

Quality of life among menopausal women: A community-based study in a rural area of West Bengal

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ABSTRACT

Introduction: During menopausal transition, there is a lot of fluctuation in the hormone levels making the peri and postmenopausal women susceptible to various mental and physical disorders. There is considerably lack of awareness about the effects of the menopausal symptoms in women in India. Studies on issues relating to menopause, especially among rural women, are also lacking. With this background, the current study was carried out in a rural area of West Bengal with the objective to assess the quality of life (QOL) of peri-menopausal women.

Methodology: The study was carried out among 100 peri and postmenopausal women (40–60 years) in Dearah village of West Bengal which is the rural field practice area of All India Institute of Hygiene and Public Health during February–March 2014. The questionnaire used as study tool had two parts - Part 1: Sociodemographic characteristics. Part 2: About QOL due to menopausal symptoms based on four domains (vasomotor, psychosocial, physical, and sexual) using the 29-item Menopause-Specific Quality of Life Questionnaire.

Results: Occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% sweating. Most prevalent psychosocial symptoms reported were feeling of anxiety and nervousness (94%) and overall depression (88%). Physical symptoms were quite varying in occurrence with some symptoms such as feeling tired or worn out, decrease in physical strength and lack of energy occurring in 93% of the women to only 5% suffering from growth of facial hair. Overall sexual changes were reported among 49% who reported of avoiding intimacy with a partner and 26% complained of vaginal dryness.

Conclusions: The results support that menopause causes both physical and psychiatric problems. Education, creating awareness and providing suitable intervention to improve their QOL are important which should be imparted to menopausal women at both individual and community level.

Key Words: Menopausal women, menopause, quality of life, rural area

INTRODUCTION

Menopause is defined as generally cessation of periods for 12 months or a period equivalent to three previous cycles or as time of cessation of ovarian function

resulting in permanent amenorrhea.^[1] It is a stage when the menstrual cycle stops for longer than 12 months, and there is a drop in the levels of estrogen and progesterone, the two most important hormones in the female body (World Health Organization [WHO], 1996). The onset of this physiological development not only marks the end of women's reproductive function but also introduces them to a new phase of life.^[2]

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In the Western world, the most typical age range for menopause (last period from natural causes) is between the ages of 40 and 61^[3] and the average age for the last period is 51 years.^[4] The elderly population is increasing every year, and it is projected that it would increase to about 12% of the total population by the year 2025. The average age of menopause is around 48 years, but it strikes Indian women as young as 30–35 years.^[2] Due to the increase in the life expectancy women will have to face longer periods of menopause.

During menopausal transition, there is a lot of fluctuation in the hormone levels, and thus women may experience many symptoms and conditions. However, the influence of this fluctuation varies from one woman to another. Some of the important and common symptoms women can experience during menopausal transition are changes in periods, hot flushes and night sweats, problems with vagina and bladder, changes in sexual desire, sleep problems, mood changes/swings, changes in the body, etc. There are also some serious medical concerns related to menopause as, first the loss of bone tissue that cause osteoporosis and second, heart disease risk may grow due to age-related increases in weight, blood pressure, and cholesterol levels. Some women have severe symptoms that profoundly affect their personal and social functioning, and quality of life (QOL).^[5]

QOL has been defined by the WHO as the “individual’s perceptions of their position in life in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards, and concerns.”^[6] As it is well known today that sociocultural factors can alter women’s attitude and experience of menopausal symptoms. These symptoms are found to be less common in societies where menopause is viewed as positive rather than negative event. This cultural aspect of menopausal symptoms has been described in number of studies among Asian women, including Japanese and Chinese women.^[7,8]

There is considerably lack of awareness about the effects of the menopausal symptoms in women in India. Studies on issues relating to menopause, especially among rural women, are lacking in India. With this background, the current study has been carried out in a rural area of West Bengal.

Objectives

1. To find out the sociodemographic and behavioral characteristics of the study population
2. To assess the QOL of the study population by Menopause-Specific Quality of Life Questionnaire (MENQOL)
3. To find out the variations in the menopausal symptom domains within the various sociodemographic variables

4. To elicit the association, if any, between menopausal symptoms and the sociodemographic and behavioral characteristics of the respondents.

METHODOLOGY

This descriptive cross-sectional study was conducted among all peri-menopausal women (40–60 years) in Dearah village, Hooghly District of West Bengal which is the rural field practice area of All India Institute of Hygiene and Public Health for 2 months from February to March 2014.

Inclusion criteria

The study population comprised all the peri-menopausal women (40–60 years) of that area.

Exclusion criteria

- I. Women with induced menopause, simple hysterectomy, receiving any kind of hormone therapy, presence of medical conditions such as diabetes, hypertension, cardiac disease, and thyroid disorders
- II. Locked houses or the women who did not give the consent were not included in the study.

Sample size

Sample size: 100

Using the formula, $N = 4pq/l^2$

Where, p = proportion in the population processing the characteristic of interest

$q = (p - 1)$ and l = acceptable error

Taking 36.7% prevalence^[9] of vasomotor symptoms (flushing and night sweat) with acceptable error of 10% at 95% confidence interval (CI) the sample size, $N = 4 \times 0.367 \times 0.633 / 0.1 \times 0.1 = 92.92$ Considering 10% nonrespondents sample size came 102. The final sample size of 100 was taken as two nonrespondents in the study.

Sampling design

Dearah village was randomly selected from all four villages under NUHC, Dearah, the rural field practice area of AIIPH. The total population of Dearah village is 2405. The participants were assured that any information, obtained will be treated with utmost confidentiality. The women of age 40–60 years were interviewed in the presence of female health workers until the required sample size was achieved. The participants were interviewed after obtaining informed consent from each participant using a predesigned, pretested questionnaire adopted from MENQOL and later modified by the researcher. For using it in Bengali vernacular, at first, one forward and one

backward translations were done parallel by one medical and one language expert so that the meaning, content, and grammatical correctness of the items remained unaltered. The internal consistency of the scale was assessed with Cronbach's alpha, which was 0.782 for the scale.

Study tool

This questionnaire had two parts.

- Part 1: Sociodemographic characteristics
- Part 2: About QOL due to menopausal symptoms based on four domains (vasomotor, psychosocial, physical, and sexual) using the 29-item MENQOL questionnaire. The responses to the questions were adapted to a 2 point scale consisting of Yes and No options from a 6 point severity scoring pattern in the original version considering the difficulty to answer on a 6 point scale due to low level of education of the respondents.

The Menopause-Specific Quality of Life Questionnaire

The MENQOL was introduced in 1996 as a tool to assess health-related QOL in the menopausal period. An inherent assumption of the MENQOL is that disease states and conditions such as menopause, which produce symptoms, may disrupt emotional, physical, and social aspects of an individual's life, which must be considered concomitantly with treatment decisions. The MENQOL improves on several instruments used to assess the impact of menopausal symptoms on QOL, including the Kupperman index and the General Well-Being Scale. The MENQOL is self-administered and consists of a total of 29 items. Each item assesses the impact of one of four domains of menopausal symptoms, as experienced over the last month: Vasomotor (items 1–3), psychosocial (items 4–10), physical (items 11–26), and sexual (items 27–29). Items pertaining to a specific symptom are rated as present or not present, and if present, how bothersome on a zero (not bothersome) to six (extremely bothersome) point scale. Means are computed for each subscale by dividing the sum of the domain's items by the number of items within that domain.

Knowledge score

Totally 29 questions were used to assess respondents' QOL. One mark was awarded for every correct answer and 0 mark for every wrong answer. All scores were added and the mean score calculated. In each domain of MENQOL, respondents who scored equal and below the mean value were categorized as having good QOL while those that scored above the mean value were categorized as having poor QOL.

RESULTS

In the present study, 39% of the women to the age group of 46–50 years which was the maximum [Table 1]. The mean age was 49.55 ± 4.69 years with a minimum age of 40 years and maximum age of 60 years. Eighty-four percent of the study population were Hindu, and the majority of them were illiterate (67%). Ninety-four percent were housewives and were currently married, and 62% of them belonged to joint families. Forty-six percent of them belonged to lower socioeconomic status. Forty-six percent of them had an

Table 1: Distribution of the participants according to Socio-Demographic characteristics (n=100)

Characteristics	Frequency n (%)	Cumulative Frequency n (%)
Age Group in years		
41-45	25 (25)	25 (25)
46-50	39 (39)	64 (64)
51-55	27 (27)	91 (91)
56-60	9 (9)	100 (100)
Religion		
Hindu	84 (84)	84 (84)
Muslim	16 (16)	100 (100)
Caste		
SC	48 (48)	48 (48)
OBC	16 (16)	64 (100)
General	36 (36)	100 (100)
Type of Family		
Nuclear	38 (38)	38 (38)
Joint	62 (62)	100 (100)
Education		
Illiterate	67 (67)	67 (67)
Non-formally literate	3 (3)	70 (70)
Primary	14 (14)	84 (84)
Middle	10 (10)	94 (94)
Secondary	6 (6)	100 (100)
Marital status		
Married	89 (89)	89 (89)
Widow	11 (11)	100 (100)
Type of living House		
Kaccha	8 (8)	8 (8)
Pakka	13 (13)	21 (21)
Mixed	79 (79)	100 (100)
Occupation		
Working	6 (6)	6 (6)
Housewife	94 (94)	100 (100)
Per Capita Income		
Lower (<773)	46 (46)	46 (46)
Upper lower (773-1546)	45 (45)	91 (91)
Lower middle (1547-2577)	0	0 (91)
Upper middle (2578-5155)	9 (9)	100 (100)

abortion, 33% had > three children and 80% had attained menopause while 20% were in menopause transition.

The occurrence of vasomotor symptoms in the study population was average with 60% of them reporting hot flushes, 47% reporting sweating, and 41% complaining of night sweats. Most prevalent psychosocial symptoms reported were feeling of anxiety and nervousness (94%) and feeling depressed (88%). Among other psychological symptoms such as “accomplishing less than I used to do” was 79%, experiencing poor memory was 57%, dissatisfaction with personal life was 55% [Table 2].

Table 2: Assessment of quality of life by Menopause Specific Quality of Life Questionnaire (n=100)

Symptoms present	Frequency n (%)	Mean score (SD)
Vasomotor		
Hot flushes	60 (60)	0.60 (0.49)
Night sweats	41 (41)	0.41 (0.49)
Sweating	47 (47)	0.47 (0.50)
Psychological		
Dissatisfaction with personal life	55 (55)	0.55 (0.50)
Feeling anxious or nervous	94 (94)	0.94 (0.24)
Experiencing poor memory	57 (57)	0.57 (0.50)
Accomplishing less than I used to do	79 (79)	0.79 (0.41)
Feeling depressed or down	88 (88)	0.88 (0.33)
Impatience with other people	44 (44)	0.44 (0.50)
Willing to be alone	27 (27)	0.27 (0.45)
Physical		
Flatulence or gas pains	81 (81)	0.81 (0.39)
Aching in muscles or joints	84 (84)	0.84 (0.37)
Feeling tired or worn out	93 (93)	0.93 (0.26)
Difficulty in sleeping	84 (84)	0.84 (0.37)
Aches in back of neck or head	76 (76)	0.76 (0.43)
Decrease in physical strength	93 (93)	0.93 (0.26)
Decrease in stamina	88 (88)	0.88 (0.33)
Feeling lack of energy	93 (93)	0.93 (0.26)
Drying skin	40 (40)	0.40 (0.49)
Facial hair	5 (5)	0.50 (0.40)
Weight gain	21 (21)	0.21 (0.41)
Changes in appearance, texture, tone of skin	40 (40)	0.40 (0.49)
Feeling bloated	39 (39)	0.39 (0.490)
Low backache	69 (69)	0.69 (0.465)
Frequent urination	63 (63)	0.63 (0.48)
Involuntary urination when laughing or coughing	35 (35)	0.35 (0.48)
Sexual		
Change in sexual desire	40 (40)	0.40 (0.49)
Vaginal dryness during intercourse	26 (26)	0.26 (0.44)
Avoiding intimacy	49 (49)	0.49 (0.50)

SD: Standard deviation

Physical symptoms were quite varying in occurrence with some symptoms such as feeling tired or worn out, decrease in physical strength and lack of energy each of these occurring in 93% followed by decrease in stamina 88%, aching in muscles or joints and difficulty in sleep each 84%, flatulence or gas pains 81% to very low as 5% occurrence of facial hair. Other physical symptoms were prevalent in varying such as aches in back of the neck or head 76%, low backache 69%, frequent urination 63%, drying skin and changes in appearance, texture, tone of skin each was 40% in prevalence.

Among sexual changes reported by participants were 49% reporting of avoiding intimacy, 40% changes in sexual desire and 26% of them complaining of vaginal dryness.

There is a significant difference of variance between two age divisions with regards to vasomotor, psychological and physical domain as shown in ANOVA analysis. Psychosocial, physical, and sexual domains are significantly different in Hindus and Muslims. Marital status does not seem to have any difference in the four domains of menopausal symptoms. There is a significant difference of variance in history of abortion with vasomotor symptoms and Menopause with regard to vasomotor, psychological, and physical domain [Table 3].

Multivariate logistic regression analyses indicate that vasomotor symptoms was significantly associated with age-adjusted odds ratio (95% CI = 10.33 (3.54–30.17), type of family 0.06 (0.02–0.19), and menopause 7.03 (2.15–23.05). Psychological symptoms were significantly associated with age 4.06 (1.67–9.83). Physical symptoms were associated with caste 0.20 (0.08–0.53), education 0.38 (0.16–0.91), and marital status 4.74 (1.27–17.65). Sexual symptoms were associated with the number of children 2.97 (1.25–7.04) [Table 4].

DISCUSSION

In the current study, mean age of menopause was found 45.93 (± 8.37) years and median age was 43 years which similar to some previous studies done elsewhere by Sagdeo and Arora in Nagpur,^[9] Poomala and Arounassalame in Puducherry,^[10] Sarkar *et al.* in Jamnagar,^[11] Bansal *et al.* in Punjab^[12] but lower than that found by Nisar and Sohoo in Sindh Pakistan^[13] where mean age was 52.17 \pm 6.019 years.

Sagdeo and Arora in a Comparative Study in Rural and Urban Women^[9] showed that most common problem was joint and muscular symptoms (60.4%) followed by hot flushes and night sweats (36.7%). In the current study, most prevalent symptoms reported were feeling of anxiety and nervousness (94%) and feeling tired, decrease stamina

Table 3: ANOVA of different sociodemographic variables according to the Menopause Specific Quality of Life Questionnaire domains (n=100)

Sociodemographic characteristics	n	Mean (SD)			
		Vasomotor	Psychosocial	Physical	Sexual
Age (years)					
≤50	64	0.67 (0.41)	0.73 (0.20)	0.67 (0.11)	0.42 (0.39)
≥50	36	0.18 (0.24)	0.46 (0.22)	0.54 (0.19)	0.31 (0.31)
F, significance		41.005, 0.000	40.85, 0.000	17.30, 0.000	2.51, 0.12
Religion					
Muslim	16	0.44 (0.51)	0.59 (0.37)	0.74 (0.06)	0.81 (0.17)
Hindu	84	0.50 (0.41)	0.64 (0.22)	0.61 (0.16)	0.30 (0.34)
F, significance		0.32, 0.57	0.40, 0.53	11.23, 0.001	33.94, 0.000
Caste					
SC	48	0.48 (0.39)	0.64 (0.27)	0.56 (0.18)	0.34 (0.40)
OBC and general	52	0.51 (0.46)	0.63 (0.23)	0.69 (0.09)	0.42 (0.34)
F, significance		0.100, 0.75	0.11, 0.74	16.95, 0.000	0.87, 0.35
Education					
Illiterate	67	0.52 (0.41)	0.61 (0.22)	0.59 (0.17)	0.36 (0.35)
Literate	33	0.42 (0.47)	0.69 (0.29)	0.69 (0.11)	0.43 (0.40)
F, significance		1.29, 0.26	2.38, 0.13	7.18, 0.009	0.93, 0.34
Marital status					
Widow	11	0.69 (0.46)	0.61 (0.20)	0.68 (0.17)	0.36 (0.27)
Married	89	0.46 (0.41)	0.64 (0.25)	0.62 (0.25)	0.38 (0.38)
F, significance		2.86, 0.09	0.11, 0.74	1.19, 0.28	0.03, 0.85
Occupation					
Working	6	0.22 (0.40)	0.40 (0.19)	0.71 (0.03)	0.50 (0.28)
Housewife	94	0.51 (0.42)	0.64 (0.24)	0.62 (0.16)	0.38 (0.38)
F, significance		2.61, 0.11	5.76, 0.02	1.71, 0.19	0.63, 0.43
Number of children					
≥3	33	0.45 (0.46)	0.51 (0.22)	0.66 (0.04)	0.46 (0.35)
≤3	67	0.51 (0.41)	0.69 (0.24)	0.61 (0.19)	0.34 (0.37)
F, significance		0.40, 0.53	12.79, 0.001	2.27, 0.14	2.40, 0.13
Abortion					
Yes	46	0.37 (0.430)	0.59 (0.31)	0.60 (0.19)	0.45 (0.37)
No	54	0.59 (0.40)	0.67 (0.16)	0.64 (0.12)	0.32 (0.36)
F, significance		6.69, 0.01	2.77, 0.09	2.06, 0.16	2.74, 0.10
Caste					
No	20	0.86 (0.27)	0.67 (0.200)	0.69 (0.05)	0.45 (0.36)
Yes	80	0.40 (0.40)	0.62 (0.250)	0.61 (0.17)	0.36 (0.37)
F, significance		23.35, 0.00	0.56, 0.46	5.09, 0.03	0.81, 0.37

SD: Standard deviation

(93%). The occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% reporting sweating. Madhukumar *et al.* in rural Bengaluru^[14] and Nayak *et al.* in coastal areas of Karnataka, India^[15] showed that physical and psychosocial symptoms were reported more (56.92% of the menopausal women felt firmly that they were affected by menopause in negative manner) than vasomotor and sexual symptoms which is similar with this current study.

Poomala and Arounassalame in Puducherry^[10] and Sarkar *et al.* in Jamnagar^[11] showed that low back ache (79%) and

muscle-joint pain (77.2%) and least frequent symptoms were increase in facial hair (15%) and feeling of dryness during intimacy (10.8%) which is similar with the current study. Bansal *et al.* in a study among rural middle-aged women of Punjab^[12] found that headache (94.1%) and dizziness (81.5%) was the most commonly reported vasomotor complaint. Most frequent psychogenic problem reported was sleep disturbance (68.9%). Regarding the urogenital problems, most frequently reported was decreased libido (81.5%). In this study, the occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% reporting sweating. Most prevalent

Table 4: Association between sociodemographic characteristics and Menopause Specific Quality of Life Questionnaire domains (n=100)

Sociodemographic characteristics	n	OR (95%CI)			
		Vasomotor	Psychosocial	Physical	Sexual
Age (years)					
≥50	36	10.33 (3.54-30.17)	4.06 (1.67-9.83)	-	1.08 (0.47-2.48)
<50	64	1	1	1	1
Religion					
Hindu	84	0.94 (0.32-2.77)	0.78 (0.27-2.28)	1.94 (0.65-5.81)	-
Muslim	16	1	1	1	
Caste					
OBC and general	52	1.07 (0.49-2.35)	1.27 (0.58-2.79)	0.20 (0.08-0.53)	0.97 (0.43-2.15)
SC	48	1	1	1	
Education					
Literate	33	0.97 (0.42-2.20)	0.50 (0.21-1.16)	0.38 (0.16-0.91)	0.60 (0.26-1.38)
Illiterate	67	1	1	1	1
Marital status					
Married	89	3.75 (0.93-15.08)	3.12 (0.77-12.54)	4.74 (1.27-17.65)	0.30 (0.06-1.46)
Widow	11	1	1	1	1
Type of house					
Pakka and mixed	92	1.20 (0.29-5.28)	-	1.37 (0.31-6.14)	-
Kaccha	8	1	1	1	
Type of family					
Joint	62	0.06 (0.02-0.19)	0.54 (0.24-1.22)	1.27 (0.54-3.02)	0.97 (0.42-2.20)
Nuclear	38	1	1	1	1
Occupation					
Housewife	94	0.23 (0.03-2.02)	0.19 (0.02-1.70)	1.12 (0.19-6.47)	3.22 (0.56-18.50)
Working	6	1	1	1	1
Per capita income					
>833.33	49	1.64 (0.74-3.64)	1.91 (0.86-4.23)	0.86 (0.37-2.00)	0.48 (0.21-1.08)
<833.33	51	1	1	1	1
Number of children					
≤3	67	0.71 (0.31-1.66)	0.07 (0.02-0.21)	-	2.97 (1.25-7.04)
>3	33	1	1	1	1
Age of first child birth (years)					
>17	41	1.08 (0.48-2.40)	0.66 (0.30-1.43)	0.65 (0.27-1.54)	2.18 (0.96-4.92)
≤17	59	1	1	1	
Abortion					
No	54	0.54 (0.24-1.21)	0.66 (0.30-1.43)	0.65 (0.27-1.54)	2.18 (0.96-4.92)
Yes	46	1	1	1	
Menopause					
Yes	80	7.03 (2.15-23.05)	1.35 (0.50-3.61)	1.26 (0.45-3.54)	1.00 (0.37-2.72)
No	20	1	1	1	

CI: Confidence interval, OR: Odds ratio

psychosocial symptoms reported were feeling of anxiety and nervousness (94%) and feeling depressed (88%).

In a study by Nisar and Sohoo^[13] showed that most prevalent symptom within study subjects was body ache 165 (81.7%). Frequencies of some classical symptoms were 134 (66.3%) reported “hot flushes,” 139 (68.8%)

and 134 (66.3%) reported “lack of energy” and decrease in “physical strengths” respectively. In the current study, most prevalent symptoms reported were feeling of anxiety and nervousness (94%) and feeling tired, decrease stamina (93%). The occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% reporting sweating.

In a study by Vijayalakshmi *et al.* in rural women of Amritsar^[16] reported that more prevalent symptoms were 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%). The high percentage and scores of menopause rating scale were observed in peri- and post-menopausal women.

In a study in Jammu by Sharma and Mahajan^[17] revealed that somatic, psychological, and urogenital symptoms were high in rural women than in urban women. Mohamed *et al.* in Egypt^[18] showed that the most severe symptoms of vasomotor, psychosocial, physical and sexual domains were hot flushes (29%), experiencing poor memory (48.3%), being dissatisfied with their personal life (44.8%), low backache (41.9%), and change in sexual desire (36.8%).

The current study showed that 60% reported hot flushes, feeling depressed (88%), experiencing poor memory 57%, and dissatisfaction with personal life was 55%. Physical symptoms were decrease in physical strength and lack of energy (93%), decrease in stamina 88%, aches in neck or head 76%, low backache 69%, frequent urination 63%, drying skin and changes in appearance, texture, tone of skin each was 40% in prevalence. Among sexual changes reported by participants were 49% reporting of avoiding intimacy, 40% changes in sexual desire and 26% of them complaining of vaginal dryness.

CONCLUSIONS

The results support the popular belief that menopause causes both physical and psychiatric problems. Almost all areas or domains evaluated were impaired in menopausal women. A large number of women all over the world suffer from menopausal symptoms, and the problem cannot thus be ignored. Education, creating awareness and providing suitable intervention to improve the QOL are important social and medical issues which need to be addressed.

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Conflicts of interest

There are no conflicts of interest.

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