ASSESSMENT OF QUALITY OF LIFE AMONG MENOPAUSAL WOMEN IN RURAL AREA OF TIRUVALLUR DISTRICT

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Abstract

Introduction: Menopause sets the stage for aging and accelerates the process of non-communicable diseases. Menopausal symptoms give rise to social consequences which affect the quality of life. The poor quality of life among menopausal women would place a significant burden on public health care in developing countries like India. We aimed to study the prevalence of menopausal symptoms and their effect on quality of life among rural middle-aged women. **Methods:** A cross-sectional study was conducted among 200 women in the menopausal age group attending a gynecology clinic in a rural health training Centre. The study participants were selected using a simple random sampling method. Socio-demographic details of the participants were collected using a pretested semi-structured questionnaire following which the Menopausal Rating Scale (MRS) was used to assess the quality of life. **Results:** Mean age of the women was 51.9±4.37, mean age at menarche and menopause was 14.83±1.24, 45.53±2.69 respectively. 53.5% belonged to the normal BMI category, and 27% of the women were overweight according to the Asian classification of BMI. The majority of the participants had physical and mental exhaustion (78.5%) followed by sexual problems (66%), and irritability (61.5%). The overall prevalence was 91%, 100%, and 44% in somatovegetative, psychological, and urogenital domains. The majority of the women (65%) in the menopausal age group had a bad quality of life. Type of family, socioeconomic status, and BMI were positively associated (p=0.0001, p=0.0001, p=0.003) with quality of life respectively. **Conclusion:** To achieve holistic care for menopausal women, WHO has recommended raising awareness of menopause and its impact on women at individual and societal levels; emphasizing a life course approach to health and well-being by ensuring that women have access to appropriate health information and services to promote healthy aging and a high quality of life before, during, and after menopause.

Keywords: Menopausal Symptoms, Menopausal Rating Scale, Prevalence, Rural India.

INTRODUCTION

Menopause is a natural biological phenomenon in a woman's life. It is one point in a continuum of life stages for women and marks the end of their reproductive years. Menopause is caused by the loss of ovarian follicular function and a decline in circulating blood estrogen levels. Natural menopause is deemed to have occurred after 12 consecutive months without menstruation for which there is no other obvious physiological or pathological cause and in the absence of clinical intervention. Menopause can also be induced as a consequence of surgical procedures that involve the removal of both ovaries or medical interventions that cause cessation of ovarian function. It sets the stage for aging and accelerates the process of non-communicable diseases(1).

In 2021, women aged 50 and over accounted for 26% of all women and girls globally. This was up from 22% 10 years earlier. Most women experience menopause between the ages of 45 and 55 years as a natural part of biological aging. In India, the mean age of menopause (46.2 ± 4.9 years), is found to be comparatively lesser than that in Western countries(2). On average, an Indian woman spends almost one-third of her lifespan in the perimenopausal phase enduring the consequences of hormonal decline.

Menopause can affect physical, emotional, mental, and social well-being(3). The symptoms of menopause are reflected not only in the female genital tract but also in the skeletal, cardiovascular, and psychological systems. Some have few symptoms. For others, symptoms can be severe and affect daily activities and quality of life. With increasing life expectancy, women are likely to face long periods of menopause accounting for approximately one-third of their age. Therefore, perimenopausal care plays an important role in the promotion of healthy aging and quality of life. Socially, a woman's experience of menopause may be influenced by gender norms and familial and sociocultural factors(4).

Another important aspect of these health problems is the negative impact they have on the quality of life (QOL) of these women(5). More than 80% of women experience physical or psychological symptoms in the year approaching menopause, leading to a decrease in Quality of Life. 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(6).

Various studies existing from foreign countries have indicated that menopause is negatively related to Quality of Life by menopausal symptoms based on their severity(7). The study of Quality of Life in post-menopause has become an essential component in clinical practice. Most studies on the Quality of Life of post-menopausal women exist in developed countries. 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(8). Hence, this study was carried out to determine the menopause-related symptoms and their impact on Quality of Life among women of menopausal age group in rural Tiruvallur district, India.

METHODOLOGY

A community-based cross-sectional analytical study was conducted from October to December 2023 in the rural health training center of a tertiary care hospital in Kadambathur block of Tiruvallur district, Tamil Nadu. In total, 264 eligible participants who attended the gynecology clinic belonging to the age group of 40-60 years were invited to participate in the study of which 200 women were selected using a simple random sampling technique (lottery method). Based on a previous study done in Chattisgarh by Meena Armo et al(9), the prevalence of bladder problems was 87.93%, with an alpha error of 0.05 and a non-response rate of 10%, the minimum sample size required for the study was calculated as 181 by using Open Epi (v 3.01 updated on 2013, USA) sample size calculator.

Women between 40 to 60 years of age in the peri-menopausal phase or postmenopausal phase and those who gave consent for participation in the study and resided in that area for >1 year were included in the study. Women who had attained unnatural menopause, pregnant and breast-feeding women, on medication such as anxiolytics, antidepressants, antipsychotic drugs, and on any hormone replacement therapy, women who were known cases of systemic diseases, thyroid disorders, and/or any genital pathology and women with a missing period in last 12 months due to other physiological conditions other than menopause, history of drug addiction or alcohol abuse were excluded from the study.

A pretested semi-structured questionnaire was used for interviewing the study participants to collect information on sociodemographic profiles, relevant menstrual history, and personal history. The modified B. G Prasad scale October 2023 was used to assess the socioeconomic status and Asia Pacific Guidelines for Classification of Obesity was used to assess the BMI of the study participants. The Menopausal Rating Scale was used as a basis for assessing menopausal symptoms for this questionnaire-based study(10). MRS is a self-administered instrument that is a validated scale and has been used in many clinical and epidemiological studies and in research on the etiology of menopausal symptoms to assess the severity of menopausal symptoms and the quality of their life. The MRS is composed of 11 items and is divided into three subscales: 1) Somatic, 2) Psychological, and 3) Urogenital. Each of the 11 symptoms contains a scoring scale from 0 (no complaint) to 4 (very severe complaint). Depending on the severity, each symptom is scored from 0 to 4 on a Likert scale. Somato-vegetative domain has a total score ranging from 0 to 16; the urogenital domain has a total score from 0 to 12; the psychological has a total score ranging from 0 to 16. The overall score ranges from 0 to 44. This total score determines the severity of menopausal symptoms in the form of no or little (score 0–4), mild (score 5–8), moderate (score 9–16), and severe (score 17–44). The higher the score of a domain, the more severe the problem and the greater the degree of impairment of Quality of Life. A cut-off value of score up to 8 revealed good Quality of Life i.e.no/little to mild symptoms and a score ≥9 i.e., moderate to severe symptoms, revealed poor Quality of Life(11). Although the questionnaire was in English, women were interviewed in their language by trained professionals. Women were asked face to face whether or not they had experienced the 11 menopausal symptoms and depending upon the severity, their symptoms were marked from 0 to 4. However, when the questionnaire was asked, initially, most of the women could not respond well, but with repeated explanations, their response gradually increased. Finally, all the parameters were separately analyzed and discussed.

Participant identity was always kept confidential, and the data was used only for research purposes. The procedures followed were per the Institutional Ethical Committee and with the Helsinki Declaration of 1975 as revised in 2000. Written informed consent in the native language (Tamil) was obtained from the study participants before getting the information from them. Data was entered into MS Excel and was analyzed using the statistical package for Social Sciences (SPSS) version 25. The final data was tabulated, and percentages were calculated for categorical variables, and mean, and standard deviation were calculated for measurable data. The associations were analyzed by crosstabs and the Chi-square ($\chi2$) test was used for statistical significance.

RESULTS

This study was conducted among 200 participants who were women in the menopausal age group and who attended a gynecology clinic at a rural health training center in Tiruvallur district. The mean age of the women was 51.99 (4.377). 14.83 (1.246) and 45.53 (2.695) were the mean ages of the participants at menarche and menopause respectively. The majority of the participants 119 (59.5%), 181 (90.5%), and 163 (81.5%) belonged to the age group 51-60 years, attained menarche between 10-16 years, and menopause between 45-55 years respectively.

Table 1 shows the sociodemographic profile of the study participants. The majority of the women were married 180 (90%) and lived in a nuclear family 136 (68%). 183 (91.5%) of the women practiced Hinduism which was asked to know the existence of any cultural beliefs. The frequency and percentage of literate women were 172 (86%) and 66 (33%) belonging to class Ⅲ socioeconomic status. Anthropometric measurements showed that almost half 107 (53.5%) of the women belonged to the Normal BMI category. The majority of the women 130 (65%) were found to have a poor quality of life according to global scores of the MRS scale.

Table 1: Sociodemographic profile of the study participants

S. No	Variables	Categories	N=200 Percentage (%)
1	Marital status	Married	180 (90)
		Divorced, Unmarried, Separated	20 (10)
2	Type of Family	Nuclear	136 (68)
		Joint	64 (32)
3	Religion	Hindu	183 (91.5)
		Others	17 (8.5)
4	Socioeconomic status	Ⅰ	23 (11.5)
		Ⅱ	49 (42.5)
		Ⅲ	66 (33)
		Ⅳ	62 (31)
5	Education	Literate	172 (86)
		Illiterate	28 (14)
6	BMI	Underweight	25 (12.5)
		Normal	107 (53.5)
		Overweight	54 (27)
		Obese	14 (7)
7	Quality of Life	Good	70 (35)
		Poor	130 (65)

The overall prevalence was 91%, 100%, and 44% in somato-vegetative, psychological, and urogenital domains. The majority of the participants had physical and mental exhaustion (78.5%) followed by sexual problems (66%) and irritability (61.5%). Results in *Table 2* show the domain-wise quality of life of the participants in which the mean score of the somatovegetative domain was 5.11 and the standard deviation (2.845). The mean and standard deviation scores of psychological and urogenital domains were 5.64 (2.993) and 0.94 (1.413) respectively.

Table 2: Domain-wise quality of life

S. No	Domains	Minimum	Maximum	Mean	Standard Deviation
1	Somato vegetative	0	10	5.11	2.845
2	Psychological	1	12	5.64	2.993
3	Urogenital	0	6	.94	1.413

Results in *Table 3* show that women 99 (72.8%)) who lived in nuclear families had a poor quality of life compared to other women and those who lived in joint and three-generation families and this difference was found to be statistically significant (p=0.0001). Among the literate women, the majority of them 113 (65.7%) had a poor quality of life compared to other literate and illiterate women and this difference was statistically significant (p=0.0001). The majority of the women 58 (54.2%) who had normal BMI had a poor quality of life compared to other BMI categories and this difference was found to be statistically significant (p=0.003).

Table 3: Association between quality of life and sociodemographic variables

S. No	Variables	Categories	QOL Good N=70 (35%)	QOL Poor N=130 (65%)	Chi-square test	p-value
1	Marital status	Married	62 (34.4)	118 (65.6)	0.244	0.621
		Divorced, Unmarried, Separated	8 (40)	12 (60)		
2	Type of Family	Nuclear	37 (27.2)	99 (72.8)	11.349	**0.0001***
		Joint	33 (51.5)	1 (48.5)		
3	Religion	Hindu	67 (36.6)	116 (63.4)	2.459	0.117
		Others	3 (17.6)	14 (82.4)		
4	Socioeconomic status	I	3 (13)	20 (87)	0.263	0.608
		II	26 (53)	23 (47)		
		III	11 (16.6)	55 (83.4)		
		IV	30 (48.4)	32 (51.6)		
5	Education	Literate	59 (34.3)	113 (65.7)	26.535	**0.0001***
		Illiterate	11 (39.2)	17 (60.8)		
6	BMI	Underweight	8 (32)	17 (68)	14.230	**0.003***
		Normal	49 (45.8)	58 (54.2)		
		Overweight	12 (22.2)	42 (77.8)		
		Obese	1 (7.1)	13 (92.9)		

*p≤0.05 is statistically significant

Results in *Table 4* show the multinomial logistic regression of the factors associated with the quality of life of menopausal women. Women living in the nuclear family were 0.315 times less likely to have a poor quality of life compared to women living in joint family and this difference was found to be statistically significant (p=0.001). Menopausal women belonging to the underweight and normal weight BMI category had 13.326 and 13.813 times more odds of having poor quality of life than obese women in the menopausal age group and this difference was found to be statistically significant (p=0.016, p=0.026) respectively. Education and the Overweight BMI category were not found to be associated with poor quality of life

Table 4: Multinomial logistic regression analysis of sociodemographic factors with quality of life

S. No	Variables	Categories	Adjusted OR (95% CI)	Sig
1	Education	Literate	1.390 (0.521 – 3.703)	0.511
		Illiterate[1]		
2	Type of family	Nuclear	0.315 (0.156 – 0.638)	**0.001***
		Joint[1]		
3	BMI	Underweight	13.326 (1.621 – 109.549)	**0.016***
		Normal	13.813 (1.308 – 145.864)	**0.029***
		Overweight	4.893 (0.559 – 42.825)	0.151
		Obese[1]		

*p ≤ 0.05 is statistically significant, OR-Odds ratio

[1]reference category

DISCUSSION

In the current study, 200 women in the menopausal age group participated in our study which was similar to a study with 220 eligible postmenopausal women of which 204 accepted and responded to the questionnaire giving a response rate of 92.7%, conducted in Puducherry by Krishnamoorthy et al.,(11). Contrary to our study 300 completed the study in Lucknow by Fareha Khatoon et al., (4). The Mean (SD) age in years was 51.99 (4.377) which was lower than the study by Krishnamoorthy et al., Mean (SD) age in years of the study participants was 58.6 (9.4) (1). More than half, i.e., 113 (55.4%), belonged to the elderly age group (≥60 years) (1) whereas in our study majority of the women belonged to the age group of 51-60 years. Majority of the them were Hindus 183 (91.5%) and were married housewives 180 (90%) similarly in a study by Krishnamoorthy et al., (11)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; the majority, i.e., 183 (89.7%) belonged to Hindu religion. The no. of literate participants was 172 (86%) contraries to studies conducted in Puducherry and Lucknow (1,4). According to Krishnamoorthy et al., almost half, i.e., 98 (48.0%) were living in a nuclear family (1) similar to our study where most of them were living in a nuclear type of family 136 (68%) and belonged to socioeconomic status Ⅱ - 49 (42.5%) contrary to a study in Puducherry in which most women, i.e., 86 (42.2%) belonged to lower socioeconomic class (1). The study reveals that the majority of the women belonged to the normal BMI category 107 (53.5%) which was different from other studies (1).

The majority of the women in our study, 130 (65%) were found to have poor quality of life according to global scores of the MRS scale(12). Overall, more than one-third 37.2% (95% CI: 30.8%–44.0%) had poor QOL (with moderate-to-severe levels of symptoms) (1). A significant association was observed between QOL and socio-demographic variables like type of family, education, and BMI. The correlation between illiteracy and the presence of menopausal symptoms was found to be statistically significant which was not similar to our study (4). However, in a study by Joseph et al, they found that educated women had more menopausal symptoms(13). In various previous studies also, it was shown that menopausal symptoms were inversely related to educational level, Gold EB et al., and Sternfeld B et al.,(14). No significant association was found between QOL and marital status, religion, or socioeconomic status contrary to a study conducted in Lucknow by Fareha Khatoon et al., Another study conducted in India by Krishnamoorthy *et al* (1), found a significant association of QOL with marital status and type of family. This difference may be due to the different study area, their social factors, customs, and religions.

Menstrual-related characteristics showed that the mean (SD) age of menopause was 45.4 (5.2) years and of menarche was 13 (2.5) years by Krishnamoorthy et al.(11), which was similar to our study, the Mean (SD) was 14.83±1.246 and 45.53±2.695 participants at menarche ranging from 10-16 years and menopause ranging from 45-55 years respectively. The mean age of menopause in a study in Lucknow by Fareha Khatoon et al., was 50.33±5.26 years ranging between 50-54 years (4) which was higher than our study. In the present study, only 1.5% of postmenopausal women had premature menopause. In the study conducted by Dasgupta and Ray(15) (2007, West Bengal), only 4% of the women attained menopause before the age of 40 years. This suggests that the prevalence of women attaining menopause before the age of 40 years is very low(15).

Menopausal symptoms and their prevalence display that overall prevalence was 91%, 100%, and 44% in somatovegetative, psychological, and urogenital domains. The majority of the participants had physical and mental exhaustion (78.5%) similar to the study by (16), the prevalence of physical and mental exhaustion was found to be much higher (86%), followed by sexual problems (66%), Avanie pal et al found in their study that bladder problem (56%) and vaginal dryness (53.3%) were much prevalent. The prevalence of irritability was (61.5%) unlike another study in South India where the most common health problem among postmenopausal women was a psychological health problem followed by somatovegetative problems. Irritability was reported by 41.7% of postmenopausal women in the present study. This finding was consistent with the results of Kaulagekar et al.(17), (2011, Pune), Rahman *et al.*(18), (2010, Bangladesh), and Sharma *et al.*(19), (2004-05, Jammu). It was seen that joint and muscular pain symptoms were of severe quality in a study done in Lucknow (4). 78% of the postmenopausal women experienced some psychological fatigue. About 62% of postmenopausal women experience one or more somatovegetative symptoms. In the urogenital domain, 33% of women appear to perceive health issues. In our study, the least common symptoms were bladder problems (14%) followed by joint and muscular discomfort (25.5%). According to Akansha Singh et al.(20), in a study conducted in Delhi, the most common complaints of postmenopausal women were sleep disturbances (62.7%), and muscle or joint pain (59.1%) (6). Similar findings were observed in the studies conducted by Sagdeo and Arora(19,21,22) (2007-09, Nagpur), Nusrat *et al.*, (2008, Pakistan), and Sharma *et al.*, (2004-05, Jammu), in which the prevalence of muscle or joint pain was found to be 60.4%, 66.74%, and 53.86%, respectively. 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 (1, 4, 5). However, most of the studies in both the South and North Indian populations reported somatic symptoms as the most common health problems among postmenopausal women.

The major strength of the study was the assessment of QOL based on health problems in postmenopausal women such as psychological, somatovegetative, and urogenital problems. The current study also adds to the limited literature available regarding the QOL among postmenopausal women in South India.

There were several limitations in our study. Although attempts were made to ensure that the data collection was appropriate, recall bias was unavoidable, especially for some elderly women. The sample size was not adequate. A causal association of the predictors of QOL cannot be inferred because of the 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 with a larger sample size. Another limitation of the study was the facility-based nature of the study, since the study was done in a smaller geographical region, the generalizability of the findings might be questionable.

CONCLUSION

Many governments do not have health policies and financing for the inclusion of menopause-related diagnosis, counseling, and treatment services as part of their routinely available services (2). WHO has recommended raising awareness of menopause and its impact on women at individual and societal levels, countries' health, and socioeconomic development; advocating for the inclusion of diagnosis,

treatment, and counseling related to the management of menopausal symptoms as part of universal health coverage by ensuring that women have access to appropriate health information and services to promote healthy aging and high quality of life before, during, and after menopause.

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