

Navigating Metabolic Health During Perimenopause: A Qualitative Medical Social Work Study Of Women In Puducherry

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Abstract

Background: Perimenopause is a transitional phase marked by hormonal changes that contribute to metabolic disturbances such as weight gain, central obesity, insulin resistance, changes in lipid profile and increased risk of life style disorders such as type 2 diabetes hypertension or cholesterol. In Puducherry, many middle-aged women experience these changes with limited awareness and delayed health-seeking, influenced by family responsibilities and inadequate access to reliable health information.

Objective: This case study explores the metabolic challenges experienced by perimenopausal women in Puducherry and examines how medical social work interventions can promote healthy lifestyle practices, early health seeking behaviour, and psychosocial well-being.

Methods: A qualitative case study approach was used. Data was collected from interviews, field observations, and case study narratives of perimenopausal women from lower- and middle-income communities in Puducherry. Thematic analysis was used to identify common patterns related to metabolic health, self-care practices, barriers to behaviour change, and support systems.

Results: Women commonly reported weight gain, persistent fatigue, reduced physical activity, and concerns about diabetes and hypertension. Limited knowledge about perimenopause, compelling domestic responsibilities and cultural norms often delayed lifestyle modifications. Family support, peer interaction, health education, and community-based guidance emerged as important facilitators of positive behavioural change. Medical social work interventions that integrated health education, counselling, motivational support, and community engagement enhanced women's confidence and encouraged sustainable self-care practices.

Conclusion: Navigating metabolic changes during perimenopause requires a holistic approach that extends beyond medical management. Medical social work plays a vital role in empowering women through education, behavioural counselling, and community support, enabling them to adopt healthier lifestyles and improve long-term metabolic health. These findings highlight the need to integrate social work services into primary healthcare and women's health programmes in India.

Keywords: Perimenopause; Metabolic Health; Medical Social Work; Lifestyle Modification; Health-Seeking Behaviour; Women's Health; Puducherry; Qualitative Case Study.

Introduction:

Perimenopause is the transition phase when a woman's body begins moving toward the end of her childbearing years. It is not a single event, but a journey that usually lasts a few years. It begins when periods become irregular and ends exactly one year after the very last period. It typically occurs between the ages of 40 and 55 years. These hormonal fluctuations happen in the ovaries particularly oestrogen and progesterone, leading to irregular menstrual cycles and a wide range of physical, psychological, and metabolic changes. These changes happening inside the body is invisible. The visibility we see are the symptoms women experience such as hot flushes, sleep disturbances, mood changes, fatigue, weight gain, and changes in body fat distribution. These metabolic changes can increase the risk of life styles disorders, including obesity, type 2 diabetes, hypertension, and changes in cholesterol level affecting women's overall health and quality of life. As life expectancy continues to increase, women now spend a substantial proportion of their lives in post-reproductive stage, making the promotion of metabolic health during perimenopause an important public health priority.

Literature Review

Perimenopause and metabolic health

Several studies have reported that hormonal changes during perimenopause are associated with increased central obesity, insulin resistance, and adverse lipid profiles. Yashwanthini Priyanka et al., 2026; in her study reported that metabolic syndrome was 34.1% among perimenopausal women and 52.2% among postmenopausal women. Women with low physical activity had significant higher body mass index, waist circumference, blood pressure, fasting glucose, triglycerides, LDL cholesterol and total cholesterol. The study

highlighted the importance of promoting regular physical activity. Vinayagamoorthy Venugopal et al., 2019; in his study found that prevalence of Metabolic Syndrome was 39.7%. Central obesity was 63.6%. Sampurna Kundu and Sanghmitra Sheel Acharya, 2024; in their study exploring the triggers of premature and early menopause in India from The National Family Health Survey, during 2019-2021 found that premature menopause is 2.2% and early menopause is 16.2%. lower educational level, poor economic condition, fried food consumption, early age at menarche as some of the significant explanatory factors. The study also mentioned that the number of post-menopausal women are growing. Priyanka Choudhary et al. (2026), in their study mentioned that the prevalence of menopausal symptoms was 81.19%. The study mentioned about the prevalence of menopausal symptoms and its association with marital relationship in perimenopausal women. Giddaluru Bhavya Muralikrishna et al. (2025), in their study mentioned that diabetes risk was higher among females, urban residents, and those from poorer to richest income group. Females have higher life expectancy and higher prevalence of abdominal obesity which would have contributed to diabetes risk. R Nandhini et al. (2023), in their study of 220 women, 112 were premenopausal and 108 postmenopausal. The prevalence of metabolic syndrome was 33% and 51.85% respectively. The study highlighted the importance metabolic syndrome as a major health problem among Indian women because many women are at increased risk of developing abdominal obesity, insulin resistance and heart-related complications. Mundhra et al. (2023), in their study examined the relationship between metabolic syndrome and menopausal symptoms. The study found 34.38% of metabolic syndrome, sleeping problems 36.88%, physical and mental exhaustion 33.75% and hot flushes 33.13%. The study supports integrated care approaches for midlife women. Maninder Ahuja et al. (2024), in their study out of 638 women 406 were premenopausal (63.6%) and 232 (36.4%) were postmenopausal. 392 (61.4%) women had metabolic syndrome. The study has highlighted the role of body mass index and waist circumference as the first warning signs. Jeyasheela et al. (2018), reported that 64% of postmenopausal women attending the Menopause clinic at Christian Medical College, Vellore, in South India live with metabolic syndrome. Women with metabolic syndrome had significantly higher blood pressure and waist circumference, highlighting the need for early screening and preventive interventions among midlife women.

All of the above studies have explored biomedical outcome in menopausal women. Limited attention has been given to woman's lived experiences, lifestyle practices and other parameters. Therefore, this study attempts to explore from medical social work perspective.

Research Gap

Most existing studies on perimenopause have primarily focused on the biological and hormonal changes experienced by women and originated from medicine, nursing, psychology, and public health, while studies from a medical social work perspective were comparatively limited. This highlights the need for research that explore women's lived experiences of metabolic changes and the potential role of medical social workers in promoting awareness, culturally sensitive communication, and preventive health practices during perimenopause.

Aim of the Study

This study aims to explore the lived experiences of women navigating metabolic health during perimenopause and to examine these experiences from a medical social work perspective. The study also seeks to understand the psychosocial factors influencing health behaviour.

Objectives of the Study

To explore women's experience of metabolic changes during perimenopause.

To understand the psychosocial factors influencing metabolic health.

To examine health-seeking behaviour and coping strategies.

To identify the role of medical social work in promoting awareness, psychosocial support, and preventive health practices.

Methodology

Study design and Participant selection

This study adopted a qualitative descriptive case study design to understand perimenopausal women's behaviour within their social context. Using purposive sampling, the participants were selected. Three

perimenopausal women aged 40-55 years were recruited. Participation was voluntary, and informed consent was obtained.

Study setting

The study was conducted in Puducherry, India. Data were collected from women residing in the community to understand their experiences of metabolic health during perimenopause within their social environment.

Data Collection

Data were collected through in-depth, face to face interviews using semi-structured interview guide. Field notes were maintained to document participants responses and contextual observations.

Data Analysis

The qualitative data were analysed using Braun and Clarke's (2006) six phase thematic analysis. During each interview, detailed notes were taken and expanded immediately after the interview to ensure completeness. The researcher read and re-read the interview notes to become familiar with the data. Important statements related to the study objectives were manually coded. Similar codes were grouped into potential themes. The themes were reviewed, refined, defined and named accurately represent the participants' experiences. Finally, the themes were interpreted in relation to the study objectives and supported by relevant examples from the interview notes.

Results

Theme 1: Limited Awareness of Perimenopause and Metabolic health.

Participants generally had limited knowledge about perimenopause and its metabolic health implications. However, despite lack of awareness, they consistently expressed a strong interest in learning about perimenopause, healthy lifestyle practices, and preventive health measures.

Theme 2: Physical and Metabolic Health Challenges During Perimenopause

Participants described a wide range of physical and metabolic health challenges during the perimenopausal transition, which affected their daily activities and overall quality of life. The most frequently reported concerns included weight gain, persistent fatigue, joint and muscle pain, and sleep disturbances. Several women also reported hot flushes, irregular menstrual cycles, metabolic conditions such as hypertension, diabetes mellitus, thyroid disorders, and obesity. These health problems often occurred simultaneously, making symptom management more difficult.

Many participants viewed these changes as a normal part of ageing rather than as health conditions requiring medical attention. Some participants delayed health seeking until symptoms interfered with their daily functioning. Many women did not understand that perimenopause could influence their metabolic health. As a result, they were often unaware of simple preventive measures such as maintaining a balanced diet, engaging in regular exercise, and undergoing periodic health screening.

Theme 3: Psychological and Social Influences on Women's Health

Participants described how emotional drain, limited social support, and multiple family and financial responsibilities affected their well-being. Many prioritised the needs of their families over their own health, resulting in delayed health-seeking and limited attention to self-care.

Theme 4: Health-seeking behaviour and Barriers to Care

Many women sought medical care only when symptoms became severe or interfered with daily life. Routine health screening for diabetes, hypertension or bone health was uncommon. Women perceived symptoms as natural part of ageing rather than signs requiring medical attention. Household duties, caregiving roles, financial constraints, and lack of time delayed healthcare seeking. Some women depended on advice from family, friends, or neighbours before consulting healthcare professionals.

Theme 5: Need for Health Education and Medical Social Work Interventions

The findings revealed a significant need for health education and medical social work interventions to support women during the perimenopausal transition. Many participants expressed a willingness to learn about perimenopause, metabolic health, healthy nutrition, regular physical activity, stress management, and the importance of routine health screening when appropriate information was provided. They recognised that greater awareness could help them identify symptoms early and adopt healthier lifestyle practices. Participants also highlighted the need for community-based health education programmes through hospitals, Primary

Health Centres (PHCs), women groups, and other community settings to improve knowledge and promote preventive health behaviours. These findings highlight the important role of medical social workers in promoting health education, providing psychosocial support, facilitating lifestyle modification, and linking women with appropriate healthcare services.

Findings

1) Women had Limited Awareness of Perimenopause and Metabolic Health

The findings revealed that many participants had limited awareness of perimenopause and its relationship with metabolic health. Although women experienced symptoms like irregular menstrual cycle, weight gain, fatigue, joint and muscle pain, poor sleep, and mood changes, they generally viewed these as a normal part of ageing or the result of work-related stress. Knowledge regarding preventive health practices, including healthy nutrition, regular physical activity and routine health screening, was also limited.

Several participants expressed uncertainty about the changes they were experiencing:

"I thought I am getting older and my health is becoming affected. Didn't know it was menopause related."

"I go to hospital only when my pain becomes too much. I didn't know any of these changes in my body will affect my health."

"I know about hypertension and diabetes, but what I have to do to protect my health I didn't know."

Many participants also believed that body pain, tiredness were a normal part of being in their forties and therefore did not consider seeking medical advice.

2) Physical and Metabolic Health Challenges During Perimenopause

Participants described a wide range of physical and metabolic health challenges that affected their daily lives during the perimenopausal transition. Women reported menstrual disturbances, cramps and lower abdomen pain becoming intolerable. Metabolic changes participants experienced are weight gain, central obesity, hypertension and pre diabetic condition. Physical symptoms included body pain, headache, poor sleep, bloating, dry skin, breast heaviness. These symptoms often affected their ability to work, perform household responsibilities, and maintain their overall well-being.

They expressed that their bleeding was so severe that the doctor told me I might have to remove my uterus. I never thought in my dream that just at 42 years I will face such chronic condition.

Some women were so worried saying my abdomen region is becoming bigger and whatever effort I put its not reducing in circumference.

"I go to sleep at night as usual but wakeup around three or four in the morning and cannot sleep again."

These findings indicate that women experienced multiple interconnected physical and metabolic health challenges during perimenopause. The accumulation of these symptoms affected their daily functioning and quality of life. Many never had the knowledge that perimenopause can bring these changes.

3) Psychological and Social Influences on Women's Health

Women described that their physical health during perimenopause was closely influenced by psychological distress and social circumstances. Many participants experienced persistent stress, anxiety, irritability and emotional exhaustion while simultaneously managing household responsibilities, and caregiving.

Women reported receiving limited emotional support from spouses or family members, while others felt that their own health was less important than the needs of their children or elderly parents. Financial constraints, demanding work schedule, marital conflict, widowhood, separation, and caregiving responsibilities further contributed to stress and neglect of self-care. Some participants accepted their symptoms as a normal part of ageing and continued to prioritise family responsibilities over their own health needs.

Many women described that psychological distress and physical symptoms often occurred simultaneously, suggesting a close interrelationship between emotional and physical health.

Some women relied on spirituality and religious practices as important source of emotional strength and coping.

"My husband doesn't understand my problem."

"My children are not understanding family financial difficulties. They keep asking for things, and it becomes hard for me."

Overall, the findings suggest that women's metabolic health during perimenopause is shaped not only by biological changes but also by psychological well-being, family relationships, social support, economic pressures, and everyday life circumstances. These findings highlight the importance of holistic interventions that address both psychosocial needs, with medical social workers playing a key role in providing counselling, family education, strengthening social support, and facilitating access to appropriate health services.

4) Health-Seeking Behaviour and Barriers to Care

Women described a range of health-seeking behaviours during perimenopause, with many seeking medical care only when symptoms became severe or interfered with their daily activities. Preventive health care practices such as health screening, regular exercise, dietary modification, and weight management were uncommon. Many believed that symptoms are a normal part of ageing.

Many women reported that family responsibilities are more important than taking care of their health. They also believed that the health problem will resolve on their own. Limited awareness and its relationship to health is not understood properly and how important it is. This is one of many reasons seen as a barrier to seek care.

"I thought it was normal because of my age, so I didn't go to hospital."

"I didn't have time to go to hospital. I didn't have someone to take me to hospital."

"I am scared of going to hospital. I am always worried about injections and other procedures."

These findings suggest that women's health-seeking behaviour was influenced by limited awareness, personal beliefs, economical challenges, and other misconceptions that stopped them seeking health care.

5) Need for Health Education and Medical Social Work Interventions

Many women expressed a willingness to learn about perimenopause and metabolic health once they understood that their symptoms were not simply a normal part of ageing. Participants expressed that health education from reliable sources would help them adopt healthier lifestyles, and seeking timely medical care.

"We need someone to guide us about food, exercise, and health check-ups."

The findings clearly show the need for health education and medical social work interventions to support women in perimenopausal transition. Medical Social Workers play an important role in bridging the gap between perimenopausal women and healthcare services by promoting health awareness, facilitating timely health-seeking behaviour, and coordinating access to appropriate care.

Brief Interpretation

These findings suggest that many women experienced the transition to perimenopause without understanding the changes taking place in their bodies. Women understood cessation of menstruation, but not the broader concept of menopause or the existence of perimenopause. This lack of awareness made it difficult for them to recognise the reasons behind their symptoms or understand their impact on metabolic health. Family responsibilities often took priority over self-care. Women showed strong interest in learning about healthy eating, simple exercises, and other practical ways to care for their health. This indicates that appropriate health education and support could help them adopt healthier lifestyle.

Discussion

The first major finding of this study was that women had limited awareness of perimenopause and its impact on metabolic health. Although they understood that menstruation would eventually stop and fertility would end, they were largely unaware of the physical, psychological, and metabolic changes that occur during the menopausal transition. Similar findings were reported by Nishanthini et al. (2024), whose qualitative study in rural Puducherry found that women had limited knowledge of menopause and experienced socio-medical challenges during the menopausal transition. These findings are further supported by Thamizhmaran et al. (2024), found that higher BMI, unhealthy dietary habits, and family history were significantly associated with metabolic risk among the rural population of Puducherry. This lack of awareness may be due to limited health education and the cultural silence surrounding menopause and perimenopause. The World Health Organization also recognises that many women need better information and support during menopause. It recommends improving awareness, educating health care providers, and making menopause care available as part of regular healthcare.

The second finding of this study found that women experienced multiple physical and metabolic challenges during perimenopausal transition. Women reported concerns like heavy or irregular bleeding, joint and body pain, sleep disturbances, fatigue, weight gain, central obesity, hypertension, and diabetes. Many women described that these symptoms affect their day today activities and caregiving roles. The World Health Organisation states that menopause occurs at a stage when women have multiple roles like taking care of their children, older family members, managing household work and going to job. In consistent to our findings Safna Bava et al. (2026), in their study in Kerala reported about somato-vegetative symptoms, including hot flushes, excessive sweating, palpitation sleep disturbances, and joint and muscle pain among perimenopausal women. Yashwanthini Priyanka et al. (2026), in their study found the prevalence of metabolic syndrome was 34.1% among perimenopausal women and 52.2% among postmenopausal women. Women with low physical activity

had high body mass index, waist circumference, blood pressure, fasting glucose, triglyceride, LDL cholesterol, and total cholesterol, while HDL cholesterol was higher in those with moderate or intense activity. This study mentions about lifestyle practices like physical activity to be promoted among menopausal transition which builds muscles and balance in their body. Medical social workers can play an important role by providing counselling and promoting healthy lifestyle practices.

The next finding about psychological and social influences on women's health is closely connected to physical exhaustion during perimenopause. Anxiety, irritability, sleep disturbances, stress and emotional exhaustion are consistent with previous research, Priyanka Choudhary et al. (2025), in their study found that irritability was the commonly reported by 95.40% women. 82.40% women reported sleep disturbances. Psychological distress often triggered by social and family circumstances. Many participants reported that financial difficulties, job insecurity, children's needs created stress and anxiety. Amirtharaj and Mariaselvam (2026), study reported that socio-demographic factors, including occupation and socio-economic status, were significantly associated with women's psychological well-being. These findings are consistent to our findings. From medical social work perspective, these findings emphasise the need for psychosocial assessment and counselling as part of routine perimenopausal care.

The present study found that many women delayed healthcare due to multiple reasons though they experienced physical and psychological symptoms. Most participants considered it to be normal part of ageing. Lack of awareness is also a contributing factor. Financial constraints, demanding work schedules, family responsibilities and lack of time for self-care were major barriers to accessing health care. Gupta et al. (2022), in their study mentioned socio-demographic factors affected health seeking behaviours. This study reported that 43% responded that they will be fine with time. Another study by Roshini et al. (2025), reported that menopausal symptoms had an impact on women's quality of life, majority of women (69.3%) experienced poor quality of life. Women often placed their family's needs ahead of their own. These studies are consistent with the present study, where many women prioritised family over their health and postponed seeking medical care. As a result, chances of early intervention of metabolic health risks such as obesity, hypertension and diabetes may be missed. From a medical social work perspective, these findings highlight the need for community-based health education, and linking women for referrals, and guiding them for early care.

The present study clearly indicates that women had limited knowledge and awareness about perimenopause. This further recommends that health education and medical social work action is required to prevent disease or early identification and management of perimenopausal transition. This lack of early screening can be curtailed if women had health literacy about perimenopause and non-communicable diseases. Healthy lifestyle as a medicine for perimenopause transition should be promoted. Kaithaparambath M, Nayak S, Mahalingam N, et al. (2026), study in Karnataka, directly advocates health promotion strategies for perimenopausal women. The World Health Organization (WHO) stresses that physical, psychological, and social health support during perimenopause and menopause must be integrated into routine healthcare. It further adds that acknowledging cultural, economic, social and educational factors will shape a women's perimenopausal experience. Amirtharaj and Mariaselvam (2026), in their study found that menopause affects women and their family relationships and responsibilities. Their study emphasized the importance of social work interventions to strengthen family support, improve coping, and promote holistic care for women during this transition phase. Mohana and Anitha Bai (2026), in their study explored the impact of menopausal symptoms on the work performance and well-being of female college teachers in Tamil Nadu. The study emphasised that there should be designated wellness rooms or rest zones for female teachers. They also recommended that Menopause-Inclusive Framework for Tamil Nadu Colleges is required. All the above studies are consistent with our findings that women in perimenopausal transition need health literacy on menopause transition. Medical Social Workers will bridge these gaps and can validate experiences and collaborate effectively with Certified Menopause Practitioners. This integrated approach may contribute to healthier ageing and better long-term health outcomes for women.

Strengths and Limitations

The strength of this study is that it provides in-depth understanding and experiences of perimenopausal women towards their overall well-being and menopause specific metabolic health. The qualitative interviews and perspectives were discussed broadly confined to situation.

This study also has some limitations. It was conducted among women in Puducherry using qualitative design: therefore, the findings cannot be generalized to all perimenopausal women. The study relied on participants self-reported experiences, which may be influenced by memory.

Conclusion

This study emphasises that perimenopausal women experience multiple physical, psychological metabolic, and social challenges that effect their health and well-being. Limited awareness, barriers to healthcare, and inadequate support often delay timely health-seeking behaviour. The study highlights the importance of health education, early screening, lifestyle modification, and integrated holistic approach during menopausal transition. Medical Social Workers can play an important role by promoting awareness, providing psychosocial support, strengthening families and communities to assist each other collectively, and facilitate access to appropriate healthcare services. These actions can contribute to healthier ageing and an improved quality of life for perimenopausal women.

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Conflict of Interest

The authors declare that there is no conflict of interest.

Ethics Statement

Participation in this study was voluntary. The purpose of the study was explained to all participants, and informed consent was obtained before data collection. Confidentiality, anonymity, and participants privacy were maintained throughout the study.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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