

# Assessment of Menopause Specific Quality of Life and its Predictors Among Post-menopausal Women in a Rural Area of Jammu: A Community Based Cross-Sectional Study

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## Abstract

**Background:** Menopause is a natural phenomenon in a woman's life and is accompanied by physical and mental changes which have lot of bearing on their Quality of life (QOL). **Objective:** To assess menopause specific Quality of life and its predictors among rural postmenopausal women in Jammu region of UT of J&K, India. **Methodology:** This community based cross-sectional study was conducted among 250 rural postmenopausal women who had attained natural menopause. Data was analyzed using PSpss software. Test of significance used were student's t test and ANOVA. Multiple linear regressions was used to predict the most significant variables for QOL. **Results:** The mean score for overall QOL was 55.53 with highest score for physical domain (33.5) and lowest for sexual domain (3.44). On bivariate analysis, age, educational status, physical activity, contraceptive use & duration since menopause were significantly associated with different domains of QOL ( $P < 0.05$ ). But on multivariate analysis, only history of contraceptive use and duration of menopause emerged to be significant predictors for composite scores of QOL. **Conclusion:** There is a significant impact of menopausal symptoms on QOL of women which emphasizes the need to create awareness among menopausal women regarding the importance of physical activity, access to treatment when indicated and social interactions to decrease negative feelings and to improve overall QOL.

## Keywords:

Post menopausal women, QOL, MENQOL Questionnaire

## Introduction

Menopause signifies a normal physiological process related to ageing that brings transition in a women's life from the reproductive to non-reproductive phase. This physiological process is characterized by permanent cessation of the menstrual cycle because of the deficiency of oestrogen hormone due to ovarian failure.<sup>[1]</sup> This phase is characterised by various biological and behavioural changes that negatively affect the quality of life (QOL). The organ systems, most extensively, the cardiovascular and musculoskeletal system are involved, affecting the individual's quality of life. Commonly reported symptoms include hot flushes, night sweats, muscles and

joint pains, sleep disturbances, urinary frequency, vaginal dryness, poor memory, anxiety and depression.<sup>[2,3]</sup> It is the expected projection that globally by 2030, the number of postmenopausal women would increase to 1200 million.<sup>[4]</sup> The average age for attaining menopause of an Indian woman is 46.2 years which is much less than their Western counterparts (51 years).<sup>[5]</sup> Due to the increased life expectancy, more than one third of the life of women is spent as the postmenopausal period and experience various symptoms that lead to impaired QOL. Indian women perceive the menopausal symptoms as a normal

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physiological manifestation of the ageing process and do not seek medical intervention.

During the review of literature, it was evident that, there is dearth of research among the postmenopausal women on many of these dimensions and their net impact on the women's quality of life especially in developing countries. In India, although, the health issues of women in the reproductive group are taken well care of via a wide network of dedicated health programs. But, the problems of women beyond the reproductive age especially in rural areas has hardly been given any priority by the policy makers of health. With this background in mind, the present study was planned to assess the QOL in post-menopausal women and to determine various independent predictors of QOL among these women in a rural area of Jammu, J&K, UT of India.

### Materials and Methods

This cross sectional study was conducted in a rural health block RS Pura, attached as field practice area to the Postgraduate Department of Community Medicine GMC Jammu, J&K for teaching and training of undergraduates, interns and post-graduates.

*Study population and study period:* The post-menopausal women who have experienced natural menopause and currently residing in the study area constituted our study population. The data collection was done for a period of two months.

*Sample size calculation:* The sample size for the current study was calculated using the formula  $N = 4PQ/L^2$ . Assuming a minimum prevalence of 65% of menopausal symptoms, at 95% confidence level with a relative precision of 10%, the sample size calculated was 215. Considering a non-response rate of 10%, final sample size arrived at 240.

*Sampling technique:* For the purpose of providing efficient healthcare services, this block has been divided into eight zones. Out of them, one of the zones was selected by simple random sampling technique. A list of all the villages falling in that zone was procured from the health centres, before the start of the study. First, village was selected by Lottery method and all the houses falling in that village were surveyed by house to house visit to collect the data from the post-menopausal women. Then next adjoining villages were covered till the required sample size was reached.

*Data collection:* The local community leaders of the selected areas were initially approached and sensitized about the purpose of the study. All the post-menopausal women in selected areas constituted the sampling frame. House to house visit was made for the data collection. On

reaching the house, a standard technique was followed which included knocking the door, introducing oneself, exchange of greetings and explaining the reason of visit and purpose of the study. Then enquiry was made regarding the presence of any post-menopausal woman in that particular house. Those who replied in affirmation, willingness of the eligible participant was asked and her informed written consent was taken to participate in the study. Those who replied in negative were again requested for participation and if still not willing, were excluded from the study. During the whole interview process, privacy during was ensured by taking them in a separate room. An assurance was given to all the participants that their personal information would be kept confidential.

*Inclusion criteria:* All the women who have attained the natural menopause and who consented to participate in the study were included.

*Exclusion criteria:* - Women who had induced menopause either medically or surgically

- Women with Diabetes mellitus, hypertension, thyroid disorders, and major psychiatric disorders such as schizophrenia and mental retardation.

- Those having communication difficulties due to reasons of hearing loss or language barrier and who did not give consent.

*Ethical Consideration:* The permission from Institutional Ethics Committee (IEC) was taken (IEC/GMCJ/Cat C/2023/1311) prior to the start of study.

*Study tool:* The questionnaire used for the study purpose comprised of three parts: (a) Socio-demographic details (b) Obstetric history (c) "Menopause specific Quality of life questionnaire". The Socio-demographic details included age, religion, literacy status, occupation, marital status, type of family, monthly family income and physical activity. Information related to obstetric history included age at marriage, no. of living children, H/o use of contraception, age at menopause and duration since menopause.

### Menopause Specific Quality of Life questionnaire<sup>[6]</sup>

MENQOL questionnaire is a 29 item questionnaire, each item assessing the impact of one of the four domains of menopausal symptoms, experienced by the women in the previous month. Vasomotor domain of MENQOL was assessed by first 3 items, psychosocial domain by items 4–10, physical domain by items 11–26, and sexual domain by items 27–29. Scoring of each item was recorded as present or not, and if present, how bothersome on a seven point Likert scale (0 – not bothersome to 6 – extremely bothersome). Composite (total) score of QOL was

calculated by taking scores of all four domains into consideration.

### Statistical analysis

PSPP (Free open access software) was used to analyse the data. The qualitative variables were reported in percentages (%) while quantitative variables were presented as Mean  $\pm$  SD. Student's *t*-test and ANOVA were used to find out the significance of difference between the mean scores of various domains of QOL among different groups. Multiple Linear Regression Analysis was performed to predict the role of most significant variables in determining the composite QOL scores. P value  $< 0.05$  was taken as statistically significant.

### Results

A total of 250 post-menopausal women constituted our study population, out of which three-fourth were in the age group of 45-65 years (75%), with a mean age of  $56.78 \pm 7.37$  years. Majority of the participants were Hindu (63.6%). 57.2% of participants belonged to nuclear family. As far as Literacy level was concerned, 70% of the study population was literate, with 39.2% studied up to secondary level and above. A large proportion of the participants were homemakers (92%). Regarding the marital status, 78.8% of subjects were remarried and currently living with their partners. Almost half of the participants (48.4%) had monthly family income  $< 25,000$  (INR). 64% of the study subjects were involved in moderate level of physical activity, with only 5.2% doing severe physical activity. (Table 1)

On further analysis of results of Table 1, it was evident that as the age of women advanced, mean scores of Vasomotor and psycho-social domain show a declining trend but a significant association was seen only for Vasomotor domain of QOL ( $p=0.005$ ). Educational status of the participants was also a significant determinant of vasomotor domain ( $p=0.015$ ). Physical activity was significantly associated with Psycho-social domain of QOL ( $p=0.007$ ). Rest of the socio-demographic variables could not reveal any significant association with any of the domains of QOL.

Table 2 shows the association of Obstetric variables with mean scores of different domains of QOL. A significant association was evident for Vasomotor and Physical domain with H/O contraceptive use ( $p=0.006$  &  $0.03$  respectively). However, no statistically significant association was seen between scores of QOL and age at menopause. An inverse relationship was seen between the mean scores and duration since menopause ( $p<0.001$ ).

Figure 1 reveals that mean scores for sexual, vasomotor, psycho-social and physical domains of QOL in the present

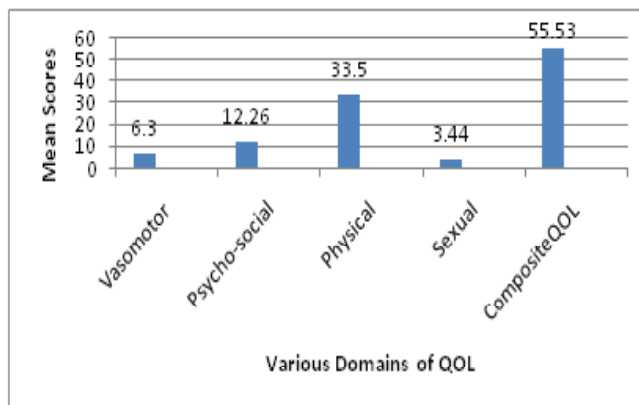


Fig.1 Showing Mean Scores of different domains and Composite QOL

On multivariate analysis, only history of contraceptive use and duration of menopause emerged to be significant predictors for composite scores of QOL (Table 3).

### Discussion

Menopause is increasingly assuming significance as an important phase in life of women since more and more women are now living into their eighties thus spending almost about one-third of their life span as post-menopausal.

In the current study, the mean age of the respondents was  $56.78 \pm 7.37$  years which was slightly higher than that reported by Thapa P et al as  $53.51 \pm 4.42$  years.<sup>[7]</sup> Mean age of the respondents at time of menopause in our study was  $45.48 \pm 3.74$  years which is slightly lesser than that reported from few studies conducted earlier ( $48.56$  and  $48.32$  years).<sup>[8,9]</sup>

The mean scores of various domains of QOL in the present study were 3.44, 6.3, 12.26 and 33.5 for sexual, vasomotor, psycho-social and physical respectively. Yerra AK et al reported highest score of physical domain ( $14.89 \pm 11.85$ ) and lowest from sexual domain ( $0.62 \pm 2.21$ ) and these findings were similar to what Forouhari S et al reported from Iran in a case control study.<sup>[10,11]</sup> The overall MENQOL mean score in the present study was 55.53 which is much lower than 112.47 reported by Senthilvel S et al.<sup>[12]</sup> Barati M et al reported vasomotor symptoms with highest score and sexual symptoms with the lowest score.<sup>[13]</sup>

Educational status was found to be significantly associated with vasomotor domain of QOL which is in consonance with the results reported by Kang HK.<sup>[14]</sup> Bien A reported that University degree people rated better scores in overall QOL and also in vasomotor and physical domains. It has been attributed to higher awareness about menopausal symptoms and also pro-health seeking

**Table 1: Association of Socio-Demographic Variables with Mean Scores of Different Domains of Quality of Life (n=250)**

Variable	No. (%)	QOL Scores among different domains (Mean±SD)			
		Vasomotor	Psycho-social	Physical	Sexual
<b>1. Age group (Years)</b>					
<45	13(5.2)	7.84±5.45	12.69±8.48	26.23±13.76	4.46±4.42
45-55	99(39.6)	7.37±5.61	12.65±7.75	34.18±16.50	3.57±3.98
55-65	89(35.6)	6.10±5.44	11.96±7.59	33.74±15.82	2.93±3.85
>65	49(19.6)	4.10±4.67	11.87±8.08	32.24±18.52	3.81±4.51
p value		<b>0.005</b>	0.91	0.34	0.43
<b>2. Religion</b>					
Hindu	159(63.6)	5.88±5.23	11.71±7.85	33.67±17.45	3.32±4.06
Muslim	2(0.8)	9.50±4.94	20.50±6.36	36.00±22.62	4.00±4.24
Sikh	89(35.6)	6.98±5.88	13.04±7.54	33.13±15.56	3.62±4.10
p value		0.22	0.14	0.95	0.84
<b>3. Educational status</b>					
Illiterate	75(30)	6.77±5.37	12.59±7.70	33.99±16.20	3.66±4.16
Middle	77(30.8)	7.81±6.09	13.61±7.75	31.58±18.11	3.19±4.25
Sec. & above	98(39.2)	4.85±5.23	11.12±7.86	33.18±17.55	3.08±3.82
p value		<b>0.015</b>	0.26	0.78	0.56
<b>4. Occupation</b>					
Homemaker	230(92)	6.23±5.52	12.15±7.80	33.49±17.16	3.56±4.08
Labourer	6(2.4)	6.66±4.22	10.83±7.05	33.66±7.99	1.00±1.54
Service	14(5.6)	7.35±5.51	14.57±7.55	33.50±13.09	2.35±4.27
P value		0.74	0.47	1.00	0.18
<b>5. Marital Status</b>					
Single	53(21.2)	4.22±4.25	12.81±8.00	30.11±15.18	3.15±4.23
Married	197(78.8)	5.19±5.34	11.74±7.55	33.1±16.58	3.51±4.02
P value		0.22	0.37	0.24	0.56
<b>6. Type of Family</b>					
Joint	107(42.8)	5.54±5.47	12.26±7.79	34.13±17.56	3.45±4.05
Nuclear	143(57.2)	6.87±5.44	12.251±7.77	33.03±16.19	3.43±4.09
P value		0.05	0.99	0.61	0.97
<b>7. Monthly family income (INR)</b>					
<25,000	121(48.4)	5.66±5.14	11.53±7.32	33.56±15.41	3.17±3.95
25,000-50,000	66(26.4)	7.50±5.12	13.32±7.77	33.96±16.94	3.62±4.29
>50,000	63(25.2)	6.28±6.30	12.55±8.53	32.88±19.18	3.76±4.07
P value		0.09	0.30	0.93	0.59
<b>8. Physical Activity</b>					
Mild	77(30.8)	6.10±5.51	13.01±7.80	35.98±17.77	3.85±3.97
Moderate	160(64)	6.38±5.51	11.42±7.66	32.81±16.62	3.30±4.16
Severe	13(5.2)	6.53±5.33	18.07±6.19	27.23±9.11	2.69±3.40
P value		0.92	<b>0.007</b>	0.15	0.48

**Table 2: Association of Obstetric variables with mean scores of different domains of QOL (n=250)**

Variable	No. (%)	QOL Scores among different domains (Mean±SD)			
		Vasomotor	Psycho-social	Physical	Sexual
<b>1. Age at marriage (Years)</b>					
<18	66(26.4)	5.36±5.64	11.47±7.64	33.27±17.02	2.78±3.86
>18	184(73.6)	6.64±5.4	12.54±7.81	33.58±16.72	3.67±4.12
P value		0.11	0.33	0.89	0.13
<b>2. No. of living children</b>					
Nil	130(52)	5.69±5.37	12.43±7.44	34.25±16.89	3.81±4.11
1-2	116(46.4)	6.97±5.53	12.11±8.03	32.36±16.63	3.05±3.96
>2	4(1.6)	6.75±6.99	10.75±11.93	42.00±16.87	2.75±5.5
P value		0.18	0.87	0.40	0.32
<b>3. History of Contraceptive use</b>					
No	230(92)	6.02±5.44	12.11±7.93	32.84±16.89	3.34±4.09
Yes	20(8)	9.55±5.02	14.00±5.28	41.10±13.26	4.55±3.67
P value		<b>0.006</b>	0.29	<b>0.03</b>	0.20
<b>4. Age at menopause (Years)</b>					
<40	24(9.6)	5.75±5.52	14.92±8.15	30.12±13.75	2.92±3.65
40-45	69(27.6)	6.13±4.91	12.29±8.50	32.34±15.91	3.79±4.18
45-50	141(56.4)	6.25±5.77	11.75±7.45	34.31±17.91	3.52±4.15
>50	16(6.4)	8.37±5.17	12.62±6.27	36.37±13.94	2.06±3.23
P value		0.45	0.33	0.55	0.42
<b>5. Duration since menopause (years)</b>					
<5	64(25.6)	11.36±3.70	12.78±8.05	35.26±17.58	3.65±3.97
5-10	78(31.2)	4.65±5.04	12.221±7.15	34.19±15.47	3.30±4.23
>10	108(43.2)	4.50±4.79	11.98±8.06	31.95±17.18	3.41±4.03
P value		<b>0.000</b>	0.81	0.42	0.87

**Table 3: Predictors of Scores of QOL among postmenopausal women**

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig. (p value)	95% Confidence Interval for B	
	B	Std. Error				Beta	Lower Bound
(Constant)	104.525	25.215		4.145	.000	54.849	154.200
Age	1.614	3.955	.050	.408	.684	-6.178	9.407
Education	-.050	.221	-.016	-.224	.823	-.486	.386
Religion	.555	1.866	.019	.297	.767	-3.122	4.232
Occupation	1.390	3.801	.024	.366	.715	-6.098	8.878
Marital Status	-.880	5.072	-.013	-.173	.862	-10.873	9.113
Type of family	-1.640	3.854	-.030	-.426	.671	-9.232	5.952
Monthly family income	.083	.220	.025	.379	.705	-.350	.517
Physical Activity	-6.137	3.456	-.122	-1.775	.077	-12.946	.673
Age at marriage	2.341	4.445	.038	.527	.599	-6.416	11.097
No. of living children	-1.740	3.442	-.034	-.506	.614	-8.521	5.041
Age at menopause	.539	2.282	.019	.236	.814	-3.956	5.034
Duration of menopause	-.728	.332	-.216	-2.191	<b>.029</b>	-1.383	-.073
H/o of contraceptives use	-15.647	6.491	-.155	-2.411	<b>.017</b>	-28.435	-2.860

behaviour among the literate women.<sup>[15]</sup> The results of the present study revealed no association between marital status and various domains of QOL. In contrast, some other authors suggest that women who are married usually

have a positive attitude towards menopause than divorced/single women and enjoy a better QOL.<sup>[16,17]</sup> No association was found between occupation and various domains of QOL while physical activity was significantly associated

with psycho-social domain in the present study. Studies by some other authors have also contributed to prove that increased physical activity translates into alleviation of unpleasant menopausal symptoms which led to improved QOL.<sup>[18-21]</sup> Basu S *et al* in a study among rural women reported that education not more than primary school, not being employed and having >2 children were associated with lower QOL scores.<sup>[22]</sup> When multivariate regression analysis was done, it was found that history of contraceptives use and duration of menopause were the only variables which emerged as significant predictors for QOL. These results are contrary to those reported by Baral S *et al* where educational attainment and physical activity were found to be significant determinate of QOL among menopausal women on multiple logistic regressions.<sup>[23]</sup>

**Limitations:** One of the limitations of the present study could be Recall bias as women were asked to recall the symptoms in the past four weeks. Further, the present study was a descriptive cross-sectional in nature, due to which only association between various variables and QOL could be evaluated. We were unable to evaluate the impact of these factors on changes in quality of life over time, which, a cohort study or follow-up study might have yielded better, producing more convincing results, thus opening up further avenue for research in this area.

### Conclusion

The present study has elicited that there is a significant effect of menopausal symptoms on QOL of the rural post menopausal women. Among the socio-demographic and obstetric variables studied, only history of contraceptive use and duration of menopause emerged to be significant predictors for composite scores of QOL. This emphasizes the need to create awareness among these women regarding menopausal symptoms and their management so as to improve the QOL.

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**Conflict of Interest:** Nil

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