

Quality of life of postmenopausal women residing in selected area of Dhulikhel, Kavre: A community based cross-sectional study

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ABSTRACT

Introduction: Menopause, marked by the permanent cessation of menstruation and a decline in ovarian hormone production, brings various physical and psychological symptoms that impair the overall quality of life.

Objective: To assess the quality of life in postmenopausal women.

Methodology: A descriptive cross-sectional study was carried out among 188 postmenopausal women at Dhulikhel municipality, Kavre. Menopause-specific Quality of Life questionnaire was used to evaluate quality of life. Data were collected through face-to-face interviews from October 2022 to January 2023. Descriptive statistics were used to analyse the socio-demographic information and quality of life, and inferential statistics were used to identify the difference in quality-of-life domain scores.

Results: The study revealed that 109 (58%) of postmenopausal women faced moderate to severe physical symptoms and 85(45%) reported significant vasomotor symptoms. Physical and psychosocial symptoms worsen in women over 55 years. Non-smokers had better quality of life, while smokers experienced more severe symptoms. Obesity was associated with more physical (mean score: 3.3) and psychosocial symptoms (mean score: 2.9), whereas underweight women struggled with sexual issues (mean score: 3.1). A positive correlation existed between vasomotor, psychosocial, and physical domains. There was significant association of age, education, and health conditions with menopausal women's quality of life.

Conclusion: The findings of the study revealed the multifaceted nature of menopausal symptoms and the need for targeted interventions, emphasizing health education and lifestyle changes for postmenopausal women.

Keywords: Menopause; Post-menopausal; Quality of Life (QoL)

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INTRODUCTION

Menopause is a normal condition involving the permanent end of menstrual cycles due to cessation of the production of reproductive hormones from the ovaries for at least 12 consecutive months and post menopause is the period following menopause. Menopause occurs naturally between 45-55 years of age.¹ Deficiency of estrogen and progesterone hormone brings various somatic, vasomotor, sexual and psychological symptoms that impair the overall QoL of post-menopausal women.²

The symptoms brought by hormonal changes are hot flushes, insomnia, weight gain and bloating, mood swings, irregular menstruation, breast pain, depression, and headaches. These symptoms are very distressing and affect quality of life of a women.³ In high-income countries, common symptoms include hot flushes, vaginal dryness, fatigue, and joint pain.⁴⁻⁵ A cohort study done in Kathmandu, Lalitpur and Bhaktapur revealed

that 41% women had reached menopause.⁶ A study from Turkey stated that among all the menopausal periods, the quality of life of women is much affected during the postmenopausal period.⁷ Lack of timely medical consultations and diagnoses worsens symptom severity, potentially leading to a sharp decline in QoL.⁸

This study aimed to assess the QoL in postmenopausal women from the study area and their association with selected socio-demographic variables. Addressing these concerns is essential to improve health outcomes and overall well-being during the postmenopausal phase.

METHODOLOGY

A descriptive cross-sectional study was conducted among postmenopausal women above 45 years residing in ward 7 and 8 of Dhulikhel municipality, Kavre from October 2022 to January 2023. Ethical approval was obtained from the Institutional Review Committee of Kathmandu University School of Medical Sciences (IRC-KUSMS, Ref.130/22). sample size was calculated by using the statistical formula Z^2pq/d^2 where p was taken 69%⁹ and d 10%. Women undergoing hormone replacement therapy in the past six months or have had a hysterectomy or oophorectomy were excluded from the study. A systematic random sampling technique was used, and the Data were collected through face-to-face interviews using structured questionnaire which consisted of demographic characteristics, the lifestyle and obstetric history of the participants in the first section of the questionnaire and second section consisted of the Menopause-Specific Quality of Life (MENQOL) scale.¹⁰ It has 29 items divided into 4 domains (vasomotor, psychosocial, physical and sexual). Participants were asked on a 7-point Likert scale (0=not at all bothered; 6 =extremely bothered), therefore if the participants experienced fewer symptoms (lower MENQOL score) they had better QOL. The questionnaire was originally designed in English and was translated into Nepali for better understanding. Some modifications were done as and when required for better understanding.

Before collecting the data from the participants, they were informed about the study's objectives and asked to provide written consent. IBM SPSS Statistics for Windows, version 23 (IBM Corp., Armonk, N.Y., USA. SPSS was used for data analysis, employing descriptive statistics to summarize socio-demographic and menopause-related information and the Mann-Whitney U test to explore differences in MENQOL scores. Association between the various socio-demographic variables and four domains for the quality of life were explored using one way

ANOVA. A level of significance <0.05 was considered as statistically significant.

RESULTS

The mean age of participants was 62.1 ± 11.2 years with the range of 45 to 91 years, with an average weight of 66 ± 14.1 kg and height of 139.93 ± 27.5 cm. More than half of the participants, 105 (55.9%) were Hindus and 109 (58%) were married. The educational status was predominantly low, with 129 (68.6%) being illiterate. Regarding occupation, the majority of the participants, 121 (64.4%) were housewives. The majority of the participants, 166 (88.3%) were non-smokers and, 98 (52.1%) had no reported disease while 39 (20.7%) reported hypertension. The majority of the participants 140 (74.5%) reported that they could save for future. The mean age of menopause was 47.9 ± 4.1 years with majority of the women, 115 (61.2%) having menopause for 10 years and more (Table 1).

Physical and psychosocial symptoms worsen with age among postmenopausal women, with the physical domain mean score rising from 2.71 in the ≤ 54 age group to 4.60 in the ≥ 85 years age group, and the psychosocial domain mean score increasing from 2.21 to 3.37 in the same age groups. Vasomotor symptoms peak in the 65-74 age group with a mean score of 2.70 and decrease to 1.71 in the ≥ 85 age group. Sexual symptoms vary less significantly across age groups, with mean scores ranging from 1.07 in the ≤ 54 age group to 1.43 in the 65-74 age group (Table 2).

The result shows that postmenopausal women who smoke 2-3 sticks/day experience the highest mean scores for vasomotor (4.67), psychosocial (3.29), and physical symptoms (3.56) compared to other smoking habits. Non-smokers have lower mean scores for vasomotor (1.90), psychosocial (2.48), and physical symptoms (3.32) but have a slightly higher mean score for sexual symptoms (1.25) than those smoking 2-3 sticks/day (1.00). Women smoking 6-7 sticks/day have the lowest mean scores for vasomotor (1.83), psychosocial (2.25), physical (2.31), and sexual symptoms (1.00, (Table 3).

The mean of vasomotor domain is 2.04 (median 1.00) with the wide range of (1-6.33). Both the average and median score for psychosocial domain is 2.57, indicating moderate symptoms with lower variability (SD: ± 0.83). The domain with the highest average score is physical (3.30), and has moderate variability (SD ± 0.13), indicating more prevalent/ severe symptoms compared to mental domains along a wider range (SD ± 1.04). The sexual

factor has a mean score of 1.24 and median score of 1.0 suggesting an overall low-level symptomatology with high variability (range=1-6.33, Table 4).

The mean scores of QOL domains (Vasomotor, Psychosocial, Physical, and Sexual) among postmenopausal women with BMI categories. The data reveals that Obese individuals tend to have higher mean scores in the Psychosocial and Physical domains, while Underweight individuals have higher mean scores in the Sexual domain. The outcome of the data suggests that BMI is related to variations in health domain scores (Table 5).

There is significant positive correlation between various QOL domains, indicating that as symptoms in one domain increase, symptoms in another domain tend to increase as well. Specifically, vasomotor symptoms are positively correlated with psychosocial ($r = 0.327$, $p \leq 0.001$) and physical symptoms ($r = 0.216$, $p = 0.003$), while psychosocial symptoms are positively correlated with physical ($r = 0.513$, $p \leq 0.001$) and sexual symptoms ($r = 0.168$, $p = 0.021$). Physical symptoms also are positively correlated with sexual symptoms ($r = 0.275$, $p \leq 0.001$), suggesting interconnectedness between these QOL domains (Table 6).

The results indicate age, education and residence type consistently impact Vasomotor, Psychosocial, and Physical health, with significant effects observed across these domains ($p \leq 0.05$). Smoking and economic situation primarily influence Vasomotor health, while residence type affects both Psychosocial and Physical health. However, none of the demographic factors were significantly associated with sexual health. This suggests that while demographic and lifestyle factors are important for understanding general health, their influence on sexual health may be limited or require different variables to be fully understood (Table 7).

Table 1: Socio-demographic characteristics of participants (n=188)

Variable	n (%)
Mean \pm SD age (years)	62.1 \pm 11.2
Mean \pm SD Weight (kg)	66.0 \pm 14.1
Mean \pm SD Height (in cm)	139.9 \pm 27.5
Religion	
Hindu	105 (55.9)
Buddhist	83 (44.1)
Marital status	
Married	109 (58)
Widow	74 (39.4)
Others	5(2.6)
Level of Education	
Illiterate	129(68.6)
Basic	45(23.9)
Secondary	11(5.9)
Higher education	3 (1.6)
Occupation	
Housewife	121 (64.4)
Agriculture	25 (13.3)
Business	42 (22.3)
Smoking Habit	
No	166 (88.3)
Yes	22 (11.7)
Disease (Self-reported)	
No disease	98 (52.1)
Hypertension	39 (20.7)
Diabetes	17(9.0)
Hypertension and diabetes	8 (4.3)
Asthma	12 (6.4)
Thyroid disorders	9(4.8)
Others	5 (2.7)
Economic Status	
Enough with saving	140 (74.5)
Enough for food/cloths	47 (25)
Not enough for food/cloths	1 (0.5)
Menopausal Duration	
<10 years	73 (38.8)
\geq 10 years	115 (61.2)
Mean age at menopause (years)	47.9

Table 2: Mean scores of QOL domains with age group

Age in year	Vasomotor	Psychosocial	Physical	Sexual
≤ 54	1.72	2.21	2.71	1.07
55 - 64	1.83	2.47	3.44	1.34
65 - 74	2.70	2.70	3.63	1.43
75 - 84	2.38	2.81	3.59	1.10
≥ 85	1.71	3.37	4.60	1.29

Table 3: Mean Scores of QOL Domains with Smoking Habit

	Vasomotor	Psychosocial	Physical	Sexual
No smoking	1.90	2.48	3.32	1.25
2-3 sticks/day	4.67	3.29	3.56	1.00
4-5sticks/day	3.12	2.70	3.18	1.24
6-7sticks/day	1.83	2.25	2.31	1.00

Table 4: QOL of women in different domains

	Vasomotor	Psychosocial	Physical	Sexual
Mean	2.04	2.51	3.30	1.24
Median	1.00	2.57	3.31	1.00
Std. Deviation	1.40	0.83	1.04	0.73
Minimum	1.00	1.00	1.25	1.00
Maximum	6.33	6.14	5.63	6.33

Table 5: Mean scores of QOL domains with BMI status (n=188)

	Vasomotor	Psychosocial	Physical	Sexual
Underweight	2.44	2.14	2.69	1.67
Normal	2.25	2.64	3.44	1.42
Overweight	1.93	2.41	3.19	1.18
Obese	2.36	2.90	3.74	1.25

Table 6: Correlation matrix of QOL Domains (n=188)

	Vasomotor	Psychosocial	Physical	Sexual
Vasomotor	r	.327	.216	-0.004
	p-value	<0.001*	0.003	0.958
Psychosocial	r		.513	.168
	p-value		<0.001*	0.021
Physical	r			.275
	p-value			<0.001*
Sexual	r			
	p-value			

p value significant at <0.05, *= Pearson's correlation

Table 7: Association between demographic characteristics and QOL Domains

	Vasomotor p-value	Psychosocial p-value	Physical p-value	Sexual p-value
Age Group	<0.001 [†]	<0.001 [†]	<0.001 [†]	0.10
Level of Education	0.006	0.001 [†]	<0.001 [†]	0.649
Smoking Habits	<0.001 [†]	0.180	0.247	0.834
Disease	0.002 [†]	0.146	0.342	0.516
Residence Type	0.122	0.032 [†]	<0.001 [†]	0.393
Menopausal duration	0.001 [†]	0.008	<0.001 [†]	0.286

p value significant at <0.05, [†]= One Way ANOVA

DISCUSSION

This is a descriptive cross-sectional study to assess the quality of life among postmenopausal women aged above 45 years residing in ward Seven and Eight of Dhulikhel municipality. This study found that the average age of menopause among participants was 47.9 ± 4 years. This aligns with findings from other regions in Nepal, such as Kapilvastu (46.3 years),¹¹ Kathmandu, Bhaktapur, and Lalitpur (48.7 years),¹² Rupandehi (46.81 years),¹³ Dharan (47.14 ± 4.38 years),¹⁴ Kathmandu (49.9 years),¹⁵ and Kaski (47.12 ± 4.34 years).¹⁶

Physical and psychosocial symptoms were found to increase with age, a result consistent with studies from Iran¹⁷ and West Bengal, India.¹⁸ Additionally, this study showed that age significantly influenced the quality of life (QOL) domains of vasomotor, psychosocial, and physical health. Similar findings were reported in India, where younger postmenopausal women had better QOL.¹⁹ Education was also a key factor in improving QOL. Women with higher education levels reported better QOL, supporting findings from studies in Iran²⁰, the United States²¹, and Finland.²²

In this study, the average scores for QOL domains were 2.04 for vasomotor, 2.51 for psychosocial, 3.30 for physical, and 1.24 for sexual health. These findings are consistent with Yerra et al.²³, who found the highest scores in the physical domain and the lowest in the sexual domain. A similar study in Majhifeda VDC, Kavrepalanchok, also reported that vasomotor symptoms were most common, followed by sexual, psychosocial, and physical symptoms.²⁴ No significant association was found between demographic variables and the sexual domain of QOL in this study. However, the vasomotor, psychosocial, and physical domains were associated with the duration of menopause. Women who experienced menopause earlier tended to have higher QOL scores, making menopausal age an important predictor of

overall QOL. This observation aligns with findings from Kumari et al.²⁵

This study may not reflect participants' experiences and makes it hard to confirm if responses are honest. The study design we used is cross-sectional that does not allow for assessing cause-and-effect relationships over the different period of the time for the same participant and the focus on a specific area and group limits how the findings apply to others. It also doesn't include other external factors that are directly linked with the individual lifestyle, which could affect menopausal symptoms and affect their overall quality of life.

CONCLUSION

Physical and psychosocial symptoms worsen with age, higher the age increased the symptoms. Additionally, education was critical factors influencing the severity of symptoms, with older and less-educated women experiencing worse physical and psychosocial symptoms. The findings of the study emphasize the need for targeted interventions, including lifestyle modifications such as smoking ending and weight balancing, alongside improved access to healthcare and education for postmenopausal women. Personalized mental and physical support programs that address the interconnected nature of menopausal symptoms across vasomotor, physical, psychosocial, and sexual domains could significantly improve the overall QoL for women.

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