Depression and anxiety among middle-aged women: A community-based study

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ABSTRACT

Background: Anxiety and depressive disorders constitute a substantial proportion of the global burden of disease and are projected to form the second most common cause of disability by 2020. **Objective:** To assess the level of depression and anxiety among middle age women and the possible factors behind it. **Materials and Methods:** A total of 180 women aged 40–60 years were selected by proportionate sampling technique. Age, education, marital status, socioeconomic status, age at marriage, age at menopause, weight and height were noted. Zung-self-rating scales were used for calculating levels of depression and anxiety in these women. The data were analyzed by using statistical software SPSS. **Results:** The level of syndromal depression and anxiety was found to be 86.7% and 88.9%, respectively. Most of the subjects had the moderate type of depression (49.5%) followed by mild (29.4%) and severe depression (7.8%). While in case of anxiety, most of the subjects (69.4%) had a mild form of anxiety and 17.8% had moderate anxiety level. A significant difference was observed in the level of depression with respect to marital status ($P = 0.009$) and in the level of anxiety with respect to age ($P = 0.021$) in the study subjects. On applying logistic regression, none of the factors studied were found to be significant variables for anxiety or depression in the study population. **Conclusion:** Depression and anxiety are prevalent among the middle-aged women in rural Punjab. Provision of mental health services in this group is essential.

Keywords: Anxiety, depression, middle-aged women

Introduction

Anxiety and depressive disorders constitute a substantial proportion of the global burden of disease and are projected to form the second most common cause of disability by 2020.[1] A report by WHO stated that depression and anxiety threaten to be the world's most common illness by the end of the century, especially in women.[2] An estimated 73 million adult women worldwide suffer a major depressive episode each year.[3]

Indian studies showed that middle-aged women reported more psychological distress, more medical problems and lower morale than men.[4] Anxiety and depressive disorders are among the most common psychiatric disorders in the community. However most patients with this disorder go unrecognized.[5] Therefore in the present study, an attempt has been made to find level and factors affecting depression and anxiety in women aged 40–60 years in a North Indian rural population.

Materials and Methods

The present study is a cross-sectional, community-based study carried out at rural health and training center in Punjab. The field practice area comprises of 15 villages. Population proportion to size sampling technique was used for selection of subjects as for e.g. total population in one village was 1233 and no of women in 40–60 years age group were 111. So, sampling interval turned out to be 11.1 Hence proportion of women to be selected in this village was 10 (i.e., 111/11.1 = 10). On similar lines proportion

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How to cite this article: Bansal P, Chaudhary A, Soni RK, Sharma S, Gupta VK, Kaushal P. Depression and anxiety among middle-aged women: A community-based study. J Family Med Prim Care 2015;4:576-81.

of each village was calculated, highest was 12. So, 12 from each village was randomly selected constituting a total sample of 180 women (40–60 years).

A structured and pretested questionnaire was used to collect the data. The questionnaire was translated to local language (Punjabi) by the head of department of Punjabi department of Govt. College, Ludhiana, which was validated by doing pilot study on 20 women in age group 40–60 years The variables of the participant's included current age, age at marriage, education, socioeconomic status, type of family, marital status, menopausal status, weight, and height. Body mass index (BMI) was computed by using Quetelet index. Zung-self-rating depression and Zung-self-rating anxiety scales were used for measuring depression and anxiety, which are self-administered, 20-item questionnaires for measuring depression and anxiety, respectively. These scales have been used world over including India by various authors for measurement of anxiety and depression.[6-9] Since, Punjabi version of the original Zung's anxiety and depression scales were not available, so the scales were translated in local languages by the head of the Department of Punjabi department of Govt. College, Ludhiana. Punjabi version of the scales was again back translated to the English language for comparison with the original scale. The scales were then validated by doing a pilot study on 20 women in age group 40–60 years.

The Zung-self-rating depression scale[10] is an established tool for screening depression in various populations and is sensitive to changes in mood. The depression scale is a 20-item questionnaire, with 10-items keyed negatively and 10 positively for calculating depression. Each item is scored on a Likert's scale ranging from 1 to 4. The severity of depression is assessed based on the total score, which can range between 20 and 80. Higher scores indicate a higher level of depression and are divided into four categories: "Normal range" (score 25–49), "mildly depressed" (score 50–59), "moderately depressed" (score 60–69), and "severely depressed" (score above 70).

The Zung-self-rating anxiety scale,[11] similar to the depression scale, is a 20-item self-administered questionnaire to evaluate patients for anxiety-associated symptoms. Scores of 25–44 indicate normal levels of anxiety, scores of 45–59 indicate mild to moderate levels of anxiety, scores of 60–74 indicate marked to severe anxiety levels, and scores ≥75 indicate extreme levels of anxiety. The illiterate subjects were helped in filling the proforma by an interpreter who was same for all the subjects. The written informed consent was taken from the subjects before administering the questionnaire. The ethical approval was taken from Institutional Ethics Committee.

The data were analyzed using Microsoft Excel and SPSS version 20.0 (IBM SPSS, Chicago, Illinois, USA). Chi-square was applied to analyze the association between the two attributes and logistic regression analysis was done to find out significant risk factors for depression and anxiety. $P \leq 0.05$ was taken as significant.

Results

The prevalence of syndromal depression and anxiety in the study population, according to Zung-self-rating depression and anxiety scale was found to be 86.7% and 88.9%, respectively [Figure1, Figure 2]. Of 180 study subjects 156 (86.6%) had depression, out of which 144 (92.3%) had concomitant anxiety as well.

It was observed that most of the subjects had the moderate type of depression (49.5%) while in case of anxiety most of subjects (69.4%) had a mild form of anxiety [Table 1].

Table 2 depicts association of some epidemiological factors of study subjects with depression. It was seen that with increasing age, there was an increasing trend toward depression. However, this difference was found to be statistically nonsignificant ($P = 0.101$). Widowed females were found to be more prone to have severe depression as compared to married females ($P = 0.009$).

Though varying trends were seen yet depression among middle-aged women was not found to be significantly affected by type of family (0.99), menopausal status (0.68), age at marriage (0.08), education (0.72), BMI (0.38), and socioeconomic status (0.59).

Table 3 shows an association of certain factors in relation to anxiety in study subjects. It was observed that a maximum number of subjects in all age groups showed the mild type of anxiety (75.2% in 40–50 years and 59.7% in 50–60 years of age group). Moderate and severe type of anxiety was seen to be more prevalent in subjects having age between
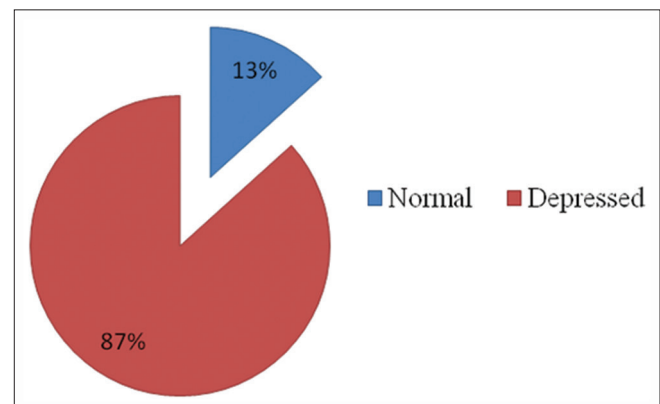
Figure 1: Distribution of subjects according to the depression level as per Zung-self-rating depression scale

Table 1: Distribution of subjects according to the depression and anxiety level as per Zung self-rating depression and anxiety scale, respectively

Variables	Depression (%)	Anxiety (%)
Mild	53 (29.4)	125 (69.4)
Moderate	89 (49.5)	32 (17.8)
Severe	14 (7.8)	3 (1.7)
Total	81 (86.7)	160 (88.9)

50 and 60 years as compared to those group of 40 and 50 years (*P* = 0.021).

Mild anxiety was seen more common in married women (75.2%) whereas moderate anxiety was more prevalent among widows (44.4%) and this difference was found to be statistically significant (*P* = 0.011).
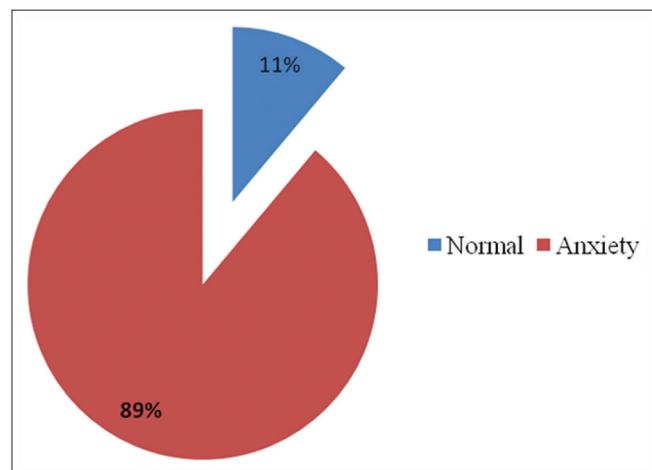

Figure 2: Distribution of subjects according to the anxiety level as per Zung-self-rating anxiety scale

Binary logistic regression was also conducted to look at the effect of selected variables on levels of depression and anxiety, but none of the variables was found to be a significant predictor for the outcome.

Discussion

Depression, the prototype mood disorder is a painful emotional experience that involves intense suffering that can drain the life of meaning excitement and pleasure. Affective disorders are nearly twice more common among women than men.[12] There are many biological, social, and psychological factors responsible for the change in life and lifestyle of women in middle age.

In the present study, the prevalence of depression among middle-aged women was found to be very high (86.7%). In contrast to findings of current study, Dave and Parul study on mental health and aging in women above 40 years at Vadodara showed that 4.62% had minimal depression, 11.29% had mild depression, and 18.18% had severe depression.[13] Anderson *et al.*, in a study conducted on 100 women aged 40–60 years attending a menopausal clinic in California, found emotional symptoms as the major reason for attending the clinic in 63% women. Follow-up of this cohort confirmed that 33% had moderate to severe depression based on Zung-self-rating scale scores.[14]

Variables	Depression level (%)				χ^2 (P)
	Normal	**Mild**	**Moderate**	**Severe**	
Age (years)					
40-50 (*n*=113)	15 (13.3)	38 (33.6)	55 (48.7)	5 (4.4)	6.23 (0.101)
50-60 (*n*=67)	9 (13.4)	15 (22.4)	34 (50.7)	9 (13.4)	
Marital status					
Married (*n*=162)	22 (13.6)	50 (30.9)	81 (50.0)	9 (5.6)	11.57 (0.009)
Widow (*n*=18)	2 (11.1)	3 (16.7)	8 (44.4)	5 (27.8)	
Type of family					
Nuclear (*n*=90)	12 (13.3)	26 (28.9)	45 (50.0)	7 (7.8)	0.03 (0.99)
Joint (*n*=90)	12 (13.3)	27 (30.0)	44 (48.9)	7 (7.8)	
Menopausal status					
Premenopause (*n*=44)	6 (13.6)	14 (31.8)	22 (50.0)	2 (4.5)	3.92 (0.68)
Peri-menopause (*n*=18)	2 (11.1)	8 (44.4)	6 (33.3)	2 (11.1)	
Postmenopause (*n*=118)	16 (13.6)	31 (26.3)	61 (51.7)	10 (8.5)	
Socioeconomic status					
Low-low middle (*n*=92)	14 (15.2)	25 (27.2)	44 (47.8)	9 (9.8)	1.90 (0.59)
High middle-high (*n*=88)	10 (11.4)	28 (31.8)	45 (51.1)	5 (5.7)	
Education					
Illiterate (*n*=75)	8 (10.7)	24 (32.0)	35 (46.7)	8 (10.7)	6.11 (0.72)
Primary (*n*=39)	8 (20.5)	9 (23.1)	19 (48.7)	3 (7.7)	
Middle (*n*=40)	5 (12.5)	14 (35.0)	19 (47.5)	2 (5.0)	
High school + (*n*=26)	3 (11.5)	6 (23.1)	16 (61.5)	1 (3.8)	
BMI					
Nonobese (*n*=57)	9 (15.8)	15 (26.3)	31 (54.4)	2 (3.5)	3.02 (0.38)
Obese (*n*=123)	15 (12.2)	38 (30.9)	58 (47.2)	12 (9.8)	
Age at marriage (years)					
15-18 (*n*=52)	7 (13.5)	16 (30.8)	21 (40.4)	8 (15.4)	6.69 (0.08)
>18 (*n*=128)	17 (13.3)	37 (28.9)	68 (53.1)	6 (4.7)	

Table 2: Association of depression with various sociodemographic variables of study

BMI: Body mass index

Variables	Anxiety level (%)				χ^2 (P)
	Normal	Mild	Moderate	Severe	
Age (years)					
40-50 (*n*=113)	14 (12.4)	85 (75.2)	13 (11.5)	1 (0.9)	9.73 (0.021)
50-60 (*n*=67)	6 (9.0)	40 (59.7)	19 (28.4)	2 (3.0)	
Marital status					
Married (*n*=162)	20 (12.3)	115 (71.0)	24 (14.8)	3 (1.9)	11.11 (0.011)
Widow (*n*=18)	0 (0.0)	10 (55.6)	8 (44.4)	0 (0.0)	
Type of family					
Nuclear (*n*=90)	11 (12.2)	64 (71.1)	13 (14.4)	2 (2.2)	1.73 (0.630)
Joint (*n*=90)	9 (10.0)	61 (67.8)	19 (21.1)	1 (1.1)	
Menopausal status					
Premenopause (*n*=44)	4 (9.1)	37 (84.1)	3 (6.8)	0 (0.0)	9.85 (0.13)
Peri-menopause (*n*=18)	4 (22.2)	11 (61.1)	3 (16.7)	0 (0.0)	
Postmenopause (*n*=118)	12 (10.2)	77 (65.3)	26 (22.0)	3 (2.5)	
Socioeconomic status					
Low-low middle (*n*=92)	9 (9.8)	62 (67.4)	19 (20.7)	2 (2.2)	1.57 (0.66)
High middle-high (*n*=88)	11 (12.5)	63 (71.6)	13 (14.8)	1 (1.1)	
Education					
Illiterate (*n*=75)	7 (9.3)	50 (66.7)	16 (21.3)	2 (2.7)	7.28 (0.60)
Primary (*n*=39)	7 (17.9)	24 (61.5)	7 (17.9)	1 (2.6)	
Middle (*n*=40)	4 (10.0)	29 (72.5)	7 (17.5)	0 (0.0)	
High school + (*n*=26)	2 (7.7)	22 (84.6)	2 (7.7)	0 (0.0)	
BMI					
Nonobese (*n*=57)	6 (10.5)	41 (71.9)	9 (15.8)	1 (1.8)	0.289 (0.96)
Obese (*n*=123)	14 (11.4)	84 (68.3)	23 (18.7)	(1.6)	
Age at marriage (years)					
15-18 (*n*=52)	5 (9.6)	36 (69.2)	11 (21.2)	0 (0.0)	1.83 (0.60)
>18 (*n*=128)	15 (11.7)	89 (69.5)	21 (16.4)	3 (2.3)	

Table 3: Association of anxiety with various sociodemographic variables of study

BMI: Body mass index

Dasgupta and Ray in their study on postmenopausal women reported that nearly 87.3% of rural women were suffering from depression while it was 60% in case of urban women. This variation in prevalence of depression in different populations could be attributed to a different ethnicity, demographic variation in the study population and different diagnostic criteria employed.[15]

In the present study, it was seen that with increasing age, there was an increasing trend in prevalence of depression. This was in consonance with findings of Poongothai *et al.* in their population-based study in Chennai.[16]

In the present study, it was seen that moderate type of depression was more in married women (50.0%), whereas severe type was more in widows (27.8%). Similarly, Poongothai *et al.* reported that prevalence of depression in married women was 15.9% and in widowed it was 26.6%.[16]

In the present study, it was seen that severe type of depression was more common in peri-menopausal subjects. Similar trends were observed by Punyahotra *et al.* in their study on "menopausal experiences of Thai women, symptoms and their correlates" in Thailand who observed that depression was more in peri-menopausal women (68.2%) followed by postmenopausal

and premenopausal women.[17] Bush *et al.*, performed a national survey of women between ages of 45 and 54 and compared the results for pre-, peri-, post-menopausal status using cross-sections and longitudinal sections and found the same level of psychological distress in all groups.[18] In another study, Hay *et al.* investigated 78 peri/postmenopausal women attending a "menopausal clinic" and noted that 45% were clinically depressed, based on assessment using the Montgomery–Asberg depression rating scale.[19]

Reason for depression during pre/peri-menopausal period could be due to alteration in the levels of reproductive hormones which may directly affect central neurotransmitter activity and contribute to a dysregulation of the hypothalamic-pituitary-adrenal axis, leading to onset of depression in vulnerable women. Another reason could be the changes in family roles, loss of fertility and fear of aging with its ensuing loss of physical attractiveness, usefulness and status in the community.[20]

Mild to moderate type of depression was seen more in subjects with middle socioeconomic status in the present study. This may be due to the fact that women with higher economic status avail more and better resources and means to maintain lifestyle and participate in more healthy and leisurely activities which influence their well-being.

Bhatia study on "life satisfaction and values in retired women" reported that the middle economic class women poorly adjust as they are conscious of their identity and sometimes lose importance in the family. They fail to reconcile and try to maintain their image in the family by participating in rearing next generation.[21]

Anxiety is a state of apprehension, uncertainty, and fear arising from the anticipation of a realistic or imagined, threatening event, often impairing physical and psychological functioning. In the present study, a significant relationship ($P = 0.013$) was observed between anxiety levels and age. A mild type of anxiety levels was observed in a maximum number of subjects in all age groups. Similarly, Singh and Singh (2005) did a study among 50 middle-aged school teachers of Varanasi City and revealed that anxiety level was found to be mild in 64% cases and moderate in 32% cases.[22] Mukherjee *et al.* conducted a hospital based study among postmenopausal women of Calcutta and reported that 74.66% of women had anxiety with tension.[23]

Moderate anxiety was seen more prevalent among widows (44.4%) as compared to currently married women (14.8).

A mild type of anxiety was more common in premenopausal subjects (84.1%), followed by postmenopausal (65.3%) and peri-menopausal subjects (61.1%). Shiwaku *et al.* in their cross-sectional study on Japanese women (aged 40–69 years) in six rural communities of Japan reported that frequency of anxiety was more in peri-menopausal group (39%), compared with the premenopausal (28%) and postmenopausal women (30%).[24] The observed difference between two studies could be because of social, cultural, and regional differences.

No statistically significant relationship was observed between socioeconomic status and levels of anxiety.

Other studies have also included variables such as hostile in-laws, very early marriage, financial dependency on males, lack of intimate, confiding relationship with spouse, chronic difficulties with housings, finances, health, lack of autonomy and arguments with husband, in-laws, which were not included in the present study.[25,26]

Conclusion and Recommendations

The present study highlights that depression and anxiety are widely prevalent among the middle-aged women in rural Punjab Provision of mental health services is required to tackle the issue.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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