

Assessment of Quality of Life Based on Psychological, Somatovegetative, and Urogenital Health Problems among Postmenopausal Women in Urban Puducherry, South India: A Cross-Sectional Observational Study

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ABSTRACT

Background: An average Indian woman spends almost one-third of her lifespan in the postmenopausal phase enduring the consequences of hormonal decline. This can have a significant impact on quality of life (QOL). Hence, this study was conducted to assess the QOL and health problems among postmenopausal women in urban Puducherry, South India. **Methods:** A cross-sectional study was carried out among postmenopausal women attending urban primary health center between April and May 2017. Information about social, economic, and demographic characteristics was collected using a semi-structured questionnaire, and menopause rating scale was used to assess the QOL. **Results:** Among 204 participants, 55.4% belonged to elderly age group (≥ 60 years); 61.3% did not have any formal education; 55.9% of the participants were unemployed; 68.7% were widowed, separated, or divorced; 89.7% belonged to Hindu religion; and 42.2% belonged to lower socioeconomic class. Majority (78%) suffered from psychological problems followed by somatovegetative (62%) and urogenital problems (33%). The prevalence of poor QOL was 37.2% (95% confidence interval: 30.8%–44.0%). Participants belonging to Hindu religion (annual percentage rate [aPR]-4.14), in nuclear family (aPR-2.31), and with chronic comorbidity (aPR-5.52) and alcohol/tobacco users (aPR-6.03) had significantly higher risk of poor QOL. **Conclusion:** The current study found that more than one-third of the postmenopausal women in urban Puducherry have poor QOL with majority suffering from psychological problems. Hence, more focus needs to be given to this target population to achieve physical, social, and mental well-being among females.

KEYWORDS: Postmenopause, quality of life, urogenital abnormalities

INTRODUCTION

On an average, an Indian woman spends almost one-third of her lifespan in the postmenopausal phase enduring the consequences of hormonal decline. This makes them more vulnerable to a new set of health and mental problems.^[1] In India, most of the studies have mainly been directed at determining the mean age of menopause (46.2 ± 4.9 years), which is found to be comparatively lesser than that in Western countries.^[2] Many factors may be attributed to the same such as poor socioeconomic conditions, lack of adequate nutrition for

women in the reproductive age group, poor education status, and ignorance toward self-health.

The data from different studies done around the country depict that there is noticeable difference in the types and

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severity of menopausal symptoms between rural and urban areas.^[3-6] While urogenital symptoms, fatigue and weakness, body aches, and pains are the predominant symptoms in both rural and urban menopausal women, hot flushes, psychological symptoms, mood swings, and sexual dysfunctions are seen more commonly in urban women. For example, in New Delhi, the most common complaints of postmenopausal women are sleep disturbances (62.7%), muscle or joint pain (59.1%), hot flushes (46.4%), and night sweats (45.6%).^[7]

Another important aspect of these health problems is the negative impact they have on the quality of life (QOL) of these women. The World Health Organization (WHO) defines QOL as an individual's 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.^[8] Thus, it may be taken as an appropriate tool to objectively determine the health status of an individual. However, to convert this tool to a quantifiable measure with preestablished standards, several easy-to-use questionnaires and scales have been developed over the years that include the WHO QOL questionnaire-BREF, Menopausal QOL questionnaire, and the Modified menopause rating scale (MRS).^[8]

However, this field has highly been neglected over the years. In an age where efforts are being made to achieve complete physical, mental, and social well-being of all, this less understood area is surely a barrier to achieve holistic health care. In India, the data regarding postmenopausal QOL are fairly inadequate, and therefore, this group of health problems has mostly been neglected over the years, especially in South India. Hence, this study was carried out to assess the QOL based on psychological, urogenital, and somatovegetative health problems among postmenopausal women in urban Puducherry, India.

METHODS

A cross-sectional study was conducted in the urban health center linked to a tertiary care facility in Puducherry between April and May 2017. The selected health care center serves four wards in urban part of Puducherry which caters to a total population of around 10,000. This was conducted as a facility-based study among the postmenopausal women visiting the urban health center during outpatient hours. All the women above 40 years of age with a history of at least 12 months of amenorrhea attending the outpatient department (OPD) of health center were included in the study. Women who were not able to respond to the questionnaire were excluded from the study.

The sample size was calculated using OpenEpi (v 3.01 updated on 2013, USA).^[9] Based on a previous study conducted in South India^[10] which reported the prevalence of poor QOL as 40%, relative precision of 20%, confidence interval (CI) 95%, and assuming nonresponse rate 20%, the minimum sample size required was estimated to be 175. However, all the postmenopausal women attending the OPD during the study period were taken into the study. Convenience sampling technique was applied for recruiting the participants into the study as this was a facility-based study.

Interns posted in the urban health center were selected for data collection and given 1 day training for the same. During the training, they were explained the purpose and objectives of the study, confidentiality of information, rights of the participants, importance of obtaining informed consent, and administration of questionnaire to the participants. Postgraduates posted in the same health care center supervised the data collection procedure by reviewing all questionnaires at the end of each day. Informed consent was taken from participants satisfying the inclusion criteria. All the study participants were explained regarding the purpose and motive of the study.

A standard WHO tool was used to collect the sociodemographic details in the form of age, education, occupation, socioeconomic status, religion, marital status, age of first childbirth, menstrual history such as age of attaining menarche and menopause, behavioral habits such as tobacco and alcohol use, and history of chronic comorbidity such as diabetes mellitus and hypertension. Anthropometric measurements such as height, weight, and body mass index were also captured.

Menopause rating scale was used to evaluate the QOL among postmenopausal women under three major domains, namely somatovegetative, urogenital, and psychological. The somatovegetative domain includes hot flushes, heart discomfort, sleep problems, and joint and muscular discomfort. The psychological domain includes depressive mood, irritability, anxiety, and physical and mental exhaustion. The urogenital domain includes sexual problems, bladder problems, and dryness of the vagina. Depending on the severity, each symptom is scored from 0 to 4, with 0 being none and 4 being extremely severe. Somatovegetative domain has a total score ranging from 0 to 16; urogenital domain has total score from 0 to 12; psychological has total score ranging from 0 to 16. The overall score ranges from 0 to 44. This total score determines the impairment of QOL in the form of no or little (score 0–4), mild (score 5–8), moderate (score 9–16), and severe (score 17–44). Moderate-to-severe impairment in QOL was taken as poor QOL for analysis purposes.^[11]

Data were entered into EpiData v 3.01 software (EpiData Association, Odense, Denmark),^[12] and analysis was done using STATA version 14.0 (StataCorp LP, College Station, Texas).^[13] Descriptive statistics for continuous variables such as participant's age and age of attaining menarche and menopause were summarized as mean (standard deviation [SD]) and age of first childbirth was summarized as median (interquartile range [IQR]) as it was following nonnormal distribution. Proportion of poor QOL was summarized as percentages with 95% CI. Chi-square test was used to assess the association between sociodemographic profile and poor QOL among postmenopausal women. Predictors of poor QOL were identified using multivariable analysis (Poisson regression), considering poor QOL as dependent variable and age category, marital status, religion, family type, socioeconomic status, self-reported chronic comorbidity, alcohol or tobacco use, and body mass index as explanatory variables. Variables with *P* value up to 0.20 were considered into the model. Unadjusted and adjusted prevalence ratios (PRs) with 95% CI were calculated. *P* < 0.05 was considered statistically significant.

RESULTS

In total, 220 eligible postmenopausal women were invited to participate in the study, of which 204 accepted and responded to the questionnaire giving a response rate of 92.7%. Out of the 16 women excluded from the study, six women were unable to respond to the questionnaire and 10 women were not willing to participate in the study.

Mean (SD) age (in years) of the study participants was 58.6 (9.4). Table 1 shows the sociodemographic profile of the study participants. More than half, i.e., 113 (55.4%), belonged to elderly age group (≥ 60 years); majority, i.e., 125 (61.3%), did not have any formal education; about 114 (55.9%) of the participants were unemployed. Most of the women, i.e., 140 (68.7%), in the study were widowed, separated, or divorced; majority, i.e., 183 (89.7%) belonged to Hindu religion; almost half, i.e., 98 (48.0%) were living in nuclear family. Most women, i.e., 86 (42.2%) belonged to lower socioeconomic class. Menstrual-related characteristics showed that mean (SD) age of menopause was 45.4 (5.2) years and of menarche was 13 (2.5) years. Mean (SD) age of marriage was 19.9 (4.1) years. Median (IQR) age of first childbirth was 22 (19–24) years. Almost all the women had regular menstrual cycles.

Table 2 shows the behavioral, anthropometric, and morbidity profile of the study participants. In total, 17 (8.3%) of the postmenopausal were consuming either tobacco or alcohol currently. Anthropometric

Table 1: Sociodemographic characteristics of the study participants (n=204)

Sociodemographic characteristics	Frequency, n (%)
Age category (years)	
<60	91 (44.6)
≥ 60	113 (55.4)
Education (class)	
No formal education	125 (61.3)
Primary education	34 (16.7)
Middle education	30 (14.7)
Secondary and above	15 (7.3)
Occupation	
Unemployed	114 (55.9)
Employed	90 (44.1)
Socioeconomic class (Rs.)*	
Lower (≤ 938)	86 (42.2)
Lower middle (939-1875)	75 (36.8)
Middle (1876-3126)	31 (15.2)
Upper middle (3127-6253)	9 (4.4)
Upper (≥ 6254)	3 (1.4)
Religion	
Hindu	183 (89.7)
Christian	21 (10.3)
Marital status	
Currently married	58 (28.4)
Widowed/separated/divorced	140 (68.7)
Unmarried	6 (2.9)
Type of family	
Nuclear	98 (48.0)
Joint	64 (31.4)
Three generation	42 (20.6)
Previous menstrual cycles	
Regular	195 (95.6)
Irregular	9 (4.4)

*Modified B G Prasad's scale, January 2017

measurements showed that almost half (48.1%) of the women belonged to either overweight or obese category as per the Asia Pacific Guidelines for Classification of Obesity. Morbidity profile of the study participants showed that majority had hypertension (32.8%) followed by diabetes mellitus (10.8%).

Figure 1 shows the severity of symptoms in urogenital, somatovegetative, and psychological domain based on menopause rating scale (MRS) among postmenopausal woman in the study. The results display that majority (78%) of the postmenopausal women experienced some psychological fatigue of which almost half (44%) experienced moderate–severe symptoms. About 62% of postmenopausal women experience one or more somatovegetative symptoms of which about 29% perceive moderate–severe symptoms. In the urogenital domain, 33% of women appear to perceive health issues. Overall, more than one-third 37.2% (95% CI:

Table 2: Behavioral, anthropometric, and morbidity profile of the study participants (n=204)

Characteristics	Frequency, n (%)
Behavioral profile	
Current alcohol users	3 (1.5)
Current tobacco users	14 (6.9)
Intake of supplements [‡]	
Yes	149 (73.0)
No	55 (27.0)
Anthropometric profile	
Body mass index [†]	
Underweight (<18.50)	9 (4.4)
Normal (18.50-22.99)	97 (47.5)
Overweight (23.00-24.99)	86 (42.2)
Obesity (≥25.00)	12 (5.9)
Morbidity profile	
Self-reported chronic comorbidity	
Nil	25 (12.3)
Hypertension	67 (32.8)
Diabetes mellitus	22 (10.8)
Diabetes mellitus and hypertension	69 (33.8)
Bronchial asthma	9 (4.4)
Others [#]	9 (4.1)
Thyroid disorders	3 (1.5)

[#]Different combinations of bronchial asthma, thyroid disorders, diabetes mellitus and hypertension, [†]WHO criteria for Asian population, [‡]Any one of the following: Iron and folic acid, calcium and Vitamin B complex. WHO: World Health Organization

30.8%–44.0%) had poor QOL (with moderate-to-severe level of symptoms).

Table 3 represents the association of sociodemographic characteristics with perceived poor QOL among postmenopausal woman. It was found the postmenopausal woman with age ≥60 years (PR-1.64, $P = 0.01$), belonging to Hindu religion (PR-2.79, $P = 0.05$), in nuclear family (PR-2.34, $P = 0.003$), and with chronic comorbidity (PR 2.51, $P = 0.05$), current alcohol/tobacco users (PR-2.06, $P < 0.001$), and normal or underweight women (PR-1.58, $P = 0.01$) had higher prevalence of poor QOL when compared to postmenopausal woman of lesser age, belonging to other religion, in joint family, without any chronic comorbidity, not using either tobacco or alcohol, and overweight or obese women.

Table 4 depicts the predictors of poor QOL among postmenopausal woman. The current study showed the postmenopausal woman belonging to Hindu religion (annual percentage rate [aPR]-4.14, 95% CI: 1.33–12.95, $P = 0.01$), in nuclear family (aPR-2.31, 95% CI: 1.03–5.17, $P = 0.04$), and with chronic comorbidity (aPR-5.52, 95% CI: 1.53–19.98, $P = 0.009$) and current alcohol/tobacco users (aPR-6.03, 95% CI: 1.65–22.06, $P = 0.007$) are significant determinants of poor QOL among postmenopausal woman.

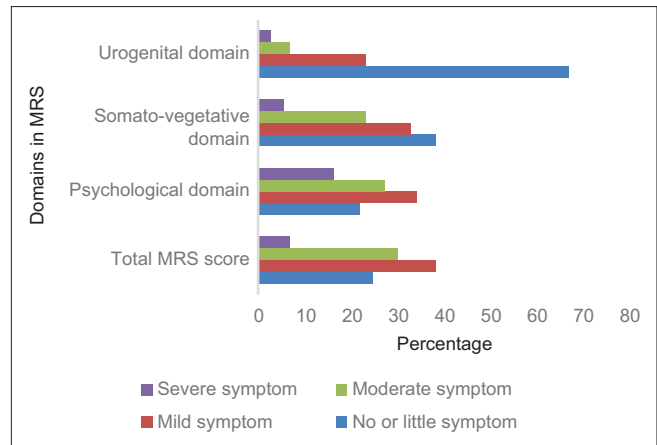


Figure 1: Severity of symptoms in urogenital, somatovegetative, and psychological domain based on menopause rating scale (n = 204)

DISCUSSION

The current study found that more than one-third, i.e., 37.2% (95% CI: 30.8%–44.0%), had poor QOL. Most common health problem among the postmenopausal women was psychological health problem followed by somatovegetative problems. Predictors of poor QOL among postmenopausal women were belonging to Hindu religion (aPR-4.14), in nuclear family (aPR-2.31), with chronic comorbidity (aPR-5.52), and current alcohol/tobacco users (aPR-6.03).

Most common form of health problems among postmenopausal women was psychological problems in which almost half were suffering from moderate-to-severe symptoms such as depression, anxiety, and mental exhaustion. This finding was similar to some of the other studies done in India.^[14] However, most of the studies in both South and North Indian population reported somatic symptoms as the most common health problems among the postmenopausal women.^[10,15,16]

The current study found that almost one-third were suffering from moderate-to-severe symptoms such as poor sleep quality and cardiac, joint, and muscular discomfort. Even though major reason can be the hormonal changes during the postmenopausal period, events occurring in daily life such as financial and family constraints, physical ailments, and lack of time to relax among the midlife women can also contribute significantly to the psychological problems. Urogenital problems were the least reported among the three domains, which were similar to the other studies done in India such as Delhi, Haryana, Uttar Pradesh, and Hyderabad.^[15-18] However, the actual picture within this domain may differ due to the reluctance in discussing such issues.

Table 3: Association of sociodemographic profile with poor quality of life among postmenopausal woman in urban Puducherry, South India (n=204)

Characteristics	Total	Poor QoL (n=76), n (%)	Unadjusted prevalence ratio (95% CI)	P
Age category (years)				
<60	91	25 (27.5)	Reference	-
≥60	113	51 (45.1)	1.64 (1.11-2.42)	0.01
Education (class)				
No formal education	125	48 (38.4)	1.12 (0.74-1.67)	0.59
Primary and middle	64	22 (34.4)	Reference	-
Secondary and above	15	6 (40.0)	1.16 (0.57-2.36)	0.67
Occupation				
Unemployed	114	46 (40.4)	1.21 (0.84-1.75)	0.31
Employed	90	30 (33.3)	Reference	-
Marital status				
Currently married	58	12 (20.7)	Reference	-
Widowed/separated/unmarried/divorced	146	64 (43.8)	2.11 (1.23-3.62)	0.006
Religion				
Hindu	183	73 (39.9)	2.79 (1.03-7.97)	0.05
Christian	21	3 (14.3)	Reference	-
Type of family				
Nuclear	98	43 (43.9)	2.34 (1.34-4.08)	0.003
Joint	64	12 (18.8)	Reference	-
Three generation	42	21 (50.0)	2.67 (1.47-4.82)	0.001
Socioeconomic class (Rs.)*				
Lower	86	36 (41.9)	1.49 (0.96-2.32)	0.07
Lower middle	75	21 (28.0)	Reference	-
Middle/upper middle/upper	43	19 (44.2)	1.58 (0.96-2.58)	0.07
Self-reported chronic comorbidity				
Nil	25	4 (16.0)	Reference	-
Present	179	72 (40.2)	2.51 (1.01-6.28)	0.05
Current tobacco/alcohol users				
No	187	64 (34.2)	Reference	-
Yes	17	12 (70.6)	2.06 (1.43-2.97)	<0.001
Intake of supplements‡				
Yes	149	58 (38.9)	1.18 (0.77-1.83)	0.43
No	55	18 (32.7)	Reference	-
Body mass index†				
Underweight/normal	106	48 (45.3)	1.58 (1.09-2.31)	0.01
Overweight/obesity	98	28 (28.6)	Reference	-

*Modified B G Prasad's scale, January 2017, †WHO criteria for Asian population, ‡Any one of the following: Iron and folic acid, calcium and Vitamin B complex. QoL: Quality of life, CI: Confidence interval, WHO: World Health Organization

Overall, the current study reported that more than one-third (37.2%) of postmenopausal women have poor QOL. A similar finding was found in another South Indian study like Chennai where about 40% had poor QOL.^[10] However, contrast finding was found in studies done in other parts of India such as West Bengal where more than 75% of the postmenopausal women had poor QOL.^[19] These dissimilar findings can be attributed to the cultural, socioeconomic, and geographical differences between the study settings.

In univariate analysis, age category, religion, family type, chronic comorbidity, and alcohol or tobacco use were found to be significantly associated with poor

QOL. This was similar to the findings reported in other studies done among postmenopausal women. In adjusted analysis, except age, all other factors were found to be significant determinants of poor QOL among postmenopausal women. More focus is required among these target groups for improvement of QOL.

Major strength of the study was the assessment of QOL based on health problems in the postmenopausal women such as psychological, somatovegetative, and urogenital problems. Higher response rate (93%) was another added strength to the study. The current study also adds to the limited literature available regarding the QOL among postmenopausal women in South India.

Table 4: Predictors of poor quality of life among postmenopausal woman in urban Puducherry, South India (n=204)

Characteristics	Total	Poor QoL (n=76), n (%)	Adjusted prevalence ratio (95% CI)	P
Age category (years)				
<60	91	25 (27.5)	Reference	-
≥60	113	51 (45.1)	1.20 (0.48-3.00)	0.70
Marital status				
Currently married	58	12 (20.7)	Reference	-
Widowed/separated/unmarried/divorced	146	64 (43.8)	1.63 (0.64-4.14)	0.30
Religion				
Hindu	183	73 (39.9)	4.14 (1.33-12.95)	0.01
Christian	21	3 (14.3)	Reference	-
Type of family				
Nuclear	98	43 (43.9)	2.31 (1.03-5.17)	0.04
Joint	64	12 (18.8)	Reference	-
Three generation	42	21 (50.0)	4.16 (2.37-7.29)	<0.001
Socioeconomic class (Rs.)*				
Lower	86	36 (41.9)	2.04 (0.88-4.72)	0.09
Lower middle	75	21 (28.0)	Reference	-
Middle/upper middle/upper	43	19 (44.2)	1.94 (0.72-5.25)	0.18
Self-reported chronic comorbidity				
Nil	25	4 (16.0)	Reference	-
Present	179	72 (40.2)	5.52 (1.53-19.98)	0.009
Current tobacco/alcohol users				
No	187	64 (34.2)	Reference	-
Yes	17	12 (70.6)	6.03 (1.65-22.06)	0.007
Body mass index [†]				
Underweight/normal	106	48 (45.3)	1.95 (0.91-4.19)	0.08
Overweight/obesity	98	28 (28.6)	Reference	-

*Modified B G Prasad's scale, January 2017, [†]WHO criteria for Asian population, [‡]Any one of the following: Iron and folic acid, calcium and Vitamin B complex. QoL: Quality of life, CI: Confidence interval, WHO: World Health Organization

However, causal association of the predictors of QOL cannot be inferred because of cross-sectional nature of the study. Hence, further longitudinal research can be done to determine whether the factors informed in the current study are truly associated with QOL and develop interventions accordingly. Another limitation of the study was the facility-based nature of study as the results might not be representative of the postmenopausal women in the general population. Since the study was done in a smaller geographical region, the generalizability of the findings might be questionable.

In an age where efforts are being made to achieve complete physical, mental, and social well-being of all, lesser understanding regarding the health problems and QOL is surely a barrier to achieve holistic health care. Hence, more studies need to be done to evaluate the factors affecting the QOL among women and measures to tackle the same. Apart from research-related activities, healthcare workers from primary level need to be involved a great deal in teaching the postmenopausal women about the possible health issues during the period and developing a more acceptable behavior regarding the same.

Conducting activities such as daily yoga classes, forming self-help groups, and supplements distribution can greatly help reducing the psychological fatigue among postmenopausal women. It can largely improve their QOL as the current study found that psychological problems were more common and impacted on the QOL. Importance should be given to the community participation in implementation of various health talks, discussions related to the postmenopausal health, and issues relating to it. Baseline information from the current study can be used by the relevant policymakers to devise appropriate health policies or programs for postmenopausal women and help them lead a healthy and hassle-free life.

CONCLUSION

The current study found that more than one-third of postmenopausal women in urban Puducherry have poor QOL. Most of the postmenopausal women suffered from psychological problems followed by somatovegetative and urogenital health problems. Religion, type of family, presence of chronic comorbidity, and alcohol or tobacco use were the significant determinants of poor QOL

among postmenopausal women. However, more studies targeting the postmenopausal women are needed to expand our understanding of this seldom-explored field to improve the well-being of women in our country.

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Conflicts of interest

There are no conflicts of interest.

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