

Reconceptualizing Menopause: Nutrition, Policy, and Positive Aging

Dr. Ramanjeet Kaur^{1*}

Assistant Professor, Dr. Ganesh Dass D.A.V. College of Education for Women, Karnal.

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Abstract: Menopause signifies a pivotal developmental phase in women's well-being, characterized by endocrine alterations that elevate susceptibility to skeletal, circulatory, and physiological imbalances. Nutritional approaches present an economical, non-medicinal method for diminishing these dangers; however, alimentary modifications remain underemphasized in middle-age health regulations. This broad investigation synthesizes evidence concerning the function of nourishment in fostering healthy senescence among climacteric women, with specific emphasis on the Indian environment.

A methodical examination of PubMed, Scopus, Web of Science, and non-indexed publications identified investigations released from 2000 to 2025. Results emphasize the safeguarding function of calcium, vitamin D, plant-derived estrogens, and proportionate macronutrient consumption in lessening climacteric indications and enduring pathology. Policy evaluation exposes that while national initiatives, such as the National Health Mission and POSHAN Abhiyaan, tend to women's nourishment generally, menopause-related strategies are insufficient.

This investigation emphasizes the requirement for unified alimentary recommendations, population-level nutrition instruction, and regulative structures that openly acknowledge menopause as a communal health imperative. Reinforcing these actions could improve well-being and decrease the incidence of non-transmissible ailments in maturing women.

Keywords: Menopause, nutrition, psychosocial well-being, Indian policy.

Introduction

Menopause represents a significant developmental phase characterized by both physiological and psychological transformations. As defined by the World Health Organization (WHO, 1996), menopause is the irreversible cessation of menstruation for a continuous 12-month period, typically occurring between the ages of 45 and 55, with an average onset at 51 years (Nelson, 2008). This transition can be categorized into distinct periods: perimenopause, preceding the final menstrual cycle; menopause, formally identified after a year without menstruation; and post-menopause, the subsequent stage where the risk of certain health conditions, such as osteoporosis and cardiovascular disease, may increase.

While menopause is associated with diminished ovarian function and declining oestrogen production, it transcends mere hormonal fluctuations, influencing daily life, social roles, and health concerns. Contemporary psychological perspectives and gerontological research frame this period as an opportunity for self-development, emotional resilience, and sustained social engagement (Ryff, 2014; Erikson, 1982). This paper investigates the importance of diet in formulating policy recommendations tailored to midlife Indian women, with the aim of promoting positive aging and reframing menopause as a period of empowerment, well-being, and dignity. Although we understand quite a bit about the physical and mental aspects of menopause, the potential role of nutrition as a way to proactively manage it hasn't been thoroughly studied. This review aims to fill that void by using a specific method to explore the current research and related guidelines.

Methodology

A structured literature review was conducted, encompassing PubMed, Scopus, Web of Science, and Google Scholar, covering the period from January 2000 to June 2025. Boolean operators were applied to combine key terms such as "menopause", "nutrition", "dietary interventions", "bone health", "cardiovascular risk", and "India". Grey literature, such as governmental reports and World Health Organisation publications, was also examined to incorporate policy considerations.

Inclusion criteria:

- (1) research concentrating on women between 40 and 60 years of age
- (2) interventional or observational evidence concerning nutrition and menopause
- (3) publications in the English language
- (4) pertinence to the Indian or wider South Asian region.

Exclusion criteria:

- (1) studies concerning surgically-induced menopause or hormone therapy absent a nutritional element
- (2) investigations utilizing animal models
- (3) publications where the complete manuscript was unavailable.

Titles and abstracts were initially assessed independently, followed by a thorough review of full-text articles. Extracted data were

*Corresponding Author

Dr. Ramanjeet Kaur*

E-mail: ramanedu@gmail.com

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organized according to thematic areas: skeletal health, cardiac health, psychological well-being, and policy guidelines. Divergences in interpretation were addressed through group discussion to reach agreement. The findings were synthesized narratively, with a focus on identifying deficiencies in the current evidence base and possibilities for incorporating research findings into policy initiatives.

From Fertility to Autonomy

Psychological Frameworks

Erikson’s Theory of Psychosocial Development: Erikson’s stage of generativity versus stagnation defines midlife, emphasizing care, contribution, and legacy. These values manifest in dietary choices and health behaviours. In simpler terms, midlife is characterized by the challenge of *generativity versus stagnation* (concern with productivity and legacy); *integrity versus despair* characterizes older age. (Erikson, 1982).

Ryff’s Model of Psychological Well-Being: Menopausal women often show increased resilience, self-acceptance, and autonomy, highlighting personal growth even as their bodies undergo changes (Ryff, 2014).

Gero transcendence Theory: suggests that as people age, they tend to focus more on reflection, spirituality, and finding a sense of purpose. This perspective views menopause not as a time of loss or decline, but as a transformative phase in a woman’s life (Tornstam, 2005).

Social and Cultural Dimensions

The years after reproduction free women from the pressures associated with fertility, enabling them to concentrate on furthering their education, advancing in their careers, and engaging in personal interests.

and emotional fluctuations (North American Menopause Society, 2022). A balanced diet that includes calcium, vitamin D, fibre, sufficient protein, and foods rich in antioxidants helps support bone, heart, and mental health. Good nutrition can assist in managing weight, improving mood, reducing menopausal symptoms, and enhancing the overall quality of life, which makes this stage of life an opportunity for empowerment and personal growth. However, the evidence regarding the benefits of phytoestrogens in easing symptoms like hot flashes is not clear (Messina, 2016; Sowers et al., 2015).

Macronutrients and Micronutrients

- **Calcium:** 800–1000 mg/day (ICMR 2020); sources include ragi, milk, curd
- **Vitamin D:** 600–800 IU/day; sun exposure guidance and fortified foods recommended
- **Protein:** 1.0–1.2 g/kg/day; a per-meal target of ~20–30 g helps preserve lean mass in older adults
- **Fiber:** 25–30 g/day; whole grains, legumes, vegetables

Table 2: Indian foods meeting RDAs

Nutrient	Source	Quantity	Approximate Value
Calcium	Milk	250 ml	300 mg
Calcium	Ragi	50 g	150–200 mg
Calcium	Curd	100 g	120–150 mg
Vitamin D	Fortified milk	250 ml	400–600 IU
Protein	Dal	1 cup	7–9 g
Protein	Paneer	100 g	18 g
Protein	Eggs	2	12 g

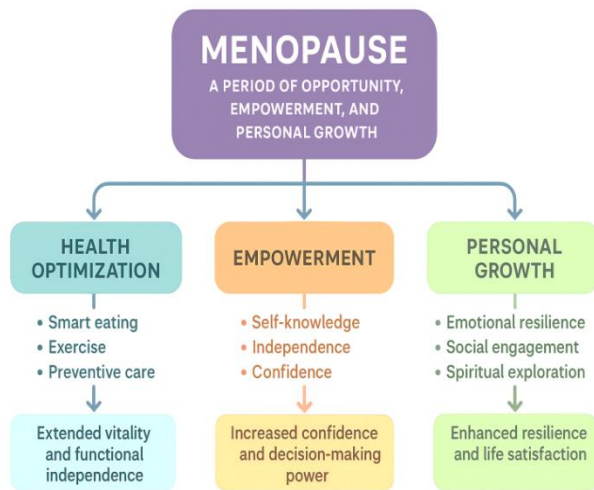


Figure 1: Conceptual model of nutrition → physical/psychological/social outcomes

Nutritional considerations

Building on these psychosocial and cultural viewpoints, the focus now shifts to how food choices significantly impact well-being during menopause. Maintaining healthy eating habits during menopause is essential for overall well-being. Changes in hormone levels can raise the risk of osteoporosis, heart disease, weight gain,

Diet-Happiness link

A positive attitude helps women handle menopause better by promoting healthy choices and acceptance of change. This shift in focus allows them to embrace personal growth and explore new passions. Happiness can lead to trying new activities, rediscovering themselves, and ultimately, a personal transformation. Focusing on the positive lowers stress, boosts health, and strengthens connections, potentially leading to a richer life phase. Good nutrition also plays a role in mood regulation. Therefore, diet can be a useful aid for emotional wellness during menopause. The following chart outlines key nutrients, their food sources, and their potential impact on mental well-being, assisting women in maintaining happiness.

Nutrient-to-Happiness Chart for Menopausal Women

Table 1: Nutrient-to-well-being chart with Indian sources and RDAs

Nutrient	Food Sources	Psychological Benefits
Omega-3 Fatty Acids	Fatty fish, flaxseeds, walnuts, chia seeds	modest improvement in depressive symptoms (mixed)
B Vitamins (B6, B12, Folate)	Whole grains, leafy greens, dairy, legumes	Reduce irritability, support memory
Magnesium	Nuts, pumpkin seeds, spinach, dark chocolate	Reduce stress, improve sleep
Tryptophan	Milk, soy products, turkey, cheese	Precursor of serotonin, stabilizes mood
Phytoestrogens	Soybeans, flaxseeds, chickpeas	May modestly reduce vasomotor symptoms in some women; effects vary.
Vitamin D	fortified milk/yogurt, mushrooms, oily fish, UV-exposed	Low levels linked to depressive symptoms
Antioxidants	Citrus, berries, green tea	Support oxidative stress balance; cognitive benefits are diet-pattern dependent and not universal.
Protein	dal, paneer, eggs	muscle maintainance, energy balance
Probiotics	Yogurt, kefir, kanji, idli/dosa (fermented batter)	may benefit GI health; limited mood evidence
calcium	ragi, milk, curd	supports bone health and mood regulation

footnote: associations do not imply causality; individual responses vary. Consult clinicians before supplementation.

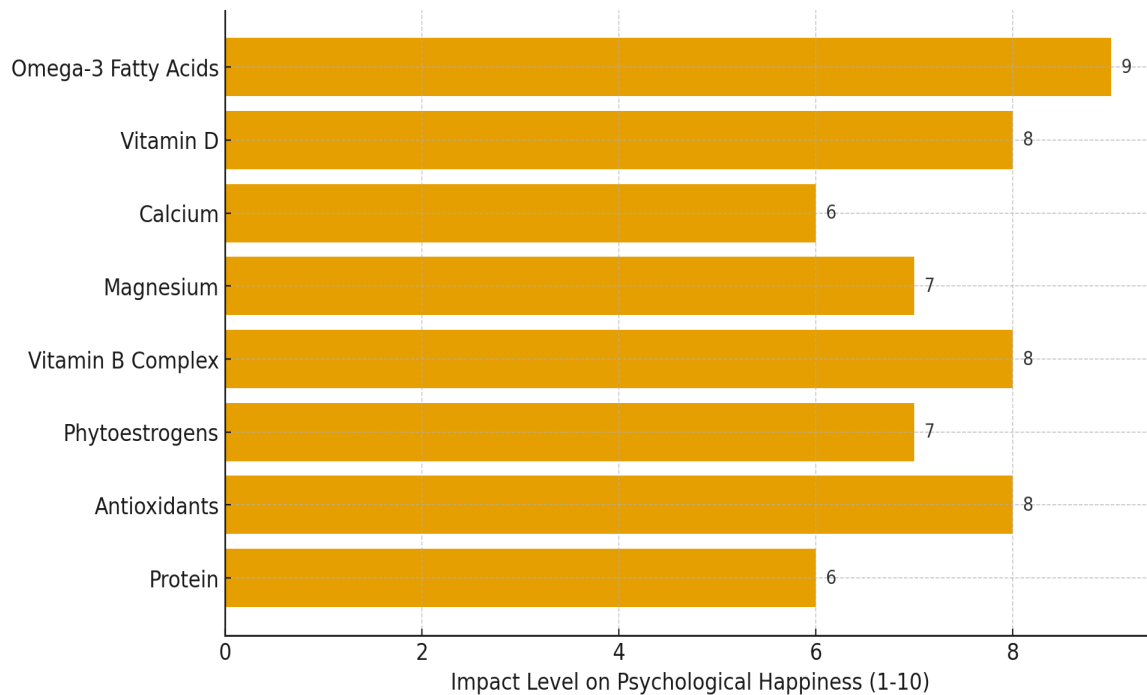


Chart 1: Role of nutrients in psychological happiness of menopausal women

Cultural Dimensions

Food habits differ globally. In East Asia, soy and fish, along with social and physical factors, might affect symptom experiences. In Kerala, vegetarianism can lead to B12 shortages, so fortified foods or supplements are advised. City living and indoor jobs decrease sun exposure, impacting vitamin D levels.

Western diets often have more meat; antioxidant and magnesium intake varies and can be low with lots of processed foods. Indian diets are high in plant-based nutrients but may lack omega-3, B12, and vitamin D. East Asian diets naturally balance phytoestrogens, omega-3s, and probiotics through soy and fish, potentially lessening menopausal symptoms.

Tailored nutrition plans can help fill gaps—like flaxseeds and fortified foods in India, fish and soy in Western diets, and more dairy or vitamin D supplements in East Asia.

Educational, Governmental, and NGO Interventions

Beyond individual-level dietary practices, the broader policy environment plays a decisive role in shaping nutritional access and awareness. An examination of India's health and nutrition schemes reveals both opportunities and gaps in addressing menopausal health. The Indian Menopause Society is a multidisciplinary national society. It was launched in 1995. It is committed to fostering the comprehensive well-being of the mature & elderly Indian women. The society provides a common forum for medical and other interested health professionals and people from all walks of life to work towards the goals of the society.

The Nutrition Foundation of India (NFI) is a non-governmental voluntary organization dedicated to improving the nutritional status of Indians.

Government policy landscape and gaps

India possesses a supportive governmental framework for improving women's nutritional status, although specific attention to menopausal health aspects is currently underdeveloped. While the National Health Mission (NHM) integrates reproductive and maternal well-being, its explicit application to middle-aged women is restricted. The POSHAN Abhiyaan (National Nutrition Mission) aims to reduce undernutrition across the lifespan; however, its practical implementation primarily targets children and pregnant individuals, resulting in inadequate consideration of nutritional requirements during menopause.

State-level initiatives, such as the Aarogya Lakshmi Scheme in Telangana, offer supplemental nutrition to women, but lack customization to address the distinctive metabolic and skeletal health concerns associated with menopause. Likewise, the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) offer indirect advantages to women experiencing menopause by addressing non-communicable diseases, despite lacking specific dietary interventions tailored by gender and age.

A notable deficiency exists in the lack of dietary recommendations explicitly focused on menopause within national nutritional policy. Integrating menopausal considerations into established frameworks could facilitate the delivery of targeted interventions to middle-aged women, including calcium and vitamin D supplementation, community-based nutritional guidance, and culturally sensitive educational programs on diet.

Policy Recommendations

National Programs

- **NHM, POSHAN Abhiyaan:** Currently focuses on maternal/child health; lacks provisions for women aged 45–60.

State Initiatives

- **Aarogya Lakshmi (Telangana):** Targets maternal nutrition; potential for midlife expansion

Actionable Additions

- **Supplement Access:** Fortified staples, subsidized dairy, and small fish promotion
- **Screening:** Bone density and anemia checks in health camps
- **Education:** ASHAs/Anganwadi workers trained in midlife modules; culturally adapted recipe booklets
- **Monitoring:** Indicators include diet diversity, calcium/vitamin D sufficiency, BMI, and physical activity

Overall, the research and policy environment indicate that, while India has made progress in women's nutrition, menopause remains a blind area. Closing this gap involves both scientific translation and policy innovation.

Limitations

As a narrative review, this work may not capture all regional dietary patterns; future work should include regionally stratified field studies and longitudinal designs.

Conclusion

Menopause represents a significant phase in the health trajectory of women, where nourishment assumes a crucial role in shaping future wellness. Research consistently demonstrates that well-composed diets, abundant in calcium, vitamin D, plant-derived estrogens, and trace elements, are instrumental in diminishing the prevalence of bone weakening, heart-related ailments, and metabolic imbalances. However, Indian public health strategies predominantly focus on the dietary requirements of mothers and children, resulting in inadequate attention to women undergoing menopause.

This analysis highlights the critical need for policy frameworks that specifically recognize menopause as a significant public health concern. Incorporating dietary guidelines appropriate for menopausal individuals into national programs, improving nutritional education within local populations, and fostering cooperative partnerships among healthcare professionals, nutrition specialists, and government agencies could substantially improve health outcomes. By reframing menopause not as decline but as an opportunity for preventative healthcare, nutrition can serve as a vital component for healthy and dignified aging.

Declarations

- **Funding:** None
- **Conflicts of Interest:** None
- **Ethics:** Not applicable

- **Data Availability:** Not applicable

Appendix

Figures and Tables

1. **Figure 1:** Conceptual model of nutrition → physical/psychological/social outcomes
2. **Table 1:** Nutrient-to-well-being chart with Indian sources and RDAs
3. **Table 2:** Indian foods meeting RDAs
4. **Chart 1:** Role of nutrients in psychological happiness of menopausal women

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