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[4] 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.[5] 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, $p = \text{proportion in the population processing the characteristic of interest}$

$q = (p - 1)$ and $l = \text{acceptable error}$

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 AIHPPH. 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].

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, Poomala and Arounassalame in Jamnagar, Sarkar et al. in Jamnagar, Bansal et al. in Punjab but lower than that found by Nisar and Sohoo in Sindh Pakistan where mean age was 52.17 ± 6.019 years.

Sagdeo and Arora in a Comparative Study in Rural and Urban Women 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

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

| Symptoms present                      | Frequency  | 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)     |
| Dry 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
The occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% reporting sweating. Madhukumar et al. in rural Bengaluru and Nayak et al. in coastal areas of Karnataka, India showed that physical and psychosocial symptoms were reported more than vasomotor and sexual symptoms which is similar with this current study.

Poomala and Arounassalame in Puducherry and Sarkar et al. in Jamnagar 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 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.

### 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
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.

| 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        | 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        | 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        | 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        | 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        | 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        | 1      |

CI: Confidence interval, OR: Odds ratio
In a study by Vijayalakshmi et al., in rural women of Amritsar\cite{15} 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\cite{17} revealed that somatic, psychological, and urogenital symptoms were high in rural women than in urban women. Mohamed et al. in Egypt\cite{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.

**REFERENCES**

1. Padubidri VG, Daftary SN. Shaw’s Textbook of Gynaecology. Menopause. 13th ed. New Delhi: Reed Elsevier; 2006. p. 56-67.
2. World Health Organization. Research on the menopause in the 1990s. Report of a WHO scientific group. World Health Organ Tech Rep Ser 1996;866:1-107.
3. Minkin MJ, Wright CV. What Every Woman Needs to Know about Menopause: The Years Before, During and After. 1st ed. New Haven, USA: Yale University Press; 1997. p. 368.
4. Kato I, Toniolo P, Akhmedkhanov A, Koenig KL, Shore R, Zeleniuch-Jacquotte A. Prospective study of factors influencing the onset of natural menopause. J Clin Epidemiol 1998;51:1271-6.
5. Anderson E, Hamburger S, Liu JH, Rebar RW. Characteristics of menopausal women seeking assistance. Am J Obstet Gynecol 1987;156:428-33.
6. World Health Organization. Quality of Life Assessment: International Perspectives. Berlin: Springer; 1994.
7. Lock M. Ambiguities of aging: Japanese experience and perceptions of menopause. Cult Med Psychiatry 1986;10:23-46.
8. Haines CJ, Chung TK, Leung DH. A prospective study of the frequency of acute menopausal symptoms in Hong Kong Chinese women. Maturitas 1994;18:175-81.
9. Sagdeo MM, Arora D. Menopausal symptoms: A comparative study in rural and urban women. JK Sci J Med Educ Res 2011;13:23-6.
10. Poomala GK, Arounassalame B. The quality of life during and after menopause among rural women. J Clin Diagn Res 2013;7:135-9.
11. Sarkar A, Pithadia P, Goswami K, Bhavasar S, Makwana NR, Yadav S, et al. A study on health profile of post-menopausal women in Jamnagar district, Gujarat. J Res Med Dent Sci 2014;2:25-9.
12. Bansal P, Chaudhary A, Soni RK, Kaushal P. Menopausal problems among rural middle aged women of Punjab. Int J Res Health Sci 2013;1:103-9.
13. Nisar N, Sohoo NA. Frequency of menopausal symptoms and their impact on the quality of life of women: A hospital based survey. J Pak Med Assoc 2009;59:752-6.
14. Madhukumar S, Gaikwad V, Sudeepa D. A community based study on perceptions about menopausal symptoms and quality of life of post-menopausal women in Bangalore rural. Int J Health Sci Res 2012;2:49-56.
15. Nayak G, Kamath A, Kumar P, Rao A. A study of quality of life among perimenopausal women in selected coastal areas of Karnataka, India. J Midlife Health 2012;3:71-5.
16. Vijayalakshmi S, Chandrababu R, Eilean Victoria L. Menopausal transition among Northern Indian women. Nitte Univ J Health Sci 2013;3:73-9.
17. Sharma S, Mahajan N. Menopausal symptoms and its effect on quality of life in urban versus rural women: A cross-sectional study. J Midlife Health 2015;6:16-20.
18. Mohamed HA, Lamadah SM, Zamil LG. Quality of life among menopausal women. Int J Reprod Contracept Obstet Gynecol 2014;3:552-61.