

The Study Of Assessment Of The Mental Health In Menopausal Women

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Abstract

Background: Menopause is a natural biological transition characterized by the permanent cessation of menstruation due to loss of ovarian function. Although primarily considered a physiological event, menopause is frequently associated with psychological disturbances such as anxiety and depression, which can significantly impair quality of life. Hormonal fluctuations, especially declining estrogen levels, along with socio-demographic and clinical factors, may increase vulnerability to mental health problems during this period.

Aim: To assess the mental health status of women with natural menopause and induced menopause following hysterectomy, and to correlate socio-demographic and clinical parameters with mental health impairment.

Materials and Methods: An analytical cross-sectional study was conducted in the Department of Obstetrics and Gynaecology at Sree Balaji Medical College and Hospital over a period of one and a half years. A total of 200 women aged 45–60 years who had attained menopause either naturally or surgically were included. Data were collected using a pre-tested structured questionnaire. Anxiety and depression were assessed using the Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D). Statistical analysis was performed using SPSS version 22. Descriptive statistics were expressed as frequencies and percentages, and analytical statistics were calculated using Chi-square test, Odds Ratio (OR), and 95% Confidence Interval (CI).

Results: Among the participants, 85% had natural menopause and 15% had induced menopause. Overall, 56% of women exhibited moderate to severe mental health impairment. Mild anxiety was reported in 69% of participants, while 21% had moderate anxiety and 10% had severe anxiety. Women with menopause at ≤ 45 years were 4.8 times more likely to experience moderate to severe mental health impairment ($p=0.001$). Induced menopause showed a strong association with psychological morbidity (OR 6.3; $p=0.002$). Women in the first five years of menopause were nearly three times more likely to have impaired mental health ($p=0.005$). Higher education, higher occupational status, and higher socio-economic class were also significantly associated with increased psychological impairment.

Conclusion: A substantial proportion of menopausal women experience anxiety and depression, particularly those with induced or early menopause and during the initial years of transition. Socio-demographic factors further influence mental health outcomes. Routine screening and integrated psychosocial care at the primary healthcare level are essential to improve the quality of life of menopausal women.

Key Words: Menopause; Natural menopause; Induced menopause; Mental health; Anxiety; Depression; HAM-A; HAM-D; Psychological morbidity; Socio-demographic factors; Postmenopausal women; Cross-sectional study.

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INTRODUCTION:

Menopause is a natural and inevitable biological event in a woman's life that marks the permanent cessation of menstruation as a result of the loss of ovarian follicular

activity (1). It represents the end of a woman's reproductive capacity and is diagnosed retrospectively after twelve consecutive months of amenorrhea in the absence of other pathological or physiological causes.

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The transition to menopause, known as the climacteric, typically occurs between the ages of 45 and 55 years, although the timing may vary depending on genetic, environmental, and lifestyle factors. Although menopause is not a disease, the profound hormonal, physical, and psychological changes associated with it can significantly affect a woman's health and quality of life (2).

The primary biological hallmark of menopause is a progressive decline in ovarian function, leading to reduced production of estrogen and progesterone. Estrogen plays a crucial role in the regulation of multiple body systems, including the cardiovascular, skeletal, urogenital, and central nervous systems (3). As estrogen levels fall, women commonly experience a range of physical symptoms such as hot flashes, night sweats, vaginal dryness, urinary problems, fatigue, joint pains, and sleep disturbances. Long-term estrogen deficiency is also associated with increased risks of osteoporosis, cardiovascular disease, and metabolic changes (4). However, beyond these physical effects, the hormonal shifts that occur during menopause have a substantial influence on mental and emotional well-being.

Psychological symptoms are a major yet often underestimated component of the menopausal transition. Many women report irritability, mood swings, anxiety, sadness, reduced concentration, forgetfulness, and feelings of emotional instability during this period. The perimenopausal phase, which precedes the final menstrual period, is particularly associated with fluctuating hormone levels that may disrupt brain chemistry and emotional regulation (5). Research has consistently shown that women are at a higher risk of developing depressive and anxiety symptoms during this transition, even though the risk tends to decline after menopause is fully established.

Neurobiologically, estrogen has an important modulatory effect on several neurotransmitter systems in the brain, especially serotonin, dopamine, and gamma-aminobutyric acid (GABA), which are involved in mood, sleep, and emotional regulation. Estrogen increases serotonin availability by reducing its breakdown and enhancing receptor sensitivity, thereby promoting emotional stability and well-being. It also influences dopamine and endorphins, which are linked to motivation, pleasure, and stress response (6). Progesterone and its metabolites interact with the GABA system and have a calming and sedative effect. During menopause, the decline and fluctuation of these hormones disrupt these neurotransmitter pathways, making women more vulnerable to mood changes, anxiety, and sleep disturbances. Hot flashes and night

sweats further interfere with sleep, creating a cycle in which poor sleep worsens emotional distress and psychological symptoms.

Although menopause itself does not cause psychiatric illness, it can act as a period of vulnerability, particularly in women with certain risk factors. A previous history of depression or anxiety is one of the strongest predictors of psychological problems during menopause. Women who experience early menopause or undergo surgical menopause due to removal of the ovaries are also at greater risk, as the abrupt loss of hormones may produce more severe emotional and physical symptoms. Other contributing factors include chronic medical conditions, lack of social support, unemployment, marital or family stress, and low self-esteem. These factors interact with biological changes to shape a woman's overall experience of menopause (7).

The way menopause is perceived and experienced varies widely among women and across cultures. Some women view menopause positively, feeling relieved from menstruation and the fear of unintended pregnancy, while others perceive it as a sign of aging, loss of femininity, or declining attractiveness. Cultural beliefs, societal expectations, and attitudes toward aging and womanhood play an important role in determining whether menopause is experienced as a normal life transition or as a distressing event. In societies where youth and fertility are highly valued, women may experience greater anxiety and emotional distress during menopause. In contrast, in cultures that respect aging and maturity, menopause may be seen as a period of wisdom, freedom, and personal growth (7).

Psychosocial factors also have a major influence on mental health during menopause. Midlife is often accompanied by multiple life stressors, including changes in family roles, children leaving home, caring for aging parents, health concerns, and career or financial pressures. These challenges can increase psychological stress and interact with hormonal changes to intensify emotional symptoms (8). Women with strong social support systems, stable relationships, healthy coping strategies, and positive attitudes toward aging tend to adjust better to menopause and experience fewer psychological difficulties.

Despite the prevalence of psychological symptoms during menopause, they are often overlooked or dismissed as a normal part of aging. In many healthcare settings, the focus remains primarily on physical symptoms such as hot flashes and bone health, while emotional and mental health concerns receive limited attention (8). As a result, many women suffer in silence, believing that their distress is something they must

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endure rather than something that can be treated. This lack of recognition contributes to reduced quality of life, impaired daily functioning, and strained interpersonal relationships.

Early identification and appropriate management of psychological symptoms during menopause are therefore essential. Simple screening tools for depression, anxiety, and sleep disorders can help healthcare providers detect problems at an early stage and provide timely interventions(8). Treatment may include counselling, lifestyle modification, stress management, cognitive-behavioural therapy, hormone therapy, or antidepressant medication, depending on the severity and nature of symptoms (9). Addressing both biological and psychosocial factors can significantly improve a woman's overall well-being and help her navigate this life transition more successfully.

In conclusion, menopause is a complex biopsychosocial transition that extends beyond the cessation of menstruation. The hormonal changes of menopause influence not only physical health but also emotional stability, cognitive functioning, and psychological well-being. While many women pass through this phase without major difficulty, a significant proportion experience distressing psychological symptoms that can interfere with daily life. Understanding the spectrum of mental health changes during menopause is therefore crucial for improving women's health care. By recognizing menopause as a period of vulnerability as well as opportunity, healthcare professionals can provide more comprehensive, compassionate, and effective support for women during this important stage of life(9).

AIM AND OBJECTIVES:

-To assess the mental health in women with natural menopause and in women with induced menopause after hysterectomy.

-To correlate the socio demographic and clinical parameters with impairment in mental health.

MATERIALS AND METHODS:

This Analytical Cross sectional study was conducted in Department of Obstetrics and Gynaecology, at Sree Balaji Medical College And Hospital over a period of one and a half years on 200 women who have attained menopause either naturally or after medical intervention attending Gynaecology OPD.

INCLUSION CRITERIA

Participants included in the study are as follows

1. Women between age group 45 to 60 years
2. Women who attained menopause either naturally or surgically induced
3. Women who were willing to participate in the study after giving informed consent.

EXCLUSION CRITERIA

1. Menstruating women
2. Women below the age of 40 and above the age 52
3. Women with past history of major medical disorders on treatment
4. Bed ridden and chronically ill

A pre tested structured questionnaire was used for collecting information. The interview was conducted by the investigator herself and the responses were recorded in the questionnaire. Collected data was entered in Microsoft excel and data analysis was done using SPSS software, version 22. Descriptive and analytical statistics were used for analysis and presented as tables and figures. Descriptive statistics were presented as frequency and percentage and analytical statistics as Chi - square, Odds ratio (OR), 95% Confidence Interval (CI).

RESULTS:

Table 1: Age group of study respondents

Age group	Frequency	Percentage (%)
Up to 45 years	9	4.5
Above 45 years	191	95.5

Table 2: Marital status of respondents

Marital status	Frequency	Percentage (%)
Single	7	3.5
Married	183	91.5
Widowed	7	3.5
Separated/divorced	3	1.5

Table 3: Socio economic status of participants

SES	Frequency	Percentage (%)
Class I	41	20.5
Class II	72	36
Class III	60	30
Class IV	25	12.5
Class V	2	1

Table 4: Method of menopause

Method of menopause	Frequency	Percentage (%)
Natural	170	85.0
Induced	30	15.0

Among the study participants, 85% have attained menopause naturally and the menopause were surgically induced among the rest of them.

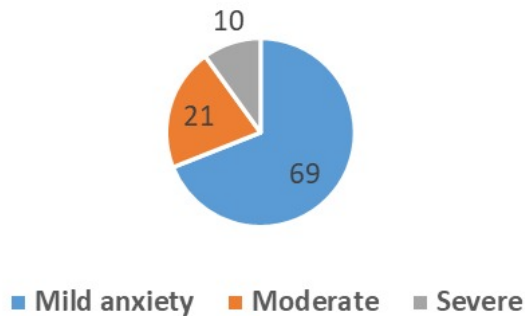
Table 5: Duration of Menopause

Duration of menopause	Frequency	Percentage (%)
5 years and less	161	80.5
>5 years	39	19.5

Around 19.5% of women were in the menopausal period for more than five years.

Figure 1: Diagram depicting the HAM-A scoring of study participants

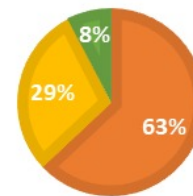
Percentage of participants



69% of women reported mild form of anxiety, 21% had moderate anxiety and 10% had severe anxiety.

Figure 2: Diagram showing the HAM-D scoring of participants

■ Mild depression ■ Moderate ■ Severe



About 56% of women had moderate or severe impairment of mental health.

Table 6: Mental health of study respondents

Mental health	Frequency	Percentage (%)
Normal/mild impairment	88	44.0
Moderate/severe impairment	112	56.0

Table 7: Association between Mental health of the study participants with socio demographic and clinical characteristics

S.No	Characteristic	Moderate - severe impairment of mental health	Normal mental health or mild impairment	OR (95% CI)	Chi square	p value
1.	Age at menopause					
	upto 45 years	25	5	4.8 (1.7-13.0)	10.7	0.001*
	>45 years	87	83			
2.	Residence					
	Urban	58	54	1.2 (0.7-1.9)	0.29	0.59
	Rural	54	58			
3.	Marital status					
	Married	103	80	1.1 (0.4-3.1)	0.07	0.79
	Others	9	8			
4.	Education					
	High school and above	82	30	5.3 (2.9-9.7)	30.61	<0.001*
	Upto middle school	30	58			
5.	Occupation					
	Skilled worker and above	89	48	3.2 (1.7-6)	14.2	0.0002*
	Semi-skilled work and below	23	40			
6.	Socio economic class					

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	Class 1 & 2	71	42	1.9 (1.1-3.4)	4.92	0.03*
	Class 3 – 5	41	46			
7.	Body Mass Index					
	Overweight/obese	19	17	0.8 (0.4-1.8)	0.18	0.67
	Normal	93	71			
8.	Diabetic					
	Yes	7	5	1.1 (0.3-3.6)	0.03	0.86
	No	105	83			
9.	Hypertensive					
	Yes	9	6	1.2 (0.4-3.5)	0.1	0.7
	No	103	82			
12.	Menopause					
	Induced	26	4	6.3 (2.1-18.9)	13.47	0.002*
	Natural	86	84			
13.	Duration of Menopause					
	5 years and less	98	63	2.8 (1.3-5.7)	7.9	0.005*
	>5 years	14	25			

The socio demographic characteristics and clinical characteristics were assessed for the association with mental health impairment among post-menopausal women. The results of the statistical analysis are presented in Table 7. Women who were aged <45 years were 4.8 times more likely to have moderate or severe mental impairment compared to women who were >45 years of age. Similarly, the chances of mental health impairment are 5.3 times higher among women who were more educated. Higher occupation levels also showed a statistically significant association with mental health impairment. Women who belonged to higher socio-economic classes were nearly 2 times more likely to have disturbances in mental health. Women who had an induced menopause and women who were in the initial years of menopause were more likely to present with depression and anxiety.

DISCUSSION

The present study assessed the mental health status of menopausal women and examined its association with socio-demographic and clinical factors. The findings reveal that more than half (56%) of the participants had moderate to severe impairment of mental health, as measured by HAM-D and HAM-A scales. This highlights that psychological morbidity is a major but often under-recognized problem among menopausal women. Similar high prevalence of anxiety and depression during menopause has been documented in both Indian and international studies, confirming that menopause represents a vulnerable period for women's mental health [1, 2].

In the current study, 69% of women had mild anxiety, while 31% had moderate to severe anxiety, and 56% had

moderate to severe depressive symptoms. These findings are comparable with the study by Bromberger et al., who reported that the menopausal transition was associated with a significant increase in depressive and anxiety symptoms due to fluctuating estrogen levels and life stressors [3]. Likewise, Freeman et al. observed that perimenopausal and early postmenopausal women were nearly twice as likely to experience depression compared to premenopausal women [4]. The relatively high burden of psychological symptoms in our study may be attributed to the combined effects of hormonal changes, aging-related concerns, and social stressors common in middle age.

Age at menopause showed a significant association with mental health impairment in the present study, with women attaining menopause at ≤ 45 years being 4.8 times more likely to suffer from moderate to severe psychological impairment. This is consistent with earlier studies that reported that early menopause, especially when induced surgically, is associated with greater psychological distress due to abrupt estrogen deprivation [5]. Rocca et al. reported that women undergoing early or surgical menopause had significantly higher rates of depression and anxiety compared to women with natural menopause [6]. The sudden loss of ovarian hormones in early menopause may result in more intense neurochemical changes, leading to mood disturbances. An important finding of the present study is the significantly higher prevalence of mental health impairment among women with induced menopause (OR 6.3). Similar observations were reported by Farquhar et al., who found that women undergoing hysterectomy with bilateral oophorectomy had a higher incidence of depressive and anxiety symptoms than those who

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experienced natural menopause [7]. The abrupt cessation of estrogen and progesterone following surgical menopause disrupts neurotransmitter systems regulating mood, making women more vulnerable to depression and anxiety [8]. Moreover, the psychological impact of losing reproductive organs may also contribute to emotional distress.

The duration of menopause was also significantly associated with mental health status in the present study. Women who were in the initial five years of menopause were nearly three times more likely to experience moderate to severe psychological impairment. This finding aligns with the Study of Women's Health across the Nation (SWAN), which demonstrated that depressive symptoms peak during the perimenopausal and early postmenopausal phases and tend to decline later [3]. The early menopausal phase is characterized by wide hormonal fluctuations, vasomotor symptoms, sleep disturbances, and uncertainty about bodily changes, all of which can worsen emotional well-being.

Socio-economic and educational status showed a strong association with mental health impairment in this study. Interestingly, women with higher education and higher occupational status had greater psychological morbidity. This finding is similar to a study by Avis et al., which showed that highly educated and professionally active women often report greater psychological distress during menopause due to work-related stress, role strain, and higher expectations of productivity and self-image [9]. Educated women may also be more aware of menopausal symptoms and more likely to report psychological discomfort. In contrast, some Indian studies have shown that lower socio-economic status is associated with poorer mental health during menopause [10], indicating that socio-cultural context plays a key role in shaping psychological responses.

The present study also found that women from higher socio-economic classes (Class I and II) were almost twice as likely to have impaired mental health. This paradoxical finding may be explained by the fact that women from higher socio-economic backgrounds often experience greater lifestyle stress, professional responsibilities, and social pressure to maintain youthfulness and productivity [11]. In contrast, women from lower socio-economic groups may perceive menopause as a natural life event and may have fewer psychosocial expectations attached to it.

Marital status, residence, BMI, diabetes, and hypertension were not significantly associated with mental health impairment in this study. This is in line with some previous studies that reported that biological and hormonal factors play a more dominant role than

marital or residential factors in menopausal psychological symptoms [12]. However, other studies have reported that lack of spousal support and chronic illnesses can worsen menopausal mental health [13]. The differences may be due to variations in family structure, cultural support systems, and coping mechanisms across populations.

The prevalence of anxiety and depression observed in this study is similar to that reported in other Indian studies. A study by Bansal et al. in North India found that nearly 52% of postmenopausal women had significant depressive symptoms [14], while a South Indian study by Karthikeyan et al. reported anxiety and depression in about 48% of menopausal women [15]. The slightly higher prevalence in the present study (56%) could be due to the inclusion of surgically menopausal women and those in early menopause, who are known to be at higher risk.

Hormonal mechanisms play a central role in the development of menopausal psychological symptoms. Estrogen modulates serotonin, dopamine, and norepinephrine pathways in the brain, which are involved in mood regulation [16]. The decline in estrogen during menopause leads to reduced serotonin availability and altered stress response, increasing vulnerability to depression and anxiety. Sleep disturbances due to hot flashes and night sweats further exacerbate emotional instability [17]. These biological changes, combined with mid-life psychosocial stressors, create a "perfect storm" for mental health problems during menopause.

The findings of this study emphasize the need for routine screening for anxiety and depression in menopausal women, particularly those with induced menopause, early menopause, and those in the initial years after menopause. Similar recommendations have been made by the North American Menopause Society, which emphasizes the importance of integrating mental health assessment into menopausal care [18]. Simple tools such as HAM-D and HAM-A, as used in this study, can be easily implemented in outpatient settings.

The study also highlights the need for a holistic approach to menopausal care. Lifestyle modification, stress management, counselling, cognitive behavioral therapy, and hormone therapy, when indicated, can significantly improve mental well-being [19]. Community-based interventions, including health education, support groups, yoga, and self-help groups, can also help women cope better with menopausal changes. The role of primary health care workers, as suggested in this study, is crucial in identifying and referring women with psychological distress.

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In conclusion, the present study supports existing evidence that menopause, especially when induced or in its early phase, is associated with a high burden of anxiety and depression. Socio-economic and occupational factors further influence psychological outcomes. Comparing these findings with previous studies underscores that menopausal mental health is shaped by a complex interplay of biological, psychological, and social factors. Addressing these issues through integrated health services and community awareness programs can greatly improve the quality of life of menopausal women.

CONCLUSION:

This Cross sectional study has analysed the mental health status of menopausal women and the factors associated with poor mental health such as depression and anxiety. Socio demographic factors such as higher education, higher occupation level, and higher socio economic class were found to be associated with higher incidence of impaired mental health among menopausal women. Menopause which was surgically induced, and duration of menopause showed a significant association with poor mental health. The initial transition phase in menopause were found to have significant effect on poor mental health.

Thus, there is a need to spread awareness among the community about menopause with the help of information, education, and communication (IEC) campaigns. Grass root workers such as Accredited Social Health Activists (ASHAs) and Anganwadi workers should be sensitised regarding the importance of menopause. They can be involved in counselling menopausal women and referring them to health centres whenever required. Health services need to be provided at the primary health care level through outpatient care and specialist consultation on call. Further studies are needed to understand the epidemiology of menopausal symptoms in India especially in Tamilnadu as the research on this area is limited. Various life-style activities like daily yoga classes, formation of self-help groups and distribution of calcium, iron and vitamins can help in reducing the psychological stress among postmenopausal women. This can improve their coping skills during and after menopause.

Community participation and involvement is required in planning and implementation of various health talks and group discussions on menopausal health. Baseline information from this study can be used by the program managers to devise appropriate health policies for postmenopausal women and help them to lead a healthy

life. More longitudinal and community based studies are required to enhance the understanding of this less explored field of menopause and mental health.

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