

# Prevalence of Depression and its Association with Sociodemographic Factors in Postmenopausal Women in an Urban Resettlement Colony of Delhi

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ABSTRACT

**Background:** Menopause is defined as the time of cessation of ovarian function resulting in permanent amenorrhea. Menopause is associated with various symptoms such as physical, vasomotor, sexual, and psychological symptoms. Depression is a common symptom in postmenopausal women as menopause is associated with the end of the fertile period of a women's life. Menopause is an important subject to study as due to increase in life expectancy and improved health care delivery number of postmenopausal women is significantly increasing. **Objectives:** The objective of the study is to determine the prevalence of depression and its association with sociodemographic factors in postmenopausal women in an urban resettlement colony of Delhi. **Materials and Methods:** A community-based cross-sectional study was conducted among 580 postmenopausal women who were resident of Gokulpuri in North-East Delhi, using a predesigned, pretested, and semi-structured interview schedule. Hamilton Depression (HAM-D) scale was used to find out the prevalence of depression. The collected data were analyzed using SPSS-22 version. **Results:** In our study, 58.4% postmenopausal women were normal with no depression, 38.3% were in a mild depression, and 3.3% women were having moderate depression. Depression was more prevalent in women belonging to the younger age group, lower socioeconomic status, and illiterate women. Furthermore, the prevalence of depression was more in women who were divorced or widow. **Conclusions:** Study revealed prevalence of depression in significant number of postmenopausal women. To improve the quality of life of women in postmenopausal period, diagnosis of depression and relevant influencing factors is important.

**KEYWORDS:** Delhi, depression, postmenopause, prevalence

## INTRODUCTION

Menopause is defined as the time of cessation of ovarian function resulting in permanent amenorrhea.<sup>[1]</sup> According to the World Health Organization, 12 months of amenorrhea confirm that menopause has set in. In 1990, about 25 million women worldwide reached menopause, and this number is expected to double by 2020s.<sup>[2]</sup> Menopause is a critical issue and is associated with the end of the fertile period of a women's life. Menopause is an important subject to study as due to increase in life expectancy and improved health-care delivery number of postmenopausal women is significantly increasing.

Menopause presents with symptoms such as vasomotor, somatic symptoms, psychological symptoms, and sexual dysfunction, which may have a significant impact on quality of life of postmenopausal women. Some women may feel that the purpose of life has lost as they enter the menopause due to loss of fertility. Psychological symptoms commonly observed among postmenopausal

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women are depression, irritability, anxiety, and mood changes.

In a study done by Vijayalakshmi *et al.*, in Amritsar involving 30 rural women 40–55 years of age, depression was one of the common prevalent symptom (37.3%).<sup>[3]</sup> The tool used in this study was ZEG Berlin menopause rating scale to assess the menopausal transition. In a study conducted by Timur and Sahin, the prevalence of depression symptoms among the peri- and post-menopausal women was 41.8%. Of all women, 23.2% were premenopausal and 56.9% were postmenopausal.<sup>[4]</sup> In a study conducted by Singh and Pradhan in New Delhi, 32.1% of postmenopausal women suffered from depression.<sup>[5]</sup> Thus, it is important to study the prevalence and influencing factors of depression in postmenopausal women to improve their quality of life.

### Objectives

The objective of the study is to determine the prevalence of depression and its association with sociodemographic factors in postmenopausal women in an urban resettlement colony of Delhi.

## MATERIALS AND METHODS

### Study design

Cross-sectional, community-based house-to-house study.

### Study area

The study was conducted among postmenopausal women who were resident of Gokulpuri. Gokulpuri is an urban resettlement colony in North-East Delhi.

### Sample size and sampling method

A total of 580 postmenopausal women were included in the study by house-to-house survey. The sample size was calculated based on a study conducted by Timur and Sahin<sup>[4]</sup> in which prevalence of depression among women was 41.8%, with 10% allowable error the sample size was 552. Considering 5% nonresponse, the final sample size was 580. The systematic random sampling method was used to select study individuals. Postmenopausal women with amenorrhea from 1 year were included in the study. Women with severe illness, mentally challenged, and women with surgical menopause were excluded from the study.

### Study tools

A predesigned, pretested, semi-structured interview schedule was used to collect information from study participants regarding sociodemographic details, personal history, and postmenopausal symptoms. Hamilton depression (HAM-D) scale was used to find out the prevalence of depression. Since its development in 1960 by Dr. Max Hamilton of the University of

Leeds, England, the scale has been widely used in various studies.<sup>[6]</sup> Although the HAM-D form lists 21 items, the scoring is based on the first 17. It generally takes 15–20 min to complete the interview and score the results. Eight items are scored on a 5-point scale, ranging from 0 = not present to 4 = severe. Nine are scored from 0 to 2.

### Hamilton depression scoring

Sum the scores from the first 17 items.

- 0–7 = Normal
- 8–13 = Mild depression
- 14–18 = Moderate depression
- 19–22 = Severe depression
- $\geq 23$  = Very severe depression.

### Ethical

Ethical clearance for the study was obtained from Ethical Committee of Maulana Azad Medical College. Informed written consent was taken from each subject before the interview. No pressure was exerted on study participants to participate in a study. Confidentiality was ensured at all stages.

### Statistical analysis

The collected data were entered into MS-Excel and analyzed using SPSS version 22 (Chicago, IL, USA). The Chi-square test was used to compare qualitative variables and proportions, with the level of statistical significance set up at  $P < 0.05$ .

## RESULTS

Table 1 shows the distribution of study participants according to sociodemographic factors. About 45.2% women were in the age group of 51–55 years, 37.2% belonged to the age group of 46–50 years, 13.1% were

**Table 1: Distribution of the study participants according to sociodemographic factors (n=580)**

Characteristics	n (%)
Age groups (years)	
41-45	26 (4.5)
46-50	216 (37.2)
51-55	262 (45.2)
56-60	76 (13.1)
Educational status	
Illiterate	135 (23.3)
Literate	445 (76.7)
Occupation	
Unemployed	421 (72.6)
Employed	159 (27.4)
Socioeconomic status	
Lower	3 (0.5)
Upper lower	350 (60.3)
Lower middle	227 (39.1)

in age group of 56–60 years, and only 4.5% in age group of 41–45 years. About 23.3% women were illiterate, 86.9% women were married, 2.2 were divorced, and 10.9% were widow. 86.2% were belonging to joint family and 13.8 to nuclear family. 60.3% women were of upper lower class, 39.1% of lower middle class, and 0.5% of lower class.

Table 2 shows distributions of study participants according to grades of depression as per HAM-D Scale. About 58.4% women were normal with no depression, 38.3% were in mild depression, and 3.3% women were having moderate depression.

Table 3 shows various factors influencing the prevalence of depression in postmenopausal women. In the age group of 41–45 years, 76.9% women had mild depression and 19.2% were with moderate depression. In the age group of 46–50 years, 60.6% had mild depression and 4.2% were with moderate depression. These data show that depression was more in young postmenopausal women as compared to that in older age groups and the difference was found to be statistically significant. The depression was more in women belonging to lower and upper lower socioeconomic status as compared to lower middle group with statistically significant difference.

**Table 2: Distribution of study participants according to grade of depression as per Hamilton Depression Scale**

Grade of depression	n (%)
Normal	339 (58.4)
Mild	222 (38.3)
Moderate	19 (3.3)

53.8% divorced women and 87.3% widows had moderate depression. Data show that married women were less depressed than divorced and widow (“*P*” < 0.05). In the present study, the prevalence of depression was more in illiterate women as compared to literate (*P* < 0.05).

## DISCUSSION

A total of 580 postmenopausal women were interviewed maximum women were in the age group of 51–55 years. As per HAM-D Scale, 58.4% women were normal with no depression, 38.3% were in mild depression, and 3.3% women were having moderate depression.

In a study conducted by Polisseni *et al.* in Brazil, the prevalence of depression during menopause was 36.8% which is similar to our study.<sup>[7]</sup> In a study conducted in Iran by Afshari *et al.* prevalence of depression in postmenopausal women was found to be 59.8% where 39.8% women had mild depression and 16% had moderate depression which is higher than the present study.<sup>[8]</sup>

Depression was found to be present more in women belonging to the younger age group. In the age group of 41–45 years, 76.9% women had mild depression and 19.2% were with moderate depression. In the age group of 46–50 years, 60.6% had mild depression and 4.2% were with moderate depression, whereas in the age group of 51–55 years, 21.8% and 1.9% women had mild and moderate depression respectively and in the age group of 56–60 years 18.4% had mild depression and none presented with moderate depression. Data clearly show young postmenopausal women were more

**Table 3: Association of depression with various factors**

Variables	Normal, n (%)	Mild depression, n (%)	Moderate depression, n (%)	Total	<i>P</i>
Age (years)					
41-45	1 (3.8)	20 (76.9)	5 (19.2)	26	0.000
46-50	76 (35.2)	131 (60.6)	9 (4.2)	216	
51-55	200 (76.3)	57 (21.8)	5 (1.9)	262	
56-60	62 (81.6)	14 (18.4)	0 (0.0)	76	
Socioeconomic status					
Lower middle	173 (76.2)	48 (21.1)	6 (2.6)	227	0.000
Upper lower	166 (47.4)	174 (49.7)	10 (2.9)	350	
Lower	0 (0.0)	0 (0.0)	3 (100)	3	
Education					
Illiterate	50 (37)	78 (57.8)	7 (5.2)	135	0.000
Literate	289 (64.9)	144 (32.4)	12 (2.7)	445	
Marital status					
Married	331 (65.7)	160 (31.7)	13 (2.6)	504	0.000
Divorced	4 (30.8)	7 (53.8)	2 (15.4)	13	
Widow	4 (6.3)	55 (87.3)	4 (6.3)	63	
Occupation					
Unemployed	252 (59.9)	159 (37.8)	10 (2.4)	421	0.109
Employed	87 (54.7)	63 (39.6)	9 (5.7)	159	

in depression which is similar to a study by Unsal *et al.*, in Turkey, in which depression was more in women who entered the menopause at early age (<39 years).<sup>[9]</sup>

In the present study, the prevalence of depression was more in women of lower socioeconomic status as compared to the women who were belonging to higher socioeconomic status, which is consistent with a study conducted in Beijing city by Li *et al.*, where the association was found between depression in postmenopausal women and socioeconomic status.<sup>[10]</sup>

In our study, married women who had good relations with their husband were happier and depression was present more in women who were divorced, and widow and the difference was found to be statistically significant ( $P < 0.05$ ). A study conducted by Bansal *et al.*, in Punjab showed similar findings, women who were widow were more severely depressed as compared to married women.<sup>[11]</sup> Similar findings were seen in a study conducted in Beijing city by Li *et al.*, where depression was more prevalent in women who were divorced or separated.<sup>[10]</sup>

In the present study, the prevalence of depression was found to be more in illiterate women. Among illiterate women 57.8% were with mild depression and 5.2% with moderate depression whereas in literate women only 32.4% were with mild depression and 2.7% were with moderate depression and difference was found to be statistically significant ( $P < 0.05$ ). Similar findings were seen in a study conducted by Afshari *et al.*, in which education level was found to be associated with the prevalence of depression in postmenopausal women.<sup>[8]</sup> Furthermore, in a study conducted by Choi *et al.*, in Korean women results confirmed that the important variables in the prediction of menopausal depression are educational and economic status.<sup>[12]</sup>

## CONCLUSIONS

This study shows the prevalence of depression in a significant number (41.6%) of postmenopausal women. Depression in postmenopausal women was associated with various factors such as age, education, socioeconomic status, and marital status. Depression can lead to disability and affect interpersonal relations, career and social functions which can cost a high amount to health-care system. Thus, the diagnosis of depression and relevant influencing factors in postmenopausal women is

important. The comprehensive intervention programs can be developed for decreasing depression in postmenopausal women considering all these influencing variables.

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## Conflicts of interest

There are no conflicts of interest.

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