspectives of women with an intellectual disability. A rapid review of menopause education programmes, alongside a public and patient involvement exercise informed the initial education programme design. An experimental study was conducted. The co-designed education programme was delivered to 6 groups of women with an intellectual disability. Participants completed a pre and post evaluation of their knowledge of menopause and participated in focused groups to determine the acceptability of the programme and any adaptions needed. Forty-three women participated in the six-week programme within the community setting. Knowledge of menopause was evaluated pre- and post-completion of the education programme and demonstrated improvement. Women reported feeling prepared to navigate menopause and the appreciation of being supported in a group setting. Some adaptions to the programme were noted. Menopause education plays a key role in preparing women with an intellectual disability for going through menopause. Menopause education for women with an intellectual disability is key to reducing the health and wellbeing impacts that menopause has on this population. Provision of education within supportive environments and delivered through active learning approaches has the potential to enhance the confidence and dignity of women with an intellectual disability going through menopause in the short term.

20. **Comparative evaluation of transvaginal sonography and hysteroscopy with histopathological correlation in postmenopausal bleeding.**

Authors: Muley K.A.;Mhaske K.M.;Nehate M.S. and Naik, S.

Publication Date: 2026

Journal: International Journal of Clinical Obstetrics and Gynaecology.Part S 10(3), pp. 1437–1443

Abstract: Background: Postmenopausal Bleeding (PMB) is an important clinical symptom requiring prompt evaluation because of its association with endometrial premalignant and malignant lesions. Transvaginal Sonography (TVS) and hysteroscopy are commonly used diagnostic modalities, while histopathological examination (HPE) remains the gold standard for diagnosis.
Objective(s): To compare the diagnostic efficacy of TVS and hysteroscopy in women with postmenopausal bleeding and to correlate their findings with histopathological examination.
Material(s) and Method(s): A prospective observational study was conducted among 46 women presenting with postmenopausal bleeding at a tertiary care center. All participants underwent TVS followed by diagnostic hysteroscopy and endometrial biopsy. Findings obtained by TVS and hysteroscopy were compared with histopathological diagnosis. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), diagnostic accuracy, and agreement statistics were calculated.
Result(s): Histopathology revealed endometrial polyp and endometrial hyperplasia as the most common lesions (32.6% each), followed by atrophic endometrium (15.2%), endometrial carcinoma (13.0%), and submucous fibroid (2.2%). Hysteroscopy demonstrated superior diagnostic performance compared to TVS. For endometrial polyps, hysteroscopy showed sensitivity of 93%, specificity of 87%, and accuracy of 89.1%, whereas TVS showed sensitivity of 33% and accuracy of 67.4%. For endometrial hyperplasia, hysteroscopy achieved an accuracy of 84.8% compared with 32.6% for TVS. Hysteroscopy also showed better detection of endometrial carcinoma with sensitivity of 67% and specificity of 98%. Significant agreement with histopathology was observed for hysteroscopy across all major lesions (kappa=0.648-0.765; p60 years) and obesity were significantly associated with endometrial carcinoma.
Conclusion(s): Hysteroscopy with directed biopsy is a highly accurate diagnostic modality for evaluating postmenopausal bleeding and demonstrates superior correlation with histopathology compared to TVS. While TVS remains an effective initial screening tool, hysteroscopy should be considered for definitive assessment of suspected intrauterine pathology.

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21. **Association between body composition and perimenopausal symptom severity in Irish women.**

Authors: Murphy, Miriam Bernadette;Cuskelly, Geraldine and Heavey, Patricia

Publication Date: Aug 13 ,2026

Journal: Post Reproductive Health 1-10

Abstract: BACKGROUND: Perimenopause is associated with somatic, psychological, and urogenital symptoms that may negatively impact quality of life. Changes in body composition, including increased body fat and central adiposity, are common during midlife. While elevated body mass index (BMI) has been linked to menopausal symptom severity in postmenopausal women, limited research has focused on perimenopause. This study examined the association between body composition and symptom severity in Irish perimenopausal women. METHODS: This cross-sectional study included 112 perimenopausal women aged over 40 years in Ireland. Symptom severity was assessed using the 11-item Menopause Rating Scale (MRS). Anthropometric measures included BMI, waist circumference (WC), and body fat percentage (%BF). Spearman's correlations and hierarchical multiple regression models examined associations, adjusting for age, marital status, and physical activity. RESULTS: Median age was 48.4 years (IQR 5.2), median BMI 28.3 kg/m2 (IQR 7.1), and mean %BF was 34.9 +/- 7.3%. Median MRS score was 15.0 (IQR 10.0). Overall symptom score correlated with BMI, WC, and %BF (all p CONCLUSIONS: Higher BMI, WC, and %BF were associated with greater somatic symptom severity during perimenopause.; plain-language-summary Perimenopause is the stage before menopause when many women can experience a range of symptoms such as hot flushes, sleep problems, mood changes, and vaginal dryness. At the same time, many women can also experience changes in body weight and where that weight is distributed in the body. While previous research has looked at these changes after menopause, less is known about the relationship between body composition and symptoms during perimenopause. This study included 112 women over the age of 40 living in Ireland who were going through perimenopause. We looked at measures such as body mass index (BMI), waist circumference, and body fat percentage, and compared these with the severity of their menopausal symptoms. We found that women with higher BMI, larger waist circumference, and higher body fat tended to report more severe physical symptoms, such as joint pain, sleep problems, and hot flushes. However, these body measures were not linked to psychological symptoms (such as anxiety or low mood) or urogenital symptoms (such as bladder or vaginal issues). However, because this study looked at women at one point in time, it cannot show cause and effect, and it is not possible to say whether body composition directly leads to more severe symptoms. These findings suggest that body composition may play a role in how women experience physical symptoms during perimenopause. Supporting women to maintain a healthy weight and body composition during midlife may help reduce symptom severity and improve overall wellbeing. Language: English

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22. **Effect of Reflexology on Menopausal Problems and Quality of Life: A Scoping Review.**

Authors: Palanisamy R.;Noronha J.A.;Devi E.S.;Reddy G.G. and Adiga, P.

Publication Date: 2026

Journal: Advances in Mind-Body Medicine 40(4), pp. 21–27

Abstract: Background: Menopause is a natural life stage marked by hormonal shifts that often affect women's well-being. Reflexology, a safe and non-pharmacological therapy, may help support wellness during this transition.
Objective(s): To present an overview of the literature on the effect of reflexology on menopausal problems and quality of life.

Method(s): The review followed the Arksey and O'Malley (2005) scoping review framework. A comprehensive search was conducted in PubMed (MEDLINE), SCOPUS, CINAHL, and Web of Science using combinations of terms related to perimenopause/menopause, women, reflexology (zone therapy, foot/palm massage), and outcomes such as sleep, fatigue, stress, vasomotor and perimenopausal symptoms, depression, physiological parameters, and health-related quality of life. Article screening and reporting adhered to PRISMA-ScR guidelines.
Result(s): Based on the inclusion criteria adopted, 11 articles were included in the scoping review. Among them, three explored the impact of reflexology on menopausal symptoms, two assessed its effectiveness in reducing depression, and another two investigated its influence on both menopausal symptoms and quality of life. One study evaluated its effect on menopausal symptoms and cortisol levels, one examined the outcomes related to sleep quality and fatigue, another focused on sleep, and one investigated quality of life. Of these studies, six were randomized controlled trials, three employed a quasi-experimental design, and two utilized a pre- and post-test control group design.
Conclusion(s): Research on reflexology among menopausal women shows promising benefits, including reductions in menopausal symptoms, fatigue, depression, and sleep disturbances, and improvement in the overall quality of life. Further rigorous and controlled research is necessary to support the evidence before reflexology can be endorsed as a routine clinical approach for managing menopausal symptoms and enhancing women's quality of life.
keywords: menopausal symptoms, depression, fatigue, sleep, quality of life, scoping review.

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23. **Menopause status and its role in incident Alzheimer's disease and related dementias, rheumatoid arthritis (RA) disease severity, and overall mortality in women with RA.**

Authors: Salama, Ryan S.;Hulshizer, Cassondra A.;Crowson, Cynthia S.;Lennon, Ryan J.;Rocca, Walter A.;George, Roslin Jose;Frechette, Noah;Allen, Michelle and Myasoedova, Elena

Publication Date: Jul 30 ,2026

Journal: Seminars in Arthritis & Rheumatism 80, pp. 153051

Abstract: INTRODUCTION/OBJECTIVES: We aimed to investigate associations between menopausal characteristics, including age at menopause and cause (natural vs. artificial), with long-term outcomes in women with rheumatoid arthritis (RA), incident Alzheimer's disease and related dementias (ADRD), RA severity, and overall mortality. We hypothesized that atypical menopausal characteristics increase ADRD risk and disease severity. METHODS: Women with incident RA in 1980-2014 who were >=50 years of age at RA incidence were included. Menopause cause and age at menopause (categorized as =55 years) were abstracted from medical records. Associations between menopausal characteristics and ADRD, extra-articular manifestations (ExRA), erosions, cardiovascular events, and mortality were evaluated using Cox models. Associations with clinic visits for flares and remissions were assessed using mixed-effects models. Data were collected using the Rochester Epidemiology Project medical records-linkage system. RESULTS: Both early/premature and late menopause were associated with nonsignificant near two-fold increases in ADRD risk. In addition, early/premature (HR 2.40; 95% CI 1.15-5.01) and late menopause (HR 2.17; 95% CI 1.01-4.66) significantly increased severe ExRA risk. Menopausal characteristics were not

associated with presence of erosions or mortality. Artificial menopause was associated with fewer cardiovascular events and fewer visits for RA remission. Early/premature menopause was associated with fewer remission visits (OR 0.50; 95% CI 0.29-0.87). CONCLUSION: Women with early/premature and late menopause had nonsignificant, increased risk of incident ADRD. Menopausal characteristics had significant associations with RA severity and cardiovascular events, and may be relevant contextual factors in long-term risk assessment for women with RA.

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24. **Microvascular endothelial function is blunted in postmenopausal females with frequent hot flushes.**

Authors: Stokes, William;Tahsin, Chowdhury Tasnova;Anselmo, Miguel F.;Nathe, Stephany;Lee, Emma J.;Teshome, Soliana;Vanden Noven, Marnie L.;Blaes, Anne;Langworthy, Benjamin W. and Keller-Ross, Manda L.

Publication Date: 2026

Journal: Experimental Physiology

Abstract: Hot flushes of menopause are associated with elevated blood pressure (BP) and diminished macrovascular endothelial function, an initiating factor in the onset of atherosclerosis. Whether microvascular endothelial function is impaired in females with hot flushes, however, remains unknown. We hypothesised that postmenopausal females with hot flushes would have reduced microvascular endothelial function and elevated BP in comparison to age-matched females without hot flushes. Participants were healthy postmenopausal females, aged 45-70 years; participants experiencing at least three hot flushes per day were placed in the hot flush (HF) group (n = 16), whereas participants with no history of hot flushes were placed in the non-HF group (n = 18). Heart rate (ECG) and BP (finger plethysmography) were measured during a 10 min rest period, and endothelial function was measured with pulse amplitude tonometry (EndoPAT 2000), quantified by the reactive hyperaemia index (RHI) and the natural logarithm of the RHI (LnRHI). Groups were similar in age, age at menopause and body mass index, in addition to systolic BP, diastolic BP and heart rate between groups (P > 0.05). The RHI was lower in the HF group (1.87 +/- 0.47 a.u.) compared with the non-HF group (2.31 +/- 0.67 a.u., P = 0.047), and the difference between LnRHI in the HF group (0.63 +/- 0.21 a.u.) and the non-HF group was nearly significant (0.80 +/- 0.27 a.u., P = 0.052). New findings from this study demonstrate a lower microvascular endothelial function in females with hot flushes in comparison to females without hot flushes, although BP and heart rate were not different between the groups. The reduced microvascular endothelial function demonstrated in females with hot flushes is likely to contribute to greater cardiovascular disease development.

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25. **The Relationship Between Menopause, Perimenopause and Alcohol Use: A Scoping Review**

Authors: Teixeira, Filipa M. A. A.;Picior, Mihai and Ajewole, Oluwatobi

Publication Date: Aug 09 ,2026

Journal: Substance use & Addiction Journal 29767342261467588

Abstract: BACKGROUND: The relationship between menopausal transition, alcohol use and women's health remains poorly understood despite its relevance in psychiatry and women's health. Alcohol and menopausal symptoms can overlap, which can lead to misattribution and a barrier to access appropriate care. The objectives are to map the existing literature on the relationship between menopause, perimenopause and alcohol use. We also aim to synthesise current evidence and identify knowledge gaps across 3 domains: alcohol and impact on menopausal physiology and symptoms; menopausal transition and impact on alcohol use patterns; and psychosocial context and mental health. METHODS: A scoping review was conducted using the Ovid MEDLINE, PubMed, Embase, Cochrane and PsycINFO databases. Studies were included if they involved perimenopausal, menopausal or postmenopausal women and addressed any kind of alcohol use. Data were synthesised thematically. RESULTS: Fifty-seven studies were included, predominantly prospective cohorts (n = 18) and cross-sectional studies (n = 15). Most focused on postmenopausal populations, with perimenopausal women under-represented. Moderate alcohol consumption was associated with higher oestradiol and lower follicle-stimulating hormone levels, though effects on menopausal timing were inconsistent. Findings on vasomotor symptoms, sleep disturbance and sexual function varied considerably. No consistent evidence demonstrated that the menopausal transition independently increases alcohol consumption. Mental health outcomes were reported in fewer than one-quarter of studies, with moderate drinking showing neutral effects while heavy consumption correlated with worse mood and cognitive complaints. CONCLUSIONS: The literature provides only a partial understanding of the menopause-alcohol relationship, with conflicting results across vasomotor symptoms, sleep, sexual function and psychological outcomes.

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

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

Publication Date: 2026

Journal: Maturitas 211. Article Number: 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.
Method(s): 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.
Result(s): 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(s): 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
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27. **Continuity of hormone replacement therapy in custody: Why abrupt discontinuation puts women at risk.**

Authors: Walker, N.

Publication Date: 2026

Journal: Journal of Forensic and Legal Medicine 122, Article Number: 103223.

Abstract: The continuity of essential medications is a fundamental component of clinical governance within custodial healthcare. National standards, including the Royal Pharmaceutical Society (RPS) Professional Guidance on the Safe and Secure Handling of Medicines[1] and the College of Policing's 2024 Authorised Professional Practice (APP) for Custody,[2] emphasise the importance of maintaining prescribed treatments to prevent avoidable clinical deterioration. Yet hormone replacement therapy (HRT) frequently remains excluded from rapid medicines continuity pathways, resulting in abrupt interruption for women entering police and prison custody despite risks highlighted in the UK National Preventive Mechanism (NPM) Menopause in Detention Toolkit.[3]This article examines the immediate physiological and psychological consequences of abrupt iatrogenic oestrogen withdrawal, framing endocrine withdrawal as an acute patient safety issue rather than a lifestyle concern. It integrates emerging evidence, including the UK National Preventive Mechanism (NPM) Menopause in Detention Toolkit,[3] the Independent Custody Visiting Association (ICVA) Menopause Impact Report,[4] and the growing recognition that women and clinicians require clearer evidence to support decisions regarding the continuation or discontinuation of hormone replacement therapy(Hamoda and Panay, 2024).[5] It also incorporates peer-reviewed neuroendocrine research demonstrating the destabilising effects of abrupt oestradiol withdrawal [6-8].The paper argues for a paradigm shift in custodial healthcare, recognising hormone replacement therapy as an essential endocrine treatment requiring timely continuity of care. It proposes practical approaches to medicines verification and rapid bridging protocols to reduce avoidable endocrine withdrawal, support accurate clinical assessment and improve patient safety.

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28. **Efficacy and safety of GS1-144, a novel neurokinin 3 receptor antagonist, for moderate-to-severe vasomotor symptoms associated with menopause in Chinese women: a randomized, double-blind, placebo-controlled phase 2 trial.**

Authors: Wang Y.;Wang X.;Wang W.;Lin J.;He Y.;Shou H.;Ai X.;Zhang Q.;Cai Y.;Wu Y.;Guo

R.;Hu L.;Chen H.;Xiang W.;Pan C. and Yu, Q.

Publication Date: 2026

Journal: Menopause 33(8) (pagination), pp. Date of Publication: August 2026

Abstract: Objective: - This multicenter, randomised, double-blind, placebo-controlled, phase 2 trial investigated the efficacy and safety of the selective neurokinin 3 receptor (NK3R) antagonist GS1-144 for moderate-to-severe vasomotor symptoms (VMS).
Method(s): - Eligible participants aged between 40 and 64 years randomly (1:1:1:1) received GS1-144 30 mg once daily (QD), 60 mg QD, or 30 mg twice daily (BID) and placebo for 12 weeks. Co-primary endpoints were the mean change in the frequency and severity of moderate-to-severe VMS from baseline to weeks 4 and 12.
Result(s): - Among 276 randomized participants, 271 (98.2%) and 258 (93.5%) completed 4 and 12 weeks of treatment, respectively. VMS frequency was significantly reduced versus placebo for GS1-144 30 mg BID at week 4 (difference in change in least squares mean -1.31 [90% CI: -2.35 to -0.26], P=0.04) and week 12 (-1.41 [-2.28 to -0.54], P=0.008), and for GS1-144 60 mg QD at week 12 (-1.42 [-2.28 to 0.55], P=0.007). GS1-144 30 mg BID and 60 mg QD significantly reduced VMS severity versus placebo at week 4 (-0.14 [-0.26 to -0.01], P=0.07; -0.13 [-0.26 to -0.01], P=0.07) and week 12 (-0.24 [-0.43 to -0.05], P=0.04; -0.19 [-0.38 to 0.00], P=0.098). Treatment-emergent adverse events occurred in 67.6% (140/207) of participants who received GS1-144 and 62.3% (43/69) in the placebo group. No liver safety risks were observed with GS1-144.
Conclusion(s): - GS1-144 is well tolerated and significantly reduces VMS frequency and severity in postmenopausal Chinese women.
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29. **Elevated cardiovascular risk associated with hormone replacement therapy: A comprehensive analysis of reproductive factors and atherosclerotic cardiovascular disease outcomes in the UK Biobank cohort.**

Authors: Wang, Mengchun;Zhang, Can;Yang, Chunlai;Meng, Baosen;Li, Xiaohui;Huang, Qian and Mi, Baibing

Publication Date: 2026

Journal: Acta Obstetricia Et Gynecologica Scandinavica

Abstract: INTRODUCTION: The cardiovascular effects of hormone replacement therapy (HRT) remain controversial. This study investigated HRT-associated atherosclerotic cardiovascular disease (ASCVD) risk, focusing on reproductive characteristics. MATERIAL AND METHODS: This prospective cohort study analyzed 170 250 women aged 40-69 years from UK Biobank (2006-2024). Cox proportional hazards regression models were employed to estimate ASCVD risk, with stratification by reproductive characteristics (age at menarche, age at menopause, and menopausal status) and age groups (55 years). Mediation analysis was conducted to examine potential biological pathways through sex hormones, inflammatory markers, and lipid profiles. All analyses were adjusted for demographic factors, socioeconomic

status, lifestyle factors, and reproductive history. RESULTS: During follow-up, 11 357 women (6.67%) developed ASCVD. HRT users demonstrated elevated ASCVD risk (adjusted HR 1.13, 95% CI 1.08-1.18, p : During follow-up, 11 357 women (6.67%) developed ASCVD. HRT users demonstrated elevated ASCVD risk (adjusted HR 1.13, 95% CI 1.08-1.18, p =5 years) and ASCVD risk were observed ($p_{overall}$ = 0.009, $p_{nonlinear}$ = 0.004). Mediation analysis revealed minimal indirect effects through traditional biomarkers (= 0.004). Mediation analysis revealed minimal indirect effects through traditional biomarkers (CONCLUSIONS: HRT increases ASCVD risk with substantial variation by reproductive characteristics. Findings support reproductive profile-based cardiovascular risk assessment for personalized HRT prescribing.

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30. **Estrogen metabolism-related lifestyle score and risk of postmenopausal breast, endometrial, and ovarian cancers: findings from two large prospective cohort studies.**

Authors: Yuan, Fangcheng;Shu, Xiao-Ou;Long, Jirong;Huang, Wen-Yi;Lipworth, Loren;Xu, Xia;Khankari, Nikhil K.;Watts, Eleanor L.;Tao, Ran;Cai, Hui;Moore, Steven C. and Zheng, Wei

Publication Date: 2026

Journal: Cancer Prevention Research

Abstract: High endogenous estrogen levels contribute to the etiology of hormone-related cancers. 2-hydroxylation (2-OH) of estrogen exhibits potential anti-tumorigenic properties. We hypothesized that lifestyle patterns related to the ratio of 2-OH pathway estrogen metabolites (EMs) to parent estrogens (2-OH EM/parent E ratio) might lower estrogen-related cancer risk. We applied elastic net regularized regression to derive lifestyle scores correlated with the 2-OH EM/parent E ratio separately using data from subsets of cancer-free, postmenopausal women in Shanghai Women's Health Study (SWHS, n=723) and Prostate, Lung, Colorectal and Ovarian Screening Trial (PLCO, n=635), where blood (PLCO) or urine (SWHS) samples collected at baseline were profiled for parent estrogens and EMs. Cox proportional hazards models were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs) for associations of lifestyle scores with risk of breast, endometrial, and ovarian cancers in SWHS (N=35,453) and PLCO (N=26,565). The lifestyle scores explained 10-11% of total variance in the 2-OH EM/parent E ratio. In the SWHS, a higher score was associated with 29% (HR=0.71, 95% CI=0.57-0.88, Ptrend<0.001) and 61% (HR=0.39, 95% CI=0.21-0.71, Ptrend<0.001) lower risk of breast and endometrial cancers comparing the highest to lowest quartile, respectively. The association was more apparent with estrogen receptor (ER)-positive than ER-negative breast cancer. Similar inverse associations were observed in the PLCO. Lifestyle patterns linked to elevated 2-OH of estrogen were associated with lower risk of postmenopausal breast and endometrial cancers. Our study provides evidence for lifestyle modifications for cancer prevention.

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31. **Fractional CO_2 Laser for Genitourinary Syndrome of Menopause: Comparator-Aware Systematic Review and Meta-Analysis**

Authors: Zulfikaroglu, Ebru and Zulfikaroglu, Baris

Publication Date: 2026

Journal: International Urogynecology Journal

Abstract: INTRODUCTION AND HYPOTHESIS: Genitourinary syndrome of menopause (GSM) is common and may persist despite first-line measures. Fractional CO_2 vaginal laser is increasingly offered as a nonhormonal option, but interpretation is complicated by heterogeneous comparators and subjective outcomes vulnerable to procedural and expectancy effects. The objective was to systematically review clinical evidence on fractional CO_2 laser for genitourinary syndrome of menopause and evaluate short-term efficacy and safety using a comparator-aware meta-analysis restricted to eligible randomized trials. METHODS: We systematically reviewed clinical studies and restricted quantitative synthesis to CO_2-only randomized controlled trials reporting extractable short-term post-treatment outcomes. Random-effects meta-analyses were performed, with prespecified subgroup analyses by comparator type: sham procedures versus nonsham controls. Risk of bias was assessed using the Cochrane Risk of Bias 2 tool, and certainty of evidence was evaluated using Grading of Recommendations Assessment, Development, and Evaluation. RESULTS: Thirty-six clinical studies involving 1,709 participants, including 11 randomized controlled trials and 407 cancer survivors, met the inclusion criteria. Quantitative synthesis included nine CO_2-only randomized controlled trials. Fractional CO_2 laser was associated with improved short-term Female Sexual Function Index scores compared with controls; however, effects were smaller in sham-controlled trials. Although the pooled mean difference favored laser, this should be clinically interpreted with caution because validated minimal clinically important difference thresholds for this specific population are not well established. Vaginal health, urinary, and safety outcomes were inconsistently reported. CONCLUSIONS: Fractional CO_2 laser may improve short-term sexual function and GSM-related outcomes, but benefits attenuate in sham-controlled trials and evidence certainty remains limited. Durability, urinary effects, oncology-specific safety, and comparative effectiveness versus contemporary low-dose vaginal estrogen regimens remain insufficiently defined.

In the news

Survey: fewer than 1 in 7 women link dry eye to perimenopause or menopause.

Lucia Gambuzza, 2 September 2026

Ophthalmology Times

“A newly released industry-sponsored survey indicates that dry eye disease is widely underrecognized as a manifestation of perimenopause and menopause, with fewer than 1 in 7 women in the relevant life stages identifying it as a menopause-related symptom. The findings, announced September 1, 2026, by Bausch + Lomb Corporation, point to a clinically significant awareness gap that may delay presentation to eye care professionals and prolong unnecessary symptom burden.”

Read online at https://www.ophthalmologytimes.com/view/survey-fewer-than-1-in-7-women-link-dry-eye-to-perimenopause-or-menopause

Can antihistamines really help with PMDD and menopausal symptoms?

Sarah Sloat, 14 August 2026

The Guardian

“Premenstrual dysphoric disorder (PMDD) and menopause can come with debilitating symptoms, like intense emotional changes and exhaustion.

All over social media, women are claiming that a simple hack has helped enormously: a combination of two over-the-counter medications, both antihistamines – typically, the name brands Pepcid AC and Allegra.”

Read online at https://www.theguardian.com/wellness/2026/aug/14/antihistamines-menopause-pmdd

Global guidance published to support employees experiencing menstruation and menopause

Zoe Wickens, 7 September 2026

Employee Benefits

“The British Standards Institution (BSI) and the International Organisation for Standardisation (ISO) have published global guidance to support employees who experience menstruation and the menopause in work. Occupational health and safety management – Menstruation and menopause in the workplace (BS ISO 45010) will provide support for leaders, managers, human resources professionals and occupational health and safety practitioners on identifying and addressing workplace factors that may affect employees experiencing menstruation or menopause.”

Read online at https://www.employeebenefits.co.uk/menopause-fertility-and-pregnancy/2026/09/07/global-guidance-published-to-support-employees-experiencing-menstruation-and-menopause/

Women are telling Reddit, not doctors, about menopause: Using AI, study reveals certain menopause symptoms rarely recorded by health system.

14 July 2026

University of Maryland, School of Public Health.

“Nearly half the world's population experiences menopause, yet many of its emotional, cognitive and social impacts may never be discussed during medical appointments. New research out today in JAMA Network Open led by UMD Professor Yulin Hswen highlights these “silent symptoms” by comparing clinical notes that include menopause symptoms with the top Reddit posts in menopause forums.

“We found that the more emotional and cognitive symptoms of menopause, like cognitive impairment, were around 3-4 times more likely to come up in online forums than at the doctor. These menopause symptoms are far more visible in women's own conversations than in traditional clinical records, and are not being captured by our healthcare system,” said Hswen,

associate professor in the UMD School of Public Health's Department of Epidemiology and Biostatistics and the Artificial Intelligence Interdisciplinary Institute at Maryland."

Read online at https://sph.umd.edu/news/women-are-telling-reddit-not-doctors-about-menopause

Sources used:

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

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