



Access the article online



Quick Response Code

Corresponding Author:**Anjali Subedi**

Associate Professor, Department of
Obstetrics and Gynecology,
Manipal College of Medical Sciences,
Fulbari 11, Pokhara, Nepal.
Email: anzee739@gmail.com

Keywords:

Ethnicity, Hot flashes, Menopausal
symptoms, Quality of life

Article History:

Received Date: 15 Nov, 2023

Acceptance Date: 5 Dec, 2023

Citation:

Subedi A, Shrestha J. Severity
of Menopausal Symptoms and
Its Association with Various
Sociodemographic Variables: A
Hospital-based Cross-sectional Study.
Nep J Obstet Gynecol. 2023;18(2): 30-
39.

**Copyrights & Licensing © 2023
by author(s).**

This is an Open Access article
distributed under Creative Commons
Attribution License (CC BY NC)



Severity of Menopausal Symptoms and Its Association with Various Sociodemographic Variables: A Hospital-based Cross-sectional Study

Anjali Subedi, Junu Shrestha

Manipal College of Medical Sciences, Pokhara, Nepal.

Abstracts

Aims: Menopause is a natural process with short term and long term health implications in menopausal women. There is variation in severity of menopausal symptoms among menopausal women and various socio-demographic factors are responsible for the difference of experience of symptoms. This study was conducted to assess the severity of menopausal symptoms and explore its association with various socio-demographic factors.

Methods: This was a cross-sectional analytical study done in a tertiary care hospital for duration of one year. All the menopausal women visiting outpatient department of Obstetrics and Gynecology were enrolled in the study and interviewed using preformed proforma and Nepali version of Menopausal Rating Scale (MRS) about demographic variables and menopausal symptoms severity respectively.

Results: Among 411 menopausal women with symptoms, 373 (90.75%) had non-severe symptoms (MRS score <16) and 38 (9.25%) had severe symptoms (MRS ≥16). We found that women from Dalit ethnicity (AOR 1.5; 95% CI: 0.51, 4.43), Madhesi ethnicity (AOR 2.62; 95% CI: 0.27, 24.96), women who smoked (AOR 1.64; 95% CI: 0.68, 3.93) and who had any medical disorders (AOR 1.59; 95% CI: 0.80, 3.17) did not have statistically significant association with severity of symptoms.

Conclusions: Severe menopausal symptoms were not common in our study. No statistically significant association was found between symptoms severity and socio-demographic variables.

Introduction

Menopausal symptoms arise due to natural withdrawal of hormones estrogen and progesterone from ovaries leading to acute and long term health problems in a woman.¹ Acute problems include vasomotor symptoms like hot flashes; urogenital symptoms like vaginal dryness, loss of libido, urinary symptoms; psychosomatic symptoms like fatigue, loss of sleep, irritability, and joint pain. Due to loss of protective effect of estrogen on heart and bone, postmenopausal women have also increased risk of osteoporosis and cardiac diseases. All these issues can impair quality of life (QOL) of women after menopause.²

Every menopausal woman has her own experience of menopausal symptoms. The assessment of variation of menopausal symptoms can be done by using various tools like Menopausal Rating Scale (MRS), Menopause Specific Quality of Life Questionnaire (MENQOL), World Health Organization Quality of Life (WHO QOL-BREF), Green Climacteric Scale, Women's Health Questionnaire (WHQ) and many others.³ Literature have shown the influence of various socio-demographic variables like age at menopause, ethnicity, parity, literacy, geographical area, smoking and presence of different medical co-morbidities on the experience of menopausal symptoms by menopausal women.⁴

There are limited published studies regarding the severity of menopausal symptoms

among Nepalese women and exploring different factors influencing the severity of these symptoms. So, this study was done to assess the severity of menopausal symptoms and factors influencing it.

Methods

It was a cross-sectional analytical study done in the Department of Obstetrics and Gynecology, Manipal Teaching Hospital (MTH) from March, 2021 to March, 2022 for duration of one year. Ethical clearance was obtained from the Institutional Review Committee (IRC) of MTH (MEMG/IRC/420/GA) prior to enrolment of the participants.

All the menopausal women (including natural and surgical menopause) visiting the out-patient Department of Obstetrics and Gynecology, MTH for any reason were enrolled in the study after an informed consent. Women who could not be interviewed due to their medical and/or mental illness where they were unable to comprehend the questions were excluded from the study.

For sample size calculation, the following formula was employed:

$$n = Z_{\alpha}^2 pq / e^2$$

Taking prevalence (p) as 50% for maximum sample size and margin of error (e) as 5%, the sample size was calculated to be 385.

Non-probability convenient sampling method was applied for the selection of sample. Those women who were present at the time of data collection were interviewed face to face in working days from 9 am to 4 pm for data collection.

Data collection was carried out using the research tool which consisted of two parts. The first part was a preformed proforma which was used to assess the following socio-demographic profile of the participants

- Age at menopause
- Ethnicity (Brahmin/Chhetri, Janajati, Dalit, Madhesi, Others)
- Parity
- Marital status (married/ unmarried)
- Smoking status
- Presence of co-morbidities (hypertension, diabetes, neurological disease, psychiatric disease, thyroid disease)

The second part of research tool included RAJANOBRIITA LAKSHAN MAAPAK- a validated Nepali version of Menopausal Rating Scale (MRS).⁵ The MRS consists of 11 items which are divided into three subscales. Each of the eleven symptoms is given a scoring scale from "0" (no complaints) to "4" (very severe symptoms). The total score is 44 and 16 is taken as cut

off score in terms of actual sufferer who need the help of a gynecologist.⁶

The data thus collected were entered in Microsoft excel and then was transferred to Statistical Package for Social Sciences (SPSS™) software version 26 for analysis. The severity of menopausal symptoms was calculated using MRS scale and percentage of women with severe symptoms (MRS score ≥16 or more) and non-severe symptoms (MRS score <16) were calculated.

The analysis of socio-demographic variables between women with non-severe (MRS score <16) and severe symptoms (MRS Score ≥ 16) was also done. For categorical data, Chi-square test was used while for quantitative data, Student's t-test was used. The association between various socio-demographic variables and severity of symptoms is presented in terms of Adjusted Odd's Ratio (AOR) using multivariate logistic regression analysis. A p-value < 0.05 was taken as statistically significant at 95% confidence interval.

Results

During the study period, 424 women who had menopause were enrolled in the study. Among them, 411 women had menopausal symptoms and were further analysed in the study.

The mean age of the women was 59.72±9.6 years. Their mean age at menarche was 15.30±1.7 years and the mean age at menopause was 49±4.7 years.

Among 411 women with symptoms, 373 (90.75%) had non-severe symptoms (MRS score <16) and 38 (9.25%) had severe symptoms (MRS ≥16).

On analysing the socio-demographic variables between the severe and non-severe symptoms, it was observed that postmenopausal women with severe symptoms had less age at menopause than those with non-severe symptoms (48 years vs. 49.1 years, p-value=0.18). Smoking was common among postmenopausal women who had severe symptoms than those with non-severe symptoms (12.7% vs. 8.6%). Women with one or more medical morbidities had severe menopausal symptoms than women who had none (10.9% vs. 7.6%) as shown in Table 1.

Table 1: Different characteristics among women with non-severe (n=373) and severe (n=38) menopausal symptoms (N=411).

Variables	Categories	Not Severe	Severe	p-value
Ethnicity	Brahmin/Chhetri	239 (90.5)	25 (9.5)	0.65 [†]
	Janajati	96 (93.2)	7 (6.8)	
	Dalit	32 (86.5)	5 (13.5)	
	Madhesi	4 (80.0)	1 (20.0)	
	Others	2 (100.0)	0 (0.0)	
Mean age at Menarche (years)		15.2 (1.7)	15.4 (1.8)	0.67 [§]
Mean age at Menopause (years)		49.1 (4.6)	48.0 (5.3)	0.18 [§]
Smoking Status	No smoking	318 (91.4)	30 (8.6)	0.30 [†]
	Smoking	55 (87.3)	8 (12.7)	
Marital Status	Unmarried	7 (87.5)	1 (12.5)	0.75 [†]
	Married	366 (90.8)	37 (9.2)	
Co-morbidity	No co-morbidity	194 (92.4)	16 (7.6)	0.24 [†]
	Co-morbidity	179 (89.1)	22 (10.9)	

* Data are presented as mean (SD) for continuous measures, and n (%) for categorical measures

[†]Chi-square test; [§]Student's t test

On using multiple regression analysis, it was seen that there was no statistically significant association between ethnicity, smoking and medical disorders with severity of menopausal symptoms as shown in Table 2.

Table 2: Multivariate logistic regression analysis of different socio-demographic variables with severity of menopausal symptoms.

Variables	Categories	AOR (95% CI)	p-value
Ethnicity	Brahmin/ Chhetri	1 (1,1)	
	Janajati	0.69 (0.288, 1.688)	0.425
	Dalit	1.50 (0.508,4.43)	0.462
	Madhesi	2.61 (0.274,24.95)	0.403
Smoking status	No smoking	1 (1,1)	0.267
	Smoking	1.6 (0.684, 3.932)	
Co-morbidity	No co-morbidity	1 (1,1)	0.186
	Co-morbidity	1.59 (0.798, 3.17)	

AOR: Adjusted Odd's Ratio; CI: confidence interval

Discussion

Menopause is a natural process occurring after the cessation of ovarian function. This often leads to various symptoms and every menopausal woman has her unique experience. In this modern era, with evolution of science and medicine the life expectancy has increased leading women to spend one third of their lives in menopause which has influenced their quality of life.⁷

Our study found out that only 9% of postmenopausal women had severe menopausal symptoms. In a study done in Jordanian

women, it was observed that 15.7% of menopausal had severe symptoms which was similar to study done in Egypt where 17.1% had severe menopausal symptoms.^{8,9} But in a study done in Iran, 29.1% of postmenopausal women had severe symptoms which is much higher than in our study.¹⁰ This variation in prevalence of severe symptoms in different regions may be attributed to difference in genetics, cultural and psychosocial aspect among different countries.

It was also observed that women with severe symptoms had earlier age at menopause than women with non-severe symptoms and smokers had severe menopausal symptoms. Presence of any medical co-morbidities also increased the severity of menopausal symptoms among menopausal women. Similar findings were observed in other studies as well.^{9,10,11}

After multivariate analysis in the study, it was observed that ethnicity, smoking, medical co-morbidities and age at menopause had no statistically significant association with severity of menopausal symptoms. In contrary, it was observed in a Brazilian study that the severity of menopausal symptoms was inversely associated with age whereas severity of symptoms in women who smoked was 1.45 times higher than in non-smoker.¹¹ Similar findings were also noted in a study done in Egypt.⁹ In a study done in China,¹² it was observed that ethnicity had association with severity of menopausal symptoms depicting that ethnicity plays a role in influencing experience of menopausal symptoms, which can be an area of interest to be explored.

Conclusions

This study showed that severe menopausal symptoms were not common. There was no statistically significant association

between various sociodemographic variables and severe menopausal symptoms. The limitation of this study was that it was done in a hospital based setting. If it could be done in community, we could find significant association between these sociodemographic variables and severity of menopausal symptoms.

Conflict of Interest

None

Source of Funding The study was funded by the University Grant Commission, Bhaktapur (FRG, 2076/77-HS 8) Nepal.

The findings of the study were presented at a National Conference organized by Menopausal Society of Nepal (MESON), Kathmandu, Nepal.

REFERENCES

- Hoffman, Schaffer, Bradshaw, Schorge, Halvorson C. Williams Gynecology. 2nd ed. New York: Mc Graw Hill Education; 2012. 1401p
- Sowers MR, La Pietra MT. Menopause: Its epidemiology and potential association with chronic diseases. *Epidemiologic Reviews*. 1995;17(2): 287–302.
DOI: [10.1093/oxfordjournals.epirev.a036194](https://doi.org/10.1093/oxfordjournals.epirev.a036194)
- Jenabi E, Shobeiri F, Hazavehei SM, Roshanaei G. Assessment of questionnaire measuring quality of life in menopausal women: A systematic review. *Oman Med J*. 2015;30(3):151–6.
DOI: [10.5001%2Fomj.2015.34](https://doi.org/10.5001%2Fomj.2015.34)
- horbani R, Nassaji M, Shahbazi A, Rostami B. Association between quality of life , menopausal status and sociodemographic factors among middle-aged women in Iran. *Journal of Egypt Public Health Association*. 2019;90:166-70.
DOI: [10.1097/01.epx.0000475545.75242.80](https://doi.org/10.1097/01.epx.0000475545.75242.80)
PMID: 26854898
- Baral G. Menopause Rating Scale: validation and applicability in Nepalese women. *J Nepal Health Res Coun*. 2019;17(1):9–14.
DOI: [10.33314/jnhrc.1770](https://doi.org/10.33314/jnhrc.1770) PMID: 31110369
- Heinemann K, Ruebig A, Potthoff P, Schneider HPG, Strelow F, Heinemann LA, et al. The Menopause Rating Scale (MRS) scale: A methodological review. *Health Qual Life Outcomes*. 2004;2:1–8.
DOI: [10.1186/1477-7525-2-45](https://doi.org/10.1186/1477-7525-2-45)
PMID: 15345062; PMCID: [PMC516787](https://pubmed.ncbi.nlm.nih.gov/PMC516787/)
- Lee M, Kim J, Park MS, Yang J, Ko Y, Ko S, et al. Factors Influencing the severity of menopause symptoms in Korean post-menopausal women. *J Korean Med Sci*. 2010;25:758–65.
DOI: [10.3346/jkms.2010.25.5.758](https://doi.org/10.3346/jkms.2010.25.5.758)
PMID: 20436714, PMCID: [PMC2858837](https://pubmed.ncbi.nlm.nih.gov/PMC2858837/)
- Gharaibeh M, Al-Obeisat S. Severity of menopausal symptoms of Jordanian women. *Climacteric*. 2010. 13(4):385-94.
DOI: [10.3109/13697130903050009](https://doi.org/10.3109/13697130903050009)
PMID: 19731118
- Essa RM, Mahmoud NM. Factors associated with the severity of menopausal symptoms among menopausal women. *IOSR J Nurs Heal Sci*. 2018;7(2):29–40.
DOI: [10.9790/1959-0702032940](https://doi.org/10.9790/1959-0702032940)
- Nazarpour S, Simbar M, Tehrani FR, Majd HA. Factors associated with quality of life of postmenopausal women living in Iran. *BMC Women's Health*. 2020; 20:1–9.
DOI: <https://doi.org/10.1186/s12905-020-00960-4>
- Capistrano EJM, Dombek K, Da Costa ACC, Marinheiro LPF. Factors associated with severity of menopausal symptoms in postmenopausal Brazilian women. *Reprod Clim*. 2015;30(2):70–6.
DOI: [10.1016/j.recli.2015.09.002](https://doi.org/10.1016/j.recli.2015.09.002)
- Wang J, Lin Y, Gao L, Li X, He C, Ran M, et al. Menopause-related symptoms and influencing factors in Mosuo, Yi, and Han middle-aged women in China. *Front Psychol*. 2022;13:1–9.
DOI: [10.3389/fpsyg.2022.763596](https://doi.org/10.3389/fpsyg.2022.763596)
PMID: 35756261, PMCID: [PMC9226393](https://pubmed.ncbi.nlm.nih.gov/PMC9226393/)