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Quality of Life among Postmenopausal Women: A Community-based Cross-sectional Study

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Abstract

Background: Postmenopausal women have various problems that may affect their quality of life. However, published reports from nearby communities of the capital of province 1 of Nepal are lacking. Hence, we aimed to determine the quality of life of postmenopausal women in selected communities of Morang, Nepal.

Methods: This cross-sectional study was conducted from August to October 2021 among 200 postmenopausal women of Budhiganga Rural Municipality. Menopause-specific quality of life (MENQoL) that included vasomotor, psychological, physical, and sexual domains was assessed. Factors that may affect it were also assessed.

Results: Majority of the participants had sweating (80.5%), accomplishing less than earlier (95.0%), decrease in physical strength, feeling lack of energy (98.1%), and avoiding intimacy (98.5%) in vasomotor, psychosocial, physical, and sexual domains respectively. The highest mean score was found in the sexual (5.02 ± 0.82) followed by physical (3.43 ± 0.51), vasomotor (3.0 ± 1.08), and psychosocial domain (2.74 ± 0.80). The MENQoL score was 3.48 ± 0.53 with a significant association with age and occupation. The psychosocial domain had a significant association with age, marital status, occupation, history of childbirth, current smoking, and current alcohol use. The physical domain had a significant association with age, religion, marital status, occupation, and history of childbirth. The sexual domain had a significant association with age and current alcohol use.

Conclusion: Sexual domain was the most affected in postmenopausal women followed by physical, vasomotor, and psychosocial domain. Age, occupation, marital status, history of childbirth, current smoking, and current alcohol use were the factors associated with MENQoL.

Keywords: Menopause specific quality of life (MENQoL), Nepal, Postmenopausal women

Declarations

Ethics approval and consent to participate: Ethical approval was obtained from Institutional Review Committee (IRC-PA-156/2077-78) of Birat Medical College Teaching Hospital, and informed consent was taken from all the study participants.
Consent for publication: Not applicable.
Availability of data and materials: All the relevant data will be available upon request through the principal investigator.
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Quality of life is the main goal of healthcare. Women spend one-third of their lifetime after menopause [1]. The average life expectancy of Nepalese women is 71.6 years, and the average age of menopause is 48.7 years [2, 3]. Menopause is defined as the time when there has been no menstrual period for 12 consecutive months with no other biological or physiological cause [4, 5]. The World Health Organization (WHO) defines the quality of life as the individual's perception of their position in life in the context of the cultural and value system in which they live and in relation to their goals, expectations, standards, and concerns [6]. Some women have several symptoms that greatly affect their personal and social function, and quality of life after menopause [6]. Menopause is an adoption process during which women go through a new biological state. This process is accompanied by many biological and psychosocial changes. The quality of life among menopausal women has become an important topic in recent medical and sociological research. Scientific evidence regarding this issue is lacking from the nearby communities of the capital of province 1 of Nepal. Hence, our primary objective was to determine the quality of life of postmenopausal women in terms of sexual, physical, vasomotor, and psychosocial domains of selected communities of Morang, Nepal. Our secondary objective was to determine its association with various parameters.

METHODS

This community-based cross-sectional study was conducted among 200 postmenopausal women of Budhiganga Rural Municipality of Morang, Nepal from 1 August 2021 to 30 October 2021. Women above 44 years, with intact uterus and ovaries and who had no menstrual period for 12 consecutive months were enrolled. History of hysterectomy and oophorectomy were confirmed through clinical history. Women in the perimenopausal state, having known cardiovascular, thyroid, mental, kidney, liver, or breast diseases, taking hormonal replacement therapy, not providing consent or non-residents of Nepal were excluded. The sample size was calculated based on the formula; $n=Z\alpha^2 \times SD^2 / Precision^2$, where Zα value for 95% confidence interval = 1.96, standard deviation (SD) = 0.42, precision = Zα X (standard deviation/ square root of n) by taking reference from a similar study from Kaski district of Nepal which reported the mean score and SD of the physical domain (1.67 ± 0.42) of menopause specific quality of life (MENQoL) among 150 study participants (n) [7]. A total of 200 study participants were enrolled using purposive sampling technique. Ethical clearance was obtained from the Institutional Review Committee of Birat Medical College Teaching Hospital. Prior to data collection, informed consent was obtained from each women after assuring them about the confidentiality and anonymity of collected data. Researchers collected the data by using semi-structured questionnaires through face-to-face interviews at the participant's own residence. The dependent variable is MENQoL score and the independent variables were age, ethnicity, religion, occupation, educa-

Table 1. Baseline characteristics of participants (n = 200). Values are presented as number (%).

Characteristics		n (%)
Age (y) (Mean ± SD = 59.29 ± 9.5)	45-54	69 (34.5)
	55-64	74 (37.0)
	65-74	40 (20.0)
	75 and above	17 (8.5)
Ethnicity	Brahmin/Chhetri	79 (39.7)
	Janajati	58 (28.8)
	Dalit	31 (15.5)
	Madhesi	14 (7.1)
	Muslim	9 (4.5)
	Others	9 (4.5)
Religion	Hindu	188 (94.0)
	Other than Hindu	12 (6.0)
Marital status	Married and living together	130 (65)
	Widow	60 (28.8)
	Unmarried	4 (1.9)
	Divorce	6 (3.2)
Education	Literate	68 (34.0)
	Illiterate	132 (66.0)
Occupation	Housemaker	156 (78.0)
	Daily wages	7 (3.5)
	Skilled worker	14 (7.0)
	Professionals	7 (3.5)
	None	16 (8.0)
Current smoker	1-5 sticks/day	31 (61.8)
(n = 50)	6-10 sticks/day	18 (35.3)
	>10 sticks/day	1 (2.9)
Current alcohol user	Everyday	2 (7.69)
(n = 24)	Twice a week	2 (7.69)
	Sometimes	20 (84.6)
Current tobacco user	Since 15 years	2 (25)
(n = 7)	Since 25 years	3 (50)
	Since 30 years	2 (25)

Table 2. Frequency distribution and scores of menopausal domains as per Menopause Specific Quality of Life (MENQoL) Tool. Values are presented as n (%) and mean ± SD.

Domains	Symptoms	n (%)	Mean ± SD
Vasomotor (n = 200)	Hot flushes or flashes	159 (79.5)	3.26 ± 1.26
(mean ± SD score = 3.0 ± 1.08)	Night sweats	111 (55.5)	2.5 ± 1.4
	Sweating	161 (80.5)	3.24 ± 1.26
Psychosocial (n = 200)	Dissatisfaction with my personal life	132 (66.0)	2.80 ± 1.40
(mean ± SD Score = 2.74 ± 0.80)	Feeling anxious or nervous	151 (75.5)	2.98 ± 1.27
	Experiencing poor memory	166 (83)	3.35 ± 1.23
	Accomplishing less than earlier	190(95)	3.90 ± 0.99
	Feeling depressed or down or blue	112 (56)	2.31 ± 1.24
	Being impatience with other people	102 (51)	2.19 ± 1.23
	Feeling of wanting to be alone	60 (30)	1.70 ± 1.12
Physical (n = 200)	Flatulence or gas pains	187 (93.5)	4.05 ± 0.98
(mean ± SD Score = 3.43 ± 0.51)	Aching in muscles and joints	192 (96)	4.29 ± 0.90
	Feeling tired or worn out	193 (96.5)	4.25 ± 0.92
	Difficulty sleeping	126 (63)	2.65 ± 1.39
	Aches in back of neck or head	166 (83)	3.50 ± 1.27
	Decrease in physical strength	196 (98)	4.19 ± 0.72
	Decrease in stamina	195 (97.5)	4.19 ± 0.81
	Feeling lack of energy	196 (98)	4.19 ± 0.77
	Drying skin	190 (95)	3.94 ± 0.93
	Weight gain	109 (54.5)	2.40 ± 1.35
	Increased facial hair	22 (11)	1.21 ± 0.60
	Changes in appearance, texture, tone of my skin	188 (94)	3.91 ± 0.99
	Fleeing bloated	187 (93.5)	4.01 ± 0.97
	Low backache	166 (83)	3.48 ± 1.26
	Frequent urination	83 (41.5)	2.38 ± 1.70
	Involuntary urination when laughing or coughing	102 (51)	2.22 ± 1.29
Sexual (n = 130)	Change in your sexual desire	127 (97.7)	4.92 ± 0.91
(mean ± SD Score = 5.02 ± 0.82)	Vaginal dryness during intercourse	127 (97.7)	4.82 ± 0.99
	Avoiding intimacy	128 (98.5)	5.31 ± 0.96
Total Quality of Life Score (n = 130)			3.48 ± 0.53

tion, income, marital status, parity, smoking, and alcohol and tobacco use. We used the Menopause Specific Quality of Life (MENQoL) tool which consists of 29 items under four domains: "vasomotor" (3 items), "psychosocial" (7 items), "physical" (16 items), and "sexual" (3 items) [8]. In each domain, there are multiple symptoms. This tool used a Likert scale format where zero was given for women not experiencing any specific symptoms, one for experiencing the symptoms but not bothered. A score of two to seven was given for increasing the severity of bothersome. We converted score zero into one and the remaining one to seven scores into two to eight. After conversion, each symptom's scores ranged from one to eight as suggested by the MENQoL tool. Collected data were entered in Microsoft Excel and analyzed by SPSS (Statistical Package for Social Sciences) - version 23. Descriptive statistics and the Student's t-test were used to analyze the data. A p-value of < 0.05 was considered statistically significant.

RESULTS

The majority of women were in the 55 - 64 years age group (37%), Brahmin/ Chhetri (39.7%), Hindu (94%), married (65%), illiterate (66%), and housemaker (78%) (**Table 1**). One-fourth women (25%) were smokers, over one-tenth (12%) were alcohol users, and seven par-

ticipants (3.5%) were tobacco users. The age (mean ± SD) at menarche was 13.4 ± 1.5 y. The majority (69.2%) had 6 - 8 days of menstrual duration, 79% had their regular menstrual cycle, 58.3% had a history of dysmenorrhoea, 24% had a history of contraceptive use, and 95% had a history of childbirth.

The majority complained of sweating (80.5%); accomplishing less than earlier (95%) decrease in physical strength (98%), feeling lack of energy (98%); and avoiding intimacy (98.5%) in the vasomotor domain, psychosocial domain, physical domain, and sexual domains respectively (**Table 2**). The highest score (mean ± SD) was found in the sexual domain (5.052 ± 0.82) which included only married and living together group (n = 130). The total quality of life score of women who were married and living together was 3.48 ± 0.53.

The mean score of total quality of life had a significant association with age and occupation. Menopausal women aged 61 and above had increasing levels of bothersome symptoms than 45-60 years (mean ± SD = 3.68 ± 0.45 vs 3.42 ± 0.54; p = 0.023). The housemaker group had an increasing level of bothersome experiences than other groups (mean ± SD = 3.54 ± 0.53 vs 3.28 ± 0.49; p = 0.023). The vasomotor domain had no significant association with any baseline characteristics. The psychosocial domain had a significant association with age (61 and above vs 45-60 years = mean ± SD: 2.92 ± 0.80 vs 2.62 ± 0.76; p = 0.008); marital status (other than married vs married and living together group: mean ± SD = 2.96 ± 0.8 vs 2.62 ± 0.77; p = 0.004); occupation (housemaker group vs others: mean± SD = 2.81 ± 0.82 vs 2.49 ± 0.61; p = 0.019); history of childbirth (Yes vs No: mean ± SD = 2.77 ± 0.79 vs 2.06 ± 0.52; p = 0.005), current smoker (Yes vs No: mean ± SD = 2.3 ± 0.82 vs 2.65 ± 0.77; p = 0.008) and current alcohol user (Yes vs No: mean ± SD = 3.10 ± 0.64 vs 2.69 ± 0.80; p = 0.020).

The physical domain had a significant association with age, religion, marital status, occupation, and history of childbirth. We found increasing level of bothersome experience from symptoms of physical domain among women aged 61 and above (mean ± SD = 3.59 ± 0.47 vs 3.33 ± 0.5; p < 0.001); other than Hindu (mean ± SD = 3.71 ± 0.41 vs 3.41 ± 0.51; p = 0.042); other than being married group (mean ± SD = 3.52 ± 0.55 vs 3.37 ± 0.48; p = 0.045), housemaker (mean ± SD = 3.51 ± 0.5 vs 3.13 ± 0.42; p < 0.001) and among the women with childbirth history (mean ± SD = 3.46 ± 0.49 vs 2.79 ± 0.49; p < 0.001).

The sexual domain had a significant association with age and current alcohol use. We found increasing levels of bothersome experience from symptoms of sexual domain among women aged 61 and above (mean ± SD = 5.46 ± 0.48 vs 4.89 ± 0.86; p = 0.001) and no current alcohol user (mean ± SD = 5.08 ± 0.80 vs 4.56 ± 0.88; p = 0.017).

DISCUSSION

We used the MENQoL tool to find the different postmenopausal symptoms under four domains and found the total quality of life score was 3.48 ± 0.53. A study from Hamadan, Iran found a mean score of 2.45 ± 1.04 [9]. Higher the score higher is the bothersome experience, which is more in our women than in Iran. In the vasomotor domain, we found sweating as a major symptom which is similar to a study from Jhapa and India [10, 11]. But in another study from Kavrepalanchok, Nepal, hot flushes was the major symptom [12]. A study from Hamadan, Iran also found hot flushes as a major symptom [9]. The differences in the vasomotor symptoms within and across countries may be due to the environmental temperature, occupational status, and subjective experiences of each participant.

In the psychosocial domain, we found accomplishing less than earlier as a major symptom which is consistent with the findings of a study from Kavrepalanchok [12]. In contrast to our findings, a study from Jhapa, and India reported poor memory as a major symptom [10, 11]. A study from Hamadan, Iran found anxiety as a major symptom [9]. The differences in the psychological domain may be due to the differences in sociodemographic status. In the physical domain, we found major symptoms as a decrease in physical strength and a lack of energy. In a study from Kaski, Nepal, the most common menopausal symptom was a decrease in physical strength and the least frequent symptom was an increase in facial hair [7].

In the sexual domain, we found avoiding intimacy was a major symptom. A similar finding was reported in a study from Jhapa, Nepal [10]. Another study from Kavrepalanchok found vaginal dryness during sexual intercourse as a major symptom [12]. A study from India reported changes in sexual desire followed by avoiding intimacy were the major symptoms [11]. A study from Hamadan, Iran found avoidance of intimacy as a major symptom [9]. The symptoms of the sexual domain are due to hormonal changes. Cessation of menstruation

and ovulation often causes a spectrum of sexual problems. Our study found increased bothersome symptoms in the sexual domain accompanied by the physical, vasomotor, and psychosocial domains. Different studies found at least one postmenopausal symptom [11, 12]. It suggests that postmenopausal symptoms are common and need to be considered by our healthcare system.

In contrast to our study, a study from Kavrepalanchok, Nepal reported vasomotor symptoms accompanied by sexual, psychosocial, and physical domains [12]. In a study from Kaski, Nepal, the symptoms of physical domain were the most common [7]. Two different studies in Iran found sexual, and vasomotor domain had the highest scores [13, 14]. The variation in symptoms might be due to various factors such as ethnicity, environmental condition, comorbidities, and duration of menopause, dietary habits, or genetic factors. Many other factors may affect the quality of life of postmenopausal women, which needs further study [15].

Age and occupation greatly affect the presence of symptoms, which is supported by our study and the reports from other countries too. We found the total quality of life score has a significant association with age and occupation. A study from Hamadan, Iran found a significant association with the job, economic status, smoking, exercise, supplemental omega-3 intake, and menopause [9]. We had differences in factors as both studies did not include the same factor. We found the psychosocial domain has a significant association with age, marital status, and occupation, history of childbirth, smoking, and alcohol use. The study from Iran reported a significant association with education, job, economic status, smoking, exercise, supplemental Omega-3 intake, menopause, and marital status. We found the physical domain has a significant association with age, religion, marital status, occupation, and history of childbirth. The study from Iran found a significant association with economic status, smoking, exercise, supplemental Omega-3 intake, postmenopausal stage, and job. The sexual domain in our study had a significant association with age while the study from Iran reported a significant association with job, marital status, education, and exercise [9].

In general, ageing directly increases vulnerability. With increasing age every individual seeks for good family and social status, support and love from family, and a sense of emotional bonding. Postmenopausal women undergo hormonal changes as a physiological process but if they lack family support and bonding, their vulnerability is increased even more. Our study has identified those factors too.

Quality of life is multidimensional encompassing emotional, physical, material, social and sexual well-being [16]. It determines the degree to which an individual is healthy, comfortable, and able to participate and enjoy life events [17]. It is a highly subjective feeling. The transition phase from the menstrual cycle to menopause brings lots of changes in women both physically and mentally. The drop in the release of estrogen hormone by ovaries bring about physiological changes and various other symptoms like vasomotor, psychosocial, physical, and sexual and also a number of pathological changes like osteoporosis and heart disease. The symptoms related to postmenopausal women are neglected, unrecognized, and left untreated because these are not considered pathological unless any serious health issues occur. Though the symptoms might not cause any serious adverse effect, the occurrence of various symptoms on a daily basis are distressing, and sometimes might lead to the use of over-the-counter treatment [2, 3].

The strength of our study is that we calculated quality of life with reference to standard tools and we have included all the domains. Our study has some limitations. Firstly, we did not assess the history of use of hormonal contraceptives, duration of menopause, nutritional status, duration of working hours, type of work, or absence of family support which impacts the postmenopausal quality of life [18]. Secondly, the subjective variation in symptoms severity might limit this study's results. A well designed case-control study to explore the factors related to postmenopausal symptoms is recommended. An increase in life expectancy of the Nepalese population further increases the number of postmenopausal population and affects their quality of life. Nepal still does not have government or private-based initiatives on menopause and the quality of life of postmenopausal women. The quality of life of this population needs to be considered by civil societies, different levels of government, supporting agencies, etc.

CONCLUSION

Sexual domain was the most affected in postmenopausal women followed by physical, vasomotor, and psychosocial. Age, occupation, marital status, history of childbirth, current smoking, and current alcohol use were the factors associated with MENQoL.

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