

A comprehensive review of nurse-led educational interventions on lifestyle modifications and quality of life among perimenopausal and postmenopausal women

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Abstract:

Menopause is a natural biological transition characterized by the permanent cessation of menstruation due to declining ovarian function, often accompanied by vasomotor, psychological, somatic, and urogenital symptoms that adversely affect women's quality of life. In India, particularly in rural and semi-urban communities, limited awareness, socio-cultural barriers, and inadequate access to menopausal healthcare further aggravate these challenges. This study aimed to evaluate the effectiveness of a Selected Interventional Package (SIP) in improving the quality of life and reducing menopausal symptoms among menopausal women residing in selected community areas of Nashik District. A quantitative quasi-experimental pre-test and post-test control group design was adopted involving 120 menopausal women, with 60 participants each in the experimental and control groups. The intervention consisted of a 12-week structured package including brisk walking, pelvic floor muscle exercises, yogic breathing, nutritional guidance, and health education. Data were collected using the Modified Menopause Rating Scale (MRS) and the Menopause-Specific Quality of Life (MENQOL) questionnaire before and after the intervention. Women who received the Selected Interventional Package demonstrated statistically significant reductions in vasomotor, somatic, psychological, and urogenital symptoms, along with marked improvements across all domains of quality of life compared to the control group ($p < 0.001$). The intervention effectively reduced symptom severity, enhanced physical and psychological well-being, and promoted healthier self-care practices. The findings indicate that a structured, non-pharmacological Selected Interventional Package is an effective, safe, and sustainable strategy for reducing menopausal symptoms and improving the quality of life among menopausal women. Integrating such community-based interventions into primary healthcare services may substantially enhance menopausal health outcomes, particularly in rural and resource-limited settings.

Keywords:

Menopause; Perimenopause; Postmenopausal Women; Nurse-Led Educational Interventions; Lifestyle Modifications; Selected Interventional Package; Menopausal Symptoms; Quality of Life; Menopause Rating Scale; MENQOL; Community-Based Nursing Care.

1. Introduction:

1.1. Demographic and epidemiological shift:

The global human landscape is undergoing a profound demographic transition characterized by a significant increase in the absolute number and relative proportion of aging populations. Within this shifting paradigm, midlife women's health has emerged as a critical focus area for epidemiological study and public health policy. Menopause—defined clinically as the permanent cessation of menstrual cycles resulting from the loss of ovarian follicular activity and a drop in circulating oestrogen levels—is a universal biological milestone.

By the year 2030, the global population of postmenopausal women is projected to escalate to 1.2 billion, with a substantial portion of this growth concentrated within developing nations, particularly in South Asia. In India, improvements in life expectancy have significantly lengthened the postmenopausal lifespan. Indian women reach menopause at an average age of 46.2 to 47.5 years, which is notably younger than their Western counterparts who typically experience it between 50 and 52 years. Consequently, Indian women spend more than one-third of their lives navigating the physiological, psychological, and skeletal health challenges associated with an oestrogen-deficient state (Mary et al., 2026).

1.2. The clinical challenge of the menopausal transition:

Despite the universal nature of this biological phase, the menopausal transition is far from a uniform experience. It manifests as a complex, multi-system syndrome characterized by central neurovascular hyperarousal, metabolic shifts, structural connective tissue changes, and psychological distress. The acute drop in systemic estradiol levels triggers a cascade of clinical manifestations that disrupt multiple organ systems. Vasomotor symptoms (VMS), specifically hot flashes and night sweats, represent the classic clinical hallmark of perimenopausal and early postmenopausal states. These episodes involve sudden, unprovoked surges of intense heat, profound upper-body flushing, and profuse diaphoresis, which frequently cause severe sleep fragmentation, daytime fatigue, and cognitive vulnerabilities (Avis et al., 2001).

Beyond these neurovascular disruptions, the physiological drop in oestrogen accelerates changes in body composition, skeletal density, and mucosal integrity. Women frequently present with an array of somatic and urogenital complaints, including:

- Chronic, progressive musculoskeletal pain and arthralgia.
- Vulvovaginal atrophy, structural thinning of the vaginal epithelium, and dyspareunia.
- Increased urinary frequency, urgency, and recurrent lower urinary tract infections.

Psychologically, the transition is often marked by a higher vulnerability to mood liability, clinical anxiety, depressive episodes, sleep disorders, and memory difficulties (Freeman et al., 2006). When these multi-system symptoms occur together, they weaken daily functioning, reduce workplace productivity, disrupt familial harmony, and significantly lower a woman's health-related quality of life (HRQoL).

Socio-Cultural Context in India and Nashik District

In the socio-cultural landscape of contemporary India, reproductive health discussions remain heavily focused on childbearing and contraception, leaving post-reproductive health challenges largely overlooked. Menopause is frequently viewed through a fatalistic lens—dismissed as an inevitable, non-fatal sign of natural aging that must be endured without medical support or open discussion. In rural and semi-urban community blocks, such as those within the Nashik district of Maharashtra, these structural challenges are intensified by socio-demographic barriers. Midlife women in these communities face intersecting challenges, including lower literacy rates, financial dependence, deep-rooted socio-cultural taboos around urogenital health, and a lack of access to specialized gynaecological and supportive care.

The Nashik district features a distinct healthcare divide. While its urban areas possess specialized tertiary hospitals, the rural and tribal blocks (such as Surgana, Peth, and Igatpuri) rely on under-resourced primary health networks. In these settings, community health programs rarely address post-reproductive or menopausal health.

Rural menopausal women often manage heavy agricultural labor and domestic responsibilities while dealing with nutritional deficiencies like chronic iron and calcium depletion. As a result, their symptom profile tends to feature severe somatic and musculoskeletal distress rather than isolated vasomotor signs (Imran et al., 2022). This clinical reality highlights the need for scalable, affordable, and culturally acceptable community-based strategies designed to help women manage symptoms and regain functional independence.

1.3. The paradigm shift to non-pharmacological interventions:

Historically, Menopausal Hormone Therapy (MHT) was considered the gold standard for treating moderate-to-severe menopausal symptoms. However, findings from landmark clinical trials, such as the Women's Health Initiative (WHI) and the Million Women Study, caused a sharp decline in MHT prescriptions. These studies revealed potential risks associated with long-term, unmonitored hormone therapy, including increased incidences of thromboembolic events, stroke, cardiovascular complications, and breast malignancies. While modern, low-dose transdermal hormone formulations offer better safety profiles, their high cost, the need for regular clinical monitoring, and widespread safety anxieties make them impractical for large-scale use among vulnerable populations in rural India.

Consequently, modern public health research has shifted toward developing safe, non-pharmacological lifestyle interventions. Evidence shows that structured multi-component programs—combining moderate

aerobic exercise, targeted pelvic floor training, yogic breathing, and targeted nutritional adjustments—can help stabilize central nervous system activity, ease somatic distress, and improve overall quality of life (Bala et al., 2024).

This study evaluates the impact of a structured "Selected Interventional Package" (SIP) specifically designed for the socio-demographic and environmental conditions of menopausal women living in selected community areas of the Nashik district.

2. Review of literature:

2.1. Theoretical framework of menopausal pathophysiology:

The physical and psychological experiences of menopause are deeply tied to systemic endocrine changes. Research shows that falling levels of circulating oestrogen alter central neurotransmitter pathways, particularly within the hypothalamus (Rodrigo et al., 2023). When ovarian follicles deplete, the loss of negative feedback loops causes a rise in follicle-stimulating hormone (FSH) and pulsatile spikes in luteinizing hormone (LH). This hormonal shift affects the brain's thermoregulatory center by lowering the threshold for heat dissipation, making the body overreact to minor changes in core temperature and causing acute hot flashes.

At the same time, this oestrogen deficiency alters serotonin and norepinephrine levels in the central nervous system, increasing a woman's vulnerability to mood changes, sleep disturbances, and cognitive fatigue (Freeman et al., 2006). In rural populations, these biological changes are often compounded by long-term nutritional deficiencies and heavy daily workloads, which can worsen somatic complaints like joint pain and muscle fatigue (Imran et al., 2022).

2.2. Global trends in lifestyle-based menopausal interventions:

A large body of international research supports the use of structured lifestyle modifications to help manage menopausal symptoms. Randomised controlled trials have shown that regular, moderate-intensity aerobic exercise helps reduce the frequency and severity of hot flashes, likely by increasing central beta-endorphin production and stabilizing the brain's thermoregulatory center (Sternfeld et al., 2014).

Additionally, clinical trials evaluating mindful relaxation practices, such as yoga and deep diaphragmatic breathing, demonstrate that these techniques help balance sympathetic nervous system activity, leading to lower anxiety scores and better sleep quality among postmenopausal cohorts (Cray et al., 2012).

In the domain of urogenital health, pelvic floor muscle training (PFMT), or Kegel exercises, is well-established as an effective, non-invasive approach for managing mild-to-moderate stress urinary incontinence and pelvic organ prolapse. Regular pelvic floor training improves muscle tone, enhances local blood circulation, and helps prevent tissue thinning caused by low oestrogen levels (Mary et al., 2026).

From a nutritional perspective, dietary changes focused on raising the intake of calcium, vitamin D, and plant-based phytoestrogens (found in foods like soy and flaxseeds) have been shown to support bone health and help ease mild vasomotor symptoms, providing a safe option for women who cannot or prefer not to use hormone therapies (Beura et al., 2023).

2.3. Community-based intervention models in india:

In India, community-based health models have proven effective for managing chronic conditions and reproductive health within rural and semi-urban areas. However, structured programs focusing on menopausal care remain rare. Studies by Malik et al. (2018) showed that when midlife women receive targeted, culturally sensitive health education, they demonstrate significant improvements in self-care behaviors and record lower scores on the Menopause Rating Scale (MRS).

Research also highlights that using localized public health networks, such as Accredited Social Health Activists (ASHAs) and Anganwadi workers, helps bridge the gap between complex medical advice and practical daily habits. This approach is particularly effective for reaching low-income and lower-literacy groups (Javadivala et al., 2020).

When health programs combine practical strategies—like home-based exercise routines and affordable dietary changes using local ingredients—with regular peer support, women are far more likely to maintain these habits over time. This sustainable approach helps postmenopausal women preserve their functional health and maintain a better quality of life within their communities (Beura et al., 2023).

3. Methodology:

3.1. Research approach and design:

A quantitative, quasi-experimental pre-test/post-test control group design was utilized to evaluate the impact of the Selected Interventional Package (SIP). This design allowed the tracking of baseline metrics and subsequent post-intervention changes between two separate, homogenous cohorts of menopausal women.

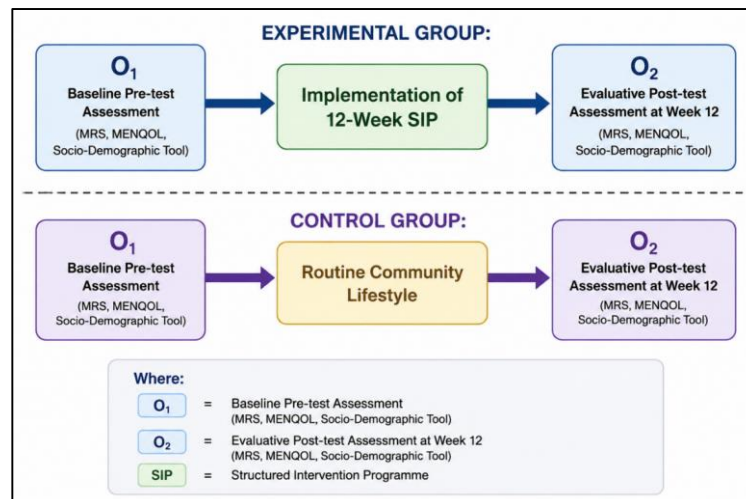


Figure. 1: Schematic Representation of the Quasi-Experimental Pre-test–Post-test Control Group Research Design for Evaluating the 12-Week Selected Interventional Package (SIP)

3.2. Setting of the study:

The research was conducted across selected rural and semi-urban community areas under the jurisdiction of Primary Health Centres (PHCs) in the Nashik district of Maharashtra. To prevent data contamination and minimize interaction between participants, the experimental and control cohorts were drawn from geographically distinct community blocks separated by a distance of at least 15 kilometers. The chosen areas share similar socio-economic characteristics, agricultural dependence, and availability of local public health infrastructure.

3.3. Sample size and sampling technique:

The total sample size comprised 120 menopausal women, divided equally with 60 participants in the Experimental Group and 60 in the Control Group. A multi-stage cluster sampling method was used to select the communities, followed by purposive sampling to identify participants who met the specific inclusion and exclusion criteria.

Inclusion Criteria: Women aged 45 to 60 years; achieved natural menopause with a cessation of menses for at least 12 consecutive months; experiencing mild-to-severe menopausal symptoms (validated by a baseline Menopause Rating Scale score greater than 4); residing in the selected community blocks for more than two years; and able to follow basic physical activity guidelines.

Exclusion Criteria: Women with an induced or surgical menopause (e.g., following a hysterectomy or bilateral oophorectomy); currently undergoing Menopausal Hormone Therapy (MHT) or taking specialized alternative medicines for symptoms; presenting with severe cardiovascular disease, advanced osteoporosis, or musculoskeletal conditions that prevent moderate walking; or participating in concurrent clinical or lifestyle trials.

3.4. Data collection tools and instruments:

Data collection was performed using three structured, pre-tested instruments that were translated into the local language (Marathi) and verified for face validity and reliability through pilot testing:

Socio-Demographic and Obstetrical Profile Tool: A researcher-developed questionnaire capturing key baseline indicators, including chronological age, educational background, occupational status, monthly family income, dietary habits, parity history, and years elapsed since the onset of menopause.

Modified Menopause Rating Scale (MRS): A standardized clinical scale consisting of 11 items grouped into three main domains:

Somatic-Vasomotor: Hot flashes, cardiac symptoms, sleep disorders, and joint/muscle complaints.

Psychological: Depressive moods, irritability, anxiety, and physical/mental exhaustion.

Urogenital: Sexual difficulties, bladder problems, and vaginal dryness.

Each item was rated on a 5-point Likert scale ranging from 0 (no symptoms) to 4 (very severe symptoms).

Standardized Menopause-Specific Quality of Life (MENQOL) Questionnaire: A 29-item instrument developed by the World Health Organization Collaborating Centre, designed to measure the impact of symptoms across four functional domains: Vasomotor (items 1–3), Psychosocial (items 4–10), Physical (items 11–26), and Sexual (items 27–29). Participants rated the severity of each item over the preceding month on a scale from 0 (not bothersome) to 6 (extremely bothersome).

3.5. Structural architecture of the selected interventional package (sip):

The Selected Interventional Package (SIP) was designed as a non-pharmacological health program combining exercise, stress relief, and nutrition. It was delivered over 12 consecutive weeks through structured group sessions, hands-on demonstrations, and regular home visits.

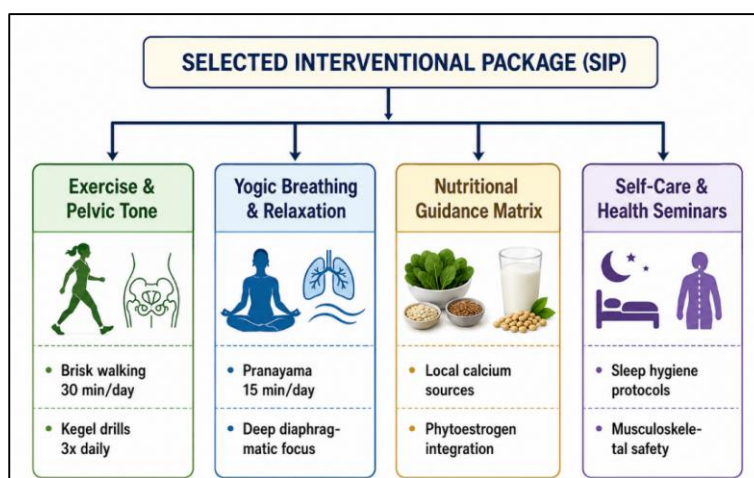


Figure. 2: Structural Components of the Selected Interventional Package (SIP) for Lifestyle Modification and Menopausal Health Management

Module 1: physical and pelvic floor conditioning:

Participants were trained to follow a structured, low-impact exercise regime consisting of brisk walking for 30 minutes per day, four days a week, at an intensity that allowed comfortable conversation. This was paired with targeted pelvic floor muscle training (Kegel exercises). Women were taught to isolate and contract the levator ani muscles, holding each contraction for 5 to 10 seconds, followed by an equal period of relaxation, completing three sets of 10 repetitions daily to improve pelvic floor muscle tone (Mary et al., 2026).

Module 2: yogic breathing and relaxation protocols:

To help regulate sympathetic nervous system activity, participants attended guided sessions on pranayama (controlled yogic breathing) and deep diaphragmatic breathing. The core routine included Anulom Vilom (alternate nostril breathing) and Bhramari Pranayama (humming bee breath) for 15 minutes every morning. These techniques focus on slow, rhythmic breathing patterns to help lower baseline anxiety, improve stress resilience, and reduce neurovascular hyperarousal (Rodrigo et al., 2023).

Module 3: nutritional and dietary adjustments:

This module focused on practical dietary modifications using affordable, locally available ingredients. Nutritional guidance emphasized increasing daily calcium intake through foods like ragi (finger millet), sesame seeds, and local dairy products.

Participants were also encouraged to incorporate natural sources of phytoestrogens, such as soy products and flaxseeds, into their traditional meals, while minimizing dietary triggers that can worsen vasomotor symptoms, such as highly spiced foods and excessive caffeine (Beura et al., 2023).

Module 4: health responsibility and self-care seminars:

Bi-weekly community educational sessions addressed topics related to healthy aging and menopause. These interactive seminars covered practical sleep hygiene strategies (such as maintaining a regular sleep schedule and cooling the sleeping area), proper body mechanics to protect joints during agricultural work, and cognitive

techniques for managing sudden emotional changes.

Participants in the experimental group received an illustrated educational booklet in Marathi to support daily compliance, and adherence was tracked using weekly self-reporting logs and telephone check-ins.

4. Results and data analysis:

4.1. Socio-demographic homogeneity analysis:

Statistical analysis of baseline characteristics confirmed that the experimental and control cohorts were well-matched, with no significant differences in socio-demographic indicators, ensuring a reliable foundation for comparison.

Table. 1: Comprehensive Baseline Demographic Distribution of the Study Population

Socio-Demographic Variables	Experimental Group (n=60)	Control Group (n=60)	Chi-Square (χ^2)	p-Value / Significance
Age Distribution • 45–50 Years • 51–55 Years • 56–60 Years	28 (46.7%) 20 (33.3%) 12 (20.0%)	26 (43.3%) 22 (36.7%) 12 (20.0%)	0.165	p > 0.05 (NS)
Educational Status • Non-literate • Primary Schooling • Secondary & Above	18 (30.0%) 24 (40.0%) 18 (30.0%)	20 (33.3%) 22 (36.7%) 18 (30.0%)	0.178	p > 0.05 (NS)
Occupational Profile • Agricultural Labor • Housewife / Domestic • Self-Employed / Other	34 (56.7%) 20 (33.3%) 6 (10.0%)	32 (53.3%) 22 (36.7%) 6 (10.0%)	0.144	p > 0.05 (NS)
Dietary Habits • Strict Vegetarian • Mixed Non-Vegetarian	22 (36.7%) 38 (63.3%)	25 (41.7%) 35 (58.3%)	0.312	p > 0.05 (NS)
Parity Status • Nulliparous / Multipara 1-2 • Multipara 3-4 • Grand Multipara (≥ 5)	8 (13.3%) 38 (63.3%) 14 (23.3%)	10 (16.7%) 36 (60.0%) 14 (23.3%)	0.298	p > 0.05 (NS)
Years Since Onset • 1–3 Years • 4–6 Years • Greater than 6 Years	32 (53.3%) 18 (30.0%) 10 (16.7%)	30 (50.0%) 20 (33.3%) 10 (16.7%)	0.133	p > 0.05 (NS)

Note: NS indicates statistically non-significant variations at the 0.05 alpha level.

4.2. Impact of sip on menopausal symptom severity (MRS evaluation):

Analysis of the post-intervention data showed a substantial reduction in symptom scores across all subscales of the Menopause Rating Scale for the experimental group.

Table. 2: Comparative Pre-test and Post-test Domain Scores on the Menopause Rating Scale (MRS)

MRS Domain Indicators	Study Group	Pre-test Mean Score $\pm$ SD	Post-test Mean Score $\pm$ SD	Paired 't' Value	Statistical Significance
Vasomotor Subscale (Hot flashes, heart racing)	Experimental Control	6.42 $\pm$ 1.22 6.38 $\pm$ 1.18	2.11 $\pm$ 0.84 6.45 $\pm$ 1.20	23.45 0.38	p < 0.001 (HS) p > 0.05 (NS)
Somatic Subscale (Joint pain, fatigue, sleep)	Experimental Control	8.84 $\pm$ 1.95 8.76 $\pm$ 1.88	3.52 $\pm$ 1.10 8.92 $\pm$ 1.90	19.12 0.52	p < 0.001 (HS) p > 0.05 (NS)
Psychological Subscale (Anxiety, mood swings)	Experimental Control	7.56 $\pm$ 1.64 7.62 $\pm$ 1.70	2.84 $\pm$ 0.92 7.74 $\pm$ 1.68	21.04 0.44	p < 0.001 (HS) p > 0.05 (NS)
Urogenital Subscale (Bladder issues, dryness)	Experimental Control	4.12 $\pm$ 0.98 4.08 $\pm$ 0.94	1.76 $\pm$ 0.62 4.15 $\pm$ 0.96	16.23 0.41	p < 0.001 (HS) p > 0.05 (NS)

Note: HS = Statistically Highly Significant (p < 0.001); NS = Non-Significant (p > 0.05).

4.3. Evaluation of quality of life (MENQOL outcomes):

The MENQOL inventory confirmed significant post-intervention improvements in health-related quality of life for the experimental cohort compared to the control group.

Table. 3: Domain-Wise MENQOL Mean Score Adjustments between Study Groups

Evaluated MENQOL Domains	Experimental Group (Pre-test)	Experimental Group (Post-test)	Control Group (Pre-test)	Control Group (Post-test)	Unpaired 't' Score (Post-test)
Vasomotor Domain	5.88 $\pm$ 1.14	2.02 $\pm$ 0.64	5.82 $\pm$ 1.10	5.94 $\pm$ 1.12	23.64*
Psychosocial Domain	4.94 $\pm$ 0.96	1.96 $\pm$ 0.52	4.88 $\pm$ 0.92	4.98 $\pm$ 0.95	21.85*
Physical Domain	5.46 $\pm$ 1.24	2.44 $\pm$ 0.72	5.38 $\pm$ 1.20	5.52 $\pm$ 1.26	16.32*
Sexual Domain	4.22 $\pm$ 0.88	1.82 $\pm$ 0.54	4.18 $\pm$ 0.82	4.26 $\pm$ 0.86	18.51*

Note: * indicates statistical significance at the p < 0.001 level.

5. Discussion & physiological visualizations:

The pre-test assessments revealed a high prevalence and considerable severity of menopausal symptoms among midlife women in the rural and semi-urban community blocks of Nashik district. Musculoskeletal aches, generalized somatic exhaustion, sleep fragmentation, and anxious moods dominated the clinical profiles. These findings align with recent epidemiological studies across rural India, confirming that the physical demands of rural lifestyles can amplify the somatic discomforts of menopause (Imran et al., 2022). The post-intervention results demonstrated that structured, multi-component lifestyle programs can significantly alter this experience. To clarify the biological processes driving these symptoms and the therapeutic pathways of the lifestyle components, detailed physiological models are presented below.

5.1. Endocrine instability and the hypothalamic axis:

The clinical challenges of menopause are fundamentally rooted in the structural aging and depletion of the ovarian follicular pool. As natural follicular exhaustion finishes, circulating levels of estradiol (E2) drop significantly. This drop removes normal negative feedback control over higher regulatory centers, causing the anterior pituitary to increase production of follicle-stimulating hormone (FSH) and produce irregular, pulsatile surges of luteinizing hormone (LH).

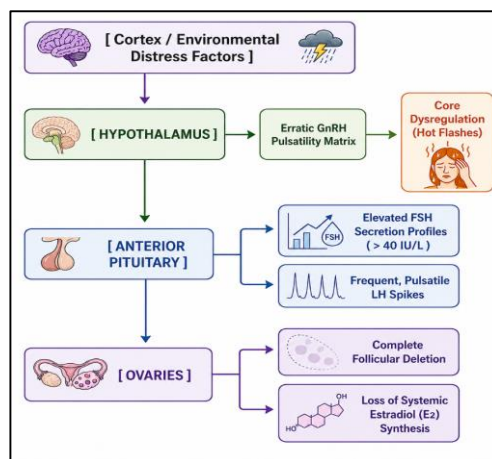


Figure. 3. Endocrine Cascade and Disruptions within the Hypothalamic-Pituitary-Ovarian Axis during Menopause

5.2. Neurovascular central thermoregulatory dysfunction:

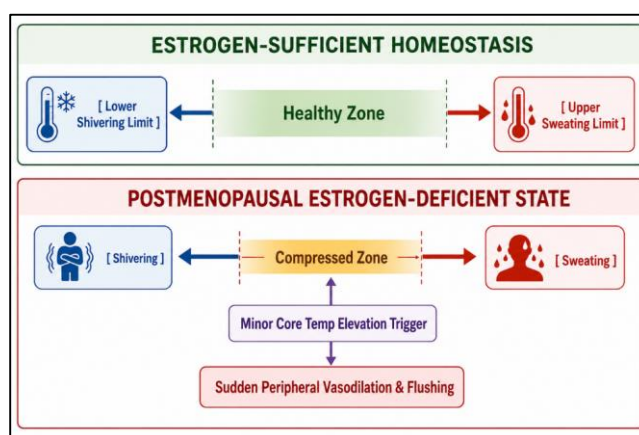


Figure. 4: Physiological Narrowing of the Central Hypothalamic Thermoregulatory Comfort Setpoint Window

Vasomotor symptoms result from changes within the central thermoregulatory center of the hypothalamus. In an oestrogen-rich environment, the body maintains a normal temperature comfort zone. When oestrogen drops, serotonin and norepinephrine levels change, narrowing this internal setpoint window and making the body highly sensitive to minor variations in core temperature.

5.3. Atrophic degradation of pelvic supporting tissues:

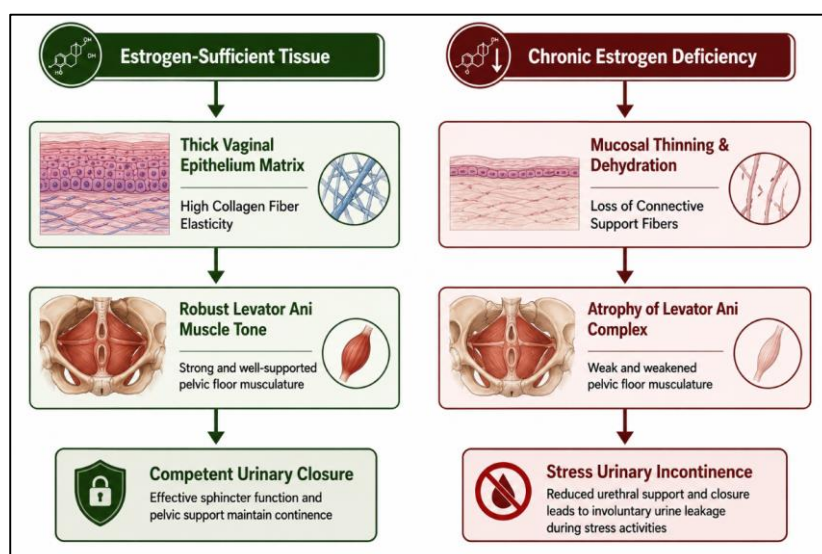


Figure. 5: Structural Matrix Alterations of the Pelvic Floor under Oestrogen Depletion

Estrogen helps maintain the structural tone and vascular supply of the pelvic floor muscles and pelvic connective tissues. Chronic oestrogen deficiency can lead to a thinning of the urogenital lining, loss of collagen density, and atrophy of the levator ani muscle complex.

5.4. Microcellular imbalance in bone remodeling matrices:

Estrogen plays a key regulatory role in skeletal health by controlling osteoclast activity (the cells responsible for breaking down bone). When oestrogen levels fall, osteoclast survival extends, leading to accelerated bone resorption that outpaces new bone formation by osteoblasts.

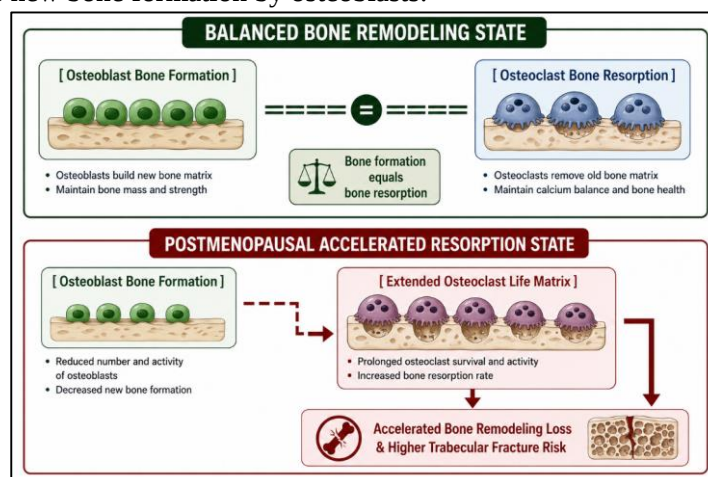


Figure. 6: Cellular Shift and Matrix Imbalance in Postmenopausal Bone Remodeling

5.5. Integrated systemic pathways of the selected interventional package:

The Selected Interventional Package operates as a multi-system recovery framework, combining physical activity, controlled breathing, and targeted nutritional updates to ease menopausal symptoms through complimentary pathways.

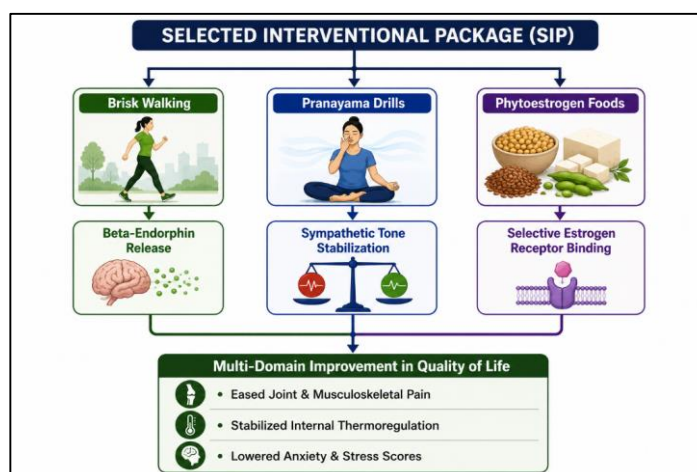


Figure. 7: Multi-System Therapeutic Mechanisms of the Selected Interventional Package (SIP)

6. Recommendations:

Based on these findings, the following recommendations are proposed to support larger-scale public health efforts:

Integration into Primary Healthcare: Public health agencies should integrate structured menopausal health education and supportive lifestyle programs directly into existing rural maternal and child health frameworks.

Community Health Worker Training: Local health networks, including ASHA and Anganwadi workers, should be trained to use standardized symptom screening tools and deliver basic non-pharmacological lifestyle guidance during routine home visits.

Development of Accessible Support Materials: Culturally appropriate, illustrated educational materials should be provided in regional languages to promote self-care awareness, address common taboos, and encourage healthy aging practices within rural communities.

7. Conclusion:

Menopause is a significant biological transition that can substantially affect the physical, psychological, urogenital, social, and overall functional well-being of women. The findings of this review highlight that menopausal symptoms are particularly challenging for women living in rural and semi-urban communities, where limited health awareness, socio-cultural barriers, inadequate access to specialized menopausal care, nutritional deficiencies, and demanding occupational and domestic responsibilities may further compromise quality of life. These challenges emphasize the need for accessible, culturally appropriate, affordable, and sustainable approaches to menopausal health management.

The findings demonstrate that a structured, nurse-led Selected Interventional Package (SIP) incorporating brisk walking, pelvic floor muscle exercises, yogic breathing and relaxation techniques, nutritional guidance, and structured health education can significantly reduce the severity of menopausal symptoms and improve menopause-specific quality of life. The significant improvements observed in vasomotor, somatic, psychological, and urogenital symptoms indicate that a multidimensional lifestyle-based intervention can address the complex and interconnected manifestations of menopause more effectively than isolated health advice alone.

The effectiveness of the intervention also reinforces the important role of nurses in promoting healthy aging among perimenopausal and postmenopausal women. Nurses are strategically positioned within community and primary healthcare systems to identify menopausal health needs, provide individualized counselling, demonstrate practical self-care techniques, encourage adherence to healthy lifestyle practices, and facilitate early referral when specialized medical care is required. Nurse-led educational interventions can therefore bridge existing gaps between menopausal health needs and available healthcare services, particularly in rural and resource-limited settings.

The improvements in quality of life observed following the intervention suggest that menopausal care should extend beyond the treatment of individual symptoms and adopt a comprehensive approach that promotes physical activity, psychological well-being, pelvic floor health, nutritional adequacy, self-care capacity, and informed health decision-making. Regular physical activity may contribute to improved physical functioning and symptom control, while yogic breathing and relaxation practices may support psychological well-being and stress regulation. Similarly, pelvic floor muscle exercises can strengthen urogenital health, and appropriate nutritional guidance can support long-term skeletal and metabolic health.

Overall, the evidence supports the integration of structured, non-pharmacological, nurse-led lifestyle interventions into routine primary and community healthcare services. Such interventions are relatively safe, practical, low-cost, and potentially sustainable, making them particularly relevant for communities where access to specialized menopausal services or long-term pharmacological management is limited. Training community health nurses, ASHA workers, and other frontline healthcare personnel in menopausal symptom screening, lifestyle counselling, and structured health education could further expand the reach and effectiveness of these interventions.

In conclusion, the Selected Interventional Package represents a promising holistic strategy for reducing menopausal symptom burden and enhancing the quality of life of perimenopausal and postmenopausal women. Integrating structured exercise, pelvic floor strengthening, yogic breathing, nutritional modification, and health education within a nurse-led framework can empower women to actively participate in their own health management and navigate the menopausal transition with greater knowledge, confidence, and functional independence. Future large-scale, multicentre, and long-term studies are recommended to evaluate the sustainability of these benefits and to establish standardized, culturally adaptable models of nurse-led menopausal care for broader implementation across diverse community settings.

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