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Quality of life of Menopausal Women residing Dharan Sub-metropolitan City, Nepal.

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Abstract

Background: Menopause poses a big challenge during middle age and to the healthy aging of woman. Majority of women face various problems and disturbances in daily living leading to decrease in quality of life. This study focuses on menopause related symptoms and quality of life in relation to the symptoms.

Method: This descriptive cross-sectional study was conducted among 200 women of age 40-60 years at Dharan Sub-metropolitan City of Nepal selected through snowball sampling technique. The data were collected over the period of four weeks. Semi-structured questionnaire for demographic variables and menopause specific quality of life (MENQOL) questionnaire were

used to collect data. Interview technique was adapted. Descriptive and inferential statistics were used to interpret data.

Result: Mean menopausal age of the study group was 47.14 years. The most common symptoms of vasomotor, psychosocial, physical and sexual domains were hot flushes, experiencing poor memory, feeling tired or worn out and change in sexual desire respectively. The overall score of menopausal quality of life for each domain reported that highest the mean score in sexual domain (3.58 ± 1.62) and least score in vasomotor domain (2.08 ± 1.67). The score of physical domain was significantly high in late postmenopausal group than early postmenopausal group. Significant association was obtained with age, ethnicity, menopause status, physical activity and marital status in relation to the domains of quality of life.

Conclusions: The results conclude that all the menopausal women were having at least one menopausal symptom from each domain. The menopausal women scored highest in sexual domain and least in vasomotor domain suggesting decrease quality of life in relation to sexual domain. Menopausal symptoms were associated with decrease in quality of life. Thus, awareness regarding the menopausal changes should be focused in premenopausal age group of women

Keywords: menopause, quality of life, menopause specific quality of life.

Introduction

Menopause poses a big challenge during middle age and to the healthy aging of woman. It is a condition when there is permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity and clinically it is defined as a point in time that follows one year after last menstrual period (1). The mean age of women experiencing menopause is 51 years, however, cessation of menses can occur at any period of life due to ovarian failure. Menopause before the age of 40 years is known as premature ovarian insufficiency occurs in around 1% of women (2). For Nepalese women, the average age of menopause is 48.7 years (3). With the advancement in healthcare services, the average life expectancy is also increasing. In lieu of this, most women live almost one third of their lives in menopause.

Quality of Life (QoL) is defined as “individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person’s physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of the environment (4).

Even though, menopause is a universal reproductive phenomenon, it can be perceived as an unpleasant experience as it is associated with unavoidable manifestation of aging process in women. It involves a biopsychosocial process where a woman experiences various physiological changes. It not only marks the end of reproductive ability; but also associated with multiple physical, psychosocial, and sexual symptoms. The major consequences of menopause are due to estrogen deprivation. Main health concerns during this period include vasomotor symptoms, urogenital atrophy, osteoporosis, cardiovascular diseases, malignancies, decline in cognitive function and sexual problems(2). These symptoms are further influenced by varieties of ethnic, psychological, social and cultural factors. Factors like lifestyle i.e. smoking, diet, exercise and reproductive history;

socioeconomic status, body mass index, mood, climate and cognitions i.e. beliefs and attitudes towards menopause are associated with variations in reports of menopausal symptoms(5).

The physical, psychological, and social consequences of menopause affect the QoL of postmenopausal women. This study aimed to assess the quality of life among postmenopausal women.

Methods

Study design and study setting

A descriptive cross-sectional study was conducted in Dharan Sub-metropolitan City. Dharan is a beautiful city of Eastern part of Nepal lies in the Sunsari district, Koshi zone. It is one of the major cities of Eastern Nepal with the area of 191.62 km² with the population of 137,705. The female population of the city is 73,034; 16.24% of them being in the age group 40-60 years(6).

Sample size calculation and sampling procedure

Sample size was estimated taking mean score and standard deviation of physical domain of MENQoL (2.28±0.749) in a study by Hoda A. E. Mohamed (7) and using the formula $z^2\sigma^2/l^2$. Taking 95% confidence interval and 5% permissible error and considering 20% attrition, the estimated sample size was 200. Snowball sampling technique was applied.

Study population

Menopausal women of age group 40-60 years after cessation of menstruation at least for 1 year who were not using any hormonal therapy and consented to participate were selected for the study. The women who were under hormone replacement therapy, who had had hysterectomy with bilateral salphingo-oophorectomy and those who had chronic medical or psychiatric

disorders were excluded from the study.

Data collection tool

The Menopause Specific Quality of Life (MENQOL) questionnaire was used to identify the menopause specific symptoms and quality of life. It is a standard tool used to assess the presence and severity of the symptoms and the degree to which they adversely affect women's life designed by Hilditch JR, Lewis J. It consists of 29 items related to vasomotor (Q1-3= 3), psychosocial (Q4-10= 7), physical (Q11-26= 19) and sexual domain (Q27-29= 3). The systematic scoring for each of the four domain of MENQOL is identical. For each of the 29 items, this scale ranged from 0 to 6 indicating how bothered she had been by the symptoms on a seven point scale ranging from 0 = not at all bothered to 6 extremely bothered. As the score increases, quality of life decreases. For the severity of the symptoms, score of 2-4 considered as mild, 5-6 as moderate and 7-8 as severe. It is reliable and valid tool with Cronbach's alpha values for all subscales were between 0.82-0.89 and used worldwide(8).

For recording socio-demographic variables semi structured questionnaire was used.

Data collection

Ethical approval was obtained from Institutional Review Committee (IRC), BPKIHS (IRC/407/014) and permission letter from the Social Development office of Dharan Sub-metropolitan City was received. The purpose of the study was explained to each participant and then informed consent was taken. For those who were illiterate informed consent was obtained from their legal guardian after explaining the study purpose. Two hundred women from the selected wards of the city, meeting the inclusion criteria, were interviewed after obtaining informed consent. Women were interviewed at their own residence in a private room by the principle investigator. Participants were informed that they have full right to withdraw from

participation at any time of interview. Confidentiality was maintained throughout the study duration. Data were collected over four weeks of duration after. The average time required to complete the questionnaire was about half an hour. The socio-demographic variables including age, ethnicity, religion, marital status, educational level, occupation, family income, number of children living together were recorded in the questionnaire. Similarly, lifestyle variables like physical activity smoking or alcohol intake were also noted. Details about menopause including age at menopause, duration since menopause as well as menopausal symptoms as per MENQOL questionnaire were recorded.

Data analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. Descriptive statistics applied and the continuous data were presented as frequencies, mean or median and standard deviation while categorical data were presented as frequency, percentage, inter quartile range. Inferential analysis was used to find out the association between the selected variables and domains of quality of life. The association between socio-demographic variable with each domain of MENQOL was examined with the help of Kruskal-wallis H and Mann- Whitney U test.

Results:

Total 200 menopausal women were included in the study. The mean age of the women was 53.50 ± 4.590 years and majority were above 50 years. Other socio-demographic variables are presented in Table 1.

Table 1. Socio-Demographic and Reproductive Characteristics of Respondents (n=200)

Characteristics		Mean±SD/ N(%)/ Median (IQR)
Ethnicity		
	Dalit	40 (20)
	Disadvantaged janajati	97(48.5)
	Disadvantaged non-dalit terai caste	5(2.5)
	Relatively advantaged janajati	28 (14)
	Upper Caste	30 (15)
Type of family		
	Nuclear	87 (43.5)
	Joint	113 (56.5)
Religion		
	Hindu	145 (72.5)
	Boudha	17(8.5)
	Christian	28(14)
	Kirat	10 (5)
Marital status		
	Married	146 (73)
	Unmarried	2 (1)
	Divorced	2 (1)
	Widow	44 (22)
	Separated	6 (3)
Education		
	Illiterate	132 (66)
	Can Read and write	38 (19)
	Primary	5 (2.5)
	Secondary	18 (9)
	Higher secondary	7 (3.5)
Occupation		
	Housewife	126 (63)
	Business	26 (13)
	Labour	25 (12.5)
	Agriculture	15 (7.5)
	Others	8 (4)
Monthly family income (Rupees)*		15000(10000-20000)
	Below poverty line	117 (58.5)
	Above poverty line	83 (41.5)
Reproductive Characteristics		
Age at menopause (years)		47.14±4.38
Duration since menopause* (years)		5 (2-10)
Sexual habit		
	Sexually active	146 (73)
	Sexually not active	54 (27)
* Median and IQR		

The vasomotor symptoms were found in 47.5%, psychosocial symptoms in 97.5%, and physical symptoms in 100% of the respondents. Sexual symptoms were found in 94.0% among those who were sexually active. The presence of menopausal symptoms as per MENQOL questionnaire as well as mean score of each domain of the questionnaire is presented in Table 2.

Table 2. Presence of menopausal symptoms and mean score of each domain

Domain	MENQOL items *	Number (%)	Mean Score \pm SD
Vasomotor	Hot flushes	62 (31)	2.08 \pm 1.67
	Night sweats	51(25.5)	
	Sweating	64 (32)	
Psychosocial	Being dissatisfied with personal life	77 (38.5)	2.72 \pm 1.16
	Feeling anxious or nervous	109 (54.5)	
	Experiencing poor memory	168 (84)	
	Accomplishing less than used to	165 (82.5)	
	Feeling depressed down or bored	100 (50)	
	Being impatient with other people	46 (23)	
	Feelings of wanting to be alone	41 (20.5)	
Physical	Gas pain/ flatulence	91 (45.5)	3.06 \pm 1.03
	Aching in muscles and joints	159 (79.5)	
	Feeling tired or worn out	181 (90.5)	
	Difficulty sleeping	86 (43)	
	Aches in back of neck and head	103 (51.5)	
	Decrease in physical strength	179 (89.5)	
	Decrease in stamina	145 (72.5)	
	Feeling lack of energy	179 (89.5)	
	Drying of skin	123 (61.5)	
	Weight gain	79 (39.5)	
	Increased facial hair	12 (6)	
	Changes in appearance, texture or tone of your skin	147 (73.5)	
	Feeling bloated	65 (32.5)	
	Low backache	144 (72)	
	Involuntary urination when laughing or coughing	73 (36.5)	
Sexual (n=146)	Change in sexual desire	134 (92)	3.58 \pm 1.62
	Vaginal dryness during intercourse	117 (80)	
	Avoiding intimacy	40 (20)	

The highest mean scores of symptoms in vasomotor, psychosocial, physical and sexual domains were hot flushes (2.15 ± 2.00), accomplishing less than used to (3.88 ± 2.08), aching in muscles and joints (4.56 ± 2.42) and change in sexual desire (4.11 ± 2.42) signifying aching in muscles and joints as a major factor leading to decrease in quality of life. The highest mean score in sexual domain (3.58 ± 1.62) followed by physical domain (3.06 ± 1.03), psychosocial (2.72 ± 1.16) and finally vasomotor (2.08 ± 1.67) respectively. The association of various reproductive and lifestyle characteristics with the mean score of four domains of MENQOL questionnaire is presented in Table 3. Increasing age, longer duration since menopause, not staying with partner and not being engaged in any form of physical score were significantly associated with higher mean scores.

Table 3. Association of Reproductive and Lifestyle Characteristics with Menopausal Symptoms

Characteristics	Mean Score ± SD							
	Vasomotor	p-value	Psychosocial	p-value	Physical	p-value	Sexual	p-value
Age*								
≤55 years	2.06 ± 1.63	0.871	2.62 ± 1.12	0.136	2.91 ± 0.92	0.049	3.58 ± 1.67	0.817
> 55 years	2.12 ± 1.73		2.89 ± 1.22		3.28 ± 1.14		3.61 ± 1.55	
Marital status*								
Single	2.12 ± 1.70	0.720	3.08 ± 1.28	0.018	3.19 ± 1.16	0.572	-	-
Living with partner	2.07 ± 1.67		2.59 ± 1.09		3.01 ± 0.97		3.59 ± 1.62	
Age at menopause#								
< 40 years	1.70 ± 1.50	0.186	2.82 ± 1.32	0.951	3.33 ± 0.92	0.234	3.74 ± 1.35	0.867
40-55 years	2.10 ± 1.65		2.72 ± 1.15		3.01 ± 1.02		3.57 ± 1.66	
>55 years	3.50 ± 2.74		2.50 ± 1.19		3.67 ± 1.53		3.55 ± 1.83	
Duration since menopause*								
1-5 years	2.08 ± 1.69	0.775	2.69 ± 1.20	0.606	2.93 ± 1.05	0.046	3.55 ± 1.69	0.688
>5 years	2.09 ± 1.65		2.76 ± 1.13		3.19 ± 0.99		3.63 ± 1.55	
Lifestyle Characteristics								
Physical Exercise*								
Yes	2.07 ± 1.68	0.776	2.65 ± 1.06	0.449	2.92 ± 0.98	0.047	3.53 ± 1.71	0.593
No	2.10 ± 1.65		2.83 ± 1.29		3.24 ± 1.07		3.65 ± 1.52	

Smoking*								
Yes	2.08 ± 1.66	0.981	2.77 ± 1.22	0.317	2.97 ± 0.96	0.450	3.76 ± 1.58	0.342
No	2.09 ± 1.67		2.71 ± 1.14		3.10 ± 1.06		3.50 ± 1.64	
Alcohol intake*								
Yes	1.94 ± 1.51	0.418	2.67 ± 1.13	0.588	2.96 ± 1.01	0.237	3.53 ± 1.51	0.853
No	2.17 ± 1.75		2.76 ± 1.19		3.11 ± 1.03		3.62 ± 1.69	

* Mann-Whitney Test, # Kruskal-Wallis Test

Discussion

With increasing life expectancy worldwide, a woman is expected to spend one third of her life in postmenopausal state. It not only marks the end of reproductive ability; but also associated with multiple physical, psychosocial, and sexual symptoms. The main aim of the study was to assess the quality of life of menopausal women and find out association between reproductive and lifestyle characteristics to quality of life indices.

The mean age of onset of menopause in the study was 47.14±4.38 years which falls under the normal range of women attaining menopause worldwide as well as the average age reported for Nepalese women(3, 9). The age of menopause was however lower than 51.1 years, the median age for Asian women reported from a study conducted in seven Asian countries(10).

The menopausal symptoms are prevalent in our society as evidenced by the fact that all of the respondents have at least one of the menopausal symptoms. High prevalence of menopausal symptoms was also reported by the other studies from Nepal(9, 11). The most common symptoms reported were from physical symptoms domain, present in all of the participants while the vasomotor symptoms were present in 47.5% of respondents with sweating and hot flushes as common symptoms. The reason behind this may be the lack of awareness regarding the vasomotor symptoms. This finding is supported by many of the studies done in different settings(12, 13). Most of the women in Nepal still do not talk openly about their sexual problems. Despite this fact, 94% of women who were sexually active reported at least one of

the sexual symptoms. However, 27% of the study population was not sexually active which can also signify the impairment in sexual life of those women. The overall scores of menopausal quality of life for each MENQOL Domain was observed that the highest mean score in sexual followed by physical domain then psychosocial and finally vasomotor. However, a similar study conducted in western Nepal found that the most affected domain was physical and the least affected was vasomotor domain(9).

Investigators tried to find out the association between various reproductive and lifestyle characteristics and mean MENQOL score for all four domains. The studied reproductive and lifestyle characteristics did not have significant association with MENQOL scores for vasomotor symptoms. Women with age more than 55 years had significantly higher mean MENQOL score in physical domain, while in other domains; the scores were comparable in women less than 55 years and in women older than 55 years. This is in contrast to the findings by Williams and colleagues who reported that women aged more than 60 years had lower scores indicating better quality of life(14). Most of the women in our study were involved in occupations demanding physical fitness which might be the reason that increasing age was associated with lower quality of life.

The women who were single had significantly higher score in psychosocial domain as compared to those living with partner. Even though the QoL scores were not associated with age of menopause, duration of menopause more than five years was associated with higher score in physical domain. Similarly, those women who perform any sort of physical exercise had lesser score as compared to those women who do not perform any form of physical exercise and the difference was significant in physical domain. The positive effect of physical activity on quality of life in postmenopausal women was demonstrated in various studies(15, 16). In contrast to various other studies, women who did not smoke or consume alcohol had

higher scores in physical domain compared to those who did not, but, the result was not statistically significant.

Conclusion

Menopausal symptoms are common and the most common symptoms were from physical domain. These symptoms have effect on overall quality of life in menopausal women with most effect evidenced in sexual domain. Increasing age, longer duration since menopause, living without partner, lack of physical activities were associated with lower quality of life. Understanding the modifiable factors responsible for lower quality of life will help in formulating health related programs to improve quality of life in postmenopausal women.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author.

List of abbreviations

BPKIHS: B.P.Koirala Institute of Health Sciences

IRC: Institutional Review Committee

MENQOL: Menopause Specific Quality of Life

QoL: Quality of Life

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Contributions

AT contributed to designing concepts, preparing study protocol, literature search, data collection, data analysis, and manuscript preparation. MS and NP guided AT in designing study protocol, tool validation, literature search, finalizing analysis of key informants. TB helped in data analyzing and manuscript preparation. All authors contributed to the final review of the manuscript. All authors read and approved the final manuscript.

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Ethical Declarations

Ethical approval and consent to participate

Ethical approval for the study was obtained from Institutional Review Committee of B. P. Koirala Institute of Health Sciences, Dharan, Nepal with reference number 139/071/072-IRC

and code No. : IRC/407/014, email ID: irc@bpkihs.edu. All of the methods were performed in accordance with the relevant guidelines and regulations. Further permission letter was obtained from the Office of Dharan Sub-metropolitan City for data collection. Informed consent to participate in the study was obtained from all participants after informing them about the study purpose and confidentiality of the information provided, and only if they would like they were enrolled in the study. For those who were illiterate, consent was taken from their legal guardian after explaining the purpose of the study to the participants.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.