



Menopausal Symptoms: A Comparative Study among Rural and Urban Women of Eastern India

Saswatika Beura¹, Lipilekha Patnaik², Manisha Sahu³

¹PhD Scholar, Dept of Community Medicine, IMS & SUM Hospital, Siksha 'O' Anusandhan deemed to be Uni., Bhubaneswar

²Professor, Dept of Community Medicine, IMS & SUM Hospital, Siksha 'O' Anusandhan deemed to be Uni., Bhubaneswar

³Professor, Dept of Community Medicine, IMS & SUM Hospital, Siksha 'O' Anusandhan deemed to be Uni., Bhubaneswar

ABSTRACT

Introduction: In India, socio-economic status, lifestyle, environment, facilities, utilization of resources, education, etc. are the major indicators for the classification in rural and urban population.

Material and Methods: This study conducted among 210 rural and urban women in the age group of 40-60 years. Data were collected by using predesigned and pretested schedule and the Greene Climacteric Scale (GCS) was used.

Results: The mean age of the participants was 49.20 ± 5.37 years. There were significant differences on the age of menarche, marriage, first pregnancy, first child delivery between the rural and urban women ($P < 0.05$). Significant differences found about the knowledge regarding menopausal symptoms, age of attaining menopause, hormonal therapy, and discussion of menopausal symptoms among them. The most common symptom was loss of interest in sex reported by 72.4% of rural women and in urban muscle and joint pains (73.3%) reported by maximum participants. The menopausal symptoms like pressure or tightness in head and loss of interest in sex found significantly higher between the rural and urban women ($P < 0.05$).

Conclusion: Efforts are needed to educate and make the women aware of menopausal symptoms mainly in rural and counselling of all women is needed.

Key words: Menopausal status, Climacteric stage, GCS

INTRODUCTION

As per World Health Organization (WHO) is, menopause is the permanent cessation of ovarian function resulting in continuous amenorrhea, due to estrogens deficiency, which leads to degeneration of ovarian follicle.¹ Part from natural menopause surgery, chemotherapy, or radiation are also leads to menopause among women.² The year just before and after menopause known as climacteric stage or menopausal phase, which is divided as pre, peri and postmenopausal stages. In that period most of the women find their menstrual cycle stop permanently with the end of their reproduction capacity.³

Though menopause is a universal phenomenon for

all middle-aged women of the world, but researchers found variations about the menopausal age and the manifestation of menopausal sign and symptoms. Vasomotor changes like night sweating, hot flushes, urogenital problems, physical problems like joint and muscles pain, sleep disorder, psychological problems such as depression, mood swings, dizziness and other symptoms like loss of libido, dyspareunia, osteoporotic changes in women are the important symptoms during menopause due to hormonal deficiency.⁴ Worldwide there are about 200 millions postmenopausal women and 40 millions are only in India.⁵ According to Indian Menopause Society the mean age of Indian menopausal women is 47.5 years and nearly 65 million Indian women beyond the age

How to cite this article: Beura S, Patnaik L, Sahu M. Menopausal Symptoms: A Comparative Study among Rural and Urban Women of Eastern India. *Natl J Community Med* 2021;12(11):374-379. DOI: 10.5455/njcm.20211120070507

Financial Support: None declared **Conflict of Interest:** None declared

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Date of Submission: 20-11-2021; **Date of Acceptance:** 29-11-2021; **Date of Publication:** 30-11-2021

Correspondence: Dr Lipilekha Patnaik (Email: drlipilekha@yahoo.co.in)

of 45 years experiencing menopause related symptom and nearly 60% of female suffer from mild symptoms and 20% suffer severe symptoms.⁶

In India, on the basis of socio-economic status, daily lifestyle, environment, facilities, utilization of resources, education, etc. are the major indicators for the classification in rural and urban population. This differentiation may influence the menopausal health in both the rural and urban women. The menopausal phase may be complex and hectic for rural women due to improper reporting of their gynaecological issues as they think of it social taboo for any open discussion.^{7,8} Menopausal symptoms may vary in rural and urban and urban women are more symptomatic than rural in physical and urogenital problems.⁹ Now in India there are many studies carried out to identify the menopausal age and symptoms, but very few study have given their attention on the variations of the menopausal characteristics between rural and urban menopausal women. So, the present study makes an effort to fulfil the objective of to know the prevalence of menopausal symptoms among rural and urban women.

MATERIALS AND METHODS

This cross-sectional study was conducted in the months of November and December, 2020 in Odisha. From a study by Kapur P et al.¹⁰ by using the Greene Climacteric Scale the prevalence rate of feeling unhappy or depressed as 36.43% was taken for the sample size calculation with 10% absolute precision and design effect 2. The sample size calculated as 178. By adding 15% non-response rate, it became 205 which was rounded upto 210. The study included total of 210 women in the age group of 40-60 years, 105 women from rural and 105 from urban area. The participants were selected by house to house visit and included in the study after taking informed written consent. Those who were suffering from any illness, or any serious disease and unwilling for participation were excluded from the study. The study protocol was approved by Institutional Ethics Committee. The participants were interviewed by door to door survey with the help of a semi-structured interview schedule consisting socio-demographic profile, reproductive and menstrual history, lifestyle related data and the Greene Climacteric Scale (GCS) to know the menopausal symptoms.

The Greene Climacteric Scale has 21 questions in total, which was divided in four parts such as psychological (items 1-11), physical (items 12-18), vasomotor (items 19-20) and sexual (item 21). Each item is a menopausal symptoms which is graded in Likert scale with a minimum score of 0 and maximum of 3 as 'not at all', 'a little', 'quite a bit' and 'extremely' respectively.¹¹ Each patient was explained the nature and purpose of the study and their written informed consent was obtained. For assessing the socioeconomic status of postmenopausal women, BG Prasad scale for rural and urban areas was used.¹² The col-

lected data were entered into the excel spreadsheet and then analysed with the help of SPSS version 20. Independent T test, for continuous variable and Chi square for categorical variable were used for statistical analysis. $P \leq 0.05$ was considered as significant association.

RESULTS

To meet the sample size, total 223 women were approached and from them 13 women did not give consent for their participation in the study. So, 210 menopausal women in the age group of 40-60 years were interviewed from rural and urban area. Nearly more than half 124 (59%) of them were in the age group of 40-50 years. The mean age of the participants was 49.20 ± 5.37 years ranging from 41-59 years.

Among the study participants, all were Hindu in rural and 90.5% urban women were Hindu, 79% belonged to general caste in rural and 90.5% in urban. Majority 59% had joint family in rural, but in urban just opposite majority 66.7% had nuclear family. Maximum participants were married both in rural and urban (76%, 82.9%) respectively.

Table 1: Socio-demographic profile of participants

General Characteristics (n=210)	Rural (%)	Urban (%)
Age		
40-45	32 (30.5)	34 (32.4)
46-50	30 (28.6)	28 (26.7)
51-55	26 (24.8)	26 (24.8)
56-60	17 (16.2)	17 (16.2)
Religion		
Hindu	105 (100)	95 (90.5)
Others	0 (0)	10 (9.6)
Caste		
General	83 (79)	87 (92.9)
Others	22 (21)	18 (17.1)
Type of family		
Joint	62 (59)	35 (33.3)
Nuclear	43 (41)	70 (66.7)
Marital Status		
Married	80 (76)	87 (82.9)
Widow/ Divorced	22 (20.8)	14 (13.3)
Unmarried	03 (2.9)	04 (3.8)
Education		
Illiterate	06 (5.7)	0 (0)
Primary	36 (34.3)	0 (0)
Secondary	25 (23.8)	12 (11.4)
Higher Secondary	16 (15.2)	16 (15.2)
Graduation and above	22 (20.9)	77 (73.3)
Occupation		
Home maker	69 (65)	53 (50.5)
Job	17 (16.2)	41 (39.0)
Wage earner	08 (7.6)	01 (1)
Others	11 (10.5)	10 (9.5)
Socio-economic Status¹²		
Upper Class	19 (18.1)	83 (79)
Middle Class	84 (80)	22 (21)
Lower	02 (1.9)	0 (0)

Table 2: Age distribution of the participants at the time of menarche, marriage, first Pregnancy, first child delivery and menopause

Characteristics (Age in Years)	Rural (N)	Mean & SD (Rural)	Urban (N)	Mean & SD (Urban)	P Value
Age of Menarche	105	12.75 ± 0.99	105	13.64 ± 0.96	0.000
Age of Marriage	102	19.97 ± 2.66	101	22.83 ± 3.01	0.000
Age at 1 st Pregnancy	101	21.34 ± 2.63	99	24.05 ± 3.09	0.000
Age at 1 st Child delivery	98	21.46 ± 2.57	99	24.36 ± 3.12	0.000
Age of Menopause	55	47.76 ± 4.42	53	47.83 ± 2.10	0.879

*Independent T Test

Table 3: Reproductive and Menstrual History

Variables	Rural (%)	Urban (%)
No of Children		
Child	16 (15.2)	37 (35.2)
Children	64 (61)	57 (54.3)
Miscarriage		
Yes	29 (27.6)	42 (40)
No	73 (69.5)	57 (54.3)
Method of Child Delivery		
Normal	77 (73.3)	48 (45.7)
C-section	21 (20)	51 (48.6)
Attained Menopause		
Yes	55 (52.4)	53 (50.4)
No	50 (47.6)	52 (49.5)
Types of Menopause		
Natural	39 (37.1)	39 (37.1)
Surgical	16 (15.2)	14 (13.3)

The economic status was categorized based on per capita monthly income as per modified BG Prasad socioeconomic classification scale (2020).¹² In this study in rural area 18.1% of the subjects belonged to upper class, 21.9% to upper-middle class, 43.8% to middle, 14.3% to low-middle and only 1.9% to lower socioeconomic background. (Table 1)

On analysing the data 125 (59.52%) attained menarche during the age of 11-13 years and the mean age of menarche was 13.2 ± 1.1 both in rural and urban. In this study most of the rural participants (69.6%) were married between the ages of 15-20 with the mean age of 19.97 ± 2.66 years, but in urban maximum (60.4%) women were married between 21-26 years of age with the mean age of 22.83 ± 3.01 years. The age at first pregnancy was also different for both the rural and urban women like the mean age i.e. 21.34 ± 2.63 years for rural and 24.05 ± 3.09 years for urban. Among the 98 participants of rural 68 (69.4%) had their first child birth during the age of 17-22 years and the mean age was 21.46 ± 2.57 years, but in urban out of 99 participants 55 (55.6%) had their first child birth between the age of 23-28 years and the mean age was 24.36 ± 3.12 years. In the study, from 108 postmenopausal women maximum 86 (79.6%) who attained menopause at the age of 47 and above both in rural and urban. The mean age of attaining menopause was 47.8 ± 2.26 years for all the rural and urban postmenopausal women (Table-2). As the study results, there were very highly significant differences on the age of menarche, marriage, first pregnancy, first child delivery between the rural and urban women (P<0.05). The age of

menopause between rural and urban women had not any significant changes.

In this study maximum women (61%, 54.3%) from rural and urban had two children respectively. Among the participants many urban women had the history of miscarriage (40%) than the rural women (27.6%). Majority rural participants (73.3%) had normal delivery at the time of their first child birth but in urban 48.6% had C-section method for the child birth. Menopause happened among 52.4% of rural women and 50.4% in urban, among them same 37.1% both rural and urban women had their menopause naturally and in rural 15.2% and 13.3% in urban had surgical menopause (Table 3).

Most of the participants among the rural and urban (63.8%, 66.7%) were having any health issue respectively. In rural most common problems were expressed as follows: Hypertension (18.3%), Diabetes (16.4%), Arthritis (8.9%), Chronic Heart Disease (4.9%), etc.

In urban most common morbid conditions were diabetes (20.2%), hypertension (17.2%), Chronic Heart Disease (5.8%), Arthritis (4.9%), etc. But maximum rural (45%) and urban (51.5%) participants were suffering from other health issues like thyroid, gastritis, weakness, joint & muscles pain, asthma, chronic kidney disease, etc. Among them maximum rural (35.2%) and urban (27.6%) women were either never taking any treatment or not taking regular medication.

A small proportion of women in rural (21.9%) and urban (10.5%) were taking vegetarian food in their regular diet and majority from rural and urban (78.1%, 89.5%) had mixed diet respectively. In comparison of urban women (15.2%) majority rural women (55.2%) were taking fruits rarely in a typical week. Most of the non-vegetarian respondents from rural (51.4%) were love to eat fish but in urban majority (46.7%) liked chicken in non-veg. Rural women were physically active than the urban participants. Most of the (72.4%) rural women were doing moderate or vigorous physical activity in their day-to-day life including physical exercises but only 30.5% of urban women were physically active. Tobacco chewing was found among 33.3% of rural women, which was less (8.6%) among urban women. And none of the rural respondents had never used alcohol, but 10.5% of urban women were taking alcohols currently.

Table 4: Awareness on Menopause

Menopause Related Questions	Rural (%)	Urban (%)	P Value
Knowledge on menopausal symptoms	19 (18.1)	54 (51.4)	0.000
Discussed menopausal symptoms with Others	17 (16.2)	56 (53.3)	0.000
Knowledge on menopause attaining age	31 (29.5)	56 (53.3)	0.001
Knowledge on Hormone Replacement Therapy	13 (12.4)	40 (38.1)	0.000
Taken Hormone Replacement Therapy (HRT)	11 (10.5)	12 (11.4)	1.000

* Chi Squared Test/ Fisher Exact Test

Table 5: Prevalence of Menopausal Symptoms according to Greene Climacteric Scale (GCS)

Menopausal Symptoms	Rural (%)	Urban (%)	P Value
Heart beating quickly or strongly	29 (27.6)	31 (29.1)	0.879
Feeling tense or nervous	55 (52.4)	63 (60)	0.330
Difficulty in sleeping	42 (40)	48 (45.7)	0.486
Excitable	17 (16.2)	20 (19)	0.718
Attacks of anxiety, panic	26 (24.8)	20 (19)	0.404
Difficulty in concentrating	33 (31.4)	41 (69)	0.312
Feeling tired or lacking in energy	63 (60)	52 (49.5)	0.165
Loss of interest in most things	50 (47.6)	52 (49.5)	0.890
Feeling unhappy or depressed	63 (60)	54 (51.4)	0.266
Crying spells	38 (36.2)	50 (47.6)	0.124
Irritability	50 (47.6)	62 (59)	0.128
Feeling dizzy or faint	25 (23.8)	14 (13.3)	0.075
Pressure or tightness in head	33 (31.4)	8 (7.6)	0.000
Parts of body feel numb	22 (21)	16 (15.2)	0.370
Headaches	42 (40)	42 (40)	1.000
Muscle and joint pains	65 (61.9)	77 (73.3)	0.104
Loss of feeling in hands or feet	25 (23.8)	27 (25.7)	0.873
Breathing difficulties	18 (17.1)	11 (10.5)	0.230
Hot flushes	53 (50.5)	55 (52.4)	0.890
Sweating at night	56 (53.3)	53 (50.5)	0.782
Loss of interest in sex	76 (72.4)	56 (53.3)	0.006

* Chi Squared Test/ Fisher Exact Test

Very less percentage (18.1%) of rural women was having knowledge about menopausal symptoms, where 51.4% urban women had knowledge of menopausal symptoms. Similarly in comparison with urban respondents, few rural women discussed the menopausal symptoms with others (16.2%), knowledge on menopausal age (29.5%) and Hormone Replacement Therapy (12.4%). Only 10.5% of rural and 11.4% of urban postmenopausal women had taken Hormone Replacement Therapy (HRT) in their past. In the study we found significant differences on the knowledge regarding menopausal symptoms, age of attaining menopause, hormonal therapy, discussion of menopausal symptoms between rural and urban cases ($P < 0.05$) (Table 4).

The most common symptom was loss of interest in sex reported by 72.4% of rural women, followed by muscle and joint pains (61.9%), feeling tired & lacking of energy and feeling unhappy or depressed (60%). Sweating at night (53.3%) and hot flushes (50.5%) found in maximum rural women. But in urban muscle and joint pains (73.3%) reported by maximum participants. The menopausal symptoms like pressure or tightness in head and loss of interest in sex found significantly higher between the rural and urban women ($P < 0.05$) (Table 5).

DISCUSSION

The objective of this comparative cross-sectional study was to know the prevalence of menopausal symptoms among rural and urban women. The exact timing of menopause cannot be properly predicted by medical science. Though this transition is a gradual process and may be influenced by heredity, social, cultural, geographical and personal profile. Many studies across the globe have specified a range of 45-55 years for attaining menopause.^{13,14} The age of menopause according to Indian Menopause Society (IMS) in India is 47.5 years.¹⁵ In our sample of rural and urban women the mean of attaining menopause was 47.8 ± 2.26 years, which may not be similar with the mean age of Indian Menopause Society because in this study both the natural and surgical menopausal women were included. Out of 55 rural cases 39 participants had attained natural menopause and only 16 cases had gone through surgical menopause. Out of 53 urban menopausal women same 39 participants had attained natural menopause and only 14 cases had gone through surgical menopause. But the increased prevalence of surgical menopause in rural women could be due to the better health care facilities are taken by the rural participants. This finding was contradicted with a similar study done by Sagdeo M and Arora D.¹⁶

Generally, rural women of the developing countries like India including the present study participants, perceived menopause and its symptoms as a natural process which does not require medical care. So the rural women were less aware about the basic knowledge regarding menopause. In our study only 18.1% of rural women were having knowledge about menopausal symptoms, in comparison to urban women, which was similar to some studies.^{17,18} Educated women from developing countries are now seeking treatment for menopausal problems. Among the urban women of this study 73.3% of respondents had a university degree. This factor may be contributed greatly to increase the menopause related awareness among them. Highly significant association observed on the knowledge regarding menopausal symptoms, age of attaining menopause, hormonal therapy, discussion of menopausal symptoms between rural and urban cases ($P < 0.05$) in the study.

The most common symptom was loss of interest in sex reported by 72.4% of rural women, which was similar to a study conducted in 11 Latin American countries on middle-aged women (40-59 years) reported 56.8% female sexual dysfunction (FSD).¹⁹ A study from North India²⁰ found that 80.9% postmenopausal women reported sexual dysfunction (SD) and also revealed that joint family, low socioeconomic status and education were found to be important elements of sexual health in menopausal women. So, in our results loss of interest in sex were found to be significantly higher between the rural and urban women ($P < 0.05$). Joint and muscular discomfort were highest in urban women and almost more than half rural women were also complaining about the same symptoms, which was similar to previous studies.^{16,21} In this current study 50.5% of women complained of hot flushes in rural area and 52.4% complained of the same in urban area. This finding is comparable to finding in the studies carried out by Madhukumar et. al, and Dutta et. al in which the prevalence of hot flushes were found to be 55.9% and 60.8% respectively.^{22,23} Irritability was reported by 47.6% of women in rural area and 59% in urban area in the current study, this finding was consistent with the results of Kaulagekar A.²⁴ Prevalence of night sweats in the current study was found to be 53.3% in the rural women, 50.5% in urban women, this is consistent with the findings of studies carried out by many studies.^{16,22,25} Psychological problems like feeling tense and nervous, feeling tired & lacking of energy, feeling unhappy or depressed, etc. were the common findings in both rural and urban women. Almost more than 90% of rural and urban women in the study area suffered from one or more menopausal symptoms, which is a matter of concern and must be addressed by the intellectual groups.

CONCLUSION

Menopausal symptoms were higher in urban women compared to the rural population. As the menopausal

health need priority in Indian scenario both in urban or rural areas, efforts are needed to educate and make the women aware of menopausal symptoms mainly in rural and counselling of urban women is needed. This will help in early recognition of symptoms, reduction of discomfort and enable them to seek appropriate treatment.

LIMITATION

This study was a cross sectional study of short period and small population was covered; therefore, follow up studies should be taken up in future as they would be more beneficial in assessing the menopausal symptoms.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the participants.

REFERENCES

1. World Health Organization. Research on the menopause in the 1990s. World Health Organization; Geneva (Switzerland), 1996.
2. Nelson DH. Menopause. *New York Lancet* 2008; 371(9614): 760-770.
3. Simarjeet K, Vandana V, Patial N. Assessment of knowledge of menopausal women regarding menopause: A descriptive study. *International Journal of Applied Research* 2018; 4(4): 347-351
4. Alakananda DN, Das BP. Age of Menopause and Menopausal Symptoms among women attending Gauhati Medical College and Hospital, Guwahati, Assam: A cross sectional study. *Sch J App Med Sci.* 2015;3(7C):2621-9.
5. World menopause day. [Updated Jan 2009; cited 2015 Available from: doctor.ndtv.com/storypage/.../World_Menopause_Day_2009.htm.
6. Nayak S, Binil V, Christabel S. Depressive Symptoms and Biopsychosocial Problems among Postmenopausal Women of Udupi District, Karnataka, India. *Journal of Clinical & Diagnostic Research.* 2019 Jan 1;13(1).
7. Baghla N, Sharma S. Onset age of menopause among women in Kangra District of Himachal Pradesh. *Anthropologist* 2008;10(4):305-307.
8. Ray S, Dasgupta A. An assessment of QOL and its determining factors of post-menopausal women in a rural area of West Bengal, India: A multivariate analysis. *International Journal of Medicine and Public Health.* 2012;2(4).
9. Fredman RR. Alpha 2-Adrenergic mechanism in menopausal hot flushes. *ObstetGynecol* 1990;76(4):573-48;563-82.
10. Kapur P, Sinha B, Pereira BM. Measuring climacteric symptoms and age at natural menopause in an Indian population using the Greene Climacteric Scale. *Menopause.* 2009 Mar-Apr;16(2):378-84.
11. Greene, J, A factor analytic study of climacteric symptoms *Journal of Psychosomatic Research* (1976), 20, 425—430.
12. Debnath DJ, Kakkar R. Modified BG Prasad Socio-economic Classification, Updated - 2020. *Indian J Comm Health.* 2020;32(1):124-125.
13. Ahuja M. Age of menopause and determinants of menopause age: A PAN India survey by IMS. *J Mid-life Health* 2016;7:126-31.

14. Obermeyer CM, Ghorayeb F, Reynolds R. Symptom reporting around the menopause in Beirut, Lebanon. *Maturitas*. 1999 Dec 15; 33(3):249–58. [https://doi.org/10.1016/s0378-5122\(99\)00049-3](https://doi.org/10.1016/s0378-5122(99)00049-3) PMID: 10656503
15. Unni J. Third consensus meeting of Indian Menopause Society (2008): A summary. *J Midlife Health*. 2010;1(1):43-7.
16. Sagdeo MM, Arora D. Menopausal symptoms: A comparative study in rural and urban women. *J K Sc*. 2011;13:23–6.
17. Obermeyer, C. M., & Leidy, S. L. (2007). Cross-cultural comparisons: Midlife, aging, and menopause. *Menopause*, 14, 663–667.
18. Taechakraichana, N., Wipatavit, V., Thamanavat, N., Panyakhmlerd, K., Limpaphayom, K. K., Wilawan, K., et al. (2003). Hormone replacement therapy: Attitude and acceptance of Bangkokian women. *Journal of Medical Association of Thailand*, 86(Suppl. 2), S385–S398.
19. Blümel JE, Chedraui P, Baron G, Belzares E, Bencosme A, Calle A, et al. Sexual dysfunction in middle-aged women: A multicenter Latin American study using the female sexual function index. *Menopause* 2009;16:1139-48.
20. Jain N, Mehra R, Goel P, Chavan BS. Sexual health of postmenopausal women in North India. *J Mid-life Health* 2019;10:70-4.
21. Shilpa K, Ugargol AR. A comparative study on postmenopausal symptoms in rural and urban women. *Int J Community Med Public Health* 2015;2:604-9.
22. Madhukumar S, Gaikwad V, Sudeepa D. A community-based study on perceptions about menopausal symptoms and quality of life of postmenopausal women in Bangalore rural. *Int J Health Sci Res*. 2012;2:49–56.
23. Dutta R, Dcruze L, Anuradha R, Rao S, Rashmi MR. Population based study on the menopausal symptoms in a rural area of Tamil Nadu, India. *J ClinDiagn Res*. 2012;6:597–601.
24. Kaulagekar A. Age of menopause and menopausal symptoms among urban women in Pune, Maharashtra. *J ObstetGynecol India*. 2011;61:323–6
25. Sharma S, Tandon V, Mahajan A. Menopausal symptoms in urban women. *J K Sci*. 2007;9:13–7.