

Original research article

A study on age of menopause and menopausal symptoms among women attending government maternity hospital, Tirupati

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Abstract

Aim & Objectives: To study the mean age of menopause; To study the Prevalence of menopausal symptoms; To study the treatment seeking behavior of postmenopausal women.

Materials and method: Descriptive study at Govt Maternity Hospital, Tirupati, AP. 200 postmenopausal women aged between 40 -60 years with natural onset menopause attending Outpatient department of Obstetrics and gynecology were included in the study. A semi structured interview followed by examination and relevant investigations were done for all of the 200 women. Data was analyzed by mean, standard deviation, frequency, percentage and Pearson correlation test. The study was started after ethical committee approval (Lr no. 06/2022).

Results: The mean age of menopause was 47.8 years. 80 % women had menopausal symptoms. The most frequently reported symptoms were hot flush by 28.7% of women, Backache in 20 % and Joint pain 17.75% women. 78 women (48.75%) were on post-menopausal therapy. Out of which 50 on HRT and 28 on non-HRT management.

Conclusion: The present study concluded that mean age at menopause was 47.8 years. This reproductive landmark, the age of onset of menopause has increased in past 15 years.

Keywords: HRT, menopause, hot flush, backache, joint pain

Introduction

Menopause is the permanent cessation of menstruation resulting from the loss of ovarian follicular activity. This word is derived from the greek word Menos meaning monthly and Pause meaning cessation. Hence menopause is a point in time that follows one year after cessation of menstruation. Even though menopause is a universal phenomenon there is a considerable variation among women, regarding the age of menopause and manifestation of menopausal symptoms.

With the increase in life expectancy, a woman spends 1/3rd of her life span in menopausal state. It is estimated that around 130 million Indian women would live beyond menopause into old age by 2015¹.

The current national programme on women's health focuses on women aged between 15 and 45 years of age and very little attention is being paid to women beyond reproductive age. Hence the present study titled "Age of menopause and menopausal symptoms among women attending government maternity hospital, Tirupati" has been undertaken to understand the impact of menopause on women's health.

Materials and Methods

Two hundred postmenopausal women attending Out-patient department of obstetrics and Gynaecology at Govt Maternity Hospital, Tirupati during a period from May2022 to December 2022 after taking informed consent from the patient. The study was started after ethical committee approval (Lr no. 06/2022).

Inclusion criteria

- This is a descriptive study and 200 postmenopausal women aged between 40-60 years with natural onset menopause attending Obstetrics and Gynaecology outpatient department were included.

Exclusion criteria

- Age more than 60 years and age less than 40 years.
- Surgical menopause.
- Patient refusal.
- Post-menopausal women with thyroid and parathyroid dysfunction, chronic renal disease, known case of genital malignancy.

Data Analysis: Collected data was analyzed by mean, standard deviation, frequency, percentage and pearsons correlation test.

- Data collection tool.
- History including demographic details.
- Physical activity was measured by asking about work related and leisure activities.
- Height, weight and waist circumference in centimetres. Waist circumference of 82 centimetres and above was significant.
- BMI was calculated as weight in kilograms divided by square of height in meters.
- Clinical examination including breast examination.
- Blood pressure. Hypertension was diagnosed when SBP>140 mmHg and DBP>90 mmHg or is a known hypertensive.
- Lipid profile. Dyslipidemia was diagnosed as per US National cholesterol education programme. Total cholesterol>200mg OR LDL>130 mg/dl OR HDL< 40 mg/d OR TG > 150 mg/dl.
- FBS, PPBS. Diabetes was diagnosed as per American diabetes association. FBS >126 mg/dl OR RBS > 200 mg/dl with symptoms of polyuria, polydipsia and unexplained weight loss.
- Renal function test.
- Pap smear.
- ECG in select women.
- USG abdomen and pelvis, mammogram in indicated women.

Listing of menopausal symptoms was done with the modified Menopause specific quality of life questionnaire. The most disturbing symptom was taken as the predominant symptom. All symptoms were later classified as Vasomotor, Musculoskeletal, and Genitourinary, sexual and psychological. The vasomotor symptoms include hot flush, night sweats; musculoskeletal symptoms include joint pain, backache; genitourinary symptom include dysuria, increased frequency of micturition, vaginal dryness pruritis and urinary incontinence. All patients with urinary incontinence underwent vaginal examination and urine microscopy to rule out infection; sexual symptoms include decrease in libido and dyspareunia; psychological symptom include fatigue, pins and needle sensation, palpitation, poor memory, irritability and insomnia. Symptomatic women who requested treatment were initiated on post-menopausal therapy. Women with impaired liver function, thromboembolic disorders, breast cancer, and family history of genital malignancy or post-menopausal bleed were not prescribed HRT. Women unsuitable for HRT or requested non hormonal drugs were given alternate drugs. All patients were explained about the possible side effects and were advised for follow up after a month and then after six months.

Table 1: Diagnostic criteria for metabolic syndrome

Any 3 of 5 criteria	Cut off value in women
Elevated waist circumference	>88 centimetres
Elevated TG levels	>150 mg/dl or on drug treatment for elevated TG
Reduced HDL	<50 mg/dl
Elevated BP	>140 mmHg SBP OR >90mmHg DBP Or On drug treatment for elevated BP
Elevated fasting blood sugar	>100 mg/dl OR on drug treatment for elevated glucose levels

Results

A total of 200 post-menopausal women were included in this study.

Table 2: Age at menopause

Minimum age of menopause	Maximum age of menopause	Mean age of Menopause	Standard deviation
40 yrs	58 yrs	47.8 yrs	4.37

In our study, minimum age of menopause was 40 years, Maximum age of menopause 58 years and mean age at menopause 47.8 years.

Table 3: General Characteristics of the respondents (n=200)

Age distribution	n
40-44 yrs	25
45-49 yrs	53
>50 yrs	122
Parity	
Nulliparous	23
Para 1-para 5	173
Para 6 and above	4
Lifestyle	
Sedentary	42

Moderate	150
Heavy	8
Body mass index	
Underweight	15
Normal	129
Overweight	45
Obese	11

Among the general characteristics, 25 patients were between the age group of 40-45 years, 122 patients were > 50 years. Majority of women were parous (n=177). Most of the women had moderate to sedentary lifestyle (n=192). Forty five patients were overweight and eleven obese.

Table 4: Correlation between Age at Menopause and parity, BMI

		Parity	BMI
Age at	r	.051	.044
menopause	p	0.473	.538
	n	200	200

No significant correlation between parity and age at menopause and BMI and age at menopause was noted in the study undertaken.

Table 5: Symptom category

Symptom Category	Number of complaints
Vasomotor Symptoms	58
Musculoskeletal	60
Psychological	129
Genitourinary	38
Sexual	13

In the symptom category 20.13% reported vasomotor symptoms, 20.83% musculoskeletal symptoms, 44.79% had psychological symptoms (higher percentage was noted as all women with non-specific symptoms were included in this category), 13.19% genitourinary complaints and 4.51% had sexual complaints.

- A. Women in early menopause, menopause < 2 yrs.
- B. Women who attained menopause 3-5 yrs back.
- C. Women in late menopause >6 years.

Table 6: Distribution of the most disturbing symptom or predominant symptom according to the duration of menopause

	A	B	C
Anxiety	5	0	3
Backache	8	3	8
Decrease in libido	1	0	4
Dyspareunia	2	1	0
Dysuria	0	0	2
Fatigue	2	5	5
Frequent micturition	0	0	1
Hot flush	16	12	5
Insomnia	2	2	5
Irritability	1	0	2
Joint pain	10	4	8
Mood swing	3	1	1
Night sweat	3	1	1
Vaginal dryness	0	4	6
Urinary incontinence	2	2	5
Pruritis vagina	1	0	3

In our study maximum number of women in early menopause reported hot flush (n=16) as the most disturbing symptom followed by backache (n=10) and anxiety (n=8).

Women in the intermediate group also had hot flush (n=12) as their predominant menopausal symptom and the women belonging to late menopause group had musculoskeletal and genitourinary problems as their predominant symptom.

Table 7: Post-menopausal treatment

Drug	Number of patients
Hormonal therapy	
Tibolone	9
Oestrogen cream	18
Conjugated equine oestrogen and progesterone	23
Non hormonal therapy	
SERM	3
Isoflavone	18

78 (48.75%) women received post-menopausal treatment. Of which 50 received Hormone replacement therapy and 28 non hormonal therapy.

Table 8: Cardiovascular risk factors in postmenopausal women

Risk	Number of women (percentage)
Hypertension	35 (17.5%)
DM	14 (7%)
BMI>25 Kg/m2	56 (28%)
Waist circumference >88 cms	42 (16%)
Metabolic syndrome	8 (4%)
Hypercholesterolemia	34 (17%)
TG>150 mg/dl	42 (21%)
HDL< 50 mg/dl	20 (10%)
Smoking	0
Alcohol	0

Dyslipidemia noted in 29% menopausal women.

Discussion

In the present study population comprised of 200 menopausal women in the age group of 40 to 60 years. Women more than 60 years were excluded as they are likely to forget their exact age of menopause and to exempt the age-related symptoms. Women less than 40 years were excluded to avoid including women with premature ovarian failure. Among the study population 12.5 %, 26.5% and 61.5% were between 40-44 years, 45-49 years and 50 and above respectively. Majority of women in this study group were between 50-60 years of age.

The mean age of menopause in our study is 47.8 years. This age corresponds to another study by Bairy *et al.* done in the neighboring city of Udipi [2] and also corresponds to studies in other parts of India [3, 4, 5, 6]. Older studies have shown the mean age at menopause in India to be between 40.32 to 43.71 [6].

No significant relation was noted between BMI and age at menopause as opposed to the finding in the SWAN study [7, 8]. Also no correlation was noted with parity and age of menopause.

In the present study among the 200 women 80% (n=160) had menopausal symptoms. Incidence of menopausal symptoms in present study is comparable to Kaulegar *et al.* [1].

On an average each participant had three symptoms. The number of menopausal symptom of each participant was lesser compared to study conducted in Pune [7]. This is probably due to the better socioeconomic condition and availability of health facility in this region. Vasomotor symptoms were reported by 20.13%, musculoskeletal symptoms in 20.83%, 44.79% had psychological symptoms (higher percentage was noted as all women with non-specific symptoms were included in this category), 13.19% genitourinary complaints and 4.51% had sexual complaints. The most frequently reported symptom was hot flush by 28.7% of women followed by backache in 20% and Joint pain 17.75%. Most disturbing symptoms reported was hot flush and joint pains.

In the present study women who were in early menopausal period (1-2 years of menopause) and those in late menopause period (>6 years) of menopause had more symptoms. Women who attuned menopause less than 5 years reported hot flush (n=28) as the most disturbing symptom Similar trends were observed by Bagga *et al.* [8]. Whereas women in late menopause (menopause > 5 years) reported musculoskeletal problems as their major complaint. This is in agreement with Sengupta *et al.* [9]. The possible explanation is that women are distressed in early menopause with the transition; they start coping with the menopausal symptoms with time. Late into menopause with the complete withdrawal of oestrogen and progesterone added with the age-related morbidity women have an increase in menopausal complaints in both severity and frequency.

In the present study, of the 160 women who had menopausal symptoms. 78 (48.75%) women were on treatment (Modern medicine). All these women underwent blood sugar, lipid evaluation before initiating treatment. Women unsuitable for HRT were given alternate drugs. 50 women were on hormone replacement therapy. Out of these 50 women on HRT, 23 were on cyclical oestrogen and progesterone for complaints of hot flushes and night sweats, 18 on oestrogen cream for genitourinary complaints and dyspareunia and 9 women on tibolone for vasomotor complaints.

28 women were started on non-hormonal therapy. 7 were advised kegels exercise for urinary incontinence, 18 on isoflavones for vasomotor symptoms and 3 women on SERM. All patients were explained about the possible side effects and were advised for follow up after a month and then after six months. It was noted that women with vasomotor and genitourinary complaint relied on modern medicine. Women with other complaints were more tolerant to the symptoms and did not consider it as an ailment.

During the routine examination of all women in the study it was found that 37.5% of women had modifiable risk factors for cardiovascular disease. 9.4% of women had more than one risk factor. Modifiable risk factor was dyslipidemia noted in 29%, diabetes in 7%, hypertension in 17.5%, BMI > 25 kg/m² in 28%, waist circumference > 88 cms in 16% women and metabolic syndrome in 4% women.

In our study among women on HRT 5% were hypertensive, 2% diabetic and 9% had dyslipidemia, compared to Tandon *et al.*^[10] where 2.5% were hypertensive, 9% diabetic and 8% with dyslipidemia.

Lower rates of cardiovascular risk factors in this study was noted compared to Tandon *et al.*^[10] as only modifiable risk factors were assessed in the study, non-modifiable risk factor such as menopause and family history of CVD was not included. Another probable reason could be difference in diet and lifestyle in coastal area compared to Kashmir although studies^[10] regarding cardiovascular risk factors are available in Indian population, not much information is available about cardiovascular risk factors among menopausal women.

Modifiable risk factors for osteoporosis were seen in 83 women, that is in 40.5% of women. Sedentary life (N=42) and age of menopause less 45 years (N=24) were the most common risk factors noted. Other risk factors include BMI < 19 kg/m² (n= 15) and one patient was on heparin. This was comparable to the Spanish study^[11]. None of the women in the study were smokers or had no alcohol consumption Pap smear was done to all the women in the study group. Out of the 200 pap smears taken 2 had LSIL, one had HSIL-cervical biopsy showed moderate dysplasia and 5 were unsatisfactory for evaluation.

Conclusion

The present study revealed that the mean age of menopause to be 47.8 years. This reproductive landmark, the age of menopause has increased in the past 15 years, along with the life expectancy. This is due to the change in lifestyle and diet. If this trend continues a large number of Indian women in the future may experience a longer period of menopause and menopause related problems. Also a void is observed in the lack of an affordable and accessible counselling of menopausal complaints. High prevalence of cardiovascular risk factor is seen in menopausal women. Both gynaecologists and physicians have an important role in identifying women at risk of cardiovascular morbidity as these women appear healthy otherwise.

A larger sample size and additional information on diet, attitude towards menopause and bone mineral density assessment of all patients would have yielded a precise estimation of menopausal problems experienced by these women. A study like the woman's health initiative conducted in America is to be considered in our country to accurately assess the extent of health issue in the menopausal age group. This study serves as a starting point to conduct intensive research on predictors of menopausal problems in Indian women.

Declarations

Consent for publication

All the authors approved the manuscript for publication.

Availability of data and material

All required data is available.

Competing interests

All authors declare no competing interests.

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