

DEPRESSION AND MENOPAUSAL SYMPTOMS IN PERIMENOPAUSAL WOMEN ATTENDING PRIMARY CARE

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ABSTRACT

BACKGROUND

Depression is the commonest psychiatric disorder in women. Menopause is a hormone deficient state in women's life and the symptoms experienced at menopause are quite variable and affect the emotional state of women and leading to depression and poor quality of life.

The study aimed to determine prevalence of depression, menopausal symptoms in perimenopausal women attending in a primary health centre in North Kerala.

MATERIALS AND METHODS

This cross-sectional study was conducted in a primary health centre, North Kerala. Women in the age group of 40-55 years were included in the study. Each subject was assessed using sociodemographic data sheet and screened with PHQ-9 questionnaire. Women who scored ≥ 5 in PHQ-9 were further assessed using Beck's Depression Inventory. Perimenopausal symptoms were assessed by menopause rating scale. Data was entered and analysed by SPSS Version 20.0.

RESULTS

The mean age of menopause was 48.5 ± 3.226 years. Most women were high school educated (38%) and belonged to rural background (89%) and low socioeconomic group (69%). 19% of women were in premenopausal phase, 43% in perimenopausal phase and 38% in postmenopausal period. 37% women was found to be depressed. The most common menopausal symptoms in the present study group were joint and muscular discomfort (77%). There was significant relationship between depression score and MRS scores in all three dimensions ($P < 0.001$).

CONCLUSION

The menopausal transition is a time of increased vulnerability to depressive disorders. The current study highlights the presence of depressive symptoms and depressive disorders in this vulnerable age group.

KEYWORDS

Depression, Perimenopause, Premenstrual Dysphoria.

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BACKGROUND

Depression is a disorder of major public health importance in terms of its prevalence, suffering, dysfunction, morbidity and economic burden. Depression is more common in women than men. Puberty onwards, women are 1.5 to 3 times more likely than men to develop depressive disorders. Studies done in primary care clinics have estimated a prevalence rate of 21-40.45%.¹

Menopause is a permanent cessation of menstruation, which is retrospectively determined following 12 months of amenorrhea during midlife period and the most identifiable period is perimenopausal period.

The World Health Organization defines perimenopause as the period (2-8 years) preceding menopause and the one year period after final menses resulting from the loss of ovarian follicular activity.² The perimenopause usually begins at a mean age of 45.5-47.5 years³ and has an average duration of 4 years until menopause occurs (mean age of 51.3 years).⁴ The perimenopausal period is associated with a higher vulnerability for depression with risk rising from early to late perimenopause and decreasing during post menopause. Life stressors such as marital issues, changes in caretaking (e.g. children departing the home, ageing parents) or career responsibilities, issues related to ageing, and feelings of being "overextended" also have been linked to perimenopausal depression.^{5,6}

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Dolatian et al⁷ reported the prevalence of depression to vary from 28%-36% with the highest and lowest levels observed in both pre and perimenopausal women. Symptoms experienced at menopause are quite variable and the aetiology of the symptoms is multifactorial. Also, menopausal symptoms can affect women's health and wellbeing.

With this background, this study was done to assess depression, severity of menopausal symptoms in women in the perimenopausal age group in North Kerala.

This study conducted at a primary health centre is expected to provide some insight into the problems at the primary care level. Insights gained from this study can be used to train basic medical graduates in assessing psychologic issues in women during the vulnerable period of menopausal transition and early postmenopausal period.

MATERIALS AND METHODS

This cross-sectional study was conducted in a primary health centre affiliated to Academy of Medical Sciences, Kannur. The study protocol was approved by the Ethics Committee of this institution. Sample size of 100 was calculated after discussing with statistician. Women in the age group of 40-55 years were included in the study by convenient sampling method. Women on HRT attained surgical menopause having psychiatric illness with chronic medical or neurological illness were excluded from the study.

The scales used were sociodemographic data sheet, PHQ-9 questionnaire, Beck's Depression Inventory (BDI) and Menopause Rating Scale (MRS). The Patient Health Questionnaire (PHQ) is designed to facilitate the recognition and diagnosis of the most common mental disorders in primary care patients. Earlier studies in primary care shows that PHQ-9 detects depression with sensitivity around 90% and a specificity of 88% for major depression.⁸

Severity of depression was assessed using BDI. The BDI is one of the most suitable instruments to assess depression consists of 21 items to measure somatic, behavioural and cognitive symptoms of depression. Each item has 4 options scored from 0 to 3, which determines the varying degrees of depression from mild-to-severe. The maximum scores in the inventory are 63. The score obtained from the total items of the BDI is interpreted as 0-10 as non-depressed, 11-16 as mild depression, 17-20 as borderline clinical depression, 21-30 as moderate depression, 31-40 as severe depression and more than 40 as extreme depression. A meta-analysis of the BDI's internal consistency estimates yielded a mean coefficient alpha of 0.86 for psychiatric patients and 0.81 for non-psychiatric subjects.⁹

To assess menopausal symptoms, we used menopause rating scale, a standard international scale that examines menopausal symptoms. MRS examines menopausal symptoms in three domains including 11 items in total- 1) Somatic symptoms, 2) Psychological symptoms and 3) Urogenital symptoms. The respondent have a choice of 5 categories giving a score of 0 (no symptom) to 4 (severe symptom). The total score ranges from 0-44. It is an

instrument easy to handle and became standardised with sensitivity 70.8% and specificity 73.5%.¹⁰

After getting written informed consent, the information on various sociodemography and clinical characteristics was collected using the data sheet prepared by the investigator for the study. All women were screened using PRIME-MD PHQ-9 questionnaire for depressive symptoms. A cutoff score of ≥ 5 was used for further detailed depression severity rating using Beck's Depression Inventory. Women who score less than 5 in screening questionnaire were not assessed with BDI. All women irrespective of the score in screening questionnaire (PRIME-MD PHQ-9) were assessed for menopausal symptoms using menopause rating scale.

SPSS 20.0 software was used for analysing data. The data obtained were analysed by using descriptive statistics, Pearson correlation coefficients, Chi-square and ANOVA.

RESULTS

Characteristics of the Study Population

The study included 100 women aged 40-55 years with mean age of 48.5 ± 3.226 years. Majority of the women belonged to 46-50 age group (50%) (Table1). Most women were high school educated (38%) or with primary education (35%). 11% of women did not have any formal education. Most were married (85%) and were housewives (72%). Most belonged to rural background (89%) and low socioeconomic group (69%). 15% women had past history of premenstrual dysphoria. 19% of women were in premenopausal phase, 43% in perimenopausal phase and 38% in postmenopausal period.

Depression

In this study, 37% women was found to be depressed. On assessing the severity of depression, 23% had mild mood disturbances (BDI <16) and 14% had clinically significant depression (BDI ≥ 16) (Figure 1).

Menopausal Symptoms

The most common symptoms in the present study group were joint and muscular discomfort (77%), physical and mental exhaustion (67%), sleep problems (60%), anxiety symptoms (56%) (Figure 2).

Distribution of symptoms contained in MRS in relation to menopausal status showed that percentages for somatic, psychological subscales were high in perimenopausal women and urogenital symptoms were high in postmenopausal women. The total MRS score was found significantly high in peri and postmenopausal women in comparison to premenopausal women (Table 2).

Correlation between BDI scores and menopausal symptoms subscale scores show a significant correlation between BDI score and psychological subscale and total MRS score.

Sociodemographic Profile	Frequency (N=100)
Age Group	
40-45	10 (10)
46-50	50 (50)
51-55	40 (40)
Educational Status	
Illiterate	11 (11)
Primary	35 (35)
High school	38 (38)
Higher secondary	6 (6)
Graduate	10 (10)
Occupation	
Housewife	72 (72)
Unskilled	16 (16)
Semiskilled	7 (7)
Professional	5 (5)
Marital Status	
Single	2 (2)
Married	85 (85)
Divorced	6 (6)
Widowed	7 (7)
Background	
Rural	89 (89)
Semiurban	9 (9)
Urban	2 (2)
Socioeconomic Status	
Lower	69 (69)
Middle	28 (28)
Upper	3 (3)
Premenstrual Dysphoria	
Present	15 (15)
Absent	85 (85)
Menopausal Status	
Premenopause	19 (19)
Perimenopause	43 (43)
Post menopause	38 (38)
The values are presented as frequency (%)	

Table 1. Sociodemographic Profile of the Study Population (n=100)

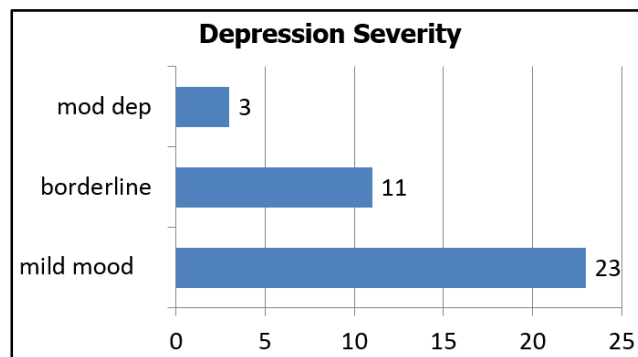


Figure 1. Frequency Percentage of Depression Severity Using the BDI Scale for the Study Participants

Mod dep: moderate depression, borderline: borderline clinical depression; mild mood: mild mood disturbances.

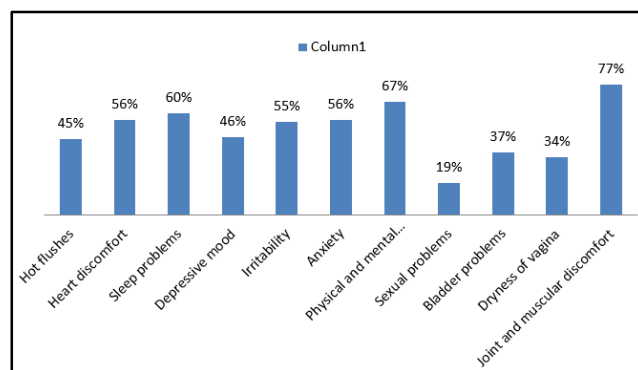


Figure 2. Menopausal Symptoms as Per Menopause Rating Scale (n=100)

MRS Subscale	Mean Domain Scores in MRS				F value	P value
	Menopausal Status					
	Premenopause	Perimenopause	Postmenopause			
Somatic	0.947 (1.353)	4.186 (1.592)	3.500 (1.885)	25.14	<.001	
Psychological	1.263 (1.939)	3.791 (1.971)	2.868 (2.232)	9.90	<.001	
Urogenital	0.211 (0.535)	0.907 (1.101)	2.289 (1.999)	15.74	<.001	
Total Score	2.421 (3.024)	8.884 (3.547)	8.658 (4.817)	19.47	<.001	

Table 2. Mean Scores of MRS According to Menopausal Status

Notes- Results are presented as mean ± SD. P-value is significant when <0.05.

MRS= Menopause Rating Scale. ANOVA- Analysis of variance.

DISCUSSION

Menopause is a universal phenomenon has a varied presentation due to different biological, environmental and cultural factors. It is associated with physical and psychological changes in women and is a risk period for various psychological disorders.

According to the results of present study, 37% of women found to be depressed. This observation is comparable with the study by Wojnar et al who estimated prevalence of depression in women 45-55 years of age visiting

gynaecology clinics in Poland.¹¹ His study reported that 38.2% of their patients were depressed. An Indian study by Kapur et al measuring climacteric symptoms and age at natural menopause in an Indian population using Greene climacteric scale reported prevalence of depression 36.43%.¹²

Severity of depressive symptoms as per BDI in the current study observed 23% of women having mild mood disturbances and clinically significant depression (BDI >16) in 14% (Figure 1). This is comparable with studies by Joffe

et al¹³ who reported prevalence of depression as 14.9% in perimenopausal women attending primary care. Another study by Tam et al¹⁴ reported the prevalence of major depression 11% by using Beck Depression Inventory.

This study observed a significant relationship between depression and menopausal status. 53.5% of women in the perimenopausal phase and 31.6% of women in postmenopausal phase had higher percentage of depression compared with women in premenopausal phase. This is a line with another study done by Maartens LW et al reported transition from perimenopause to post menopause significantly associated with increased EDS score.¹⁵ In a study by Cohen et al, it was reported that women with no history of depression, those who enter the menopausal transition earlier have significant risk for first-onset depression.¹⁶ Freeman et al suggest a possible role of estradiol withdrawal and recent onset of hypogonadism in the development of depression during menopausal transition.¹⁷ This differs from some reports in the literature, which shows no significant association between menopausal status and depression.¹⁸ The difference in instruments used for the assessment of depression and the profile of the patients who were included in the study may account for the differences.

Menopausal Symptoms

The most common menopausal symptoms reported in this group were joint and muscular discomfort (77%), physical and mental exhaustion (67%) and sleep problems (60%) (Figure 2). Many women had multiple symptoms and overlapping symptoms. This is comparable to observations in Indian studies. Joseph et al¹⁹ in a study for assessment of menopausal symptoms in women attending outreach clinics reported the most common symptom was joint and muscular discomfort and physical and mental exhaustion (85.4%). A study on menopausal symptoms among women at a rural community in Kerala by Borker et al²⁰ also supports the observations of the current study. Another Indian study by Mahajan et al reported that feeling of tiredness and easy fatigability is the commonest menopausal symptoms.²¹

Menopausal Symptom and Menopausal Status

This study shows that somatic symptoms were the dominant menopausal symptoms among perimenopausal and postmenopausal women. This was followed by psychological symptoms. Urogenital symptoms were more common among postmenopausal women (Table 2). This observation was comparable to other studies. Nisar and Sohoo showed that the postmenopausal women had significantly high scores in the physical domain than the menopause transition group, while the scores of the psychological domain were significantly high in the menopause transition group.²² This observation was comparable to our study. An Indian study by Avanie et al²³ in rural areas of Maharashtra quoted similar findings to the current study. In contrast, the study by Chedraui et al²⁴ in Ecuador found that there is a significant increasing trend in the rate of menopausal symptoms from pre- to postmenopausal women; this also might reflect the

influence of different cultural factors in reporting menopausal symptoms. The menopausal symptoms could be explained by fluctuating levels of hormones such as follicular-stimulating hormone and oestrogen, which occur during menopausal transition.

Relationship of Menopausal Symptoms with Depression

While observing the correlation between menopausal symptoms and depression, our study was observed a significant positive correlation between depression and psychological subscale score ($p=0.004$) and total MRS score ($p=0.038$). A study by Aksu et al revealed a significant positive correlation between MRS scores and BDI scores of the women in a study to investigate the relationship between menopausal status, attitudes towards menopause, depression and anxiety.²⁵ Another study by Sara Ziagam et al, a significant relationship was observed between depression and MRS in all the three areas ($P >0.001$).²⁶ These findings were comparable to our study.

CONCLUSION

In conclusion, the current study, which was conducted in a primary care non-psychiatric setup establishes that depressive disorder is a common psychiatric disorder in women during the menopausal phase. This study highlights the severity of menopausal symptoms during the perimenopausal phase and its association with psychological symptoms especially depression. Assessment of menopausal symptoms and depression among this susceptible group should be a routine in our primary care outpatient facilities and community health services.

Limitations of the Study

It was a clinic-based study though it was done in primary care settings. Hence, the observations from this study cannot be generalised. This was a cross-sectional survey. Determination of relation between cause and effect of menopausal symptoms, depression requires longitudinal cohort studies. Further investigations will be expected in more extensive geographic areas with larger population.

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REFERENCES

- [1] Grover S, Dutt A, Avasthi A. An overview of Indian research in depression. *Indian J Psychiatry* 2010;52(7):178-188.
- [2] World Health Organization. Research on the menopause in the 1990s: report of a WHO scientific group. Geneva: WHO 1996.
- [3] Hall JE. Neuroendocrine changes with reproductive ageing in women. *Semin Reprod Med* 2007;25(5):344-351.

- [4] Vadakkadath Meethal S, Atwood CS. The role of hypothalamic-pituitary-gonadal hormones in the normal structure and functioning of the brain. *Cell Mol Life Sci* 2005;62(3):257-270.
- [5] Soules MR, Sherman S, Parrott E, et al. Executive summary: Stages of Reproductive Aging Workshop (STRAW). *Climacteric* 2001;4(4):267-272.
- [6] Schmidt PJ, Rubinow DR. Menopause-related affective disorders: a justification for further study. *Am J Psychiatry* 1991;148(7):844-852.
- [7] Dawlatian M, Bakhteh A, Vellaii N, et al. Prevalence of menopausal related depression and its relative factors. *Journal of Kermanshah University of Medical Sciences (BEHBOOD)* Spring 2006;10(1):76-89.
- [8] Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001;16(9):606-613.
- [9] Beck AT, Steer RA, Carbin MG. Psychometric properties of the beck depression inventory: twenty-five years of evaluation. *Clinical Psychology Review* 1988;8(1):77-100.
- [10] Heinemann LA, DoMinh T, Strelow F, et al. The Menopause Rating Scale (MRS) as outcome measure for hormone treatment? A validation study. *Health Qual Life Outcomes* 2004;2:67.
- [11] Wojnar M, Drozd W, Araszkievicz A, et al. Prevalence of depressive disorders among perimenopausal women seeking gynecological services. *Psychiatr Pol* 2003;37(5):811-824.
- [12] Kapur P, Sinha B, Pereira BM. Measuring climacteric symptoms and age at natural menopause in an Indian population using the Greene climacteric scale. *Menopause* 2009;16(2):378-384.
- [13] Joffe H, Hall JE, Soares CN, et al. Vasomotor symptoms are associated with depression in perimenopausal women seeking primary care. *Menopause* 2002;9(6):392-398.
- [14] Tam LW, Stucky V, Hanson RE, et al. Prevalence of depression in menopause: a pilot study. *Arch Womens Ment Health* 1999;2(4):175-181.
- [15] Maartens LW, Knottnerus JA, Pop VJ. Menopausal transition and increased depressive symptomatology: a community based prospective study. *Maturitas* 2002;42(3):195-200.
- [16] Cohen LS, Soares CN, Vitonis AF, et al. Risk for new onset of depression during the menopausal transition: the Harvard study of moods and cycles. *Arch Gen Psychiatry* 2006;63(4):385-390.
- [17] Freeman EW, Sammel MD, Rinaudo PJ, et al. Premenstrual syndrome as a predictor of menopausal symptoms. *Obstet Gynecol* 2004;103(5 Pt 1):960-966.
- [18] Aaron R, Muliylil J, Abraham S. Medico-social dimensions of menopause: a cross-sectional study from rural south India. *The National Medical Journal of India* 2002;15(1):14-17.
- [19] Joseph N, Nagaraj K, Saralaya V, et al. Assessment of menopausal symptoms among women attending various outreach clinics in South Canara District of India. *J Midlife Health* 2014;5(2):84-90.
- [20] Borker SA, Venugopalan PP, Bhat SN. Study of menopausal symptoms and perception about menopause among women at a rural community in Kerala. *Journal of Midlife Health* 2013;4(3):182-187.
- [21] Mahajan N, Aggarwal M, Bagga A. Health issues of menopausal women in North India. *J Midlife Health* 2012;3(2):84-87.
- [22] Nisar N, Sohoo NA. Severity of Menopausal symptoms and the quality of life at different status of menopause: a community based survey from rural Sindh, Pakistan. *International Journal of Collaborative Research on Internal Medicine & Public Health* 2010;2(5):118-130.
- [23] Pal A, Hande D, Khatri S. Assessment of menopausal symptoms in perimenopause and post menopause women above 40 years in rural area. *International J of Healthcare & Biomedical Research* 2013;1(3):166-174.
- [24] Chedraui P, Miguel GS, Avila C. Quality of life impairment during the female menopausal transition is related to personal and partner factors. *Gynecological Endocrinology* 2009;25(2):130-135.
- [25] Aksu H, Sevinçok L, Küçük M, et al. The attitudes of menopausal women and their spouses towards menopause. *Clin Exp Obstet Gynecol* 2011;38(3):251-255.
- [26] Ziagham S, Sayhi M, Azimi N, et al. The relationship between menopausal symptoms, menopausal age and body mass index with depression in menopausal women of Ahvaz in 2012. *Jundishapur Journal of Chronic Disease Care* 2015;4(4):e30573.