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Original Paper

# Quality of Life of Postmenopausal Women Residing in Lalitpur District, Nepal

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## ABSTRACT

**Introduction:** Hormonal imbalance due to menopause may cause physical, psychosocial, sexual, and vasomotor symptoms that can hinder the quality of life (QoL) of postmenopausal women. In Nepal, postmenopausal women are at potential risk of decreased QoL since it is a patriarchal society and gives low priority to women

**Objective:** This research aimed to evaluate the QoL of postmenopausal women residing in Lalitpur district, Nepal.

**Materials and Methods:** This is a community-based analytical study with a cross-sectional design conducted on 215 postmenopausal women aged 45-60 years residing in Mahalaxmi municipality of Lalitpur district, Nepal, who were selected using a systematic random sampling technique. The Menopause-specific QoL (MENQOL) questionnaire was used to collect data through face-to-face interviews. Descriptive statistics and the chi-square test were used to analyze the collected data.

**Results:** The mean age of women was 54.51±3.83 years. The majority of them were married (87.4%), living in a joint family (74%) and illiterate (66%). Among women, 98.6% had experienced at least one menopausal symptom based on the MENQOL domains. Also, 62.8% had moderate QoL, 20.2% had good QoL and 17% had poor QoL. The level of QoL was significantly different based on occupation (P=0.03) and age at menarche (P=0.003).

**Conclusion:** Menopausal symptoms are dominant among postmenopausal women in Nepal, among which physical symptoms are the most common, and vasomotor symptoms are the least common symptoms. It is recommended that effective interventions be planned and implemented to improve the QoL of Nepali postmenopausal women.

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## Highlights

- Menopause is a natural physiological condition associated with a decrease in the quality of life (QoL) of women;
- Less than one-fourth of postmenopausal women in Nepal have good QoL;
- Physical symptoms are the most common and vasomotor symptoms are the least common menopausal symptoms in Nepali postmenopausal women.
- The majority of menopausal women in this study had moderate quality of life.

## Plain Language Summary

Menopause can cause health problems in women and affect their well-being and QoL. This study was conducted to assess the QoL of 215 postmenopausal women residing in Lalitpur district, Nepal. A questionnaire was used to measure their menopause-related QoL. Results showed that almost all women had experienced at least one type of menopausal symptoms. Physical symptoms were the most common, and vasomotor symptoms were the least common menopausal symptoms. Only 20.2 % had good QoL. The QoL of postmenopausal women was different based on age at menarche and occupation. Taking the results into consideration can help develop effective interventions to improve the QoL of postmenopausal women in Nepal.

## Introduction

Menopause is an event in women's lives accounting for decreased reproductive hormone levels, particularly at the age of 45-55 years [1-3]. Inadequacy of these hormones results in the experience of vasomotor, somatic, psychological, and sexual symptoms that could hinder the quality of life (QoL) of post-menopausal women [4]. It has been estimated that the number of postmenopausal women aged ≥50 worldwide will reach more than 1 billion by 2025 [5]. In developing countries, due to not giving proper attention to the health of menopausal women, these women are suffering from various menopause-related health problems and are at risk for osteoporosis and cardiovascular diseases [6]. The type, severity, and duration of menopausal symptoms are varied in women. The most prevalent symptom in Egyptian women was reported to be low back pain (86%) [3]. Asian women were found to experience mostly somatic symptoms followed by vasomotor, sexual, and psychological symptoms [7]. In Nepal, the majority of postmenopausal women had a feeling of tiredness followed by a decline in stamina, decreased physical strength and lack of energy [8].

Previous studies have indicated the prevalence of menopausal complaints in postmenopausal women and its association with their QoL [9]. Menopausal symptoms have a substantial influence on women's work, social activities, sexual fulfilment, quality of sleep, temperament, and concentration [10]. Some studies found that older age, marital status, health-seeking behaviours, physical inactivity, hand working, lesser economic status, educational level, occupation and number of children were predictors of QoL in postmenopausal women [3, 8, 11]. In Nepal, the patriarchal dominance and the ignorance of menopausal symptoms have made women have poor QoL after menopause. There are limited community-based studies on the QoL of postmenopausal women in Kathmandu Valley, Nepal. Therefore, to fill this research gap, this study aimed to assess the QoL of postmenopausal women in the Lalitpur District, Nepal. This study can be helpful for identifying Nepali postmenopausal women's healthcare requirements for having an ideal QoL.

## Material and Methods

This is a community-based analytical study with a cross-sectional design that was conducted on postmenopausal women aged 45-60 years residing in Mahalaxmi municipality, Lalitpur district located in the central part of Nepal in August 2022. Using the Cochran formula [12], the required sample size was obtained as 215 after considering a 10% sample dropout rate. Samples were selected using a systematic random sampling technique. The total population size of women aged 45-60 years was obtained from the records of the ward of-

fice. Then, the sampling interval ($k^{th}$) was calculated by dividing the total population by the sample size. The first sample was randomly selected followed by consecutive sampling at every $k^{th}$ interval until reaching the required sample size. The inclusion criteria were age 45-60 years, a history of menopause for at least one year, willingness to participate in the study, no history of hysterectomy, being on hormone therapy, and no history of diabetes mellitus, thyroid disorders, hypertension, and cardiac disease based on women's health records.

The instrument used in this study had two parts. The first part included questions related to sociodemographic characteristics, and the second part was the Menopause-specific QoL (MENQOL) questionnaire, which included items measuring the QoL of postmenopausal women. In this study, the Nepali version of this tool was used, which was translated using the forward-backward translation method and with the help of experts. The MENQOL has also been previously used in a study in Nepal [13]. The MENQOL is a valid tool developed by Hilditch and Lewis [14]. It assesses the impact of menopausal symptoms experienced in the past 30 days. It consists of 29 items and four domains of vasomotor symptoms (3 items), psychosocial symptoms (7 items), physical symptoms (16 items) and sexual symptoms (3 items). The scoring for each domain is identical. Each item is scored from 0 (not bothersome) to 6 (extremely bothersome). The total score is obtained by summing up the four domains' overall scores. The higher total score indicates a lower QoL. Menopausal symptoms' severity was categorized as mild (score 2-4), moderate (score 5-6), and severe (score 7-8). The QoL level was classified asgood (scores≤ Mean-1 SD), moderate (scores between Mean-1 SD and Mean+1 SD), and poor (scores ≥ Mean+1 SD) based on the mean and standard deviation of the MENQOL total score [15]. In our study, internal consistency of the MENQOL was tested on 22 samples and a Cronbach's α of 0.87 was obtained.

Data analysis was done in the SPSS software, version 20. Descriptive statistics such as frequency, percentage, mean, median, and standard deviation were used to describe the data. Inferential statistics, including the chi-square test, was used to examine the difference in QoL based on the sociodemographic variables.

## Results

A total of 215 postmenopausal women were included in the study (100% response rate). More than one-third of them (41.9%) had age 55-60 years. The mean age of the women was 54.51±3.83 years. The majority of them (87.4%) were married. Almost two-thirds (74%) were living in a joint family. Most of the women (66%) had no formal or informal education and were illiterate. Also, 48.4% of the participants had 1-2 children. More than half of the participants (52%) had their menarche after the age of 15 (Table 1). The occupation of about half of them (45.58%) was agriculture. Also, the majority (54.4%) had their menopause for ≤5 years.

The menopause-related physical symptoms were most prevalent among women (94.9%). More than half of them had experienced physical symptoms such as muscle and joint pain (65.6%), feeling tired or worn out (61.9%), decrease in stamina (60.9%), low back pain (59.5%), decrease in physical strength (59.1%), and lack of energy (58.6%). The menopause-related psychosocial and vasomotor symptoms were prevalent among 53.5% and 41.4% of the participants, respectively. Out of 188 married women, 66% had experienced menopause-related sexual symptoms. Furthermore, among psychosocial symptoms, most of women reported accomplishing less than they used to (34.9%). More than one-third (35.3%) of women had experienced vasomotor symptoms such as hot flashes, sweating (34.4%), and night sweats (30.4%). These results were shown in Table 2.

Regarding physical symptoms, more than half of the women had rated the muscle and joint aches as moderate (53.9%), followed by 33.3% as mild and 12.8% as severe. The mean score of the physical domain of the MENQOL was 2.26±0.77 (Table 3). The mean score of the sexual domain (2.97±1.94) was higher than the mean scores of the psychosocial (1.69±0.90) and vasomotor (2.44±1.95) domains. The majority (52.5%) of the women had a moderate level of poor memory, followed by 44.3% with a mild level and 3.3% with a severe level. Severe levels of hot flashes and sweating were reported in 14.5% and 9.5% of the participants. Sexual symptoms such as avoiding intimacy, vaginal dryness and decrease in sexual desire were found to be severe in 10.3%, 6.6%, and 5.9% of the participants, respectively (Table 4). Based on the results, 62.8% of the women had moderate QoL, whereas only 20.2% had good QoL. As shown in Table 5, the level of QoL among postmenopausal women was significantly different based on occupation (P=0.03) and age at menarche (P=0.003).

## Discussion

This research aimed to determine the prevalence of menopausal symptoms and the QOL in Nepali postmenopausal women and examine the difference in their QOL according to their sociodemographic char-

**Table 1.** Sociodemographic characteristics of the participants (n=215)

| Variables | | No. (%)/Mean±SD |
|---|---|---|
| Age (y) 54.51±3.83 | 45-50 | 41(19.1) |
| | 51-55 | 84(39.0) |
| | 56-60 | 90(41.9) |
| Marital status | Married | 188(87.4) |
| | Widow | 21(9.8) |
| | Divorced | 3(1.4) |
| | Separated | 3(1.4) |
| Type of family | Joint | 159(74.0) |
| | Nuclear | 56(26.0) |
| Educational level | Illiterate | 142(66.0) |
| | Primary school | 48(22.3) |
| | Secondary school | 7(3.3) |
| | Diploma or above | 18(8.4) |
| Occupation | Agriculture | 98(45.58) |
| | Employed | 90(41.86) |
| | Housewife | 27(12.55) |
| Number of children | 0 | 11(5.1) |
| | 1-2 | 104(48.4) |
| | 3-4 | 74(34.4) |
| | > 4 | 26(12.1) |
| Age at menarche (y) | ≤15 | 104(48.0) |
| | >15 | 111(52.0) |

acteristics. The results showed that almost all women had experienced at least one menopausal symptom based on the MENQOL domains. A consistent finding was observed in a previous study conducted on women aged 40-60 years in Nepal, which showed that 92% of the women had experienced at least one menopausal symptom [10]. A community-based study on postmenopausal women in Morang district, Nepal also demonstrated that majority of the women had at least one menopausal symptom according to the MENQOL [16]. Our results are also consistent with the results of Ghimire et al. [17].

Most prevalent menopausal symptoms among women in our study were physical symptoms followed by sexual, psychosocial, and vasomotor symptoms. A previous study on postmenopausal women from Nepal also showed that the overall mean score of MENQOL was higher in the physical domain, followed by psychosocial, sexual, and vasomotor domains [13], which the results of this study is consistent with them. Another study in Nepal reported that 100% of the postmenopausal women had physical symptoms [10]. Similarly, a previous study found that vasomotor symptoms were the least prevalent symptoms among postmenopausal women [13]. Conversely, a study conducted in Nepal showed that menopausal symptoms were highly prevalent [17]. The possible reasons for this discrepancy may be due to differences in comorbidities, dietary habits, environmental conditions, economic factors and ethnicity [16, 18].

**Table 2.** Frequency of menopausal symptoms among participants (n=215)

| Menopausal Symptoms | No. (%) |
|---|---|
| Physical | 204(94.9) |
| Aching in muscles and joint | 141(65.6) |
| Feeling tired and worn out | 133(61.9) |
| Decrease in stamina | 131(60.9) |
| Low back ache | 128(59.5) |
| Decrease in physical strength | 127(59.1) |
| Lack of energy | 126(58.6) |
| Flatulence or gas pains | 103(47.9) |
| Difficulty sleeping | 62(28.8) |
| Aches in back of neck or head | 62(28.8) |
| Weight gain | 42(19.5) |
| Dry skin | 34(15.8) |
| Feeling bloated | 30(14.0) |
| Frequent urination | 27(12.6) |
| Involuntary urination when laughing and coughing | 15(7.0) |
| Increase facial hair | 6(2.8) |
| Change in appearance, texture, or tone of skin | 1(0.5) |
| Psychosocial | 115(53.5) |
| Accomplishing less than used to | 75(34.9) |
| Feeling anxious or nervous | 64(29.8) |
| Poor memory | 61(28.4) |
| Dissatisfaction with my personal life | 42(19.5) |
| Being impatient with other people | 21(9.8) |
| Feeling depressed, down or blue | 20(9.3) |
| Feeling of wanting to be alone | 18(8.4) |
| Vasomotor | 89(41.4) |
| Hot flashes | 76(35.3) |
| Sweating | 74(34.4) |
| Night sweats | 65(30.4) |
| Sexual (out of 188) | 124(66) |
| Vaginal dryness | 121(64.4) |
| Decrease in sexual desire | 119(63.3) |
| Avoiding intimacy | 116(61.7) |

**Table 3.** Severity and mean score of menopause-related physical symptoms in participants (n=204)

| Physical Symptoms | No. (%) | | |
|---|---|---|---|
| | Mild | Moderate | Severe |
| Aching in muscles and joint | 47(33.3) | 76(53.9) | 18(12.8) |
| Feeling tired and worn out | 59(44.4) | 64(48.1) | 10(7.5) |
| Decrease in stamina | 67(51.1) | 56(42.7) | 8(6.1) |
| Low backache | 50(39.1) | 66(51.6) | 12(9.4) |
| Decrease in physical strength | 66(52) | 50(39.4) | 11(8.7) |
| Lack of energy | 67(53.6) | 47(37.6) | 11(8.8) |
| Flatulence or gas pains | 39(38.6) | 51(50.5) | 11(10.9) |
| Difficulty sleeping | 29(46.8) | 31(50) | 2(3.2) |
| Aches in back of neck or head | 24(38.7) | 35(56.5) | 3(4.8) |
| Weight gain | 20(47.6) | 22(52.4) | 0 |
| Dry skin | 17(53.1) | 14(43.8) | 1(3.1) |
| Feeling bloated | 18(60) | 12(14) | 0 |
| Frequent urination | 18(69.2) | 8(30.8) | 0 |
| Involuntary urination when laughing and coughing | 12(80) | 3(20) | 0 |
| Increase facial hair | 5(83.3) | 1(16.7) | 0 |
| Change in appearance, texture or tone of skin | 1(100) | 0 | 0 |
| Mean±SD | | 2.26±0.77 | |

The top four most common menopause-related physical symptoms in our study were muscle and joint aches, feeling tired and worn out, decrease in stamina, and low backache. This is in line with the results of a study in India [19]. However, it is against the finding of a study conducted in East Delhi, where the most common physical symptom was a decrease in physical strength [20]. The top four most common psychosocial symptoms in women who participated in this study were accomplishing less than before, feeling anxious and nervous, poor memory, and dissatisfaction with personal life. A cross-sectional study on postmenopausal women of 45-60 years from Nepal also reported that accomplishing less than before was the main symptom [21]. However, a study in India reported that poor memory was the most common psychosocial symptom [22]. In a study in Iran, anxiety was found to be the major psychosocial symptom [23]. These discrepancy may be due to differences in the sociodemographic status of women.

In the current study, women's most common vasomotor symptoms were hot flashes, sweating, and night sweats. Similar to the current study, Prajapati et al. found that hot flashes were the major vasomotor symptom among postmenopausal women in Nepal [21]. Another study reported a similar finding regarding the higher frequency of hot flashes as a vasomotor symptom among postmenopausal women [23]. However, sweating was a common vasomotor symptom among postmenopausal women in Thapa and Thebe's study in a rural area of Nepal [8]. This discrepancy can be due to differences in the temperature of the study environment and the varied experiences of women.

Regarding the sexual symptoms, the majority of married women in our study had experienced at least one symptom. The most common sexual symptoms were vaginal dryness, decrease in sexual desire, and avoid intimacy. In contrast to our finding, a study on postmenopausal women in rural and urban areas of Sikkim, India,

**Table 4.** Severity and mean scores of psychosocial, vasomotor, and sexual symptoms in participants (n=115)

| Symptoms | | No. (%) | | |
|---|---|---|---|---|
| | | Mild | Moderate | Severe |
| Psychosocial (n=115) | Accomplishing less than I used to | 31(41.3) | 39(52) | 5(6.7) |
| | Feeling anxious or nervous | 36(56.2) | 23(35.9) | 5(7.8) |
| | Poor memory | 27(44.3) | 32(52.5) | 2(3.3) |
| | Dissatisfaction with my personal life | 26(61.9) | 16(38.1) | 0 |
| | Being impatient with other people | 14(66.7) | 6(28.6) | 1(4.8) |
| | Feeling depressed, down or blue | 15(75) | 5(25) | 0 |
| | Feeling of wanting to be alone | 9(50) | 9(50) | 0 |
| | Mean±SD | | 1.69±0.90 | |
| Vasomotor (n=89) | Hot flashes | 26(34.2) | 39(51.3) | 11(14.5) |
| | Sweating | 14(18.9) | 53(71.6) | 7(9.5) |
| | Night sweats | 23(35.4) | 42(64.6) | 0 |
| | Mean±SD | | 2.44±1.95 | |
| Sexual (n=124) | Vaginal dryness | 67(55.4) | 46(38) | 8(6.6) |
| | Decrease in sexual desire | 60(50.4) | 52(43.7) | 7(5.9) |
| | Avoiding intimacy | 54(46.6) | 50(43.1) | 12(10.3) |
| | Mean±SD | | 2.97±1.94 | |

reported that the most common sexual symptom was the avoidance of intimacy [24]. A study in Nepal reported avoiding intimacy as the most common sexual symptom, followed by a decrease in sexual desire and vaginal dryness [8]. The possible reasons for this discrepancy may be the cultural difference and the difference in the subjective nature of participants. Several parts of Nepal, especially the rural areas, still have a culture of silence and do not have the intention to talk freely with others about sexual matters.

The current study reported that the majority of the postmenopausal women had moderate QoL. This is similar to the results of Parsa et al.'s study [25]. A meta-analysis conducted in 2020 reported a similar finding, where the QoL of postmenopausal women in Iran was greater than the moderate level [26]. A study in India also demonstrated a similar result since a low number of postmenopausal women had poor QoL [27]. However, a previous study in Nepal reported a contradictory result, where the majority of the postmenopausal women had poor QoL [28]. The majority of women in postmenopausal women from Malaysia had poor QoL [29]. Moreover, a study in India on middle-aged women (40-60 years) found that most of the women were experiencing poor QoL [30]. These discrepancies may be due to different categorizations of symptoms for a particular domain, different study settings, and the use of different tools to assess QoL.

The current study observed that the overall MENQOL score of postmenopausal women was significantly different in terms of occupation and age at menarche. A systemic review and meta-analysis supported that age at menarche was associated with QoL of women [31]. Conversely, a study found no association between age at menarche and health QoL [32]. Findings of Thapa and Thebe in Nepal showed that occupational status and QoL were significantly related [8]. Meanwhile, Senthilvel et al. found no association between occupational status and QoL of postmenopausal women [33].

**Table 5.** The QoL level of participants based on sociodemographic factors

| Variables | | No. (%) | | | P* |
|---|---|---|---|---|---|
| | | QoL | | | |
| | | Good | Moderate | Poor | |
| Age (y) | 45-50 | 6(16.2) | 23(62.2) | 8(21.6) | 0.19 |
| | 51-55 | 21(26.6) | 43(54.4) | 15(19.0) | |
| | 56-60 | 11(15.3) | 52(72.2) | 9(12.5) | |
| Educational level | Illiterate | 27(22.1) | 79(64.8) | 16(13.1) | 0.14 |
| | Literate | 11(16.7) | 39(59.1) | 16(24.2) | |
| Occupation | Agriculture | 25(25.5) | 53(54.1) | 20(20.4) | 0.03 |
| | Employed | 13(14.4) | 65(72.2) | 12(13.3) | |
| Number of children | ≤2 | 16(15.8) | 64(63.4) | 21(20.8) | 0.14 |
| | >2 | 22(25.3) | 54(62.1) | 11(12.6) | |
| Types of family | Nuclear | 8(18.6) | 27(62.8) | 8(18.6) | 0.93 |
| | Joint | 30(20.7) | 91(62.8) | 24(16.6) | |
| Age at menarche | ≤15 (y) | 21(22.3) | 49(52.1) | 24(25.5) | 0.003 |
| | >15(y) | 17(18.1) | 69(73.4) | 8(8.5) | |
| Duration of menopause | ≤5 (y) | 22(21.0) | 63(60.0) | 20(19.0) | 0.63 |
| | >5 (y) | 16(19.3) | 55(66.3) | 12(14.5) | |

*Chi-square test

The strength of this study is its community-based cross-sectional design used to assess the menopausal symptoms and QoL of postmenopausal women. The findings provide gross information about the QoL of postmenopausal women in Nepal, which can help local authorities address the related problems and pave the way for future studies. However, this study was limited to only one district of Nepal. Therefore, the results cannot be generalized to all postmenopausal women in Nepal. Thus, further studies in other provinces and districts of Nepal are recommended to determine the QoL level of postmenopausal women.

## Ethical Considerations

### Compliance with ethical guidelines

This study was approved by the Ethics Committee of Patan Academy of Health Sciences, Lalitpur, Nepal (Code: PNC2206241646). Written informed consent was obtained from all participants prior to data collection. The participants were informed about their right to leave the study at any time. Confidentiality of participants was maintained throughout the study.

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### Authors' contributions

Data collection, data analysis and interpretation: Prakash Ghimire, Lalita Bhatt and Alisha Khadka; Preparation of draft and review: Prakash Ghimire, Lalita Bhatt, Tina Gurung, Laxmi Gurung and Min Raj Joshi; Conceptualization, study design and final approval: All authors.

## Conflict of interest

The authors declared no conflict of interest.

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