Original Research Article

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A cross-sectional study to assess the prevalence of menopausal symptoms among middle aged female teachers in schools of Raipur city

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ABSTRACT

Background: Middle age is a bridge between adulthood and old age, which requires special attention. During middle age physical changes like menopause, aging along with psychological and social changes occur which may affect over all well-being and positive mental health status. So, the present study has been planned to assess the prevalence of menopausal symptoms among middle aged working females.

Methods: The present study was cross-sectional study carried out in 40 schools of Raipur city from 2017 to 2019. By using systematic random sampling method 40 schools were selected and from each school, all the female teachers aged 40-59 years were included in the study. MENQOL questionnaire was used to assess the prevalence of menopausal symptoms.

Results: In the present study, mean age of the subjects was 48.99±5.65 years. 48.6% were postmenopausal. 97.68% of subjects had varying grade of MENQOL symptoms. 96.76%, 87.50%, 68% and 51.85% were experiencing physical, psychosocial, vasomotor and sexual symptoms respectively.

Conclusions: It was found that majority of the female's quality of life were found to be affected with different grades of menopausal symptoms. With increasing age symptoms also increases and significantly high among postmenopausal women.

Keywords: Menopause, Quality of life, Middle aged

INTRODUCTION

Health is undeniably a key element in one's experience of middle age as a time of productivity and personal fulfilment.¹ Natural Menopause is the permanent cessation of menstruation for more than 12 months after the last menstrual period as a result of aging of ovaries which is normal physiological event experienced by all women of middle ages.²

Middle age is also a bridge between adulthood and old age, which requires special attention. Women experiences an age-related decline of physical and mental capacity as they reach to their middle age.³

Their participation in education and work place has also led to increase in their socio familial responsibility. So, this study has been planned to assess the prevalence of menopausal symptoms among middle aged female teachers.

METHODS

A multicentric school based cross-sectional study was carried out in 40 government and private schools of Raipur city from August 2017 to October 2019. Schools were chosen by using systematic random sampling method. From each school, all the female teachers aged 40 to 59 years were included. So, total 216 subjects

participated in the study which was derived from the formula of margin of error (d)= $z * \sqrt{pq/n}$ and prevalence of menopausal symptoms was taken from pilot study as 38%. Using Table 2 of estimating the population proportion with relative precision, the sample size comes out to be 143 and by including non-response rate of 20% it was 172.⁶ For the ease of calculation, sample size was rounded off to 200. An informed verbal consent was obtained from each subject before this study was conducted.

All school teacher who were either absent on the day of survey or present but not willing to participate in the study, who underwent hysterectomy or on hormone replacement therapy or were pregnant and lactating, suffering from any psychiatric disorder and taking medicines were excluded from the study.

Operational definitions

Premenopausal: There is no noticeable changes in the body, but minor changes in cycle length particularly decreasing length of the cycle

Perimenopausal: Irregular menses without skipping cycles, experienced after the previously regular cycles

Postmenopausal: No menstrual bleeding in the past 12 months.

Study tool

This questionnaire has two parts.

Part 1: Sociodemographic characteristics.

Part 2: About quality of life due to menopausal symptoms based on 4 domains (vasomotor, physical, psychosocial, sexual) using 29-item menopause-specific quality of life (MENQOL) questionnaire. The response to the questions were yes and no. Further who responded yes were scored from 0-6 on the basis of severity of the symptom. Each domain is scored separately for analyses, item scores were converted into a score ranging from 1-8.

Table 1: Scoring of MENQOL questionnaire responses.

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

Ethical approval was taken from the Institutional Ethics Committee, Pt. J.N.M. Medical College, Raipur, Chhattisgarh. Permission from principals of respective schools was taken for conducting the study. After explaining the purpose of study to the subjects, they were asked to fill the proforma by themselves (self-administered) under observation and proforma was collected after 25 minutes, checked for completeness and correctness. In case, if the proforma was incomplete the subjects were requested to fill the respective questions.

Collected data was entered into Microsoft Excel 2010 and checked for its completeness and correctness before analysis. Results on continuous measurements were presented on Mean±SD and categorical variables were interpreted using frequencies and percentages. Data was analysed using independent student t test. Statistical significance level was considered at p<0.05.

RESULTS

In the present study, the mean age of the subject was 48.99±5.65, ranging from 40 years to 59 years. Out of 216, majority 63 (29.17%) of the study subjects were of age group 50-54 years, 177 (81.9%) were postgraduate, 182 (84.3%) Hindu, 171 (79.2%) were from Unreserved (UR) category, 159 (73.61%) belonged to nuclear family, majority 207 (95.83%) belonged to Upper class Socioeconomic status.

Marital status of subjects was also studied in present study as married, separated or divorced, widow and unmarried. Out of 216 subjects, majority 184 (85.2%) of the subjects were married, 18 (8.3%) were widow, 8 (3.7%) were unmarried while rest 6 (2.8%) were either separated or divorced. The mean age at marriage found in the present study was 24.91±2.60.

With regards to menstrual status, Table 2 also depicted that out of total 216 study subjects, majority 105 (48.6%) subjects were postmenopausal followed by 69 (32%) and 42 (19.4%) were premenopausal and peri-menopausal respectively.

Out of 216 subjects, majority 211 (97.68%) of the subjects were experiencing menopausal symptoms of varying grade. Among them majority i.e. 71.10% mild MENQOL symptoms followed by 26.50% and 2.40% who had moderate and severe symptoms respectively. Domain wise study showed the similar finding i.e. majority of the subjects i.e. 96.76%, 87.50%, 68.05% and 51.85% vasomotor, psychosocial, physical and sexual symptoms respectively. The reason for majority of the subjects experienced mild symptoms mentioned by other studies were working females are financially independent and have social support at the workplace, thus demonstrate better QOL.

Those experiencing physical symptoms, most common symptom was aches in muscles and joint (81.81%), in

psychosocial it was accomplishing activities less than previously done (66.66%), in vasomotor symptoms, hot

flushes (83.03%) and majority among those experiencing sexual symptoms said decrease in sexual desire (93.19%).

Table 2: Distribution of study subjects according to their socio demographic characteristics (n=216).

Variables		Frequency	0/0
	40-44	54	25
A (45-49	55	25.5
Age group (in years)	50-54	63	29.2
	55-59	44	20.4
Education	Graduate	39	18.1
Education	Postgraduate	177	82
	Hindu	182	84.3
Religion	Muslim	10	4.6
Kengion	Sikh	6	2.8
	Christian	18	8.3
	UR	171	79.2
Caste	OBC	35	16.2
	SC & ST	10	4.6
Type of family* (n=214)	Joint	55	25.5
Type of family (n=214)	Nuclear	159	73.6
Cocioconomio status (Madified DI Duesad	Class 1	207	95.8
Socioeconomic status (Modified BJ Prasad Classification)	Class II & III	9	4.2
Classification)	Class IV & V	0	0
	Unmarried	8	3.7
Marital status	Married	184	85.2
Martar status	Separated / Divorced / Widow	24	11.1
	Premenopausal	69	32
Menstrual status	Perimenopausal	42	19.4
	Postmenopausal	105	48.6

^{*2} living alone.

Table 3: Association of age and menstrual status with MENQOL scale and its domain symptoms.

Variables		Various domains of MENQOL Scale					
Variables		MENQOL	Physical	Psychosocial	Vasomotor	Sexual	
Age in years	<mean (95)<="" th=""><th>75.71 ± 28.23</th><th>46.25±17.84</th><th>16.58±8.17</th><th>5.49±3.95</th><th>7.38 ± 4.61</th></mean>	75.71 ± 28.23	46.25±17.84	16.58±8.17	5.49±3.95	7.38 ± 4.61	
	>Mean (121)	87.74±31.86	51.28±19.76	19.60±9.28	7.17±4.60	9.69±5.81	
t value		t=-2.89	t=-1.93	t=-2.49	t=-2.83	t=-3.17	
P value		p=0.004	p=0.05	p=0.01	p=0.005	p=0.02	
Correlation		r=0.24 p=0.000	r=0.19 p=0.005	r=0.17 p=0.009	r=0.25 p=0.000	r=0.24 p=0.000	
Menstrual status	Premenopausal (n=69)	70.80±27.26	43.78±17.81	15.51±7.48	4.72±3.37	6.78±4.57	
	Perimenopausal (n=42)	81.50±22.29	47.98±13.69	18.74±7.69	6.12±3.73	8.67±5.32	
	Postmenopausal (n=105)	90.49±33.59	52.98±20.86	19.90±9.83	7.69±4.85	9.92±5.67	
ANOVA		F=9.15 p=0.000	F=5.12 p=0.007	F=5.31 p=0.006	F=10.40 p=0.000	F=7.37 p=0.001	

The prevalence of menopausal symptoms among premenopausal, perimenopausal and postmenopausal women were 95.7%, 97.6% and 99n% respectively. The scores showing symptoms according to the MENQOL scale was higher in those subjects who were elderly as

compared to those who were younger than the mean age. Their correlation was also found to be significantly positive. It shows that as the age is increasing approaching to menopause their symptoms score

significantly increases. Similar finding was observed with the symptoms score of each domain.

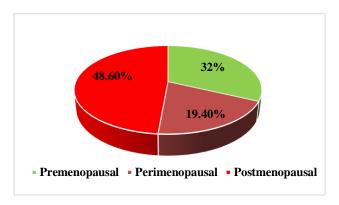
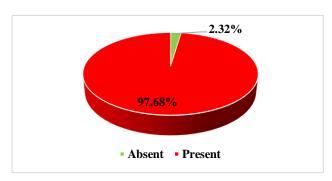


Figure 1: Distribution of study subjects on the basis of menstrual status (n=216).



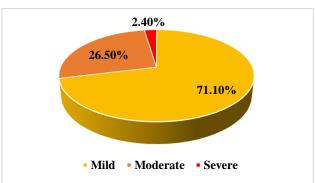


Figure 2: Distribution of study subjects on the basis of severity of MENQOL symptoms (n=216).

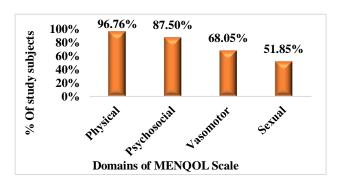


Figure 3: Distribution of study subjects on the basis of presence of symptoms of various domains of MENQOL scale (n=216).

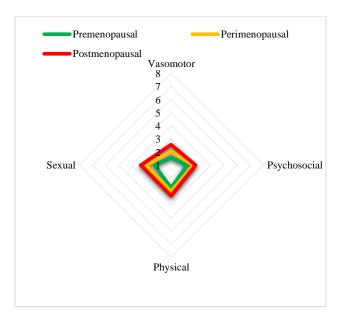


Figure 4: Association of menstrual status with various domains of MENQOL scale.

Figure 4 depicts the mean scores of each domain of MENQOL on the basis of their menstrual status. The four corners indicate the four domains of MENQOL scale. Postmenopausal women had higher mean score in all the four domains as compared to premenopausal and perimenopausal women.

DISCUSSION

In the present study, the mean age of the subjects was 48.99 ± 5.65 . The findings regarding mean age is in the agreement with study done by Patel et al found that the mean age of women was 47.9 ± 4.3 years but contradicts to the study done by Ganapathy et al who found the mean age to be 52.6 ± 4.24 years in his study.^{7.8}

Majority of the subjects i.e. 85.2% in the present study were married. Similar finding was also observed by Kumar et al and Nayak et al in their studies.^{9,10}

It was also observed that almost 97.68% of subjects were experiencing varying grades of menopausal symptoms. The present finding was in agreement with the study done by Alakananda et al, it was 80.5% which is almost similar to the present study.¹¹

The findings also suggested that symptoms score was significantly higher among postmenopausal women. Kumar et al also found that the mean ranks for postmenopausal women were high in all the four domains when compared to premenopausal women. 12

In the present study, near about 96% of the subjects were experiencing physical symptoms. Similar observations were made by Poomolikar et al and Bansal et al, whereas studies carried out by Tandon et al observed that physical symptoms were more predominant. ¹³⁻¹⁵

Most common symptom among those experiencing physical symptoms was found to be aches in muscles and joints. Ruchika et al supported these findings saying that 70% of the women suffered with muscular and joint pain. 16

In the present study, it was found that the majority of the female's quality of life were found to be affected with different grades of menopausal symptoms. It was found that with the increase in age, there is an increase in physical followed by psychosocial symptoms as well.

It was also seen that subjects who were widow, divorced, separated and unmarried, high family expectations and not involved in important decision making at home were found to be significantly negatively affecting their menopause specific quality of life.

CONCLUSION

Mass media should be involved to spread awareness on Post-menopausal health care including menopausal changes and its management through talk show in television, radio and articles in the newspaper among the women and community. Women should share their problems with their husbands and family members. It is also the responsibility of the husband to understand the changes in this phase.

Husband and family members should be encouraged to support the women in their household responsibilities and children's responsibilities. Female experts and volunteers from various NGO's of medical fraternity can create awareness among middle-aged females and their families. No dedicated national health program for menopause is there to date. So, it is recommended that a dedicated program for menopause should be started at the national and state level or RMNCH+A should expand its services for menopausal women.

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