Section: Psychiatry

Original Research Article

A COMPARATIVE STUDY ON MENOPAUSAL SYMPTOMS IN WOMEN WITH PSYCHIATRIC DISORDERS AND OTHER MEDICAL DISEASES

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Abstract

Background: To learn the correlations of severity of menopause symptoms among women with psychiatric illness and women with other medical conditions. **Methods:** This is a cross-sectional study with a comparative group, done on psychiatric patients diagnosed from inpatient or outpatient setting of psychiatry department and patients with chronic medical condition from medical OPDs of tertiary care hospital in Rajkot. Around 200 women falling in the menopausal age category from 45 to 60 years participated in study and the data was analyzed using the Statistical Package for Social Sciences (SPSS) version 23. The statistical analysis of unpaired t - test has been used to compare baseline values of MRS scale between groups on Psychiatric illness and Medical illness. **Results:** In our study, the psychiatric patients had more severe menopausal symptoms like hot flashes, Depressive Mood, musculoskeletal symptoms, Anxiety, and Sleep disturbances were more than the comparative group. With use of MRS, in the psychiatric group, the most affected domains were psychological and somato-vegetative domain and uro-genital domain being the least affected and statistically there was significant difference (p = 0.000). **Conclusions:** Hence we conclude that severity of menopause and distress is more in women with psychiatric illness than in women with chronic medical conditions.

INTRODUCTION

Menopause is the cessation of menstruation permanently resulting from loss of ovarian follicular activity.[1] Women goes through changes in menstrual cycle and experience: 1. Vasomotor symptoms like hot flashes, sweating and discomfort 2. Musculo-skeletal symptoms like bodily pain, muscular pain, joint pain 3. Effects on mood like low mood and anxiousness, being overwhelmed 4. Urogenital symptoms like urinary incontinence, increased frequency, vaginal dryness 5. Sexual difficulties like low libido, dyspareunia.[2] Mental Health Disorders And Menopause: Menopausal women aged 36-44 years with no previous history of major depression were followed up for 9 years by the investigators from the Harvard Study of Moods and Cycles, they detected new onsets of major depression; they found that women entering peri-menopause were twice at risk for clinically significant depressive symptoms ,concluding that women with no lifetime history of depression entering menopausal transition have a significant risk of first onset depression. Physical symptoms associated with menopausal and mood changes tend to affect as women age increasing the burden of illness.[3] High testosterone levels contribute to depressive symptoms during the menopause transition this association is not dependent of the menopausal status and hence it remains an independent predictor of depressive symptoms.[4] Women with insomnia reported symptoms like anxiety and depressive features. Presence of peri-menopausal sleep disturbances, rather than a single specific disorder, there are independent factors that are common in this population and can

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affect sleep i.e., vasomotor symptoms, mood changes, sleep apnea, hence it is multifactorial. Moreover peri-menopausal transition is a plausible determinant of worsening sleep in mid-life women.[5] In postmenopausal women with schizophrenia and other psychotic disorders the selection of antipsychotics between 1) prolactin raising and prolactin sparing; 2) weight gaining vs. weight sparing has been a challenge and also since randomized control trials are less it is more challenging for the psychiatrist. Current evidence supports the fact that oestrogens exert beneficial effects on mental health. Raloxifene, a selective oestrogen receptor modulator (SERM) in addition to an appropriate antipsychotic as a combined regimen has shown improved outcomes, but the critical question of whether its use can reduce antipsychotic dose and, thereby, reduce the severity of adverse effects of antipsychotics, has not been tested. Medical comorbidities like venous thromboembolism, obesity and osteoporosis incidence is high at the time of menopause, in addition, antipsychotics increase the risks. The incidence of neurological disorders and cancers during menopause influence clinical outcomes in schizophrenia, which has not been confirmed by RCTs.[6] panic disorder may arise and worsen with menopause mainly in its physical and psychological symptoms.[7] During the menopausal transition, 68% of women with bipolar disorder experienced at least one depressive episode. Women with bipolar disorder experience a high incidence of depressive episodes during peri-menopausal years and this frequency appears greater than prior reproductive years. An episode of depression frequency significantly increased during the menopausal transition compared to reported frequency during patients' reproductive years. History of pre-menstrual and or post-partum mood instability did not predict peri-menopausal mood episodes. Prospective controlled studies are needed to better understand the course of mood episodes and to enhance the effectiveness of managing bipolar disorder during the menopausal transition.[8] The post-menopausal women had more severe symptoms which was more distressing. The Quality of life of postmenopausal women was decreased due to severity of menopausal symptoms.[9] According to the NAMS Board of Trustees, Hormone Replacement therapy remains the most effective treatment for vasomotor symptoms and the genitourinary syndrome of menopause.[10] Here the purpose of our study will aim at a comparison on severity of menopausal symptoms in women with psychiatric illness and in women with other medical diseases.

MATERIALS AND METHODS

This is a cross-sectional study with a comparative group, done on psychiatric patients already diagnosed from inpatient or outpatient setting of psychiatry department and patients with chronic medical condition from medicine OPDs of P.D.U.M.C Hospital, Rajkot. The study has been approved by Ethical Review Committee of the college. Any women aged between 40-55 years who attended Monday morning Psychiatric OPD, who had consented to participate in the study were asked regarding menstrual cycles. Patients were also taken from both outpatient department and in-patient psychiatric care that had already been diagnosed with psychiatric illness. Any women who were already diagnosed with chronic medical condition aged between 40-55 years who attended medicine outpatient department were taken for study. Total of 200 patients were studied, 100 were psychiatric patients and rest 100 were patients with chronic medical illness condition.

Inclusion Criteria

Women in menopausal transition and postmenopausal women aged from 40-55 years have been included in the study. Patient who have been suffering from psychiatric illness for the past 5 years were included. Patients who were suffering from medical condition for the last 5 years were included. Patient who consented to participate in the study.

Exclusion Criteria

Patients who were unable to give proper details due to disturbance by major psychiatric or medical conditions. Psychiatric patients with medical co-morbidity or Medical patient with psychiatric co-morbidity. Patients who did not consent to participate in the study were excluded. Patients who did not understand the local language. Patient on Hormone replacement therapy were excluded from the study. Patients with surgical menopause have been excluded. Patients were interviewed for detailed history and mental status examinations. Diagnosis was done using International Classification of Diseases -10. Patients were regularly taking treatment from psychiatry department for the last 5 years. Interview has been conducted in a room in OPD where autonomy and privacy of patients and caregiver were ensured. A semi-structured Proforma has been used to record patient's socio-demographic details and clinical variables. Socio-Demographic Proforma included Name, Sex, age, Education, Occupation, Marital status Religion, domicile, Education, and Socio-economic status.

Clinical Variables: Details Related To Mental Illness: Origin Of Mental Illness, Duration Of Illness, Treatment History, Compliance, Co-Morbidity, Complications And Age Since Menopause, Life Stressor. Menopause Rating Scale (MRS) was used to assess the severity of menopausal symptoms.

Domain 1- Somato-Vegetative: 1. Hot flushes, sweating, 2. Heart discomfort 3. Sleep problems 11. Joint and muscular discomfort.

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Domain 2 – Psychological: 4.Depressive mood, 5. Irritability, 6. Anxiety, 7. Physical and mental exhaustion

Domain 3 –Uro-genital: 8. Sexual problems 9. Bladder problems 10. Dryness of vagina. The whole set of questionnaires were translated to Gujarati for better uniformity. Compliance was considered high if the patient was continuously on treatment since the beginning of the illness, low if the patient took treatment only during acute phase and moderate, if the compliance was in between these two extremes. Data analysis was done using SPSS version 23.0.Data was analyzed using Mann-Whitney U test and Kruskal Wallis test. Probability value less than 0.05 has been taken statistically significant. Data was analyzed using statistical package for social sciences (SPSS) version 23 as it is licensed with the SLIMS. The statistical analysis of unpaired t test was used to compare baseline values of MRS scale between groups with Psychiatric illness and Medical conditions. We used 95% CI and the results were highly significant if $p< 0.05$.

RESULTS

Socio-demographic variables of the psychiatric group and patients with other medical illness: Age range of both groups was from 40 to 55 years. The mean age of patients in psychiatric group was 48.34 years while in non-psychiatric group it was 49.36 years. Around 47% of psychiatric patients and 59% of physical illness patients were in the age range of 50-55 years. Majority of women in both psychiatric group (43%) as well as comparative group (51%) hailed from urban domicile. Majority of the patients were homemakers in both psychiatric group (73%) and in comparative group (67%).In the psychiatric population, majority that is 60% were from nuclear type of family while in the non-psychiatric group, 57% belonged to joint family. In psychiatric group, 40% of patients were illiterates, while in the group with other medical condition 44% of patients were illiterates. Majority of women were married in both psychiatric group (83%) and in comparative group (93%).In the psychiatric group, majority belonged to Prasad's socio-economic class of V (28%), followed by class II (21%) and (20 %) class IV, then class I (13%) closely followed by class III (12%).While in the non-psychiatric group, majority belonged to class II (34%), followed by class IV, (23%) and class III (19%) closely followed by class V (18%) and lastly class 1 (5%).

Table 1: Clinical Variable of Patients with Psychiatric Illness and Medical Illness

Variables	**Psychiatric patients n = 100 (%)**	**Medicine patients n = 100 (%)**	
Diagnosis			
MDD	59	Diabetes mellitus	30
GAD	14	Hypertension	50
Schizophrenia	10	COPD	20
Bipolar disorder	7		
Others Psychiatric	10		
Duration of illness			
Less than 10 years	64	86	
10-20 years	25	11	
More than 20 years	11	3	
Age at first episode			
Less than 20 years.	2	3	
21-30 years.	22	2	
31-40 years.	33	3	
41-50 years.	34	64	
51-60 years.	9	28	
Co-morbidity			
Nicotine use	2	5	
Compliance			
High	70	63	
Moderate	12	2	
Low	18	29	
Menopausal Status			
Pre-menopausal	14	35	
Peri-menopausal	18	2	
Post -menopausal	68	63	

In [Table 1] Amongst the women with psychiatric illness, a majority (59%) had Major depressive disorder, 14% had generalized anxiety disorder, followed by Schizophrenia 10%, and then 7% had Bipolar 1 disorder while the rest 10% of women suffered from various other psychiatric illnesses like conversion disorder, insomnia and obsessive compulsive disorder as shown in.

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Table 2: Comparison of Individual Domain Scores of Menopause Rating Scale in Psychiatric and Non- Psychiatric

Menopausal transition	Domain 1 Somato-Vegetative		Domain 2 Psychological		Domain 3 Uro-Genital	
	Psy	Med	Psy	Med	Psy	Med
Pre-menopausal	9.50	13	11.50	10.50	2	2.50
Mann Whitney U Test	Z =1.039 p= 0.299		Z =0.679 p = 0.497		Z =0.688 p=0.492	
Peri-menopausal	8.50	2.50	8.50	2.50	2	4.50
Mann Whitney U Test	Z =1.546 p = 0.122		Z =1.714 p = 0.086		Z =0.323 p = 0.747	
Post-menopausal	12	6.50	12	4.50	2	1
Mann Whitney U Test	Z =1.768 p = 0.077		Z =4.579 p= 0.000**		Z =3.365 p = 0.001**	

** -- p value < 0.05 is statistically significant.

Psy = Psychiatric Group, Med = Group with chronic Medical illness

As in [Table 2], in pre-menopasual category, statistically there was no significant difference in any of the domains between psychiatric and non-psychiatric group. In peri-menopausal category, in any of domains, statistically there is no significant difference between psychiatric and non-psychiatric group. In post-menopausal category, only in psychological and uro-genital domain, there is statistically significant difference between psychiatric and non-psychiatric group. Score of mean on Menopause Rating Scale shows significantly higher score in medical patients as compared to psychiatric patients in all four domains. The Menopause Rating Scale comparative statement of transformed score of psychiatric patients and medicine patients is p-values for all t-score value is <0.001, there was highly significant between the mean values of different domains.

Table 3: Menopause Rating Scale Comparative Score of Psychiatric Illness and Medical Patients

MRS Domain	Mean	S.D.	SE	t - Value	p - Value
Somato-vegetative Domain 1					
Psychiatric patients	10.51	4.51	.450	4.387	0.000**
Medical patients	7.33	5.69	.569		
Psychological Domain 2					
Psychiatric patients	10.45	4.35	.435	4.608	0.001**
Medical patients	7.27	5.55	.553		
Uro-genital Domain 3					
Psychiatric patients	3.09	3.04	.304	3.194	0.002**
Medical patients	1.95	1.87	.187		
Menopause Rating Scale					
Psychiatric patients	23.82	10.01	1.00	3.624	0.000**
Medical patients	18.19	11.88	1.19		

**Highly Significant

Above [Table 3] shows that patients with psychiatric illness were having predominant menopausal symptoms than patients with other Medical condition with respect to somato-vegetative domain, Psychological domain, urogenital domain and Menopause rating scale, which is statistically significant, and the P – Values are 0.000, 0.001, 0.002 and 0.000 respectively

Table 4: Comparison of the Grading of Severity of Menopausal Symptoms and Percentage of Women Affected in Domains of Menopause Rating Scale in Both Groups

Domains of Menopause Rating Scale	Domain 1(n) Somato-vegetative		Domain 2 (n) Psychological		Domain 3 (n) Uro -genital		Kruskal Wallis test	
	Psy	Med	Psy	Med	Psy	Med	Psy	Med
No, little	8	13	1	37	24	27	X^2 =118.96 p = 0.000** df=2	X^2 =78.68 p = 0.000** df=2
Mild	5	17	16	8	9	20		
Moderate	19	15	10	15	39	41		
Severe	68	55	73	40	28	12		

** -- p value less than 0.05 is statistically significant.

Psy = Psychiatric Group, Med = Group with Other Medical illness

For Psychiatric Group of Population: Around 73% women had severe psychological symptoms, 68% had severe somato-vegetative symptoms and only 28% had severe uro-genital symptoms. Majority of women had severe menopausal symptoms that aggravated psychiatric symptoms. With use of MRS, the most affected domains were psychological domain and somato-vegetative domain and the uro-genital domain being the least affected. However statistically there was significant difference (p = 0.000) as shown in [Table 4]**.**

For Comparative Group of Population: Around 55% women had severe somato-vegetative symptoms, 40% had severe psychological symptoms, and 41% had moderated urogenital symptoms. The most affected domains were psychological domain and somato-vegetative domain followed by uro-genital domain being the least affected. However statistically there was

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significant difference (p = 0.000) as shown in [Table 4].

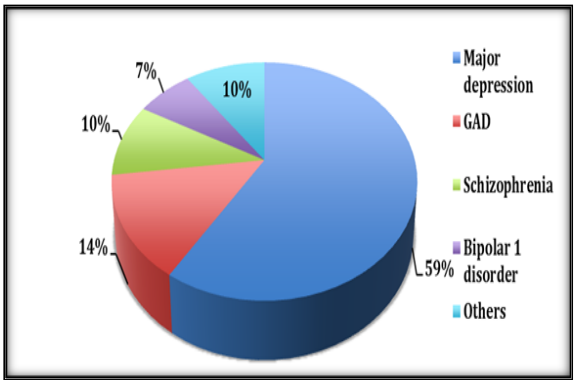

Figure 1: Psychiatric Illness Distribution in Menopausal Women

In the comparative group, women medical conditions like 30% Diabetes, 50% hypertension, and 20% COPD. Duration of illness was 5 years women in both groups. 34% of psychiatric group and 64% of comparative group had onset of illness between 41-50 years of age, while 9% of psychiatric group and 28% of comparative group had onset between 51-60 years of age.2% and 5% of the patients used nicotine, in psychiatric and comparative group respectively. In both groups majority of the patients had high compliance (70% in psychiatric group and 63% in comparative group) while 18% and 29% of patients had low compliance in both the groups respectively. Few patients had moderate compliance (12% in psychiatric group and 2% in comparative group). The mean menopausal age of women was 45.31 ± 3.23 years in the psychiatric group while in comparative group; it was 45.46 ± 3.67 years.By classification of menopausal status, in the psychiatric group 14% were pre-menopausal, 18% were peri-menopausal, and majority were post-menopausal (68%).In comparative group, 35% were pre-menopausal, only 2% were peri-menopausal and again maximum being post-menopausal 63%.

DISCUSSION

In our cross-sectional study of 200 cases, 100 were cases with Psychiatric illness and 100 from Medical OPD. Socio demographic distribution and clinical variables in menopausal women: Age: The mean menopausal age of Study subjects was 45.31 ± 3.23 years in the psychiatric group while in comparative group it was 45.46 ± 3.67 years. In India, the actual mean age ± standard deviation (SD) is 45.02 ± 4.35 years.[9,11] However, comparing our findings with previous researcher, ours still fall between the normal range of menopausal age. Urban vs. Rural: Majority of the participants in both Psychiatric group and Medical group belong to Urban and Semi Urban area. A study conducted by Biswajit L. Jagtap et al,[12] shows that study participants with/with no psychiatric morbidity were mostly from Urban area. A cross sectional study of M.M. Sagdeo et al conducted in Nagpur had equal distribution of participants.[13] Occupation: Housewives followed by laborers are in more number than Unemployed/people involved in other services. In a study by Biswajit L. Jagtap et al they showed that most of their study participants were Home makers.[12] A study conducted in Korea Moon-Soo Lee et al had a greater number of participants who were employed.[14] Type of family and marital status: Psychiatric cases were more from Nuclear family and medical cases were more from Joint family. Most of the participants from Biswajit L. Jagtap et al study were from Nuclear family in both the groups.[12] Literacy: Majority of the cases were Illiterate in both Psychiatric and Medical groups, followed by Cases with primary education, secondary education, Graduate and Post graduate. Biswajit L. Jagtap et al study shows major portion of its study participants were cases who did school education in both the groups.[12] Socio-economic status: Psychiatric patient had more cases from Class V, Class II followed by Class IV, Class I and Class III, whereas medical cases were in Class II, Class IV, Class III, Class V, Class I of Socio-economic status. In a study by Mansi Patel et al in Gujarat had more participants from Middle class, followed by Lower middle class, Upper middle class, Lower class and Upper class.[15] Duration of illness: In our study we found out that longer the duration of illness, more severe the menopausal symptoms. This could be due to burden of any mental illness on menopausal symptoms. Also Bobes et al reported that the longer the length of the mental illness, poorer the quality of life.[16] Age of onset: In our study we observed the severity of menopause was more in mentally ill patients regardless of the age of onset of illness while Cohen LS et al showed that transitioning into menopause has increased risk for depressive symptoms.[3] Compliance: In psychiatric group there was comparatively better and fewer menopausal symptoms with high compliance than with moderate and poor compliance. Bobes et al concluded fewer side effects and the combination of long term psychopharmacological treatment improve quality of life.[16]

Relationship between Mental Illness and Menopause: Majority of psychiatric patient were having Major Depressive Disorder, Generalized Anxiety Disorder, Other psychiatric illness like schizophrenia and Bipolar disorder. In our study overlapping symptoms between menopause and psychiatric disorders were Joint pain, low mood, Chest discomfort, Physical exhaustion, Insomnia, Hot flashes, Anxiousness and Fatigability. Similar findings were demonstrated in a study performed by Borker et al showed that the mean age of menopause was 48.26 years and symptoms like crying spells, low mood, irritability 90.7%, joints and muscle pain 53.3%, decreased libido and dyspareunia 31.8%, vaginal dryness 9.3%.[17] But these symptoms were

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less in the comparative group of our study. In our study, the psychiatric patients had hot flashes, joint pain, sweating symptoms as well as low Mood, Anxiousness, and Sleep disturbances were more than the comparative group which is in contrast to the study by Mahajan and Kumar.[18] Also Peeyananjarassri et al noticed symptoms like vaginal dryness, hot flushes, muscle ache and decreased libido in peri-menopausal women, whereas in our study overall urogenital symptoms were less in both the groups.[19] In a study by Oppermann K et al , the peri-menopausal women, were at greater risk of psychiatric disorders which was similar to our findings where the peri-menopausal and pre-menopausal age groups were at higher risk of psychiatric illness like depression and anxiety.[20] In a study by Dimitrios et al , 27.4% women in menopause is associated with psychiatric symptoms requiring treatment.[21] He also identified anxiety distress in 53.1% of women while in ours Generalized Anxiety Disorder was seen in 14%, Depression was diagnosed in 31.3% of women while in ours it was 59%, and paranoid psychosis only one case (3.1%) while in ours schizophrenia was seen in 14% and bipolar in 7% and rest 10% were having other psychiatric illness, conversion disorder, obsessive compulsive disorder, and insomnia.[21]

MRS Scale Comparison on Psychiatric Illness and Medical Patients: By classification of menopausal status, in the psychiatric group 14% were pre-menopausal, 18% were peri-menopausal, and majority was post-menopausal (68%). In comparative group, 35% were pre-menopausal, only 2% were peri-menopausal and again maximum being post-menopausal 63%. In a study by Nisar and Sohoo high Scores of MRS were observed in postmenopausal women because of which they were more distressed.[9] In our study, among the post-menopausal category, only in psychological and uro-genital domain, there is statistically significant difference between psychiatric and non-psychiatric group. Around 73% women had severe psychological symptoms, 68% had severe somato-vegetative symptoms and only 28% had severe uro-genital symptoms. In another study Rahman et al. the most prevalent symptoms reported were joint and muscular discomfort followed by physical exhaustion, and sleeping disturbances. Around 55% women had severe somato-vegetative symptoms, 40% had severe psychological symptoms, and 41% had moderated urogenital symptoms.[22] Cases with chronic Medical diseases had more nicotine addiction than cases with Psychiatric illness. A study conducted in Korea by Moon-Soo Lee et al, had a greater number of participants who were non-smokers. In the present study, majority of study population had high compliance in both Psychiatric and Medical group.[14] Both Psychiatric and Medical cases had predominantly Post-menopausal women. Whereas peri menopausal women were more in psychiatric group and pre-menopausal women were more in medical group. In the present study, cases with Psychiatric disorders had predominantly more symptoms in each of their domains when compared to cases with Medical condition and the relation found were statistically significant. As we can see in our study patients Psychiatric disorders were having more menopausal symptoms. A study conducted among Colombians by Monterrosa-Castro shows that all domains shows increase in their symptoms among their participants.[23] Biswajit L. Jagtap et al. study also shows increase in severity of symptoms.[12] The somatic, psychological, and urogenital domain scores were higher among postmenopausal women compared to peri-menopausal women and pre-menopausal women in our study which is similar to study by Yisma.[24] According to Severity of symptoms with MRS Scale, Psychiatric patients were having increase in severity of symptoms in each domain when compared to severity of symptoms in Medical patients which is also statistically significant. Hence patients with Psychiatric illness were having more symptoms on the severe side than patients with chronic Medical disease. A cross-sectional survey was carried out by Neena Chuni et al. shows that participants were having increase in severe symptoms in all the domains.[25] In a study by Ibrahim et al. most of the studied participants have mild/moderate somatic symptoms whereas in our study most of the women had severe menopausal symptoms overall.[26] Mild and moderate depressive episodes, and anxiety have been reported in high numbers which was similar to our study. Postmenopausal women had significantly higher scores on MRS except for urogenital score that was higher in peri-menopausal women. In a study by Ryu et al Menopausal symptoms were affected by stage of menopause and by aging. Severe hot flashes were more prevalent at late menopause than at pre-menopause.[27] The most common symptom was mental and physical exhaustion, followed by joint and muscular discomfort. Majority of women reported mild-to-moderate symptoms by Khatoon et al.[28] In a study by Baccaro et al. Women with liver transplants had better quality of life scores in the domain related to environment and did not exhibit more intense climacteric symptoms than did those with no liver disease whereas in our study women with chronic medical disease had somatic domain affected more.[29] The menopausal women who had major medical conditions like diabetes, hypertension, psoriasis, osteoarthritis were coping well with the menopausal transition this could be due to the awareness and extensive knowledge regarding the physical illness and its medication that people have because of the various government programmes.

CONCLUSION

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We conclude from our study that women with psychiatric illness had severe menopausal symptoms compared to the women with other medical condition. There is definite correlation of severity of menopause to psychiatric illness despite the good compliance in medications. This could be due to the cost burden of the illness itself or the stigma attached to psychiatric illness. We also observed that post-menopausal women scored high on MRS and low on suggesting that they experienced severe menopausal symptoms which adversely affected their quality of life. The psychological domain was most affected in women with psychiatric illness. We also recommend that there would be more studies correlating on mental illness and menopause and their impact on quality of life and hormonal study during the time of menopause. We also recommend menopause rating scale as a tool for evaluation of women with menopausal symptoms and also during their subsequent treatment and follow up and play a critical role in objectively evaluating the response to Hormone Response Therapy in selected patients. The study also recommends that the Government Mental Health Care programmes should are required for women especially in the peri-menopausal period.

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