Original Article

Impact of Menopause on Quality of Life (QoL) of Rural Indian Women: A Cross Sectional Study from Tertiary Care Centre

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Abstract

Background: This study was designed to assess the impact of menopause on QoL of Indian women. **Material and Methods:** It was a cross sectional study conducted on 100 women of ≥ 45 years age that attained natural menopause. Data was collected with the help of a predesigned proforma which included socio demographic details, menstrual history and Menopause-Specific Quality of Life (MENQOL) questionnaire. MENQOL score was calculated for every woman. Data was analyzed using R statistical software. **Results:** Psychological (3.26 ± 1.17) and physical domain (3.06 ± 0.81) had significantly more mean MENQOL score than vasomotor domain (2.72 ± 1.33), (P value 0.002, 95% CI 0.14 – 0.93 and p value 0.001, 95% CI 0.07 – 0.86 respectively). Mean MENQOL score of women with more than five year duration of menopause (2.21±0.47) was significantly more than women who had duration of menopause less than five year (1.90±0.67, P value 0.01, 95% CI 1.65, 2.15). Similarly mean MENQOL score of illiterate women (2.16±0.51) was significantly more than literate women (1.76±0.76, P value 0.03, 95% CI 2.05,2.27) and MENQOL score of unemployed women (2.17±0.53) was significantly more than employed ones (1.79±0.57, P value 0.02, 95% CI 2.06, 2.28). Age and duration of menopause showed positive correlation with MENQOL score (correlation coefficient r = 0.234, P value 0.01 for age and r = 0.257, P value 0.01 for duration of menopause). **Conclusion:** Menopause does affect the QoL of postmenopausal women negatively. Psychological and physical symptoms are more responsible than vasomotor and sexual in study population. Hence these domains should be targeted for the management of menopausal crisis.

Keywords: Post-menopause; Life Quality; Questionnaire; Menopause; Health care.

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Introduction

Menopause is a normal physiological process which is characterized by the permanent cessation of menses for at least 12 consecutive months usually between the ages of 45 and 55 years.[1] Although it is a physiological process but it is not defined nor experienced in the same manner in all women due to their different physical, mental, psychological, cultural and social health. It is a great period of transition accompanied by many biological and psychosocial changes which lead to experience of various vasomotor, physical, psychological and sexual symptoms. The current age of natural menopause in Indian women is 46.2 ± 4.9 years which is less as compared to their western counterparts.[2] Better medical and living facilities have led to an increased life expectancy of Indian women which is 71years according to World Bank data 2018.[3] This increase in life expectancy has led Indian women to spend one third of their life span beyond menopause. So there is a need to address the impact of menopause on quality of life (QoL) as it is an important component of health care. Limited studies have been conducted on Indian population especially belonging to the rural areas who have totally different socio cultural realities and decreased awareness of menopausal transition as compared to urban population or developed countries which not only influence their perception of QoL but also the experience of menopausal symptoms. Therefore, this study has been designed primarily to evaluate the impact of menopause on QoL of Indian women belonging to rural areas. The secondary objective was to determine the relationship between socio demographic parameters of postmenopausal women and their quality of life. It could help in the establishment of more focused educational programs and health care facilities to help women in dealing with their postmenopausal crisis.

Materials and Methods

Study design: Analytical cross sectional study

Study duration: Three months

Study area: Outpatient department (OPD) of Gynecology in a tertiary care center of rural India.

Study population: Postmenopausal women attending the gynae OPD.

Women who didn't have menses in last 12 months without any

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other attributable cause were considered postmenopausal.[1]

Inclusion criteria:

1. Age ≥ 45 years.
2. Menopause attained by natural means.
3. Women able to communicate and mentally oriented.

Exclusion criteria:

1. Women on HRT
2. Women with any other chronic disease that could affect their quality of life (QoL) e.g. diabetes, hypertension, cardiac disease, thyroid disorder, liver or kidney disease, malignancy, stroke.

Ethical consideration: The study was ethically approved by the institutional ethical committee. Study was carried out in accordance with the Helsinki Declaration Principles

Sample size: It is time bound study of three month duration. Total 122 postmenopausal women attended the gynecology OPD during study duration of three months and out of them 100 women satisfied the inclusion criteria were included in the study.

Study method: All the participants were interviewed by a designated intern under the supervision of principal investigator after informed and written consent. Interviewer introduced herself and briefly explained the purpose of study to all the participants before starting assessment. All women were informed that participation is voluntary. All questions were asked in a language which participant could understand. Data was filled by the interviewer according to the responses from the participant. Participants were informed about confidentiality of her responses throughout the procedure as well as after the completion of the study. Participants were interviewed with the help of a predesigned proforma which comprised of two sections. First section included the socio-demographic and menstrual details of the participants like age, education, occupation, residence, religion, marital status, parity and duration of menopause. Second section included the Menopause-Specific Quality of Life (MENQOL) questionnaire for the assessment of QoL of postmenopausal women designed and published by (Hilditch JR, Lewis J). [4] It is a measure assessing the presence and severity of menopausal symptoms and the degree to which they adversely affect women's life.[4]It consists of 29 items divided into four domains: vasomotor (three items), psychosocial (seven items), physical (sixteen items) and sexual (three items) as shown below :

Vasomotor symptoms-

- Hot flushes
- Night sweats
- Sweating

Psychosocial symptoms-

- Dissatisfaction with my personal life
- feeling anxious or nervous
- poor memory
- accomplishing less than I used to
- feeling depressed , down or blue
- being impatient with other people
- feelings of wanting to be alone

Physical symptoms-

- Flatulence and gas pains
- Aching in muscle and joints
- Feeling tired
- Difficulty in sleeping
- Aches in back of neck and head
- Decrease in physical strength
- Decrease in stamina
- Feeling lack of energy
- Drying skin
- Weight gain
- Increased facial hair
- Changes in appearance, texture and tone of skin
- Feeling bloated
- Low backache
- Frequent urination
- Involuntary urination while laughing or coughing

Sexual symptoms-

- avoiding intimacy
- vaginal dryness
- decrease in my sexual desire

The seven-point Likert's scale was used during the administration of the MENQOL. 'No' means women have not experienced the symptom in last week and if she has experienced the symptom she has to classify it between score 0 – 6 where 0 means that the symptom is not bothering at all and '6' means extremely bothered. For data analysis purpose this seven-point Likert's scale is converted to score 1 to 8 as shown below.

Subject response	Analysis score
No	1
0	2
1	3
2	4
3	5
4	6
5	7
6	8

Each domain was scored separately. The score by domain is the mean of the analysis scores forming that domain and ranges from 1- 8. According to the score symptom can be classified as mild (Score 2-4), moderate (score 5-6) and severe (Score 7-8). Overall MENQOL score of each participant is the mean of mean scores of all 4 domains. Impact of age, education, occupation and duration of menopause on QoL of postmenopausal women was also studied. Data was stored with principal investigator throughout and after the study with confidentiality.

Statistical analysis: Data was analyzed using R statistical software. Normality test was run and data was found distributed normally. Descriptive statistics was used for quantitative variables and results were expressed as mean and standard deviation or frequency and percentage. Normality assumptions for using t-test and ANOVA were met. ANOVA Post hoc analysis (Tukey's Honestly Significant Difference test) was used to see any statistically significant difference among the mean score of four domains. Student t-test was used to compare the mean score of each domain and mean MENQOL score based on duration of menopause, occupation and education. $P < 0.05$ was considered as statistically significant. Pearson test was used to calculate the correlation coefficient for bivariate analysis of MENQOL score with age and duration of menopause. Sensitivity analysis was done for handling missing data and it didn't show

any significant difference in results.

Results

Women participated in our study lied between the age group 45 to 72 years with mean age 47.59 ± 4.43 years. Fifty-eight (58%) women belonged to age group 51 – 60 years. Ninety-one women (91%) were illiterate. Eighty-eight women (88%) were housewives. All participants (100%) were married and were Hindus. Ninety women (90%) were living in rural areas. Ninety-eight women (98%) were multipara. Seventy-four women (74%) had no menstrual complains in their lifetime. The mean duration of menopause among the participants was 8.71 ± 4.31years (range 3 – 22 years). Seventy-three women (73%) had menopause duration of > 5years.

Among the vasomotor symptoms hot flushes was the most common (reported in 62% women) and most severe symptom followed by sweating and night sweats. Psychological symptoms were usually mild in maximum patients. Most commonly reported symptom was feeling of less accomplishment (in 91% women) followed by dissatisfaction with the personal life (in 90% women). Most severe psychological symptom was depression. Physical symptoms were also mainly mild to moderate and the most severe physical symptom was muscle and joint aches. Avoiding intimacy was the most common sexual complain but none of the sexual symptoms were severe. The mean score of symptoms of each domain was calculated. It is clear from table no.1 that symptoms having highest mean score in vasomotor, psychological, physical and sexual domain were hot flushes, dissatisfaction with personal life, muscle and joint aches and avoiding sexual intimacy respectively. Among all four domains psychological domain exhibited the highest mean score. To determine if there were significant differences in MENQOL scores of different domains one-way ANOVA test was applied. It indicated significant differences among four domains. Further Post hoc analysis (using Tukey's Honestly Significant Difference test) was done to see the significantly affecting domain as shown in table no.2. Psychological and physical domain had significantly more mean score than vasomotor domain (P value 0.002, 95% Confidence interval (CI) 0.14 –0.93 and P value 0.001, 95% CI 0.07 – 0.86) respectively.

We also compared the mean scores of each domain and mean MENQOL score based on duration of menopause, education and occupation by applying student t test. The mean score of sexual domain was significantly higher in women with more than five years of menopause (P value 0.032) which implies the worsening of sexual symptom with duration of menopause. As shown in table no. 3 mean MENQOL score of women with more than five-year duration of menopause was significantly more than women who had duration of menopause less than five year (P value 0.01, 95% CI 1.65, 2.15). Similarly mean MENQOL score of illiterate women was significantly more than literate women (P value 0.03, 95% CI 2.05,2.27) and MENQOL score of unemployed women was significantly more than employed ones (P value 0.02, 95% CI 2.06, 2.28).

Correlation of MENQOL score was also analyzed with age and duration of menopause (Pearson correlation). Both the determinants showed the statistically significant positive correlation with MENQOL score (correlation coefficient r = 0.234, P value 0.01 for age and r = 0.257, P value 0.01 for duration of menopause).

Table 1: Mean Menopause-Specific Quality of Life (MENQOL) score of each symptom domain as per MENQOL questionnaire

Symptoms according to domain	Mean score of domain and each symptom
Vasomotor	2.72 ± 1.33
-Hot flushes	3.28 ± 2.11
-Night sweats	2.08 ± 1.43
-Sweating	± 1.88
Psychological	3.26 ± 1.17
-Dissatisfaction with my personal life	4.17 ± 1.48
-feeling anxious or nervous	3.59 ± 1.73
-poor memory	3.31 ± 1.91
-accomplishing less than I used to	4.05 ± 1.59
-feeling depressed , down or blue	2.69 ± 2.00
-being impatient with other people	2.39 ± 1.95
-feelings of wanting to be alone	2.60 ± 1.98
Physical	3.06 ± 0.81
-flatulence or gas pains	3.76 ± 2.31
-aching in muscles and joints	4.62 ± 6.51
-feeling tired or worn out	4.16 ±3.57
-difficulty sleeping	2.97 ± 2.13
-aches in back of neck or head	2.98 ± 2.06
-decrease in physical strength	4.17 ± 1.43
-decrease in stamina	4.23 ± 1.31
-lack of energy	4.18 ± 1.32
-dry skin	1.58 ± 1.91
-weight gain	2.65 ± 1.87
-increased facial hair	1.76 ± 1.35
-changes in appearance , texture or tone of my skin	2.73 ± 1.47
-feeling bloated	3.60 ± 1.92
-low backache	2.60 ± 1.87
-frequent urination	3.18 ± 1.85
-involuntary urination when laughing or coughing	2.83 ± 2.80

Sexual	2.95 ± 0.80
-decrease in my sexual desire	3.49 ± 1.30
-vaginal dryness	1.54 ± 0.88
-avoiding intimacy	3.81 ± 1.28

Table 2: comparative analysis of mean MENQOL score of different domains

Symptom domain	Mean MENQOL score	P value and 95% confidence interval (CI)
Vasomotor	2.72 ± 1.33	0.197, CI (2.43,3.01)
Psychological	3.26 ± 1.17	0.002, CI (0.14 –0.93)
Physical	3.06 ± 0.81	0.001, CI (0.07 – 0.86)
Sexual	2.95 ± 0.80	0.14, CI (2.77,3.13)

Table 3: Effect of duration of menopause, education and occupation on mean MENQOL score

Participants variable		Mean MENQOL score	P value	95% confidence interval
Duration of menopause	≤ 5 years	1.90±0.67	0.01	1.65, 2.15
	> 5 years	2.21±0.47		
Education	Illiterate	2.16±0.51	0.03	2.05,2.27
	Literate	1.76±0.76		
Occupation	Unemployed	2.17±0.53	0.02	2.06, 2.28
	Employed	1.79±0.57		

Discussion

The current study suggests that there is prevalence of variable menopausal symptoms with different severity in postmenopausal women affecting their quality of life (QoL) significantly. Sensitivity of women to menopausal symptoms may be affected by ethnic backgrounds, religious beliefs, geographical variations, cultural variations, lifestyle and diet. The most severely affected domain in our study is psychosocial followed by physical while the sexual and vasomotor domain were less affected which is in agreement with the result of other Indian and Asian studies.[5,6] However on the contrary, studies from Western countries have reported higher prevalence of vasomotor and sexual symptoms.[7] The reason might be sexual issues are not discussed openly in the Asian culture and they might get translated to somatic and psychological symptoms.[6] Also women especially of rural India believe sexual symptoms are a part of ageing. Physical activity significantly reduces the sexual and vasomotor symptoms as supported by various studies.[8,9] Women of rural areas of India are physically much active which might be the reason of less severe vasomotor and sexual symptoms. The diet of rural population is rich in phytoestrogen and many studies have supported the role of phytoestrogen rich diet in reducing vasomotor symptoms.[10]

Majority of our participants were illiterate and homemakers which could negatively affect their perception of severity of menopausal symptom and worsen its impact on QoL as seen in our study and some other studies.[6,11] We found in our study that increasing duration of menopause is significantly worsening the sexual symptoms which might be due to continued estrogen depletion even beyond the transition phase. We also concluded that menopause negatively influence the QoL of women and the symptoms gets worse with increasing duration of menopause and age.

We found in our study that in rural population of India QoL is mainly impaired by psychological and physical symptom while the vasomotor and sexual symptoms have a less impact. So intervention focused on improvement of QoL of postmenopausal women should be targeted more towards lifestyle changes and behavioral modification rather than only concentrating on hormone replacement therapy or other medication.

Strength and limitations:

Strength-

- Study focuses on specific population (rural Indian women) who are very less studied in the literature
- The results shows noteworthy and contrast findings as compared to western studies

Limitations-

- Cross sectional design of the study.
- The study is targeting a specific population of rural Indian women from a single tertiary care centre which compromises its generalisability but the tertiary care centre in which the study is carried out lies in rural region of north India so to increase the external validity of study in future large scale studies can be carried out involving different data collection centre. This will allow a bigger sample size with better generalisability of results.
- As it is an interview based study and the responses are totally on recall basis which could adds information recall bias to the study which has been tried to be reduced by use of a standardized MENQOL questionnaire. All the responses are based on the current perception of severity of symptoms which will further reduce recall bias and also enough time was given to participants for recalling.

Conclusion

We all know that menopause negatively affects the quality of life (QoL) of postmenopausal women. In different population different cluster of symptom can prevail. Women can have vasomotor, physical, psychological and sexual symptoms with variable severity. So the most affected domains of a population should be known essentially to focus our policies and interventions in right direction. This study provide a robust insight that rural Indian women face significant challenges in psychological well being in addition to physical, vasomotor and sexual issues which underscores the need for targeted

interventions to address psychological well being among menopausal women. A multi dimensional approach should be adopted to address this problem focusing more on lifestyle changes, behavioral modification and psychological counseling along with medical treatment. All the health care professionals and policy makers should complement the medicine with education and awareness towards positive perception of menopause to better support women's health during this transition.

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Conflicts of interest

There are no conflicts of interest.

References

1. Williams RE, Levine KB, Kalilani L, Lewis J, Clark RV. Menopause-specific questionnaire assessment in US population-based study shows negative impact on health-related quality of life. Maturitas. 2009 Feb 20;62(2):153-9. doi: 10.1016/j.maturitas.2008.12.006. Epub 2009 Jan 21. PMID: 19157732.
2. Ahuja M. Age of menopause and determinants of menopause age: A PAN India survey by IMS. J Midlife Health. 2016 Jul-Sep;7(3):126-131. doi: 10.4103/0976-7800.191012. PMID: 27721640; PMCID: PMC5051232.
3. The World Bank. Life expectancy at birth, female (years) - India [Internet]. Data. 2018 [cited 2020Dec3]. Available from: https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=IN&view=chart
4. Hilditch JR, Lewis J, Peter A, van Maris B, Ross A, Franssen E, Guyatt GH, Norton PG, Dunn E. A menopause-specific quality of life questionnaire: development and psychometric properties. Maturitas. 1996 Jul;24(3):161-75. doi: 10.1016/s0378-5122(96)82006-8. Erratum in: Maturitas 1996 Nov;25(3):231. PMID: 8844630.
5. Sharma S, Mahajan N. Menopausal symptoms and its effect on quality of life in urban versus rural women: A cross-sectional study. J Midlife Health. 2015 Jan-Mar;6(1):16-20. doi: 10.4103/0976-7800.153606. PMID: 25861203; PMCID: PMC4389379.
6. Rathnayake N, Lenora J, Alwis G, Lekamwasam S. Prevalence and Severity of Menopausal Symptoms and the Quality of Life in Middle-aged Women: A Study from Sri Lanka. Nurs Res Pract. 2019 Jul 1;2019:2081507. doi: 10.1155/2019/2081507. PMID: 31354992; PMCID: PMC6632501.
7. Greenblum CA, Rowe MA, Neff DF, Greenblum JS. Midlife women: symptoms associated with menopausal transition and early postmenopause and quality of life. Menopause. 2013 Jan;20(1):22-7. doi: 10.1097/gme.0b013e31825a2a91. PMID: 22929034.
8. Dąbrowska-Galas M, Dąbrowska J, Ptaszkowski K, Plinta R. High Physical Activity Level May Reduce Menopausal Symptoms. Medicina (Kaunas). 2019 Aug 11;55(8):466. doi: 10.3390/medicina55080466. PMID: 31405242; PMCID: PMC6722698.
9. El Hajj A, Wardy N, Haidar S, Bourgi D, Haddad ME, Chammas DE, El Osta N, RabbaaKhabbaz L, Papazian T. Menopausal symptoms, physical activity level and quality of life of women living in the Mediterranean region. PLoS One. 2020 Mar 24;15(3):e0230515. doi: 10.1371/journal.pone.0230515. PMID: 32208445; PMCID: PMC7093012.
10. Mohamed HAE, Lamadah SM, Zamil LGA. Quality of life among menopausal women. Int J Reprod Contracept Obstet Gynecol 2014 Sep;3(3):552-61
11. Elsabagh EEM and Allah E. Menopausal symptoms and the quality of life among pre/post-menopausal women from rural area in Zagazig city. Life Science Journal.2012 June; 9(2): 283–91.