Prevalence of Menopausal Symptoms and its Effect on Quality of Life among Rural Middle Aged Women (40–60 Years) of Haryana, India

Abstract

Background: Demographic and epidemiological transitions have increased the life expectancy of middle aged women, resulting in higher burden of morbidities related to menopausal symptoms and also effect the quality of life (QOL). **Objectives:** To study the prevalence of menopausal symptoms and its effect on QOL among rural middle aged women (40–60 years) of Haryana, India. **Materials and Methods:** A community based cross-sectional study was conducted in 400 middle aged women (40–60 years) from April 2018 to March 2019 by random sampling technique. The menopause rating scale was used to assess the prevalence of menopausal symptoms and the QOL and data were collected for sociodemographic factors, relevant menstrual history and other variables. **Results:** Prevalence of menopausal symptoms was found to be 87.7%. Majority of the study subjects had anxiety (80%), followed by physical and mental exhaustion (71.5%), sleep problem (61.2%), irritability (60.7%), Joint and muscular discomfort (56%) and heart problems (54%). The most classical symptom of menopause i.e., hot flushes were reported in 36.7%. The mean age of menopause was 47.53 standard deviation 4.5 years. Statistical significant difference was seen for the mean score of few symptoms i.e., hot flushes, sweating ($P < 0.003$) and joint and muscular discomfort ($P < 0.014$) between post and peri-menopausal groups. The QOL was impaired in 70.2% of study subjects. The psychological symptoms attributed 70.8% to the poor QOL. **Conclusion:** To improve the QOL and to decrease the menopausal symptoms in these women, a holistic approach in the form of lifestyle and behavioral modification are required.

Keywords: *Menopausal symptoms, menopause rating scale, middle aged women, prevalence, quality of life*

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Introduction

Natural or spontaneous menopause is a transition phase from the reproductive to the nonreproductive phase in a woman's life. It occurs with the final menstrual period which is known to occur after 12 months of amenorrhea for which there are no obvious pathological and physiological causes.[1,2] It sets the stage for aging and accelerates the process of noncommunicable diseases. Worldwide the age of menopause is in between 45 and 55 years.[2]

The symptoms of menopause are reflected not only in the female genital tract but also in the skeletal, cardiovascular and psychological system. With increasing life expectancy, women are likely to face long periods of menopause accounting to approximately one-third of their age.[3] This has resulted in higher burden of morbidities.

Peri-menopause/menopause transition is the period immediately prior to menopause and up to 1 year after the final menstrual period. It may last for 3–5 years.[1,2] The menopausal transition is characterized by menstrual cycle variability and fluctuations in reproductive hormone levels.[4] The individual response to menopause varies considerably due to genetic, cultural, lifestyle, socioeconomic, education, behavioral and dietary factors. Postmenopausal symptoms give rise to social consequences which ultimately affect their quality of life (QOL). The poor QOL among high proportionate of menopausal phase of women would place a significant burden on public health care in developing countries like India. So the aim and objectives of our study is to study the prevalence of menopausal symptoms and its effect on QOL among rural middle aged women (40–60 years) of Haryana, India.

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Materials and Methods

A community based descriptive study with cross-sectional design was conducted from April 2018 to March 2019 in the rural block Lakhanmajara of District Rohtak, Haryana, India which is the rural field practice area of Department of Community Medicine, Pt. B. D. Sharma PGIMS, Rohtak. Middle aged[5] women between 40 and 60 years age comprised our study subjects. Inclusion criteria were women years either in peri-menopausal phase or postmenopausal phase and those who gave consent for participation in the study and residing in that area for >1 year.

Exclusion criteria

Women who had attained unnatural menopause, on medication such as anxiolytics, antidepressants, antipsychotic drugs and on any hormone replacement therapy, women who were known case of systemic diseases, thyroid disorders and/or any genital pathology and women with missing period in last 12 months due to other physiological conditions other than menopause.

Assuming the prevalence of menopausal symptoms as 50%[6-14] and allowable error 10% at level of significance of 95%, the sample size calculated was 400. Random sampling technique was employed for selecting the study participants. Out of total 20 subcentres in CHC Chiri area, five sub-centres were selected randomly. A total of 80 study subjects were selected randomly from each of the selected sub-centers. The permission of institutional Ethics Committee was obtained before the commencement of the study.

Data collection

A pretested semi-structured schedule was used for interviewing the study subjects to collect information on sociodemographic profile, relevant menstrual history, personal history. Menopause rating scale (MRS) is one of the widely used tool for assessing the prevalence and severity of menopausal symptoms. It consists of 11 items in three domains i.e., psychological, somato-vegetative and uro-genital subscales. Somato-vegetative subscale consist of 4 items i.e., Hot flushes or sweating, heart discomfort, sleeping problems, joint or muscular discomfort. Psychological subscale consist of 4 items i.e., Depressive mood, Irritability, Anxiety and Physical or mental exhaustion. Uro-genital subscale consist of 3 items i.e., sexual problems, Bladder problems and Dryness of vagina. Depending on the severity, each symptom is scored from 0 to 4 on Likert's scale with 0 being none and 4 being extremely severe. Somato-vegetative domain has a total score ranging from 0 to 16; uro-genital 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 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 is the degree of impairment of QOL.[15] A cut off value of score up to 8 revealed good QOL i.e., no/little to mild symptoms and score ≥9 i.e., moderate to severe symptoms, revealed poor QOL.[16]

Modified B. G Prasad scale 2017[17] was used to assess the socioeconomic status in the study participants.

Data analysis

Descriptive analysis was performed using univariate statistics to report means and standard deviations (SDs) for the continuous variables and frequency distribution for the categorical variables. Chi-square analysis and Fisher's exact test were performed to compare the frequency of categorical variables. For data, not normally distributed, Mann–whitney U test was used to compare the two groups. All analysis was done using Epi info. A $P < 0.05$ was considered to be significant.

Results

The mean age of the participants was 53.6 SD 5.1 years. All study subjects were Hindu by religion. Majority of subjects were married house wife with low literacy level. Out of 400 women, 344 (86%) were postmenopausal and 56 (14%) were in peri-menopausal group. As per their menstrual cycle status, majority ($n = 394$, 98.5%) of study subjects had regular cycles and 340 (85%) study subjects did not have dysmenorrhoea. The mean age of menopause was 47.5 SD 4.5 years which ranged from 38 to 58 years with a median of 48 years. Mean age of menarche was 15.33 SD 1.4 years. Majority of them 348 (87%) were nonsmoker.

Table 1 depicts that majority of the study subjects had anxiety (80%) followed by physical and mental exhaustion (71.5%), sleep problem (61.2%), irritability (60.7%), Joint and muscular discomfort (56%) and heart problems (54%). The most classical symptom of menopause i.e., hot flushes was reported in 36.7%. As per scoring of all domains, 351 (87.7%) of study subject had one or the other symptoms in the past 1 month contributing to 87.7% prevalence of menopausal symptoms.

Table 2 depicts the comparison of mean score of menopausal symptoms between the 2 groups. The total mean score of perimenopausal women was 12.48 SD 6.6 and postmenopausal women was 12.07 SD 6.2. The somato-vegetative and psychological domains mean score were more in peri-menopausal group but for uro-genital domain mean score was more in postmenopausal group and this difference was found to be statistically nonsignificant. Out of eleven menopausal symptoms, the statistically significant difference was seen for hot flush, sweating ($P < 0.003$) and joint and muscular discomfort ($P < 0.014$) between post and peri-menopausal groups.

Table 1: Prevalence of menopausal symptoms according to menopause rating scale (*n*=400)

Serial number	Domains	Symptoms	*n* (%)*	Overall prevalence in each domain (%)
1	Somato-vegetative domain	Hot flush, sweating	147 (36.7)	79
		Heart discomfort	216 (54)	
		Sleep problems	245 (61.2)	
		Joint and muscular discomfort	224 (56)	
2	Psychological domain	Depressive mood	192 (48)	88.2
		Irritability	243 (60.7)	
		Anxiety	320 (80)	
		Physical and mental exhaustion	286 (71.5)	
3	Uro-genital domain	Sexual problems	38 (9.5)	32.7
		Bladder problems	80 (20)	
		Dryness of vagina	57 (14.2)	
Prevalence total of menopausal sympoms				351(87.7)

*Multiple responses

Table 2: Mean score of each menopausal symptom by their menopause status

	Peri-menopausal (*n*=56)	Postmenopausal (*n*=344)	*P*
Symptoms			
Hot flush, sweating	1.18±1.35	0.65±1.02	0.003
Heart discomfort	1.09±1.1	0.98±1.06	0.465
Sleep problem	1.45±1.49	1.61±1.51	0.473
Joint and muscular discomfort	1.86±1.2	2.13±1.3	0.014
Somato-vegetative domain	5.57±3.3	5.34±3.2	0.803
Depressive mood	1.34±1.24	.094±1.19	0.711
Irritability	1.32±1.32	1.38±1.32	0.932
Anxiety	2.04±1.13	2.01±1.31	0.072
Physical and mental exhaustion	1.21±1.23	1.48±1.13	0.761
Psychological domain	5.95±3.4	5.82±3.5	0.783
Sexual problems	0.21±0.73	0.19±0.64	0.994
Bladder problem	0.45±0.97	0.43±0.94	0.951
Dryness of vagina	0.32±0.86	0.30±0.79	0.063
Uro-genital domain	0.88±1.7	0.92±1.6	0.501
Total domain score	12.48±6.6	12.07±6.2	0.974

Mann–Whitney U-test

Table 3 depicts no association of sociodemographic characteristics with QOL and Table 4 shows that the QOL was poor in 281 (70.2%) of study subjects (with moderate-severe symptoms) and good QOL in 119 (29.8%) of study subjects (with little or mild symptoms). The psychological symptoms mainly attributed (70.8%) to the poor QOL.

Discussion

Prevalence of poor quality of life in menopausal women

In our study, 70.2% of menopausal women had poor QOL which was comparable to the study conducted by Ray

and Dasgupta[6] where poor quality was found in 77%. Our finding was different from the studies conducted by Abdullah *et al*.[7] and Krishnamoorthy *et al*.[8] where poor quality was 52.3% and 37.2% respectively. The difference may be due to different categorization of symptoms, different study area and use of different study tool to assess QOL. In this study, the mean age of the participants was 53.6 ± 5.1 years. The finding was comparable to other studies by Pathak and Shivaswamy[9] and Punia *et al*.[10] where the mean age of participants was 52.04 ± 5.58 years and 52.49 ± 6.18 years respectively. But Sood *et al*.[11] revealed the mean age of study participants as 49.4 ± 4.8 years. It differs from our study due to inclusion of premenopausal women.

Sociodemographic findings

In current study, all study subjects were Hindu and majority of subjects were married house wife with low literacy level. No significant association was observed between QOL and other socio demographic variables like marital status, caste, type of family, socioeconomic status, occupation and education. Another study conducted in India by Krishnamoorthy *et al*.[8] found significant association of QOL with marital status and type of family. This difference may be due to different study area, their social factors, customs and religions.

Gynecological parameters findings

The present study stated the mean age of menarche was 15.34 SD 1.4 years. This finding was slightly higher as compared to other studies conducted in India.[8,10,11] This difference may be due to recall bias or change in dietary factors. In our study, the mean age of menopause was 45.2 SD 4.7 years. Similar finding was observed by Krishnamoorthy *et al*.,[8] Ahuja[12] and Sood *et al*.[11] where the mean age of menopause was 45.4 SD 5.2 years, 45.59 SD 5.59 years and 45.2 SD 4.7 years respectively. This finding was not in concordance with the various other

Table 3: Association of sociodemographic variables with quality of life categories

Sociodemographic variables	Good QOL (*n*=119)	Poor QOL (*n*=281)	Total (*n*=400), *n* (%)	χ^2 (*P*)
Age group (years)				
40-44	8 (6.7)	10 (3.56)	18 (4.5)	2.63 (0.452)
45-49	16 (13.4)	42 (14.9)	58 (14.5)	
50-54	35 (29.4)	74 (26.33)	109 (27.25)	
55-59	60 (50.4)	155 (55.16)	215 (53.75)	
Marital status				
Never married	2 (1.68)	1 (0.36)	3 (0.8)	3.62 (0.16)
Married	87 (73.11)	190 (67.6)	277 (69.3)	
Widow	30 (25.2)	90 (26.7)	120 (30)	
Type of family				
Nuclear	41 (34.4)	94 (33.5)	135 (33.8)	0.26 (0.88)
Joint	17 (14.3)	36 (12.8)	53 (13.3)	
Three generation	61 (51.3)	151 (53.7)	212 (53.1)	
Living arrangement				
With spouse	89 (74.8)	193 (68.7)	282 (70.5)	1.50 (0.22)
Without spouse	30 (25.2)	88 (31.3)	118 (29.5)	
Socioeconomic status				
Lower	7 (5.88)	26 (9.3)	33 (8.3)	5.8 (0.22)
Lower middle	20 (16.8)	68 (24.2)	88 (22)	
Middle	30 (25.2)	73 (26)	103 (25.8)	
Upper middle	33 (27.7)	62 (22.1)	95 (23.8)	
Upper	29 (24.4)	52 (18.5)	81 (8.3)	
Occupation				
Home maker	55 (46.2)	155 (55.2)	210 (52.5)	2.98 (0.56)
Farmer	2 (1.68)	5 (1.78)	7 (1.75)	
Laborer	5 (4.2)	12 (4.27)	17 (4.25)	
Milkmaid	42 (35.3)	79 (28.11)	121 (30.25)	
Others	15 (12.6)	30 (1.01)	45 (11.25)	
Educational status				
Illiterate	82 (69)	195 (69.4)	277 (69.25)	0.009 (0.92)
Literate	37 (31)	86 (30.6)	123 (30.75)	

QOL: Quality of life

Table 4: Domain wise quality of life (*n*=400)

Domain	QOL*	
	Good (%)	Poor (%)
Somato-vegetative	169 (42.3)	231 (57.8)
Psychological	117 (29.3)	283 (70.8)
Uro-genital	292 (73)	108 (27)
All domains	119 (29.8)	281 (70.2)

*Based on scoring of MRS questionnaire. QOL: Quality of life, MRS: Menopause rating scale

In this study, majority of the study subjects (86%) belonged to postmenopausal group while only 14% belonged to peri-menopausal group. Similarly, Ahuja[12] reported 81% postmenopausal while 19% peri-menopausal women. This differs from the study conducted by Punia *et al.*[10] where postmenopausal and peri-menopausal women were 55.5% and 45.5% respectively.

Menopausal symptoms and its prevalence

In this study, the prevalence of menopausal symptoms in Somato-vegetative, Psychological and Uro-genital domain was 79%, 88.2% and 32.7% respectively which was comparable to Krishnamoorthy *et al.*[8] and different from Joseph *et al.*[18] who reported higher prevalence in all domains of MRS. In this study, the overall prevalence of menopausal symptoms in all domains was reported as 87.7%. Here, anxiety and physical and mental exhaustion was the most common symptom. Similar results were found in other various studies.[11,18,21,22] On contrary, other studies reported lower prevalence of menopausal symptoms.

studies.[13,14,18,19] The mean age of menopause in Indian women was found to be much less than their Western counterpart which was around 51 years.[2] These diversities in menopausal age probably may be because of genetic, environment factors and ethnic differences. In our study, majority of study subjects (98.5%) had regular menstrual cycles and this finding was in line with study conducted by Krishnamoorthy *et al.*[8] and Moustafa *et al.*[20] The results related to dysmenorrhea could not be compared because of paucity of data.

[10,13,14,20] A study conducted by Sharma[23] observed that the mean score was maximum for physical and mental exhaustion (1.93 ± 1.18) and minimum for dryness of vagina (0.71 ± 1.02) and most common symptom was joint and muscular discomfort (78.42%) and least was vaginal dryness (39.5%). Vasomotor symptoms in this study were reported among 36.7% women. This finding was similar to other studies.[13,20,22,24,25] However, the result slightly differed from various studies[7,10,11,14,18,26] which revealed higher frequency of hot flashes and sweating. Vasomotor symptoms are believed to be due to sympathetic discharge but its hormonal basis cannot be ruled out. In our study, the mean score of all menopausal symptoms in total was 12.3 ± 6.2 which was slightly more for Peri-menopausal women but the difference between two groups was found to be nonsignificant. The mean score of individual domain and overall mean score was similar to other studies.[20,23] However, significant difference between the two groups was seen in studies conducted by Al-Musa *et al*.[21] and Nisar and Sohoo.[19] Somatic and psychological symptoms were reported more in these women of rural background because of poor accessibility to healthcare facilities and their low literacy level and diminished self-esteem. Most of them were unemployed and spent their time in household activities, so their perception for these symptoms may be more. Besides hormone levels, ethnicity, climate, diet, lifestyle, smoking and their attitude towards menopause also affect the prevalence of somato-vegetative symptoms. As the women progress in postmenopausal age, estrogen levels further fall and it results in vaginal atrophy, dryness and other uro-genital symptoms. In comparison to other symptoms, uro-genital symptoms were less common in these women that may be because they are less sexually active and adapt themselves with these symptoms with time.

Conclusion and Recommendation

This study revealed that more than three-fourth of women felt the menopausal symptoms with almost two-third having poor QOL. Symptoms like hot flushes, sweating and depression was significantly more in perimenopausal women as compared to postmenopausal women but joint and muscular discomfort was more in postmenopausal women. Thus, we conclude that perimenopausal women are at more risk of developing physical and psychological symptoms, so these women require increased attention in comparison to postmenopausal women. To achieve holistic care for menopausal women, the primary health care provider should train them to tackle these symptoms by various modalities such as pelvic floor exercise, nutritious diet, increase physical activity and meditation by their mutual participation. Menopause does not really require medical treatment since it is a natural biological process. Menopause hormone therapy (MHT) must be individualized and tailored according to symptoms. The administration of individualized MHT may improve both sexuality and overall QOL. The information from this study can be used by policy makers and stake holders. So government should started menopausal clinic to combat these problems and help to sensitize and increase awareness among them. However, the causal association cannot be inferred because of cross-sectional design. So, further longitudinal research can be planned in future.

Conflicts of interest

There are no conflicts of interest.

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