World Journal of Pharmaceutical Sciences
ISSN (Print): 2321-3310; ISSN (Online): 2321-3086
Available online at: http://www.wjpsonline.org/
Original Article

Assessment of quality of life and the evaluation of severity of depression among pre-, peri- and post-menopausal women

Shanmugasundaram Rajagopal*, Blessy Thankachan, Auslin Sam

Department of Pharmacology, J.K.K. Nattraja College of Pharmacy, Komarapalayam-638183, Namakkal District, Tamilnadu, India

Received: 11-03-2019 / Revised Accepted: 30-04-2019 / Published: 01-05-2019

ABSTRACT

The objective of the study is to assess the Quality of Life and the evaluation of severity of depression among pre-, peri- and post-menopausal women. We conducted a community based study where the people were chosen randomly and in compliance with the inclusion criteria. Two questionnaires were employed: (1) MENQOL to assess the quality of life in menopausal women and (2) PHQ-9 to assess the severity of depression. It was found that peri-menopausal women had the lowest quality of life and the highest severity of depression. Proper education and further research is needed in order to improve the patient's quality of life as menopause brings about a lot of changes in the wellbeing of a woman.

Keywords*:* Menopause, Quality of Life, Depression, Questionnaire, MENQOL, PHQ.

Address for Correspondence: Shanmugasundaram R, Department of Pharmacology, J.K.K. Nattraja College of Pharmacy, Komarapalayam-638183, Namakkal District, Tamilnadu, India; E-mail: shanmugasundaram.r@jkkn.org

How to Cite this Article: Shanmugasundaram Rajagopal, Blessy Thankachan , Auslin Sam. Assessment of quality of life and the evaluation of severity of depression among pre-, peri- and post-menopausal women. World J Pharm Sci 2019; 7(5): 79-86.

INTRODUCTION

There is an increased life expectancy and life span due to which women spend 1/3rd of their life after menopause.[1,2] Menopause is an adaptation process during which women go through a new biological status, supplemented by many biological and psychosocial changes,[3] leading to permanent termination of menstruation resulting from the loss of follicular activity of the ovaries. It is a phase when the menstrual cycle stops for longer than 12 months and there is a drop in the levels of estrogen and progesterone, the two most important hormones in the female body.[4] Menopause is derived from the *Latin* words meno (month) and pausia(halt, stop) and it implies the cessation of monthly period and, marks the end of a woman's period of natural fertility.

Menopause causes a variety of physical, vasomotor,psychological and sexual symptoms, [5] and with the advent of modern medicine, there is ageneral increase in life expectancy, making manywomen spends almost 1/3rd of their life in menopause,in an estrogen deficient state.[6] The average age of menopause is around 48 years,but it strikes Indian women as young as 30–35years. Due to the increase in the life expectancy,women will have to face longer period's ofmenopause.[4] Numerous studies show that changes in an organism and related complaints may lower the quality of life after menopause,[7] especially in the psychological,vasomotor,physical and sexual spheres.[8]

According to the World Health Organization (WHO) classification, [9] premenopausal women are those who have experienced regular menstrual bleeding within the last 12 months, peri-menopausal women as those who have experienced irregular menses within the last 12 months or the absence of menstrual bleeding for more than 3 months but less than 12 months, and post-menopausal as those who have not experienced menstrual bleeding for 12 months or more. Women with iatrogenic menopause are those for whom periods have stopped as a result of medical or surgical intervention, for example, due to chemotherapy or radiation of ovaries, hysterectomy or oophorectomy, or both. Early menopause is defined as menopause occurring before the age of 45 years, while premature menopause occurs before the age of 40 years.

The major consequences of menopause are related primarily to estrogen deficiency. It is very difficult to distinguish the consequences of estrogen deficiency from those of aging, as aging and menopause are inextricably linked. Principal health concerns of menopausal women include vasomotor symptoms, urogenital atrophy, osteoporosis, cardiovascular disease, cancer, psychiatric symptoms, cognitive decline, and sexual problems. However, it has been difficult to distinguish between symptoms that result from loss of ovarian function and those from the aging process or from the socio‐environmental stresses of midlife years. Many symptoms are found related to postmenopausal syndrome: Hot flushes, irritability, mood swings, insomnia, dry vagina, difficulty concentrating, mental confusion, stress incontinence, urge incontinence, osteoporotic symptoms, depression, headache, vasomotor symptoms, insomnia etc. The aim of this study is to assess the Quality of Life (QoL)and to evaluate the severity of depression among pre-, peri- and post-menopausal women.

MATERIALS AND METHODS

A community based cross sectional study was carried out for six months with the sample size of 150.

Inclusion criteria: We included women aged between 40 to 60 years. Women were also selected irrespective of their pre-existing diseases.

Exclusion criteria: We excluded women with induced menopause or simple hysterectomy operated subjects and who are on hormone replacement therapy.

Questionnaire: There are two tools that are used for this study. For assessing the Quality of Life in Menopausal women the MENQOL is used and for assessing the severity of depression PHQ-9 is used. The MENQOL is self-administered and consists of a total of 29 items in a Likert-scale format. Each item assesses the impact of one of four domains of menopausal symptoms, as experienced over the last month: vasomotor (items 1-3), psychosocial (items 4-10), physical (items 11-26), and sexual (items 27-29). Items pertaining to a specific symptom are rated as present or not present, and if present, how bothersome on a 0 (not bothersome) to 6 (extremely bothersome) scale.

The PHQ-9 is the 9-item depression module from the full PHQ. Major depression is diagnosed if 5 or more of the 9 depressive symptom criteria have been present at least "more than half the days" in the past 2 weeks, and 1 of the symptoms is depressed mood or anhedonia.

RESULTS

The study was conducted to assess and observe the severity of symptoms in menopausal women. The menopausal women were divided into pre-

menopausal, peri-menopausal and post-menopausal categories. A total of 150 candidates were selected at random. An age group from 40-60 was selected, since it is the mean age group in which the Indian women experience the menopausal symptoms. The age group were further divided into 40-45,46-50,51-55 and 56-60 which consisted of 19.3%, 18%, 32.6% and 30%, respectively as shown inTable No. 1.Occupation, marital status, education and menstrual status were the primary demographic details that were obtained from the participants.

Out of the 150 subjects selected, 67.3%, were housewives and 32.6% were working women as shown in Table No. 1

The study revealed that more data from married women (69.3%) than from widowed (30.66%) as shown from Table No. 1. Marital status may be a factor that determines the severity of symptoms.
Educational status of subjects was considered as a determinant of how well the subjects perceived their condition. As shown in Table No. 1, we categorized them into Primary, Lower Secondary, Higher Secondary and Graduates and most of them falls under the Primary schooling category (42.6%).

Out of the 150 subjects that were selected at random, 10.6% were observed to be in pre-menopausal category, 30.66% in peri-menopausal category and 58.6% in post-menopausal category as shown in Table No. 1.

The questionnaire was provided with an objective of recording the severity of the symptoms in each domain. The questionnaire was divided into four domains: Vasomotor, Psychosocial, Physical and Sexual respectively.

Vasomotor domain consisted of hot flushes, night sweats and sweating. As shown in Table No.2 ,among 150 subjects, 93.3% experienced hot flushes, 73.3% experienced night sweats and 76.6% experienced sweating. Among the 16 pre-menopausal candidates 75%, 37.5% and 18.75% experienced these symptoms respectively. Out of 46 peri-menopausal women selected 95.6%, 93.4% and 91.3% experienced the vasomotor symptoms respectively. It was observed that 94.3%, 89.7% and 90.9% of Post-menopausal women experienced the vasomotor symptoms *viz*, hot flushes, night sweats and sweating respectively. From the results obtained, it may be observed that hot flushes (91.6%) were the most common symptom present from the vasomotor domain. Vasomotor symptoms were found to be higher in both peri- and post-menopausal women when compared to the pre-menopausal women. The Vasomotor domain is followed by psychosocial domain, which consists of symptoms such as poor memory, feeling down or depressed, feeling anxious and nervousness etc. As shown in Table No.3, the prevalence of depression was higher among peri-menopausal women. Pre-menopausal women suffered from the least symptoms from this domain whereas in the peri- and post-menopausal the prevalence of women was found to be higher.

The domain that follows psychosocial domain is the Physical domain. The most commonly reported symptom found in the post-menopausal women of Physical domain was found to be decreased in physical strength (96.5%) followed by lower back ache and muscle and joints pain (100%) the least common symptom was found to be facial hair (34.09%) as shown in Table No.4.

Following the Physical domain, is the sexual domain, that consists of symptoms such as change in sexual desire, vaginal dryness and avoiding intimacy were peri-menopausal women experienced 82.6% of Vaginal dryness which was found to be higher than the Pre- and Post-menopausal women as shown in Table no.5.

The QOL was calculated after obtaining the mean scores of each domain. It was calculated observing values lesser than the mean which were considered as good QOL whereas values above the mean has poor QOL as shown in Table No.6.

The mean scores were calculated by taking the mean of each domain. The vasomotor domain had the highest mean QOL. In our study it was found that the overall scores of menopausal quality of life was found to be highest for Vasomotor symptoms (5.21) such as hot flushes, sweating and night sweats which is followed by Psychological symptoms (3.97) such as feeling depressed and dissatisfaction with life and it is subsequently by Physical (4.0) and Sexual (3.12) as shown in Table No.7.

In order to observe the severity of depression, we used the Patient Health Questionnaire-9 (PHQ-9). The depression was categorized into Minimal symptoms, Minor Depression, Moderate Depression and Severe Depression. A score of 5-9 was categorized as Minimal Symptoms, 10-14 as Minor Depression, 15-19 as Moderately Severe and Greater than 20 as Severe Depression.

In this study, it was observed that the peri-menopausal women suffered from greater severity of depression than the other two categories as shown in Table No.9which could be due to psychological factors, relationship with the partner, stress and demographic factors could be affecting the prevalence of depression in middle aged

women. Several reasons underlie depression associated with menopause such as negative attitudes towards menopause and long term menopause changes in sexuality and menopausal symptoms such as hot flashes, night sweats and secondary sleep disorders.

DISCUSSION

Menopause is a transitional period that every woman goes through. The individual response to menopause and estrogen deficiency varies considerably due to genetic, cultural, lifestyle, socioeconomic, education and dietary factors. Menopause has emerged as a prominent issue in the women's health. We evaluated the quality of life of woman with menopausal symptoms on MenQoL. MenQoL was developed in 1996, consisting of four domains: Vasomotor, Psychological, Physical and Sexual. MenQoL has been applied in Europe, China and some other developing countries.[10]

In our study, majority of the women were found to be within the age group >50 years. In a study conducted by Ye-Hwang Kim etal [11], the majority of women were found to be within the age group of 50-60 which is similar to our study. NusratNisar [12] concluded in a study in Pakistan, that more than half of the women were aged between 51-60 years, which wasalso similar to the demographic findings ofour study.

In our study it was found that most of the women were married (69.3%) and housewives (67.3%) which is identical to the study conducted by NabarunKarmakar et al [8] in the rural area of West Bengal.

Mohammed *et al* [13] conducted a study wherein the majority of women were illiterate, which was similar to our study. Several studies have shown that women who were educated reported milder menopausal symptoms.[14]But one study in Taiwan showed that educated women had more menopausal symptoms compared to less-educated women. [15]

Waidyasekera et al [16], concluded that the prevalence of hot flashes was higher in peri- and postmenopausal women which was similar to our present results, a possible explanation is that this symptom is sensitive to early decline in estrogen levels.In the psychosocial domain, it was found that the menopausal women mostly experienced symptoms of feeling down or depressed (75%). Premenopausal women suffered from the least symptoms from this domain where as in the peri- and postmenopausal the prevalence of women was found to be higher. The most prevalent psychosocial symptom present in the study conducted by Mohamed etal, [13] was poor memory. This difference could be due to the variation in the socio-demographics of the population selected.Nisar N [6] in their study showed that the most prevalent symptom within study subjects was body ache 165(81.7%), some classical symptoms were "hot flushes," "lack of energy" and decrease in "physical strengths" respectively. These findings corroborated with our study, in which most prevalent symptom within our subjects was found to be decrease in physical strength and hot flashes.

Khadija *et al* [17] conducted a study where the low back pain was found to be a common symptom.Joint and muscular discomfort (74.7%) and physical exhaustion (53.9%) were the main symptoms recorded in a study conducted in women in Sri Lanka and Thailand, by Waidyasekera et al, [16] which was similar to the results obtained inour studies.

In a study conducted by Hodaetal [18] the highest mean score was found in the sexual domain, followed by psychosocial, then vasomotor and physical symptoms. This variation may be due to the factors such as lifestyle changes and climate.
In our study, it was found that peri-menopausal women suffered from greater depressive symptoms when compared to pre- and post-menopausal women. In a study conducted by Dolatianetal [19], the least prevalence of depressive symptoms was found in peri-menopausal women, which was similar to our study. Some scholars like Llanezaet al [20] believed that psychological factors, relationship with the partner, stress and demographic factors could be affecting the prevalence of depression in middle aged women.

According to a study conducted by Afsharietal [21], the usual age for the onset of depression disorders was observed to be around 40 years and its prevalence increased with age. Several reasons underlie depression associated with menopause such as negative attitudes towards menopause and long term menopause changes in sexuality and menopausal symptoms such as hot flashes, night sweats and secondary sleep disorders.Jafari et al [22], concluded that postmenopausal women in Tehran, experienced higher levels of anxiety and depression and lower levels of QoL, mental health and vitality.

LIMITATIONS

Despite the findings being similar to most of the studies, our study had certain limitations. As the study period was limited so the women in the menopause transition period, we could not be

follow-up and document the impact of the symptoms on their life with time. A longitudinal study may prove useful here. As women were asked to recall symptoms within the past one month, and although this may be regarded as a reasonable time-frame for recall, there was a possibility of some recall bias to creep in.

As the MENQOL questionnaire is a self-reporting questionnaire, women were asked to provide some retrospective information such as climacteric symptoms experienced in the preceding weeks, regularity of menstruation and last menstrual period, which may lead to unavoidable recall bias, especially in some elderly women. As we had a small number of women in MT group as compared to PM women, it may be a reason for achieving statistically insignificant difference in the mean scores, in vasomotor and sexual domain of MENQOL.

CONCLUSION

The current study concluded that the most severe symptoms in vasomotor, psychosocial, physical and sexual domains were, hot flushes, poor memory, and dissatisfaction in their personal life, depression, low backache and decrease in physical strength. The QoL was found to be poor among menopausal women. Women needed special care and attention in their menopausal period, which can be accomplished through education, creating awareness at both individual and community level and providing suitable intervention to improve the QoL in menopausal women.

In our study, it was found that peri-menopausal women suffered from more depressive symptoms when compared to pre- and post-menopausal women. The high prevalence of depression indicated a clear need for integrating mental health services with the general health services.

ACKNOWLEDGMENTS

We would like to express our sincere thanks to J.K.K. Nattraja College of Pharmacy for providing the required facilities and for the valuable support in every step of our research.

Table 1: Sociodemographic distribution

Sociodemographics	
Distribution	**Percentage**
Age in years	
40-45	19.3
46-50	18
51-55	32.6
56-60	30
Menstrual status	
Premenopausal	10.6
Perimenopausal	30.66
Postmenopausal	58.6
Marital Status	
Married	69.3
Widowed	30.66
Education	
Primary	42.6
Lower Secondary	31.3
Higher Secondary	14
Graduates	12
Occupation	
Working	32.6
Housewife	67.3

Table 2: Prevalence of Symptoms among Pre-, Peri- and Postmenopausal Women in the Vasomotor Domain

S.No	**Items**	**Number (n=150)**	**%**	**PRE- (n=16)**	**%**	**PERI (n=46)**	**%**	**POST (n=88)**	**%**
Vasomotor Domain									
1	Hot Flushes	140	93.3	12	75	44	95.6	83	94.3
2	Night Sweats	110	73.3	6	37.5	43	93.4	79	89.7
3	Sweating	115	76.6	3	18.75	42	91.3	80	90.9

Table 3: Prevalence of Symptoms among Pre-, Peri- And Postmenopausal Women In The Psychosocial Domain

S.No	Items	Number (n=150)	%	PRE- (n=16)	%	PERI (n=46)	%	POST (n=88)	%
Psychosocial Domain									
1	Dissatisfaction with personal life	95	63.3	0	0	39	84.7	75	85.2
2	Feeling anxious or nervous	88	58.6	0	0	19	41.3	74	84.0
3	Poor Memory	98	65.3	0	0	35	76.0	71	80.6
4	Accomplishing less than I used to	75	50.0	1	6.2	19	41.3	60	68.1
5	Feeling depressed or down	101	67.3	5	31.2	40	86.9	70	79.5
6	Impatience with other people	97	64.6	0	0	39	84.7	76	86.3

Table 4: Prevalence of Symptoms among Pre-, Peri- And Postmenopausal Women in Physical Domain

S.No	Items	Number (n=150)	%	PRE- (n=16)	%	PERI- (n=46)	%	POST- (n=88)	%
Physical Domain									
1	Flatulence or gas pains	82	54.6	5	31.2	44	95.6	50	56.81
2	Aching in muscles or joints	115	76.66	3	18.7	42	91.30	88	100
3	Feelings tired or worn out	101	67.33	0	0	42	91.30	81	92.04
4	Difficulty in sleeping	115	76.66	12	75	44	95.65	70	79.54
5	Aches in back of neck or head	116	77.33	11	68.7	40	86.95	82	93.18
6	Decrease in physical strength	130	86.6	14	87.5	41	89.13	85	96.59
7	Decrease in Stamina	92	61.33	5	31.2	43	93.47	60	68.18
8	Feeling lack of energy	92	61.33	5	31.2	43	93.47	59	67.04
9	Drying skin	66	44.00	2	12.5	44	95.65	35	39.77
10	Facial hair	55	36.67	0	0	40	86.95	30	34.09
11	Weight gain	75	50.00	1	6.25	15	32.60	60	68.18
12	Changes in appearance, texture , tone of skin	82	54.67	5	31.2	45	97.82	49	55.68

13	Feeling Bloated	85	56.67	2	12.5	42	91.30	58	65.90
14	Low backache	115	76.67	3	18.7	42	91.30	85	96.59
15	Frequent urination	104	69.33	0	0	43	93.47	75	85.22
16	Involuntary urination	75	50.00	1	6.25	15	32.60	60	68.10
17	Breast pain/ Tenderness	90	60.00	0	0	35	76.08	85	96.59
18	Vaginal spotting	66	44.00	13	81.2	35	76.08	30	34.09
19	Leg pain / cramps	109	72.67	0	0	40	86.95	82	93.18

Table 5: Prevalence of Symptoms among Pre-, Peri- And Postmenopausal Women in Sexual Domain

S.No	Items	Number (n=150)	%	PRE- (n=16)	%	PERI- (n=46)	%	POST- (n=88)	%
Sexual Domain									
1	Change in sexual desire	55	36.6	0	0	16	34.7	30	34.09
2	Vaginal dryness	65	43.3	2	12.5	38	82.6	34	38.6
3	Avoiding intimacy	67	44.6	2	12.5	37	80.4	36	40.90

Table 6: Quality Of Life Based On Each Domain

S.No.	Domain	QOL	Number of Subjects (n=150)	Percentage (%)
1	Vasomotor	Good QOL	68	45.33
		Poor QOL	82	54.66
2	Psychosocial	Good QOL	67	44.66
		Poor QOL	83	55.33
3	Physical	Good QOL	65	43.33
		Poor QOL	85	56.66
4	Sexual	Good QOL	96	64.00
		Poor QOL	54	36.00

Table 7: Mean MENQOL Score

Score of each MENQOL domain	
Vasomotor	5.212
Psychological	3.97
Physical	4.00
Sexual	3.12

Table 8: Depression Status in Pre-menopausal Women Based On PHQ-9

Severity of depression in premenopausal women	Number of Subjects (n=16)	Percentage (%)
Minimal Symptoms	12	75
Minor Depression	4	25
Moderate Depression	0	0
Severe Depression	0	0

Table 9: Depression status in Peri-menopausal women based on PHQ-9

Severity of depression in perimenopausal women	Number of Subjects (n=46)	Percentage (%)
Minimal Symptoms	2	4.30
Minor Depression	19	41.3
Moderate Depression	22	47.8
Severe Depression	3	6.50

Table 10: Depression Status In Post-menopausal Women Based On PHQ-9

Severity of depression in postmenopausal women	Number of Subjects (n=88)	Percentage (%)
Minimal Symptoms	37	42.0
Minor Depression	33	37.5
Moderate Depression	16	18.18
Severe Depression	2	2.27

REFERENCES

1. McKinney E et al. Menopause, eds. Maternal-Child Nursing. St. Louis. Elsevier 2012; 655: 18-20.
2. Speroff L, Fritz L. The effect of age and menstrual cycle. Clinical Gynecologic Endocrinology and Infertility: 7th ed. Philadelphia: Lippincott 2005; 613: 278-89.
3. Bernis C, Reher D. Environmental contexts of menopause in Spain: comparative results from recent research. Menopause 2007; 14: 777-87.
4. World Health Organization. Research on the menopause in the 1990 [WHO Technical Report, Series No. 866]. Geneva 1996; 866: 1-107.
5. Mishra N et al. Exercise beyond menopause: Dos and dont's. J Midlife Health 2011; 2: 51-6
6. Nisar N, Sohoo NA. Frequency of menopausal symptoms and their impact on the quality of life of women: A hospital based survey. JPMA 2009; 59: 752–56.
7. Mahajan N et al. Health issues of menopausal women in North India. J Midlife Health 2012; 3: 84-87.
8. Chedraui, P et al. Quality of life among postmenopausal Ecuadorian women participating in a metabolic syndrome screening program. Maturitas 2007; 56: 45-53.
9. Schiff I et al. Effects of estrogens on sleep and psychological state of hypogonadal women. JAMA 1979; 242: 2405-04.
10. El Shafe K et al. Menopausal symptoms among healthy, middle-aged Omani women as assessed with the menopause rating scale. Menopause 2011; 10:1113-19.
11. Ye-Hwang Kim, Jung-Hwa Lee. Menopause and Depression and Oral Health-Related Quality of Life of Postmenopausal Women. IJBBT 2015; 5(7): 203-10.
12. Nusrat N, Nisar AS. Frequency of menopausal symptoms and their impact on the quality of life of women: a hospital based survey. JPMA 2009; 59(11): 752-56
13. Mohamed HA et al. Quality of life among menopausal women. IJRCOG 2014; 3(3): 552-61.
14. Peeyananjarassri K et al. Menopausal symptoms in a hospital-based sample of women in southern Thailand. Climacteric 2006; 9: 23-9.
15. Rostami A et al. Effect of health education on knowledge, attitude and quality of life in post-menopausal women. Daneshvar 2003; 11 (49): 19-23.
16. Waidyasekera H et al. Menopausal symptoms and quality of life during the menopausal transition in Sri Lankan women. Menopause 2009; 16: 164-70.
17. Khadija W et al. Quality of Life after Menopause in Pakistani Women. Obstet Gynaecol 2016; 6: 367-69.
18. Hoda AE et al. Quality of life among menopausal women. IJRCOG 2014; 3: 552-61
19. Dolatian M et al. Prevalance of menopausal related depression and its relative factors. J Kermanshah Univ Med Sci 2006; 10: 76.
20. Llaneza P et al. Depressive disorders and the menopause transition. Maturitas 2012; 71: 120-30.
21. Afshari P et al. Prevalence of depression in post-menopausal women, Jundishapur. . Chronic Dis Care 2015; 4: e27521.
22. F. Jafari et al. Comparison of depression, anxiety, quality of life, vitality and mental health between premenopausal and postmenopausal women. Climacteric 2014; 17: 660–65.