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Menopause

Current Awareness Bulletin

April 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. **Fezolinetant for treating moderate to severe vasomotor symptoms associated with menopause**. **Technology appraisal guidance: TA1143**

Author: NICE

Publication Date: 2026 (Last reviewed: 31 March 2026)

Abstract: Evidence-based recommendations on fezolinetant (Veoza) for treating moderate to severe vasomotor symptoms associated with menopause.

URL: https://www.nice.org.uk/guidance/ta1143/

2. **FIGO best practice recommendations for the mental health of women at menopausal age.**

Authors: Khadilkar, Suvarna;Divakar, Hema;Benedetto, Chiara;Genazzani, Andrea;Ramos, Diana;Argale, Elizabete;Deshpande, Gandhali;Hicky, Martha;Filho, Agnaldo Lopes Da Silva;Herrera, Enrique and Balkrishnan, Milan

Publication Date: 2026

Journal: International Journal of Gynaecology & Obstetrics

Abstract: Mental health during the menopausal transition requires focused attention to ensure supportive experiences for women. This review presents the International Federation of Gynecology and Obstetrics (FIGO) recommendations and summarizes the evidence, addressing 13 key questions framed by members of the FIGO Committee on Women at Menopausal Age. Although the literature on mental health during menopause is extensive, a gap exists in consolidated best practice recommendations. The FIGO committee members assessed the evidence quality and recommendation strength using a 5-point Likert scale. Over 70% of the experts agreed with a strong recommendation level (score of 5) for eight questions, while five questions were agreed with high and moderate recommendations. Symptoms of anxiety and depression are prevalent during the perimenopause. Menopause-related mental health issues are often overlooked in low- and middle-income countries. Mental health issues impact quality of life, necessitating psychological support during menopause care. Early detection requires training primary care providers to identify symptoms. Treatment should be individualized and may include lifestyle changes, cognitive-behavioral therapy, and hormone therapy. Transdermal estradiol is preferred for managing mood swings, particularly in women with metabolic risks. Escitalopram and venlafaxine effectively manage depressive symptoms and vasomotor instability in patients with major depressive disorder. Non-pharmacological interventions, such as lifestyle changes, therapy, mindfulness, and exercise have shown benefits. Partner and family support helps reduce the stigma associated with mental health issues during menopause. Advocacy is required for policies that support menopause awareness and mental health.

URL: https://doi.org/10.1002/ijgo.70943

Research

1. **Long-term outcomes of surgical menopause after risk-reducing salpingo-oophorectomy: results of the HARMOny study.**

Authors: Beekman M.J.;Terra L.;Bleiker E.M.A.;HeemskerkGerritsen B.A.M.;van Doorn H.C.;de Hullu J.A.;van Dorst E.B.L.;Mom C.H.;van Beurden M.;Slangen B.F.M.;Mourits

M.J.E.;Roeters van Lennep J.E.;Gaarenstroom K.N.;van Engelen K.;van der Kolk L.E.;Collee J.M.;Wevers M.R.;Ausems M.G.E.M.;Berger L.P.V.;Gomez Garcia E.B., et al

Publication Date: 2026

Journal: Maturitas 207 Article Number: 108882.

Abstract: Background: Premenopausal risk-reducing salpingo-oophorectomy (RRSO), often performed for women at high familial risk of ovarian cancer, induces immediate menopause. Evidence about its long-term effects is scarce.
Method(s): We conducted a cross-sectional study (n = 740) nested in a nationwide cohort of women at high familial risk of ovarian cancer. Participants completed a cognition test and a questionnaire on lifestyle, sexual functioning, urinary incontinence and health-related quality of life (HRQOL, SF-36). Cardiovascular disease (CVD) risk and bone mineral density (BMD) were assessed during a clinical visit. In women aged 60-70 years at study visit (n = 330), we compared potential long-term health effects of RRSO between women who underwent the procedure before menopause (i.e. when aged =54 years).
Result(s): Participants' median age was 64.3 years, and the median time since premenopausal RRSO was 21 years. A comprehensive overview of our (partially published) results showed that a premenopausal RRSO compared with a postmenopausal RRSO was not associated with long-term coronary artery calcification, objective cognitive functioning, urinary incontinence or impaired health-related quality of life. However, women in the premenopausal RRSO group had lower bone mineral density and reported more vaginal dryness and sexual discomfort compared with the postmenopausal RRSO group.
Conclusion(s): Premenopausal RRSO does not appear to be associated with long-term cardiovascular disease risk, cognition or health-related quality of life. However, it negatively influences bone mineral density and vaginal dryness. Clinical trial registration: Pre-registered clinical trial number: NCT03835793

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2. **Disparities in Hormone Replacement Therapy Prescribing for Women With Intellectual Disabilities.**

Authors: Bontoft C.;Sawhney I.;Zia A. and Adams, D.

Publication Date: 2026

Journal: Journal of Applied Research in Intellectual Disabilities 39(2) (pagination), pp. Article Number: e70192. Date of Publication: March 2026

Abstract: Background: People with intellectual disabilities who menstruate are underrepresented in menopause research and care.
Method(s): A mixed-methods service evaluation was conducted in one NHS Trust. In Phase 1, prescribing data from electronic health records for women aged 40-79 with intellectual disabilities (n = 149) was extracted and statistically compared to estimates for the general population. Phase 2 comprised a focus group with psychiatrists (n = 6) and an interview with a GP (n = 1); data were analysed using framework analysis.
Finding(s): HRT was prescribed to 3.3% of people with intellectual disabilities, versus 17.2% in the general population, indicating significantly lower prescribing (p < 0.0001). Qualitative

themes highlighted low clinician awareness, diagnostic overshadowing, concerns about monitoring and system-level issues. Facilitators included psychiatrist advocacy, proactive carers and clearer primary-to-secondary care collaboration.
Conclusion(s): Women with LD were substantially less likely to receive HRT, suggesting a marked inequity in menopause care. Recommendations are made to improve recognition, treatment access and outcomes.

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3. **Symptom profiles in the late reproductive stage, earlier premenopause and early perimenopause in the absence of vasomotor symptoms: a cross-sectional study.**

Authors: Bresolin, Santina;Islam, Rakibul M.;Bond, Molly and Davis, Susan R.

Publication Date: 2026

Journal: BMJ Sexual & Reproductive Health

Abstract: BACKGROUND: Perimenopause is formally diagnosed by menstrual bleeding patterns. This study investigated whether symptoms in the late reproductive stage (LRS), characterised by changed menstrual flow, differ from earlier premenopause or from perimenopause in the absence of vasomotor symptoms (VMS). **METHODS**: The Australian Women's Midlife Years Study (2023-2024) was a nationally representative cross-sectional study of 8096 women aged 40-69 years, who completed the Menopause-specific Quality of Life Questionnaire (MENQOL). The prevalence of moderate-to-severe symptoms in participants without VMS was analysed using generalised linear models with Gamma log link and modified Poisson regression with robust variance, respectively. **RESULTS**: The analysis included 1039 respondents without VMS, of which 63.5% (n=660) had regular menses with no change in menstrual flow, 20.1% (n=209) had regular menses with changed flow, and 16.4% (n=170) were perimenopausal (cycle variation at least 7 days). Premenopausal participants with unchanged flow were less likely to report poor memory (adjusted prevalence ratio (aPR) 0.60, 95% CI 0.43 to 0.83, p=0.043), 'accomplishing less than used to' (aPR 0.65, 95% CI 0.50 to 0.85, p=0.014), 'feeling tired or worn out' (aPR 0.78, 95% CI 0.68 to 0.90, p=0.009) and bloating (aPR 0.63, 95% CI 0.49 to 0.80, p=0.004) compared with LRS participants. The other 18 individual MENQOL symptoms did not differ between premenopausal LRS and early perimenopause. **CONCLUSIONS**: Premenopausal women with regular menstrual cycles reporting changed menstrual flow but no VMS differ little from those without VMS and no change in menstrual flow. This indicates that change in flow alone is not a clear indicator of commencement of the menopause transition.

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4. **Hyaluronic acid for vaginal health and quality of life in postmenopausal women: A systematic review and meta-analysis of randomized controlled trials**

Authors: Dahab, Mahmoud;Ramasamy, Kalavathy and Ibrahim, Baharudin

Publication Date: 2026

Journal: International Journal of Gynaecology & Obstetrics

Abstract: INTRODUCTION: Postmenopausal women often experience genitourinary

symptoms that affect the quality of life (QoL), including dryness in vaginal, atrophy and sexual dysfunction. Pharmacists, as frontline healthcare practitioners, are essential in advising on safe and effective non-hormonal alternatives such as hyaluronic acid (HA); yet, its effects on tolerance and QoL have not been extensively assessed via meta-analysis. **METHODS**: We conducted a prospective systematic review and meta-analysis of randomized controlled trials (RCTs) to evaluate the efficacy, safety, and tolerability of HA in improving QoL among postmenopausal women. Only prospective, parallel-group or single-group RCTs were included; no retrospective, cohort, case-control, or non-randomized studies were considered. Eleven studies meet the inclusion criteria in two evidence tiers: placebo-controlled RCTs for primary outcomes and comparative studies. Primary results were vaginal dryness-related QoL and female sexual function index. Vaginal health index (VHI) and tolerability/safety were designated as secondary outcomes. The risk of bias and GRADE assessments were applied. **RESULTS**: Three placebo-controlled RCTs showed significant improvements in VHI, vaginal dryness-related QoL, and FSFI (with standardized mean difference [SMD] = 3.40, 95% confidence interval [CI]: 2.73 to 4.06; P < 0.00001, SMD = -0.98, 95% CI: -1.24 to -0.71; P < 0.00001, and SMD = 0.85, 95% CI: 0.50 to 1.20; P < 0.00001), respectively. In comparative studies, HA was not found to be inferior to active comparators. No serious adverse events were reported (relative risk = 0.35; 95% CI: 0.10 to 1.23; P = 0.10), with moderate heterogeneity (I^2 = 52%), and treatment discontinuations were minimal. GRADE evaluation rated the evidence as moderate for vaginal dryness and FSFI but low for VHI and safety outcomes due to heterogeneity and publication bias concerns. **CONCLUSION**: Hyaluronic acid is a safe and effective non-hormonal treatment for vulvovaginal discomfort in postmenopausal women, with moderate-quality evidence supporting its benefits for sexual function and QoL. While these findings are encouraging, the variability between research emphasizes the need for more standardized formulations, treatment protocols, and long-term evaluations.

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5. **A mixed-method analysis of health literacy and indicators of well-being in women with polycystic ovary syndrome across the lifespan.**

Authors: Douglas C.C.;Hashmi A.;Mclain A. and ArentsonLantz, E. J.

Publication Date: 2026

Journal: Therapeutic Advances in Reproductive Health 20

Abstract: Background: Despite the severe, chronic nature of polycystic ovary syndrome (PCOS), relatively little is known about the lived experience of women with this condition, especially as they transition through menopause.
Objective(s): This mixed-methods study investigated the lived experience of women with PCOS before and after the menopause transition to understand their health literacy, barriers to healthcare management, and desired resources to improve their health and well-being. Design(s): This was a convergent-parallel mixed-methods study. Method(s): Twenty-four participants completed semi-structured interviews and electronic surveys between April 2023 and August 2024. Qualitative data were analyzed using an inductive open-ended approach for thematic analysis. Result(s): Participants, including 17 pre-menopausal (30.1+/-4.8years) and 7 post-menopausal (58.6+/-6.0years), self-reported clinical symptoms of PCOS (irregular cycles, hirsutism, and acne) and higher than average anxiety symptoms (pre-menopausal only). Both pre- and post-menopausal women were knowledgeable about the impact of PCOS

on their fertility, and expressed low to moderate health literacy to successfully manage the PCOS-related symptoms. Few participants expressed understanding of long-term chronic disease risk. Pre-menopausal participants sought resources for managing symptoms but reported dissatisfaction with provider education and overall patient care. Post-menopausal participants did not view a PCOS diagnosis as a health concern following menopause and internalized PCOS-related health issues as something to be endured. Both pre- and post-menopausal women expressed desires for improved personalized care, life-stage-specific support groups, and better patient-facing resources. Conclusion(s): Pre-menopausal and post-menopausal women with PCOS exhibit low health literacy about the potential impact of PCOS on metabolic health. Primary care providers should be trained in how to educate women with PCOS, with an emphasis on the impact of the disease beyond reproductive health and through the lifespan. In addition, creating patient-centered resources supporting women throughout the lifespan is needed. Trial registration: This study was registered with ClinicalTrials.gov as NCT05769426.

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6. **The association between the Mediterranean diet and depression risk in postmenopausal women: evidence from the UK Biobank cohort study.**

Authors: Fan, Menglin;Jin, Geling;Gao, Yunling;Jia, Yanyan;Zeng, Jingjing;Chen, Bo;You, Qiqi;Tian, Qingying and Xu, Shaoyong

Publication Date: Mar 16 ,2026

Journal: Journal of Affective Disorders 121645

Abstract: BACKGROUND: Dietary strategies as non-pharmacological approach in mental health have attracted attention. The Mediterranean diet has been proven to reduce the risk of depression, yet evidence regarding its effect among postmenopausal women remains limited. This study aimed to examine the association between the Mediterranean diet and depression in postmenopausal women, and to examine interactions with age and menopausal timing. **METHODS**: The study utilized UK Biobank population-based cohort between 2006 and 2010. The Mediterranean diet was quantified using the PREDIMED score. Depression was identified through ICD-10 codes (F32, F33) from primary care records, hospital admissions, death registers and mental health questionnaire. Age at menopause less than 40years was defined as premature ovarian insufficiency (POI). Cox proportional risk models estimated the hazard ratio (HR) for the onset of depression, with interaction effects for age and menopausal timing. The mediating effects evaluated C-reactive protein (CRP), gamma-glutamyltransferase (GGT) and BMI roles. **RESULTS**: Among 58,001 women (mean follow-up 9.72 ± 1.57 years), 1457 developed depression. Compared with the lowest Mediterranean diet score, the risk of depression was reduced by 25% for the highest score (HR = 0.75, 95% CI: 0.63-0.89). Protective dietary components included olive oil, vegetables, seafood ($P < 0.05$). A significant age interaction was observed, with the Mediterranean diet demonstrating protective effects exclusively in women aged ≤60. CRP, GGT, and BMI mediated 3.97%, 3.20%, and 17.28% of the mediation proportion, respectively. **INTERPRETATION**: Higher Mediterranean diet score was associated with reduced depression risk in postmenopausal women, especially those aged 60years. These findings highlight the Mediterranean diet as a preventive strategy for menopausal mental health and emphasizing early implementation.

7. **Premature Menopause and Lifetime Risk of Coronary Heart Disease.**

Authors: Freaney, Priya M.;Ning, Hongyan;Carnethon, Mercedes;Wilkins, John T.;Allen, Norrina B.;Lloyd-Jones, Donald M. and Khan, Sadiya S.

Publication Date: 2026

Journal: JAMA Cardiology

Abstract: Importance: Premature onset of menopause is associated with increased short-term risk of coronary heart disease (CHD), but the associated long-term CHD risk and whether this differs by self-identified race are not known. **Objective**: To calculate lifetime risk estimates of incident CHD and to estimate years lived free of and with CHD by premature menopause status stratified by self-identified race. **Design, Setting, and Participants**: This prospective population-based cohort study was conducted with 163600 person-years of follow-up, from 1964 to 2018. Individual-level data from postmenopausal women (aged 55-69 years) who self-identified their race as Black or White across 6 US cohorts were included. All participants were free of CHD at baseline and had data on menopausal status and CHD outcomes. Individuals who self-reported surgically induced menopause were excluded. **Exposure**: Premature onset of natural menopause (age : Premature onset of natural menopause (age **Main Outcome and Measures**: The primary outcome was CHD (fatal and nonfatal myocardial infarction). The following analyses were performed: (1) modified Kaplan-Meier analysis to estimate lifetime risks, (2) adjusted competing Cox models to estimate joint cumulative risks for CHD or non-CHD death, and (3) Irwin restricted mean survival time to estimate mean years lived free of CHD and with CHD. **Results**: Of the 3522 Black women and 6514 White women included, mean (SD) age at baseline was 61.2 (4.3) years and 60.0 (4.4) years, respectively. Premature natural menopause occurred more frequently in Black women (545 [15.5%]) compared with White women (313 [4.8%]). Premature menopause was associated with a higher lifetime risk of incident CHD, with hazard ratios of 1.41 (95% CI, 1.04-1.90) for Black women and 1.39 (95% CI, 1.03-1.87) for White women. Mean years lived free of CHD were 18.2 years (95% CI, 17.5-18.9) for Black women with premature menopause compared to 19.1 years (95% CI, 18.8-19.4) for Black women without premature menopause; a similar pattern was seen in White women with and without premature menopause, but neither met statistical significance. **Conclusions and Relevance**: In this cohort study, premature menopause was associated with 40% higher lifetime risk of CHD in Black and White women. This suggests that premature onset of menopause is an important risk-enhancing factor for lifetime risk and should be routinely assessed in clinical practice to consider intensification of preventive efforts.

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8. **Fibromyalgia and menopause: Friends with benefits?.**

Authors: Gkouvi, Arriana;Kontouli, Katerina-Maria;Pardali, Eleni C.;Patrikiou, Eleni;Lambrinoudaki, Irene;Goulis, Dimitrios G.;Bogdanos, Dimitrios P. and Grammatikopoulou, Maria G.

Publication Date: Mar 03 ,2026

Journal: Maturitas 208, pp. 108899

Abstract: OBJECTIVE: Fibromyalgia and menopause often share common symptomatology, including musculoskeletal pain, fatigue, brain fog and sleep disturbances. The menopausal transition can represent a critical time at which fibromyalgia symptoms often worsen. This study examined the relationship between fibromyalgia and menopause using validated instruments. **METHODS**: The Revised Fibromyalgia Impact Questionnaire (FIQR) was administered to 169 patients with fibromyalgia, and sociodemographic data and data on medication use were collected. Menopausal status was recorded, and the Greene Climacteric Scale (GCS) was administered. Linear regression analyses were performed to identify the predictors of more severe fibromyalgia impact and worse climacteric symptoms. **RESULTS**: Participants' mean age was 49.3 ± 9.6 years. Treatments for fibromyalgia included antidepressants (42.0% daily use), paracetamol, nonsteroidal anti-inflammatory drugs, and dietary supplements. Among the peri-/post-menopausal women, 6.25% were on hormone replacement therapy (HRT). The FIQR score was a significant predictor of the severity of menopausal symptoms (β = 0.38, 95% CI 0.26-0.51, p < 0.001), indicating that individuals with worse fibromyalgia tended to experience aggravated menopause symptomatology. Additionally, higher body mass index (BMI) was significantly associated with greater GCS scores (β = 0.84, 95% CI 0.35-1.33, p = 0.001) and more severe fibromyalgia impact (β = 1.1, 95% CI 0.61-1.57, p < 0.001, R^2 = 0.11). Fibromyalgia preceded menopause in 51.0% of the sample and occurred concurrently in 21.9% of the sample. **CONCLUSIONS**: The findings suggest that fibromyalgia and menopausal symptoms overlap, worsening the symptom burden for patients in menopause. Higher FIQR scores were observed among patients with a greater BMI, indicating a greater overall disease impact and poorer quality of life.

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9. **Use of transdermal testosterone to treat menopausal symptoms in women with a history of breast cancer: a small, retrospective, open-label study.**

Authors: Glynne, Sarah;Kamal, Aini;Neville, Amy;McColl, Lynsey;Reisel, Daniel and Newson, Louise

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: To determine whether use of transdermal testosterone therapy is associated with improvement in menopausal symptoms for women with a history of breast cancer. **METHODS**: A UK-based, open-label, retrospective cohort study. The Menopause Symptom Questionnaire (MSQ) was used to measure the prevalence and severity of menopausal symptoms in perimenopausal and postmenopausal breast cancer survivors before and after treatment with transdermal testosterone. **RESULTS**: Forty-seven women were included (mean age 48.1 ± 8.6 y; mean time since breast cancer diagnosis 6.0 ± 5.7 y). At baseline the menopausal symptom burden was high. Fatigue, cognitive symptoms, and reduced libido were the most prevalent symptoms (98%, 96%, and 96% of women, respectively). Treatment with testosterone for 3.7 ± 1.8 months was associated with significant reductions in the prevalence of: night sweats (78.7% vs. 55.3%, P=0.03), anxiety/panic (78.7% vs. 51.1%, P=0.01), unhappy/depressed (80.9% vs. 51.1%, P=0.005), anhedonia (80.9% vs. 59.6%, P=0.04), and palpitations (59.6% vs. 31.9%, P=0.013). The mean MSQ score decreased from 30.81 (± 8.12) to 20.47 (± 8.00) (P<0.001). After excluding libido, the mean MSQ score decreased from 28.36 (± 8.04) to 18.43 (± 7.77) (P≤0.001). Significant reductions

in symptom severity were observed for 20 of 24 symptoms. **CONCLUSIONS**: Testosterone therapy was associated with significant improvement in menopause symptoms in women with a history of breast cancer. Placebo-controlled randomised clinical trials are needed to assess the impact of testosterone on menopausal symptoms beyond reduced libido and establish long-term safety in women with a history of breast cancer.

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10. **Efficacy of vaginal 17beta-estradiol on the urinary storage symptoms in postmenopausal women: a randomized double-blind, placebo-controlled study.**

Authors: Harncharoenkul, Pornthip;Wattanayingcharoenchai, Rujira;Pongchaikul, Pisut;Aimjirakul, Komkrit;Chinthakanan, Orawee and Manonai, Jittima

Publication Date: 2026

Journal: Scientific Reports

Abstract: This randomized, double-blind, placebo-controlled trial evaluated the efficacy of vaginal 17beta-estradiol (10 mcg) in alleviating storage symptoms of lower urinary tract symptoms (LUTS) in postmenopausal women. A total of 86 participants were randomized to receive either vaginal 17beta-estradiol or placebo for 12 weeks, with both groups undergoing standardized behavioral modifications. The primary outcome, improvement in storage symptoms assessed using ICIQ-FLUTS, showed no significant difference between groups at 12 weeks (IRR: 1.28, 95% CI: 0.57-1.98; p = 0.441). However, urgency significantly improved in the intervention group at 4 weeks (mean difference: -0.47, 95% CI: -0.90 to -0.04; p = 0.033) but was not sustained. Urgency urinary incontinence (UUI) showed a consistent benefit, with significant improvement at both 4 and 12 weeks (p = 0.013). Secondary outcomes showed trends favoring the intervention group. PGI-I scores were significantly better in the intervention group at 4 weeks (p = 0.035) but were comparable to the placebo group at 12 weeks. Urethral maturation index (UMI) improved at 4 weeks (p < 0.001) and remained higher than the placebo group at 12 weeks (p = 0.007). Vaginal pH significantly decreased at both time points (p < 0.001) in the intervention group. The treatment was well tolerated, with minimal adverse effects. While vaginal 17beta-estradiol may provide short-term urgency relief and sustained UUI improvement, further studies are needed to confirm long-term efficacy.

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11. **Utilization of fezolinetant for the treatment of moderate-to-severe vasomotor symptoms of menopause in a real-world setting.**

Authors: Hsu, Christine D.;Carpenter, Rebecca M.;Richardson, Gwyn;Guo, Fangjian;Adekanmbi, Victor;Hoang, Thao N. and Berenson, Abbey B.

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVE: Fezolinetant (Veozah) was approved as a nonhormone treatment for moderate-to-severe vasomotor symptoms of menopause in May 2023, providing a novel treatment option for women with contraindications to menopausal hormone therapy. The objective of the study was to characterize the uptake and utilization of fezolinetant in a real-

world setting. **METHODS**: We conducted a retrospective cohort study using TriNetX data, which includes 108 health care organizations and over 156 million patients. Females with an initial prescription for fezolinetant between May 1, 2023, and December 31, 2024, were included. We described baseline clinical and demographic characteristics and assessed the uptake of fezolinetant over time. **RESULTS**: Our cohort included 9,853 women, including 1,315 (13.3%) who were over the age of 65 and 2,022 (20.5%) with a breast cancer diagnosis. Among the 7,222 individuals with at least 3 months of continuous enrollment, 1,477 (20.5%) had persistent use, defined as having a second fezolinetant prescription between 28 and 90 days of the initial fezolinetant prescription. Among persistent users, 42% received liver function testing in the 3 months after initiating fezolinetant, though regular monitoring is required after starting treatment. The total number of fezolinetant prescriptions increased over time, from 233 prescriptions between May 1 through July 31, 2023, to 1,871 prescriptions between May 1 and July 31, 2024. **CONCLUSIONS**: Our findings highlight a need for future postmarketing safety and effectiveness studies, especially among survivors of breast cancer and women 65 years and older, who were excluded from the randomized controlled trials.

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12. **Association of Menopause and Hormone Replacement Therapy with Hearing Loss.**

Authors: Hsu, Jonathan Z.;Gu, Kaiqi;Nguyen, Breana and Choi, Janet S.

Publication Date: 2026

Journal: Annals of Otology, Rhinology & Laryngology , pp. 34894261–2026 Ar 06

Abstract: OBJECTIVE: Estrogen has been found to impact cochlear blood flow and auditory function, but epidemiological studies on menopause and hearing are inconsistent. This study investigates the associations of menopause, its age at onset, reproductive lifespan, and hormone replacement therapy (HRT) with hearing loss in adult women in the US. **METHODS**: Study cohort includes 1778 adult women (40-69 years), from the National Health and Nutrition Examination Survey 2011 to 2012 and 2015 to 2016 who had complete data on audiometry and reproductive health. Hearing loss was defined based on speech-frequency pure-tone average (0.5, 1, 2, and 4 kHz) in better hearing ear. Menopause status was self-reported. Multivariable regression analyses were performed to explore the associations of menopause, age at onset, reproductive lifespan, and HRT with hearing loss. **RESULTS**: After adjusting for age, demographics, medical comorbidities, and noise exposure, there was no significant association between binary postmenopausal status and hearing loss (beta: 0.92 dB, [95% CI: -1.02 to 2.86]). When further considering age of menopause onset and reproductive lifespan, we found that late onset of menopause (vs early onset) was significantly associated with the better hearing (beta: -4.60 dB, [95% CI: -8.42 to -0.79]) and longer reproductive lifespan was significantly associated with better hearing (beta: -0.16 dB per year, [95% CI: -0.32 to -0.002]). Comparing reproductive lifespan quartiles, the fourth quartile was significantly associated with better hearing relative to the first quartile (beta: -4.86 dB, [95% CI: -8.28 to -1.44]). Among post-menopausal women, there was no significant association between hearing loss and HRT (beta: 0.45 dB, [95% CI: -1.69 to 2.58]). **CONCLUSION**: While menopausal status was not significantly associated with hearing loss, later onset of menopause and longer reproductive lifespan were associated with better hearing. Future studies should evaluate the clinical significance of the associations between hearing and reproductive health and potential causal

relationships. **LEVEL OF EVIDENCE**: 2b.

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13. **Migraine across the menopausal transition and beyond: A narrative review**

Authors: Korn, Tal Friedman and Bernstein, Carolyn

Publication Date: 2026

Journal: Headache

Abstract: BACKGROUND: Migraine is a neurologic disorder that disproportionately affects women and undergoes important changes across the menopausal transition. Estrogen fluctuations contribute to migraine expression and underlie the 3:1 female-to-male prevalence. Perimenopause, marked by hormonal variability and rising cardiometabolic risk, presents unique diagnostic and therapeutic challenges. Despite its high prevalence, evidence specific to perimenopausal and postmenopausal women remains limited. OBJECTIVE: This review synthesizes current evidence on the epidemiology, pathophysiology, and management of migraine across the menopausal transition, with attention to hormone therapy, comorbidities, and emerging treatments. METHODS: We conducted a narrative review of clinical and translational studies published within the past 5 years, supplemented by seminal mechanistic, epidemiologic, and guideline-defining studies published earlier. Relevant guideline statements from neurology, gynecology, and cardiovascular societies were also incorporated. RESULTS: Unstable estradiol and progesterone levels during perimenopause can worsen migraine frequency and predictability. Migraine without aura often improves after menopause, whereas migraine with aura tends to persist and independently increases the risk of ischemic stroke and other vascular events. Midlife comorbidities-including vasomotor symptoms, sleep disturbance, mood disorders, and metabolic disease-further complicate management. Menopausal hormone therapy has variable effects. Oral estrogen, particularly at higher doses, may worsen migraine and elevate vascular risk, especially in women with aura. In contrast, low-dose transdermal estrogen-recommended by the North American Menopause Society-appears safer and better tolerated. Continuous progestogen regimens may reduce withdrawal-related attacks compared with cyclic regimens. Nonhormonal options, particularly selective norepinephrine reuptake inhibitors, may be considered when vasomotor symptoms coexist, whereas migraine-specific prevention should follow established evidence-based therapies. Traditional migraine therapies (triptans, NSAIDs, beta-blockers, topiramate, antidepressants) remain central but require tailoring to vascular, bone, and metabolic health. Newer agents-including calcitonin gene-related peptide monoclonal antibodies, gepants, and ditans-offer effective, non-vasoconstrictive alternatives, especially for women with cardiovascular contraindications. CONCLUSIONS: Migraine during the menopausal transition reflects the interplay between hormonal dynamics and systemic health. Management requires balancing efficacy with vascular and metabolic safety while incorporating patient preferences. Evidence gaps include the lack of trials stratified by menopausal stage or migraine subtype. Multidisciplinary, menopause-informed care and prospective studies are needed to optimize outcomes in this population.

14. **Intravaginal dehydroepiandrosterone for the treatment of vulvovaginal atrophy: a systematic review and meta-analysis.**

Authors: Lemos M.J.;Queiroz L.F.;Diniz A.F.;Longo da Silva C.M.;dos Santos P.L.;de Oliveira Gomide P.;Ferraz J.M. and De Marco Novellino, A. M.

Publication Date: 2026

Journal: Menopause.Publish Ahead of Print (pagination), pp. Date of Publication: 2026

Abstract: Importance: - Vulvovaginal atrophy (VVA) is a common manifestation of the genitourinary syndrome of menopause, associated with vaginal dryness, dyspareunia, and reduced quality of life. Despite available therapies, effective, safe, and well-tolerated alternatives remain of interest for symptomatic postmenopausal women.
Objective(s): - To assess the therapeutic efficacy of intravaginal dehydroepiandrosterone (DHEA) for vulvovaginal atrophy in postmenopausal women. Evidence review: - A systematic literature search was performed in PubMed, Embase, and the Cochrane Library for studies published up to July 2025. Search terms included "DHEA, " "prasterone, " "Intrarosa, " and "dehydroepiandrosterone." Randomized controlled trials (RCTs) evaluating intravaginal DHEA in postmenopausal women were included. Data extraction followed predefined inclusion and exclusion criteria. Risk of bias was assessed, and pooled analyses were conducted using random-effects models.
Finding(s): - Six RCTs representing five unique RCTs (n=1, 611) involving postmenopausal women with VVA were included. Compared with placebo, intravaginal DHEA demonstrated significant improvements in two primary outcomes: vaginal dryness with a mean difference of -0.23 (95% CI, -0.35 to -0.11) and dyspareunia of -0.40 (95% CI: -0.66 to -0.15). No major safety concerns were reported, and adverse effects were mild and infrequent. The evidence consistently supported both statistical and clinical benefits of DHEA across trials, with low to moderate heterogeneity. Conclusions and relevance: - Intravaginal DHEA significantly improves vulvovaginal symptoms, particularly vaginal dryness and dyspareunia, in postmenopausal women. These findings underscore its role as an effective and well-tolerated therapeutic option for the management of genitourinary syndrome of menopause, with potential to enhance quality of life.

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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, Min;Liu, Tianyu;Zhou, Haibo;Yu, Xinyue;Wang, Hanhan;Zheng, Lixin;Wang, Zhongran;Han, Xu;Ren, Xiyun;Lu, Xiangfeng and Tian, Wenjing

Publication Date: 2026

Journal: BJOG: An International Journal of Obstetrics & Gynaecology

Abstract: OBJECTIVE: To investigate whether age at menopause is associated with the trajectory of multimorbidity progression. **DESIGN**: A retrospective cohort study. **SETTING**: The UK Biobank. **POPULATION**: 121 017 postmenopausal women aged 40-69 years with complete baseline and menopausal data. **METHODS**: 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 MEASURES**: Multimorbidity (defined as >= 2 of 35 chronic conditions) and mortality. **RESULTS**: 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. **CONCLUSIONS**: 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. **Independent and joint associations of loneliness and social isolation with subjective cognitive decline in perimenopausal women.**

Authors: Lin, Xiaohe;Zhao, Xiangyu;Liu, Xinyi;Zhao, Di;Guo, Juan and Li, Ping

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVE: This study aimed to clarify the independent and joint associations of loneliness and social isolation with subjective cognitive decline (SCD) among perimenopausal women. **METHODS**: This cross-sectional study was conducted between March and September 2024 and comprised 903 perimenopausal women. Subjective perceived loneliness, objective social isolation, and severity of SCD were measured using a set of self-reported online questionnaires. Latent class analysis was employed to determine the high-risk SCD groups among perimenopausal women, and restricted cubic spline model and logistic regression models were further utilized to investigate the independent and joint associations of loneliness and social isolation with SCD. **RESULTS**: The mean SCD score across all participants was 3.77 (SD=2.99). Latent class analysis categorized the participants into a "mild SCD group" (47.8%) and "severe SCD group" (52.2%). Logistic regression analysis revealed that both loneliness and social isolation were independently associated with SCD. Notably, joint analysis revealed that compared with participants without loneliness and social isolation, those with moderate to severe loneliness and social isolation exhibited the highest odds of severe SCD. Furthermore, significant additive and multiplicative interactions were observed between moderate to severe loneliness and social isolation. **CONCLUSION**: In perimenopausal populations, loneliness and social isolation were not only independently associated with SCD but also exhibited a joint relationship. These findings offer deeper insights into understanding the relationship between social connections and SCD, and provide empirical evidence for developing psychosocial interventions aimed at preserving cognitive health in perimenopausal women.

17. **Estimated impact of fezolinetant versus placebo on work productivity and indirect costs among women experiencing vasomotor symptoms associated with menopause.**

Authors: Morga, Antonia;Tai, Ting-An;Kapoor, Ritika;Song, Wei;Hua, Qi;Hua, Yechu;Yang, Hongbo and Ajmera, Mayank

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: This study evaluated the impact of fezolinetant versus placebo on work productivity and indirect costs among women with moderate to severe vasomotor symptoms (VMS) associated with menopause in seven countries. **METHODS**: This post hoc analysis used Work Productivity and Activity Impairment (WPAI) questionnaire data from the SKYLIGHT 1 (NCT04003155), SKYLIGHT 2 (NCT04003142), and DAYLIGHT (NCT05033886) trials to compare absenteeism, presenteeism, and productivity loss among fezolinetant-treated versus placebo-treated women with moderate to severe VMS (population 1) and among these women for whom hormone therapy (HT) was unsuitable (population 2). Missed work time was calculated as the product of patient-reported work productivity loss and country-specific work hours and employment rates extracted from publicly available, country-specific sources. Annualized indirect costs were estimated based on missed work time and country-specific estimated salaries. **RESULTS**: Over 1 year, fezolinetant improved work productivity versus placebo. In population 1, increases ranged from 2.8 (Brazil) to 4.2 (United States) weekly work hours per woman with fezolinetant versus placebo. Fezolinetant resulted in estimated annualized cost savings per woman versus placebo in population 1 of 7,791 USD (United States), 7,295 CAD (Canada), 3,878 GBP (United Kingdom), 8,953 AUD (Australia), 6,193 EUR (Germany), 3,901 EUR (France), and 2,754 BRL (Brazil). Overall work productivity loss improved with fezolinetant versus placebo (population 1: -12.4% [P<0.0001]; population 2: -10.2% [P<0.0001]). **CONCLUSIONS**: Fezolinetant demonstrated improvements in work productivity and reduced estimated indirect costs versus placebo for women with moderate to severe VMS, including HT-unsuitable women who often face limited treatment options, maintained through 52 weeks.

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18. **Transdermal estradiol spray in Nordic menopausal women: real-world patient outcomes.**

Authors: Polo-Kantola, Paivi;Lindeberg, Mia and Hirschberg, Angelica Linden

Publication Date: Mar 19 ,2026

Journal: Climacteric 1-7

Abstract: OBJECTIVE: This study aimed to evaluate the impact of transdermal estrogen therapy on health-related quality of life (HRQoL) and treatment tolerability in postmenopausal women in a real-world setting. METHOD: A prospective, non-interventional study was conducted in Sweden and Finland. Participants used a spray delivering 1.53 mg of estradiol (E2) per 90 microl dose. HRQoL (measured using the Menopause Rating Scale [MRS]), dosing patterns and treatment satisfaction were assessed through web-based questionnaires

at baseline, week 6 and week 12. Mixed-model repeated-measures analysis was performed. RESULTS: Of 249 participants (mean age 52.1 years), 165 (66.3%) completed the 12-week follow-up. Most women (67.2%) used one or two sprays daily. The mean MRS total score was 17.8 at baseline, and decreased by 8.6 points at week 6 ($p = 0.012$) and 9.9 points by week 12 ($p < 0.0001$). Improvements were seen across all MRS domain scores (somatovegetative, psychological and urogenital), including hot flashes, sleep issues, depressive moods and sexual problems. Most participants reported satisfaction (78.8%), ease of use (95.2%) and willingness to recommend the spray to a friend (84.2%). No related adverse reactions were reported. CONCLUSION: The E2 spray improved HRQoL and was well tolerated. Flexible dosing, ease of use and real-world effectiveness support that the spray is a practical, user-friendly treatment for menopausal symptoms.

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19. **Intraocular pressure and central corneal thickness in premenopausal and postmenopausal women: a systematic review and meta-analysis.**

Authors: Pourbagherkhah P.;Farjami M. and Baghban Jaldian, H.

Publication Date: 2026

Journal: Climacteric 29(1), pp. 33–38

Abstract: Objective: This study aimed to systematically evaluate and quantify the impact of menopausal status on intraocular pressure (IOP) and central corneal thickness (CCT) in women, through a comparative meta-analysis. Method(s): A systematic search was conducted across PubMed, Scopus, Web of Science and the Cochrane Library up to 15 April 2025, following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Eligible studies included original research comparing IOP and/or CCT between premenopausal and postmenopausal women. Meta-analysis was conducted using a random-effects model, and heterogeneity was assessed via I^2, tau^2 and H^2 statistics. Result(s): Ten studies were analyzed in this meta-analysis, including data from premenopausal and postmenopausal women (totaling 999 eyes). The pooled results indicated that postmenopausal women had significantly higher IOP and reduced CCT compared to premenopausal women. Despite high heterogeneity ($I^2 = 97.17\%$ for CCT, $I^2 = 84.20\%$ for IOP), the direction of effect was consistent across most studies. The hormonal decline associated with menopause, particularly reduced estrogen levels, appears to affect corneal structure. Conclusion(s): Menopause is associated with elevated IOP and decreased CCT, likely due to hormonal alterations, notably estrogen deficiency. Menopausal status may be a relevant factor in ocular assessments and could have implications for risk assessment in conditions such as glaucoma.

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20. **The association between smoking and joint pain in women attending a specialized menopause clinic.**

Authors: Roebotham, Taylor;Ghasemi, Farhad and Wolfman, Wendy

Publication Date: Mar 03 ,2026

Journal: Climacteric 1-7

Abstract: OBJECTIVE: Joint pain is a common menopausal symptom, but remains poorly understood. Smoking has an anti-estrogenic effect and is linked to pain syndromes. This study evaluated whether smoking is independently associated with joint pain in menopausal women. METHOD: This study was a cross-sectional analysis of survey data from 371 menopausal women attending a Canadian menopause clinic (2017-2019). Participants self-reported symptom severity, medical history and lifestyle factors. Moderate to severe joint pain was defined as a symptom score >=2 on a 5-point scale. Logistic regression assessed associations between smoking and joint pain, adjusting for age, estrogen use, alcohol consumption, obesity and depression. RESULTS: Moderate to severe joint pain was reported by 52% of participants. Smoking was significantly associated with joint pain in both univariate (odds ratio [OR] 2.32, 95% confidence interval [CI]: 1.15-5.03) and multivariate (OR 2.18, 95% CI: 1.05-4.82) models. Joint pain was also associated with hot flashes, mood symptoms and fatigue. Age, estrogen use, obesity, depression, alcohol use and sexual activity were not significantly associated. CONCLUSION: Smoking is independently associated with joint pain in menopausal women. While the underlying mechanisms remain unclear, this association supports the hypothesis that estrogen-related pathways play a role in menopausal joint symptoms and highlights smoking as a potential modifiable risk factor.; plain-language-summary Joint pain is common during and after menopause, affecting up to 7 in 10 women. Some have hypothesized that these aches and pains are linked to changes in hormone levels, particularly estrogen. Smoking has also been linked to other menopausal symptoms as well as pain conditions, but its relationship to joint pain in menopausal women has not been studied. We surveyed 371 women attending a menopause clinic in Toronto, Canada. More than half (52%) had moderate to severe joint pain. Smoking was reported by 11% of the participants. Women who smoked were more than twice as likely to have joint pain compared to those who did not smoke, even after accounting for age, hormone use, alcohol use, weight and depression. Joint pain was also related to other menopausal symptoms, such as hot flashes, fatigue, mood changes, anxiety and bladder problems. This supports the idea that joint pain can be part of the menopausal symptom complex, not just a separate condition. Our findings suggest that smoking may worsen joint pain in menopausal women. The mechanism is unclear, but could be due to a reduction in estrogen levels. It is possible that quitting smoking could help lower the risk of joint pain in this population. More research is needed to better understand how hormones, lifestyle and joint pain interact during menopause. Language: English

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21. **Treatments in women experiencing natural menopause: a cohort study from the USA, the UK and Germany.**

Authors: Saadedine M.;Banks V.;DinkelKeuthage C.;Caetano C.;Argyriou G.;Moeller C.;Schoof N.;Vizcaya D.;Francuski M.;Golozar A.;Romer T. and Kubba, A.
Publication Date: 2026

Journal: Climacteric 29(1), pp. 121–128

Abstract: Objectives: This study aimed to describe treatment patterns among naturally menopausal women from the USA, the UK and Germany.
Method(s): Using health claims (the USA) and electronic health records (the UK and Germany), women aged 40-65 years with a first record of natural menopause (index date) from 2009 to 2022 were identified. Women with a history of bilateral oophorectomy, total

hysterectomy, endocrine therapy for breast cancer or hormone/non-hormone therapy for menopausal symptoms were excluded. Treatments evaluated following the index date were hormone therapy, benzodiazepines, antidepressants, anticonvulsants and the antihypertensive clonidine.
Result(s): In total, 1,260,742 (the USA), 214,374 (the UK) and 124,542 (Germany) women were included, and treatments were recorded in 38.8%, 33.4% and 28.8%, respectively. Among these, the majority received one treatment class, mostly hormone therapy (44.2% for the USA, 41.1% for the UK, 92.6% for Germany), benzodiazepines (25.3% for the USA, 6.8% for the UK, 2.2% for Germany) and antidepressants (18.6% for the USA, 33.5% for the UK, 4.1% for Germany). Discontinuation rates at 6 months from starting initial treatment were 75.0-88.0% for hormone therapy, 65.0-85.0% for antidepressants and >=98% for benzodiazepines. Treatment switches occurred in 25.4% (the USA), 21.8% (the UK) and 1.7% (Germany).
Conclusion(s): Continuation rates with current treatments for women experiencing natural menopausal symptoms are low, indicating an unmet need for effective and acceptable therapies.

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22. **Pap smear findings in pre-menopausal and post-menopausal women: A comparative observational study.**

Authors: Sadhu S.;Khatun Y. and Mitra, A.

Publication Date: 2026

Journal: International Journal of Clinical Obstetrics and Gynaecology.Part K 10(1), pp. 879–882

Abstract: Background: Cervical cancer remains a major public health problem, particularly in developing countries, due to inadequate screening and lack of awareness. The disease has a long premalignant phase, making it ideal for early detection through cervical cytology. Women in the post-menopausal age group are at a higher risk of developing premalignant and malignant lesions of the cervix, yet they often remain under-screened. This study was undertaken to compare the prevalence of premalignant and malignant cervical lesions in pre-menopausal and post-menopausal women using Pap smear cytology.
Method(s): This hospital-based comparative observational study was conducted in the Department of Obstetrics and Gynaecology at a tertiary care hospital in Durgapur, West Bengal, from October 2017 to September 2018. A total of 254 women were enrolled and divided equally into pre-menopausal (n=127) and post-menopausal (n=127) groups. Cervical samples were collected using standard techniques and evaluated according to the Bethesda System. Cases with abnormal cytology underwent histopathological examination. Statistical analysis was performed using appropriate tests, and a p-value <0.05 was considered significant.
Result(s): Normal Pap smear findings were significantly higher in pre-menopausal women (52%) compared to post-menopausal women (34.6%). Inflammatory smears were common in both groups. Atrophic smears were observed exclusively in post-menopausal women (10.2%). Abnormal cytology (ASCUS, LSIL, HSIL, and squamous cell carcinoma) was more frequent in the post-menopausal group (13.4%) than in the pre-menopausal group (7.9%). Histopathologically confirmed premalignant and malignant lesions were also higher in post-menopausal women (8.7%) compared to pre-menopausal women (2.4%).

Conclusion(s): Premalignant and malignant cervical lesions are more common in post-menopausal women compared to pre-menopausal women. However, both groups remain at risk, emphasizing the need for regular cervical cancer screening across all age groups. Strengthening awareness and ensuring routine Pap smear screening, especially among post-menopausal women, can significantly aid in early detection and reduce cervical cancer-related morbidity and mortality.

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23. **When the clock shifts: menopause timing is associated with reduced cognitive performance and gray matter volume in a population-based cohort.**

Authors: Schwarz, Nitsan;Harlev, Daniel;Bergmann, Eyal and Wolpe, Noham

Publication Date: 2026

Journal: Menopause

Abstract: OBJECTIVES: This study investigated whether earlier menopause is associated with reduced later-life cognitive performance and brain structure in a population-based cohort. It is among a few studies examining both cognition and neuroimaging within the same postmenopausal sample, and the first to test whether gray matter volume mediates the relationship between menopause timing and cognitive performance within the same sample. **METHODS**: We analyzed data from the Cambridge Centre of Neuroscience and Aging, including 747 postmenopausal women who underwent cognitive testing. A subset was additionally tested with a fluid intelligence test and structural brain scans. Multiple linear regression models evaluated the association between menopause age, cognitive performance, and gray matter volume, controlling for chronological age, education, depressive symptoms, and physical activity. **RESULTS**: Earlier menopause was associated with lower cognitive performance (t717 =2.2, P =0.028) and fluid intelligence (t153 =1.59, P =0.026). Structural imaging analyses (n=182) revealed that earlier menopause was associated with decreased total gray matter volume (t182 =0.152, P =0.024). Exploratory mediation analysis showed that total gray matter volume partially mediated the relationship between age at menopause and cognitive performance (P =0.006). **CONCLUSIONS**: In this population-based cohort, earlier menopause was associated with both lower cognitive performance and reduced gray matter volume, suggesting a potential mechanism linking earlier menopause to cognitive decline. However, the cross-sectional nature of this study prevents causal conclusions, and longitudinal research is needed to establish causal links and explore potential targeted interventions.

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24. **Age and diagnostic assessment of natural menopause in low-weight women.**

Authors: Stockman, Sara L.;Ayinon, Caroline M.;Nawash, Baraa;Desai, Nikita;Siegel, Lauren B.;Eljamri, Soukaina and Fazeli, Pouneh K.

Publication Date: Mar 16 ,2026

Journal: Climacteric 1-7

Abstract: OBJECTIVE: This study aimed to determine the age of natural menopause in low-weight women and assess how often laboratory evaluation confirms menopausal status.

METHOD: A retrospective study was conducted of 3000 women aged >50 years with a history of body mass index (BMI) : A retrospective study was conducted of 3000 women aged >50 years with a history of body mass index (BMI) 2 seen at a large academic health system between 2004 and 2020. Women with indeterminate menopausal age, BMI >=18.5 kg/m2 at menopause or known causes of early menopause were excluded. Clinical data including menopausal age, BMI, reproductive history and laboratory tests were extracted. Associations between BMI and menopausal age were analyzed using unadjusted and multivariable analyses controlling for tobacco use and age at menarche. RESULTS: Among 239 women included, menopausal age correlated with BMI (ρ = 0.13, p = 0.04) and remained significant in multivariate regression (p = 0.02). Median menopausal age was 51 years for BMI 18.0 to <18.5 kg/m^2, 50 years for BMI 17.0 to <18.0 kg/m^2, 50 years for BMI 16.0 to <17.0 kg/m^2 and 48 years for BMI <16.0 kg/m^2. Only 30 women (12.6%) had postmenopausal follicle stimulating hormone (FSH) measured; 30% were below the diagnostic threshold for menopause (<25 mIU/ml). CONCLUSION: Low BMI is associated with earlier menopause. The substantial proportion of low-weight women classified as menopausal who had non-diagnostic FSH levels highlights the complexity of determining menopausal status and the potential for misclassification in this population.; plain-language-summary Menopause, when menstrual periods stop permanently due to loss of ovarian function, typically occurs around age 51 years. For most women over age 45 years, doctors diagnose menopause based on symptoms, without ordering blood tests. However, in women with low body weight, missed periods may not always mean menopause. Low body weight can cause hormonal changes that suppress menstrual cycles, a condition known as functional hypothalamic amenorrhea. Both menopause and this condition lead to low estrogen levels, which increases the risk of heart disease, bone loss, and other health problems if it occurs too early. Distinguishing between these conditions is important because treatment can differ: menopause is permanent, while hypothalamic amenorrhea can often be reversed with weight restoration. Reversal of the low estrogen levels in hypothalamic amenorrhea can potentially prevent associated negative outcomes. In this study, researchers reviewed records of 239 low-weight women over age 50 years. Women with lower body mass index (BMI) reached menopause earlier on average. However, only 13% had hormone testing to confirm menopause. Among those tested, nearly one-third did not have laboratory studies that confirmed menopause, raising the possibility that they may have been misclassified and not actually in menopause. These findings show that for low-weight women, relying only on menstrual history may overlook reversible causes of low estrogen and miss out on opportunities to prevent associated negative outcomes. Language: English

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25. **Effects of vaginal dehydroepiandrosterone and estradiol on dyspareunia, a symptom of vulvovaginal atrophy in postmenopausal women - a randomized controlled trial.**

Authors: Strandberg, Moa;Cockin, Anna and Hirschberg, Angelica Linden

Publication Date: Mar 20 ,2026

Journal: Maturitas 208, pp. 108924

Abstract: OBJECTIVES: The primary objective was to evaluate the efficacy of vaginal dehydroepiandrosterone (DHEA) and estradiol (E2) on dyspareunia, a symptom of vulvovaginal atrophy (VVA) in postmenopausal women. **STUDY DESIGN**: In an open-label,

randomized controlled trial, 172 naturally postmenopausal women with a mean age of 62.4 +/- 5.7 years and moderate or severe dyspareunia caused by VVA, received DHEA (6.5 mg pessaries) or E2 (10 mcg vaginal tablets) daily for 4 weeks and then twice-weekly up to 12 weeks. Symptoms and signs of VVA were assessed at baseline, week 4 and 12 of treatment. **MAIN OUTCOME MEASURES**: The primary outcome was the proportion of patients in each treatment group achieving an improvement of 1 point or more in dyspareunia score on a 4-point scale (none, mild, moderate, severe). Secondary outcomes included other symptoms and objective signs of VVA. **RESULTS**: Women in both groups had improved in dyspareunia by week 12 (DHEA 92% and E2 82%), with a tendency of significant difference between the groups (OR 2.87, 95% CI 1.00-8.25; p = 0.051). For those with severe dyspareunia at baseline there was higher odds of improvement in the DHEA group than in the E2 group (OR 3.4, 95% CI 1.07-10.5). Vaginal pH, maturity index, and total score for clinical signs of atrophy improved more in the E2 group than in the DHEA group. **CONCLUSION**: Vaginal DHEA tended to improve dyspareunia more than E2 and was superior in alleviating severe dyspareunia in postmenopausal women. On the other hand, vaginal E2 was superior in improving clinical subjective and objective signs of VVA. **CLINICALTRIAL**: gov registration number NCT05586711.

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

Authors: Tsuboi, Ichiro;Inoue, Shota;Maruyama, Yuki;Mitsui, Yosuke;Hirakawa, Hidetaka;Araki, Motoo and Sadahira, Takuya

Publication Date: Mar 25 ,2026

Journal: Maturitas 208, pp. 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. **METHODS**: 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. **RESULTS**: 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**: 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.

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27. **Comparison of menopausal symptoms in women with and without type 2 diabetes mellitus: a cross-sectional study.**

Authors: Vallibhakara, Orawin;Sawatdichai, Nichar;Vallibhakara, Sakda Arj-Ong;Sriphrapradang, Chutintorn and Anantaburana, Makaramas

Publication Date: Mar 10 ,2026

Journal: Climacteric 1-6

Abstract: OBJECTIVE: This study aimed to compare the prevalence and severity of menopausal symptoms in women with and without type 2 diabetes mellitus (T2DM). METHODS: A cross-sectional study was conducted at Ramathibodi Hospital, Bangkok, Thailand, between April 2023 and April 2024. A total of 599 women aged 40-70 years were enrolled and categorized by T2DM status. Menopausal symptoms were assessed using the Menopause Rating Scale (MRS), sleep quality by the Pittsburgh Sleep Quality Index (PSQI) and genitourinary symptoms using a genitourinary syndrome of menopause (GSM) questionnaire. RESULTS: Among the 599 participants, 81 women (13.5%) had T2DM. Compared with non-diabetic women, those with T2DM had significantly higher odds of sexual problems (odds ratio [OR] 3.17, p p = 0.04) and sleep disturbances (OR 2.04, p = 0.009). T2DM was also associated with greater genitourinary symptom severity (MRS domain, p = 0.03). CONCLUSION: Women with T2DM reported more frequent and severe menopausal symptoms, especially in the genitourinary and sleep domains. These findings support the need for integrated, symptom-specific evaluation in menopausal care for women with T2DM.; plain-language-summary This study explored how menopause symptoms differ between women with and without type 2 diabetes. Menopause can bring physical and emotional changes, including hot flashes, sleep problems and vaginal dryness. These symptoms vary in severity and can affect quality of life. We surveyed nearly 600 women aged 40-70 years at a hospital in Bangkok, Thailand, including 81 with type 2 diabetes. Standardized questionnaires were used to assess menopausal symptoms, sleep quality and genitourinary issues. Women with diabetes report vaginal dryness and sexual problems, and sleep disturbances more often than women without diabetes. They also experienced more severe symptoms related to vaginal and urinary health than women without diabetes. Because this was a cross-sectional study (a 'snapshot' in time), these findings show an association and cannot prove that diabetes causes these symptoms. Even so, the results suggest that women with type 2 diabetes may have a higher burden of genitourinary and sleep-related menopausal symptoms. Healthcare providers should consider routinely asking about these symptoms and offering appropriate support and treatment as part of comprehensive care. Language: English

28. **Lifestyle and Complementary Approaches to Polycystic Ovary Syndrome During Perimenopause and Menopause A Scoping Review**

Authors: Wilson, Candy;Chiang-Hanisko, Lenny;Kaleem, Sahar;Aljadani, Moradi;Mendonca, Jennifer;Arshad, Shaima;Pirrone, Nicole;Follin, Tiffany and Sacca, Lea

Publication Date: Mar 18 ,2026

Journal: American Journal of Lifestyle Medicine

Abstract: Polycystic Ovary Syndrome (PCOS) persists across the lifespan, yet management during perimenopause and menopause remains underexplored. This scoping review examined non-pharmacological and non-surgical interventions for adult women with PCOS, with particular attention to lifestyle modifications, complementary approaches, and the influence of chronic pain and mental health on quality of life. Guided by the Arksey and O'Malley five-step framework and Joanna Briggs Institute recommendations, studies published in English from 2000 to 2024 were included. Eligible studies examined adult women with PCOS during perimenopause, menopause, or both, and reported on lifestyle interventions, complementary therapies, chronic pain, or quality-of-life outcomes. Twenty-nine studies met inclusion criteria. Diet and physical activity were the most commonly investigated interventions. More than 15 supplement categories were identified; however, none specifically targeted chronic pain or mental health outcomes. Only two studies addressed chronic pain management, both through dietary supplements. Exercise was the only intervention associated with mental health outcomes. PCOS management during perimenopause and menopause requires a holistic, person-centered approach integrating lifestyle and complementary strategies to address physical, hormonal, chronic pain, and mental health challenges.

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29. **Menopausal hormone therapy and risk of esophageal and gastric cancer in a multi-national study.**

Authors: Wocalewski, Victoria;Santoni, Giola;Birgisson, Helgi;Von Euler-Chelpin, My;Kauppila, Joonas H.;Ness-Jensen, Eivind;Xie, Shaohua and Lagergren, Jesper

Publication Date: 2026

Journal: Journal of the National Cancer Institute

Abstract: BACKGROUND: The incidence of esophago-gastric cancer has an age-dependent male predominance mirroring the physiological sex differences in sex hormonal levels. Some research suggests that menopausal hormone therapy (MHT) counteracts these tumors to occur, but larger studies with longer follow-up are needed, which prompted this study. **METHODS**: This population-based case-control study included women aged >=45 years in the five Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) between 1995 to 2020. Prospectively collected data came from national registries for medications, cancer, diagnoses, total populations, and death. MHT-use was categorized as non-use (reference) and three equal-sized groups (tertiles) of defined daily doses (DDDs). Esophago-gastric cancer was divided into esophageal or cardia adenocarcinoma, esophageal squamous cell carcinoma, and gastric adenocarcinoma. Multivariable logistic regression provided odds

ratios (OR) with 95% confidence intervals (CI), adjusted for multiple confounders. **RESULTS**: The study included 19,518 esophago-gastric cancer patients (cases) and 195,094 control participants matched for age, calendar year, and country. Compared to non-use, the adjusted ORs of esophageal or cardia adenocarcinoma were 0.74 (95% CI 0.67-0.81) for low MHT-use (848 DDDs). The corresponding ORs were 0.69 (95% CI 0.62-0.77), 0.70 (95% CI 0.62-0.77), and 0.71 (95% CI 0.64-0.79) for esophageal squamous cell carcinoma, and 0.90 (95% CI 0.84-0.96), 0.85 (95% CI 0.79-0.91), and 0.80 (95% CI 0.74-0.86) for gastric adenocarcinoma. **CONCLUSION**: MHT-users seem to have lower odds of developing esophago-gastric cancer.

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30. **Comparative Efficacy of Elinzanetant Versus Other Non-Hormonal Pharmaceutical Therapies for the Treatment of Moderate-to-Severe Vasomotor Symptoms Associated With Menopause: A Network Meta-Analysis**

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Publication Date: 2026

Journal: BJOG: An International Journal of Obstetrics & Gynaecology

Abstract: BACKGROUND: Elinzanetant, a novel, dual neurokinin-targeted therapy, has been approved in various geographies for the treatment of moderate-to-severe vasomotor symptoms (VMS) associated with menopause. OBJECTIVE: To compare the efficacy of elinzanetant with non-hormonal pharmaceutical treatments (nHT) in alleviating VMS. SEARCH STRATEGY: A systematic literature review of Medline, Embase, and Cochrane databases identified randomised controlled trials (RCTs) published up to October 2025. SELECTION CRITERIA: RCTs of nHT in women with moderate-to-severe VMS not induced by medical treatment, reporting week 12 results for VMS frequency and severity, sleep disturbances, and quality of life. DATA COLLECTION AND ANALYSIS: Treatments were compared using a Bayesian network meta-analysis to obtain mean differences (MD) or odds ratios (OR) with 95% credible intervals. MAIN RESULTS: Of 17 included RCTs, three assessed elinzanetant 120 mg, two paroxetine 7.5 mg (PRX), four gabapentin 1200-1800 mg (GABA), three fezolinetant 45 mg (FEZO), and five desvenlafaxine 50-200 mg (DVS). Elinzanetant significantly reduced daily VMS frequency versus PRX (MD: -2.11 [-3.31, -0.92]), DVS (MD: -2.77 to -1.72), and GABA (MD: -2.22 to -2.31). The proportion of patients with >= 50% reduction in VMS frequency was significantly greater with elinzanetant than DVS 100 mg (OR:1.52 [1.03, 2.24]) and PRX (OR:2.20 [1.49, 3.28]), and comparable to DVS 150 mg and FEZO. Elinzanetant significantly reduced VMS severity versus DVS 50 mg (MD: -0.37 [-0.56, -0.17]) and was comparable with other assessed treatments. Elinzanetant reduced nighttime awakenings significantly more effectively than PRX (MD: -0.82 [-1.26, -0.39]) and all DVS regimens. Elinzanetant significantly improved sleep disturbance (PROMIS SD-SF-8b) score versus FEZO (MD: -2.67 [-3.92, -1.42]). Change in MENQoL did not differ significantly. CONCLUSIONS: In this indirect comparison, elinzanetant showed superior or comparable efficacy to NKT or nHT in reducing the frequency and severity of VMS, along with improving sleep disturbances, supporting its role in VMS management.

31. **Brief Report: Under-Identification of Symptomatic Menopause in Publicly-Insured Autistic People.**

Authors: Benevides, Teal W.;Cook, Barb;Klinger, Laura G.;McLean, Kiley J.;Wallace, Gregory L.;Carey, Meghan E.;Lee, Wei-Lin;Ventimiglia, Jonas;Schiff, Lauren D. and Shea, Lindsay

Publication Date: 2024

Journal: Journal of Autism & Developmental Disorders

Abstract: Menopause is a normal part of aging and in the general population is associated with chronic conditions that impact health, mortality, and well-being. Menopause is experienced differently by autistic individuals, although no studies have investigated this topic in a large sample. The purpose of this study was to investigate rates of, and factors associated with symptomatic menopause among autistic individuals and to identify the prevalence of co-occurring conditions in symptomatic individuals. We included autistic females aged 35-70 years enrolled for 10 + months in 2014-2016 Medicare and/or Medicaid (n = 26,904), excluding those with gender dysphoria. Those with symptomatic menopause were compared to a non-symptomatic reference group on demographic, enrollment characteristics, and co-occurring conditions through logistic regression. Approximately 4% of publicly-insured autistic females aged 46-70 years had symptomatic menopause in their medical records. Intellectual disability was associated with a lower likelihood of symptomatic menopause, and being Medicare-enrolled or dual-enrolled was associated with higher likelihood of having symptomatic menopause recorded. In adjusted models, rates of ADHD, anxiety and depressive disorders, headache/migraine, altered sensory experiences, altered sexual function, and sleep disturbance were significantly higher in the symptomatic menopause sample compared to the reference group. More work to better support autistic women in discussing menopausal symptoms and co-occurring conditions with primary care providers is needed, particularly among those for whom self-report of symptoms are more challenging to ascertain. Factors associated with specific types of health care coverage warrant greater investigation to support better identification.

Sources used:

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

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