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Menopause Symptoms Experienced by Women in India: A Systematic Review

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ABSTRACT

It is a normal physiological change but sometimes the symptoms of menopause are severe and can hamper day to day activity and unfortunately most women are unaware of certain menopausal changes. Women experiences these symptoms in perimenopausal phase. During the transition to menopause, women may experience vasomotor, urogenital, psychosomatic, psychological as well as sexual dysfunction. There are various scales available for assess menopause symptoms.

Methodology: systematic review of studies reporting symptoms experienced by menopausal women was done using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines which included-Eligibility Criteria, Literature Search Strategy, Screening Process and Data Extraction Process**.** 23 articles were reviewed after complete analysis.

Result: Out of these 23 studies the all study reported somatic symptoms was the highest symptoms experienced by women that was average 73.66 %. The psychosomatic symptoms were observed in 18 studies and Average 63.03% women experienced psychological symptoms. 5 studies didn't report any psychological symptoms in women. 13 studies reported urogenital symptoms with average 51.40%, whereas 10 studies didn't report any urogenital symptom.

Conclusion: somatic symptoms is the highest symptoms experienced by women, among "Joint and Muscular pain" and "fatigue" was frequently experienced symptom followed by "Hot Flushes". The psychosomatic symptoms are experienced on second number and urogenital symptoms was the least experienced, however those women who experienced urogenital symptoms had higher intensities of the symptoms.

Keywords: Menopause, menopausal symptoms, post menopause, peri menopause, Menopause rating scale, MRS, MENQOL, GCS, HAM-A, HAM-D, Kupperman Index

INTRODUCTION

Menopause is defined as complete cessation of menstruation for 12 months or more as a result of complete loss of ovarian follicular activity. Worldwide, the estimates for the mean age of menopause range from 40-65 years.(1) It is a normal physiological change but sometimes the symptoms of menopause are severe and can hamper day to day activity and unfortunately most women are unaware of certain menopausal changes. These symptoms are mainly because of reduction of estrogen levels as the women approaches menopausal stage. (2)Women experiences these symptoms in perimenopausal phase. During the transition to menopause, women may experience

vasomotor, urogenital, psychosomatic, psychological as well as sexual dysfunction. The severity and manifestation of these symptoms can vary widely among women, influenced by factors such as genetics, lifestyle, socioeconomic status, and cultural background Understanding the spectrum of menopause symptoms is crucial for healthcare providers to offer effective management and support tailored to individual women's needs.(3)

There are various scales available to assess menopause symptoms like, Menopause Rating Scale (MRS): A questionnaire assessing the severity of menopausal symptoms across different domains such as somatic, psychological, and urogenital symptoms. Greene Climacteric Scale (GCS): A self-administered questionnaire that evaluates psychological, somatic, and vasomotor symptoms associated with menopause. Kupperman Index: A symptom checklist that assesses the severity of 11 common menopause-related symptoms, including hot flashes, insomnia, and mood swings. Menopause-Specific Quality of Life (MENQOL): A questionnaire that measures the impact of menopause on various aspects of quality of life, including physical, vasomotor, psychosocial, and sexual domains. Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D): Although not specific to menopause, these scales are sometimes used to assess anxiety and depression symptoms associated with menopause. These tools provide standardized ways to assess and quantify menopause symptoms, allowing researchers and healthcare providers to better understand their prevalence, severity, and impact on women's lives.

The cumulative effect of menopause symptoms can substantially affect women's quality of life (QoL), influencing various domains including physical well-being, emotional health, social interactions, and sexual function Understanding these impacts is essential for healthcare providers to offer appropriate support and management strategies tailored to individual women's needs.(3)This systematic review aims to synthesize current literature on menopause symptoms experienced by women in India. By critically examining existing research, this study seeks to fill gaps in knowledge, provide insights into the prevalence and severity of menopause symptoms in the Indian context, and inform evidence-based practices for healthcare providers and policymakers.

MATERIALS & METHODS

We conducted this systematic review of studies reporting symptoms experienced by menopausal women that followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines

Eligibility Criteria

full-length, peer-reviewed, English language articles that contained data on menopausal symptoms in post menopausal women were included. For the menopause criteria, articles were included if there was a description of the sample as post menopausal women. We compared article sample descriptions of menopausal status to the Stages of Reproductive Aging Workshop (STRAW)(4) Studies focusing exclusively on premenopausal, perimenopausal women and studies of transgender or gender transitioning populations, men, and animals were excluded. also, the articles that were not data based including editorials, opinion papers, reviews, abstracts, and published protocols for reviews or research studies excluded. Studies that defined their populations as “menopausal women” or “symptomatic women” without further clarification or definition of menopausal status or that did not report prevalence by menopausal stage were also excluded.

Literature Search Strategy

The search was conducted in goggle scholar, PubMed, Research gate and CINAHL, in June 2024. We did not search outside the medical literature (e.g., ERIC)

because of the health-related focus of the review topic. We did not search SCOPUS because the review criteria excluded textbooks, published abstracts, or other non-full-length materials.

Tools searched included the post menopausal women, post-menopausal symptoms, menopause symptoms, Menopause Rating Scale, Climacteric Symptom Rating Scale, Holte/Mikkelsen Menopause Checklist, SWAN menopausal symptom checklist, Menopause Symptoms List, and Kupperman/Blatt Index, Menopause Symptom Checklist" OR MENQOL).

Screening Process

we screen the articles in two stages. Stage one: independent and sequential review of titles and abstracts for possible inclusion by three authors (n = 346). we retained studies where titles or abstracts referred to menopausal or climacteric symptoms/syndrome even when post-menopausal were not specifically mentioned. Second, we retained studies if the abstracts listed one of the menopausal symptom assessment tools as a study measure. At the second screening stage, the remaining full-text articles were reviewed (n = 166). Each article was independently and sequentially read by two authors who voted on their inclusion or exclusion. Articles that did not specifically report data on Post menopausal women were excluded.

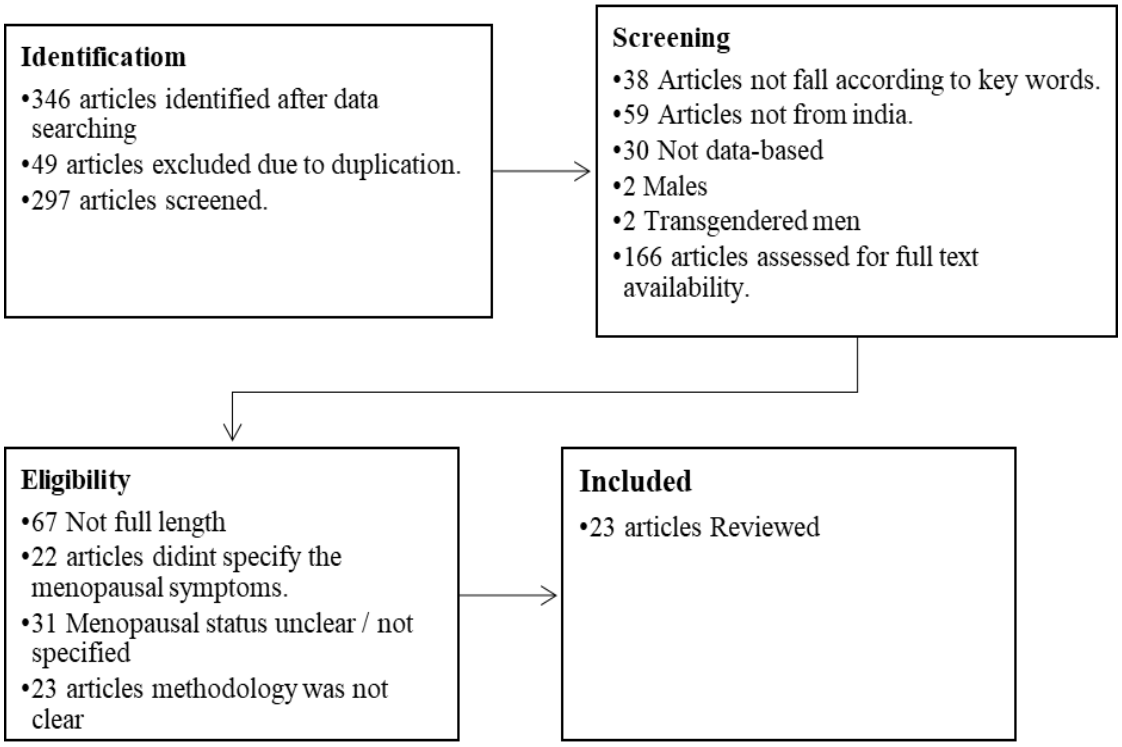

Fig:1 Flow diagram depicting disposition of the articles. This figure depicts the disposition of articles throughout the screening stage and full-text review. The number of articles included and excluded is provided. Reasons for exclusion are also provided

Data Extraction Process

We created data abstraction forms based on the study aim. For each article, one author extracted the data and two additional authors verified accuracy. Disagreements were resolved through discussion. The data extraction form included fields about the article metadata (title, author, year, country), study methods (design, sample details, palpitations measures), and findings (prevalence by menopausal stage). Fields included the sampling frame,

appropriateness of sampling, adequacy of the sample size, description of subjects and setting, validity of methods for identification of the condition (e.g., menopausal status), data analysis, and response rate.

STATISTICAL ANALYSIS & RESULT:

Figure 1 shows the disposition of the articles at screening and review levels. At full-text review, 323 articles were excluded with the three most common reasons being no menopausal status reported, methodology not clear, or unspecified measurement recall periods and/ or response options. A total of 23 articles were retained for the review. (5-27) Table:1 contains descriptions of the articles. All contained findings from cross-sectional menopausal symptom surveys published between 2007 and 2024.

Different states cities included Jammu & Kashmir, south kenera, Kerala, Amritsar Punjab, Mangalore, Bangalore, Karnataka, Gujarat, UP, Delhi, Tamil Nadu, Haryana Chhattisgarh. All articles included premenopausal, perimenopausal, and postmenopausal women. Total sample sizes were 5074 women.

Table 1 shows the list of articles reviewed with authors name, year of the study and prevalence of menopause symptoms. 11 studies sued Menopausal rating scale (MRS), 6 studies used Menopause-Specific Quality of Life (MENQOL), and rest studies used self-designed questionnaire for menopausal symptom assessment.

Out of these 23 studies the all study reported somatic symptoms (Joint pain, muscular discomfort, hot flushes, lethargic, feeling fatigue, Body ache) and it was the highest symptoms experienced by women that was average 73.66 %. Out of somatic symptoms "Joint pain and Muscular pain" and "fatigue" was frequently experienced symptom followed by "Hot Flushes". The psychosomatic symptoms (depression, anxiety, mood swings, irritability, forgetfulness, mental exhaustion) was observed in 18 studies and Average 63.03% women experienced psychological symptoms. 5 studies didn't report any psychological symptoms in women. 13 studies reported urogenital symptoms (decreased libido, itching, vaginal dryness, incontinence/frequency of urine) with average 51.40%, where 10 studies didn't report any urogenital symptom.

Table:1 Description of the articles included in the review.

Author & Study year	Location/ State	Sample size	Outcome Measure	Conclusion
Sudhaa Sharma (5) 2007	Jammu & Kashmir	117	Self Designed	Fatigue & lack of energy (72.93%), headache (55.9%), hot flushes, cold sweats, cold hand and feet 53.86 % each, weight gain (43.13%
Joseph, Nitin (6) 2011	South canara	110	MRS	joint and muscular discomfort and physical and mental exhaustion seen in 94 (85.4%) participants.
Sagar Borker (7) 2013	Kerala South India	106	Self Designed	Emotional problems (crying spells, depression, irritability) 90.7%, headache 72.9%, lethargy 65.4%, dysuria 58.9%, forgetfulness 57%, musculoskeletal problems (joint pain, muscle pain) 53.3%, sexual problems (decreased libido, dyspareunia) 31.8%, genital problems (itching, vaginal dryness)
Avin alva BR (8) 2013	Mangalore, Karnataka	400	Self Design	Muscle and join pain (39.25%), vasomotor symptoms (21%), urological symptoms (20.5%), vulvovaginal symptoms (19.25%)
Vijayalakshmi s(9) 2013	Amritsar Punjab	30	MRS	Feeling tired (92.90%), headache (88.80%), joint and muscular discomfort (76.20%), physical and mental exhaustion (60.09%), sleeplessness (54.40%), depressive mood (37.30%), irritability (36%), dryness of vagina (36%), hot flushes and

				sweating (35.80%) and anxiety (34.50%).
Raman Preet (10) Randhawa 2014	Punjab	100	Self Designed	Aching in muscles and joints (88.75%), fatigue (81.25%), decrease in physical strength (75.00%) and aches in head and neck (62.50%)
Akanksha Singh (11) 2014	Rural area of new Delhi	252	Self Designed	Sleep disturbances (62.7%), muscle or joint pain (59.1%), hot flushes (46.4%) and night sweats (45.6%). A total of 32.1% (*n*=81) postmenopausal women suffered from depression & anxiety.
Bindhu s. Anil (12) 2014	Kottayam, Kerala	320	MENQOL	"feeling of fatigue/lack of energy" 49.7%, and "easily get irritated" 41.1%.The prevalence of two vasomotor symptoms, hot flushes and night sweats are 40.9% and 32.8%.
Ganitha (13) 2015	Tamil Nadu	500	Self designed	Psychosomatic 78.2. urinary symptoms 35.2 , vasomotor 55.8, Sexual symptoms 47.2
Kulkarni, Praveen (14) 2015	Mysore	100	MRS	Joint pain (92%) followed by physical and mental exhaustion (84%), depression (76%), irritability (73%), hot flushes, and night sweats (65%).
Mona srivastava(15) 2015	Gorakhpur (UP)	117	MRS	Vasomotor symptoms being more prevalent with lesser MDSM and psychological and rheumatic complaints more prevalent with increasing age and MDSM in this region.
Pathak, nidhi (16) 2016	Belagavi, Karnataka	325	MENQOL	Physical domain (75.7%–25.5%), followed by psychosocial domain (63.9%–49.3%) to vasomotor domain (63.5%–55.4%) and least common sexual domain (42.3%–36.2%).
Fareha khatoon (17) 2016	Lucknow	300	MRS	Joint and muscular discomfort (87%), depressive mood (70%) heart discomfort (60%), and physical and mental exhaustion (60%) hot flushes (53%), sleep problems (56%), irritability (46) and anxiety (40.3%). The urogenital symptoms were found to be less prevalent like sexual problems, bladder problem and dryness of vagina.
Anil K. Agarwal (18) 2017	Gwalior North central	150	MRS	Joint and muscular discomfort (70.6%); physical and mental exhaustion (61.3%); and sleeping problems (59.3%). Followed by symptoms of anxiety (48.6%); irritability (45.3%) hot flushes and sweating (38.6; dryness of vagina (37.9%); depressive mood (38.0%). Other complaints noted were incontinence/frequency of urine (27.3 and heart discomfort (23.3%
Senthilvel, Sumathi (19) 2018	Kochi, kerala	150	MENQOL	hot flushes, night sweats, and vaginal dryness were 75.3%, 58%, and 30.7%, respectively
Yerra (20) 2019	Hydrabad	378	MENQOL	Physical domain score the highest followed by vasomotor, psychosocial, and the least as sexual domain.
Mansi Patel (21) 2018	Ahmedabad Gujarat	425	MRS	Joint problems were noticed among 68.8% Vasomotor symptoms were reported by 74.3%; 70–80% postmenopausal women reported psychological
Madhu gaikwad 2019 (22)	Raipur, Chhattisgarh	105	MENQOL	Physical domain was more noted than psychological. Vasomotor & sexual were less noted.
Meena armo (23) 2019	Rajnandgaon, Chhattisgarh,	199	MRS	Sexual was 76.88%, somatic 75.62%, and psychological 73.33%.

Meenakshi kalhan (24) 2020	Haryana	400	MRS	Anxiety (80%), followed by physical and mental exhaustion (71.5%), sleep problem (61.2%), irritability (60.7%), joint and muscular discomfort (56%) and heart problems (54%). The most classical symptom of menopause i.e., hot flushes were reported in 36.7%.
Kang, harmeet kaur (25) 2020	patiala punjab	150	MENQOL	avoiding intimacy in sexual domain (93.3%), anxiety and nervousness in psychological domain (76%) and hot flushes in vasomotor domain (74.7%). Furthermore, the most prevalent physical symptom was aching in muscle and joints (88.7%).
Kalpitas. Shringarpure (26) 2022	Vadodara, Gujarat	290	MRS	-fatigue (73.1%), difficulty climbing stairs (59.3%), sleep problems (45.2%), body ache (43.4%), and hot flushes (41.4%)
Dr.Ankita shah (27) 2024	Vadodara, Gujarat	50	MRS	Mean score for Somatic 7.34 + 2.7, Psychological 6.24 + 4.1, Urogenital 2.5 + 4.2 2.2.

DISCUSSION

The conclusion drawn from the comprehensive review of 23 studies on menopausal symptoms reveals significant insights into the prevalence and nature of symptoms experienced by women during this transitional phase of life. The study findings highlight somatic symptoms, psychosomatic symptoms, and urogenital symptoms as primary concerns among menopausal women, each with varying degrees of prevalence across the reviewed studies.

Somatic symptoms, encompassing joint pain, muscular discomfort, hot flushes, lethargy, fatigue, and body ache, emerged as the most commonly reported symptoms, affecting an average of 73.66% of women across all studies. Among these, joint and muscular pain, as well as fatigue, were consistently identified as the most frequently experienced symptoms, underscoring their substantial impact on daily life and well-being (28). , can significantly impact the quality of life and health outcomes of menopausal women (29) The identification of somatic symptoms as the most prevalent among menopausal women prompts further inquiry into their underlying causes and mechanisms. Hormonal fluctuations during menopause are known to influence physiological processes, potentially contributing to the manifestation of somatic symptoms. However, the interplay of biological, psychological, and social factors in symptom presentation warrants deeper investigation. For instance, the impact of lifestyle factors, genetic predispositions, and cultural attitudes towards menopause could all influence the severity and experience of these symptoms (30)

Psychosomatic symptoms, including depression, anxiety, mood swings, irritability, forgetfulness, and mental exhaustion, were observed in 18 out of the 23 studies, affecting an average of 63.03% of menopausal women. The presence of these symptoms highlights the complex interplay between hormonal changes and psychological well-being during menopause, necessitating tailored approaches to support mental health (31)Hormonal Changes: Fluctuations in estrogen and progesterone levels during perimenopause and menopause can influence neurotransmitter levels in the brain, such as serotonin and dopamine, which are crucial for mood regulation(3) Neuroendocrine Mechanisms: The hypothalamic-pituitary-adrenal (HPA) axis, which regulates stress response and cortisol levels, may become dysregulated during menopause, contributing to increased vulnerability to stress and mood disorders(32) Cultural and Societal Influences: Cultural beliefs and societal norms around menopause can shape women's perceptions of their symptoms and

influence their psychological response to this life stage (33). Interestingly, five studies did not report any psychological symptoms among menopausal women, suggesting potential variations in symptom presentation across different populations or methodological differences in symptom assessment. This variation underscores the need for further research to explore factors influencing the manifestation of psychosomatic symptoms during menopause.

Urogenital symptoms, such as decreased libido, vaginal dryness, itching, and urinary incontinence or frequency, were noted in 13 studies, affecting an average of 51.40% of women. However, it is noteworthy that 10 studies did not report any urogenital symptoms, indicating variability in symptom reporting or possibly cultural differences in symptom perception and disclosure.

The decline in estrogen levels during menopause leads to changes in the vaginal tissue, resulting in decreased lubrication and elasticity, which can cause vaginal dryness and discomfort (34).Testosterone levels also decline with age, contributing to a decrease in libido and sexual desire in menopausal women (35).Changes in muscle tone and strength in the pelvic floor muscles can lead to urinary incontinence, including stress incontinence (leakage with coughing, sneezing, or exercise) and urge incontinence (sudden strong need to urinate) (36)Alterations in connective tissue support of the bladder and urethra can contribute to urinary incontinence(37).Shifts in the vaginal microbiome during menopause can lead to changes in pH and susceptibility to infections, which may exacerbate symptoms like vaginal dryness (38).Obesity, smoking, and chronic constipation can increase the risk of pelvic floor disorders and exacerbate urogenital symptoms during menopause(39)

In conclusion, while somatic symptoms were consistently the most prevalent among menopausal women across the reviewed studies, the presence of psychosomatic and urogenital symptoms also underscores the diverse symptomatology experienced during this phase of life. Further research is needed to elucidate the underlying mechanisms and optimize therapeutic interventions to enhance women's health during menopause.

CONCLUSION

somatic symptoms is the highest symptoms experienced by women, among “Joint and Muscular pain” and “fatigue” was frequently experienced symptom followed by “Hot Flushes”. The psychosomatic symptoms is experienced on second number and urogenital symptoms was the least experienced, how ever those women who experienced urogenital symptoms had higher intensities of the symptoms.

Declaration by Authors

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