# **Original Research Article**

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# Prevalence and determinants of depression in geriatric women in an urban slum area of Mumbai suburbs

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#### **ABSTRACT**

**Background:** Lifespan have increased worldwide. Increasing lifespan has brought in its wake, a host of non-communicable diseases. Worldwide, depression affects more women than men and it is also one of the morbidities amenable to treatment. Due to numerous socio-economic and cultural reasons, geriatric women in India bear the brunt of depressive ailments. Coupled with the lack of economic independence and gender disparity, this affliction and the affected both have remained in the shadows. The objective of the study was to assess the prevalence of depression and to study the association between some determinants of depression among geriatric women.

**Methods:** A community based cross sectional study was conducted among geriatric women in an urban slum area. 336 women were included in the study. Mental health status in geriatric sample was studied by using 30 point geriatric depression scale.

**Results:** Out of 336 total subjects, 171 (50.89%) were suffering from depression out of which 88 (26.19%) were showing mild depression and 83 (24.70%) were suffering from major depression. Marital status, unemployed status, economic dependency, lack of regular exercise, presence of addictions was found to be the risk factors for the depression.

**Conclusions:** There was a high prevalence of depression in elderly women therefore Geriatric counseling and screening centers are to be established at health care institutes.

Keywords: Geriatric women, Depression, Geriatric depression scale

#### INTRODUCTION

The dramatic increase in longevity in India and the world has been one of the most remarkable achievements of this century. This has, in turn led to a change in the demographics in the country. Life expectancy of men is 66.9 years and that of women 69.9 years. Consequently, many health problems, both physical and mental, associated with older age have also risen sharply. Depression is one such non-communicable disease. Globally, more than 300 million people are prey to this mental ailment, women more than men. In India, with its unique socio-cultural situation and the stigma associated

with mental disorders, limited access to treatment, put the afflicted more at risk. Adding economic dependence to this, gender disparity, the health status and quality of life of older women is more at risk, now more than ever before.<sup>3</sup>

In addition, depression may manifest in a chronic, undulating or mild form and health professionals may not be equipped to deal with it. The dual loads of communicable and non-communicable diseases have burdened the health systems. Health systems, in general, are not geared to tackle this dual onslaught. The ageing population has both medical and sociological problems. It

makes greater demand on the health services of a community. The modern philosophy is that the old must continue to take their share in the responsibilities and in the enjoyment of the privileges which are an essential feature of remaining an active member of the community. The community must assist the aged to fight the triple evils of poverty, loneliness and ill health. For these reasons, a study was carried out in urban slum community to know the mental health status in geriatric population and to suggest measures to improve the same.

# **Objectives**

- 1) To assess the prevalence of depression in geriatric
- 2) To study the association between some determinants of depression among geriatric women.

#### **METHODS**

#### Study design

A cross-sectional study (household survey).

#### Study population

Old aged women (more than 60 yrs of age) in an urbanslum area in catchment area of Urban Health and Training Centre, which is a urban field practice area of Seth G S Medical College, Mumbai.

#### Study duration

From June 2012 to March 2013 (10 months).

#### Sampling procedure and sample size

Various earlier Indian studies have revealed that the prevalence of depression among the old age people ranged from 6% to 58%. Hence, a prevalence of 55% was assumed for the purpose of computing the size of the sample which was required for the present study.

Thus, the sample size for the present study was determined as follows:

P=55%; q=100–55=45%; L=10% of the assumed/expected prevalence of morbidity =  $10/100 \times 55 = 5.5$ N= $4 \times 55 \times 45/5.5 \times 5.5 = 327$ 

The study area was divided in to six zones. By using simple random sampling one zone was selected for the purpose of study consisting of total population of 32554. A pilot study showed the average household size as 5. Hence, the number of households in the selected study population was estimated to be 6500. Every 5<sup>th</sup> household was considered, and was visited thrice, from each house; a single woman aged 60 years and above was considered. If she did not consent or the house had no elderly woman or the house was found locked on the three consecutive

visits, the next house was considered. A total of 650 households were surveyed during the study by Systemic Random Sampling. These households constituted a total population of 3840 out of which 336 (8.75%) were women aged 60 years and above. Thus the mental health status in geriatric sample was studied by using geriatric depression scale or mood assessment scale.<sup>3</sup> Ethics committee permission was taken from institutional ethics committee.

Mood assessment scale is a 30-item questionnaire with sound psychometric properties with high validity. The questions in questionnaire are answered as Yes or No as appreciated by the subject. Each Yes answer is given one score and for each No answer is given zero score. For evaluation addition of score was done. For evaluating the scale the total score of 30 is divided in three parts-viz. from 0-9, 10-19 & 20-30. The score 0-9 represents 'Normal' or No Depression. 10-19 score represents 'Mild Depression' while 20-30 score represents 'Severe Depression'. Thus the score of 10 and above signifies depression in elderly population. The information is obtained about various risk factors such as marital status, type of family, history of addiction, performance of physical exercise, current employment status and economic independence. Data obtained in this cross sectional study was analyzed using computer technology. SPSS was used for statistical analysis.

### **RESULTS**

Socio-demographic profile of the subjects studied was analysed, and proportion of depressed elderly and the degree of depression was assessed as per the age group.

Table 1 shows age—wise distribution of depression in the sample population. It is seen that out of 336 total study subjects, 171 (50.89%) were suffering from depression out of which 88 (26.19%) were showing mild depression and 83 (24.70%) were suffering from major depression. The statistical co-relation between age group and depression is not significant. It is observed that near about half of the study participants in each group suffered from depression.

Table 2 shows correlation between educational status and mental health status. Out of total 246 illiterate persons under study, 120 (48.78%) persons were normal, while 126 were suffering from depression. In the present study educational status does not show a statistically significant association with depression.

Out of total 120 married persons, 79 (65.83%) were normal, while 41 (34.16%) were found depressed. There were total 213 widowed persons included in the study, out of which 85 (39.90%) found normal, while 128 (60.09%) showed depression. 61 (28.63%) were found mild depressive and 67 (31.45%) were suffering from major depression. The correlation between marital status and depression was found to be statistically significant.

Table 1: Distribution of the study subjects according to age group and mental health status.

| Age in years | Normal<br>(%) | Mild depression (%) | Major depression (%) | Total no. of depressed persons (%) | Total (%) |
|--------------|---------------|---------------------|----------------------|------------------------------------|-----------|
| 60-65        | 75 (50.67)    | 40 (27.02)          | 33 (22.29)           | 73 (49.32)                         | 148 (100) |
| 65-70        | 32 (41.55)    | 27 (35.06)          | 18 (23.37)           | 45 (58.44)                         | 77 (100)  |
| 70-75        | 21 (45.65)    | 09 (19.56)          | 16 (34.78)           | 25 (54.34)                         | 46 (100)  |
| 75-80        | 19 (76.00)    | 02 (8.00)           | 04 (16.00)           | 06 (24.00)                         | 25 (100)  |
| >80          | 18 (45.00)    | 10 (25.00)          | 12 (30.00)           | 22 (55.00)                         | 40 (100)  |
| Total        | 165 (49.10)   | 88 (26.19)          | 83 (24.70)           | 171 (50.89)                        | 336 (100) |

Chi-square = 2.157; d.f.=3; p=0.739 (Not significant).

Table 2: Correlation of education status with the presence of depression.

| <b>Educational status</b> | No depression (%) | Depression present (%) | P value                    |  |
|---------------------------|-------------------|------------------------|----------------------------|--|
| Illiterate                | 120 (48.78)       | 126 (51.21)            |                            |  |
| Primary                   | 26 (41.93)        | 36 (58.06)             | 0.155                      |  |
| Secondary                 | 15 (68.18)        | 07 (31.81)             | p=0.155<br>Not Significant |  |
| Higher Secondary          | 04 (66.66)        | 03 (30.00)             |                            |  |
| Total                     | 165 (49.10)       | 171 (50.89)            |                            |  |

Table 3: Correlation between marital status, type of family and depression.

|                | No depression (%) | Depression present (%) | Total (%)   | P value                |
|----------------|-------------------|------------------------|-------------|------------------------|
| Marital status |                   |                        |             |                        |
| Married        | 79 (65.83)        | 41 (34.16)             | 120 (35.71) |                        |
| Widowed        | 85 (39.90)        | 128 (60.09)            | 213 (63.39) | p<0.05,                |
| Divorced       | 01 (33.33)        | 02 (66.66)             | 03 (0.89)   | significant            |
| Total          | 165 (49.10)       | 171 (50.89)            | 336 (100)   |                        |
| Type of family |                   |                        |             |                        |
| Joint          | 47 (58.75)        | 33 (41.25)             | 80 (23.80)  | 0.05                   |
| Nuclear        | 29 (42.64)        | 39 (57.35)             | 68 (20.23)  | p>0.05 Not significant |
| Extended       | 89 (47.34)        | 99 (52.65)             | 188 (55.95) | 1 vot significant      |
| Total          | 165 (49.10)       | 171 (50.89)            | 336 (100)   |                        |

Table 4: Correlation between addiction, employment status, physical exercise and mental health status.

|                          | No depression (%) | Depression present (%) | P value       |  |  |  |  |
|--------------------------|-------------------|------------------------|---------------|--|--|--|--|
| Addictions               |                   |                        |               |  |  |  |  |
| Yes                      | 19 (25.67)        | 55 (74.32)             |               |  |  |  |  |
| No                       | 146 (55.72)       | 116 (44.27)            | p<0.05        |  |  |  |  |
| Total                    | 165 (49.10)       | 171 (50.89)            | — Significant |  |  |  |  |
| Exercise                 |                   |                        |               |  |  |  |  |
| Yes                      | 37 (69.81)        | 16 (30.18)             | p<0.05        |  |  |  |  |
| No                       | 128 (45.22)       | 155 (54.77)            | Significant   |  |  |  |  |
| Total                    | 165 (49.10)       | 171 (50.89)            |               |  |  |  |  |
| <b>Employment status</b> | Employment status |                        |               |  |  |  |  |
| Employed                 | 25 (75.75)        | 08 (24.24)             | p=0.001       |  |  |  |  |
| Unemployed               | 140 (46.20)       | 163 (53.79)            | Significant   |  |  |  |  |
| Total                    | 165 (49.10)       | 171 (50.89)            |               |  |  |  |  |
| Economic dependency      |                   |                        |               |  |  |  |  |
| Self-dependent           | 25 (75.75)        | 08 (24.24)             | p=0.001       |  |  |  |  |
| Dependent                | 140 (46.20)       | 163 (53.79)            | Significant   |  |  |  |  |
| Total                    | 165 (49.10)       | 171 (50.89)            |               |  |  |  |  |

Also, Out of 80 persons stayed in joint family 47 (58.75%) were normal, while 33 (41.25%) were depressed. Out of 68 persons who stayed in nuclear family 29 (42.64%) were found normal, while 39 (57.35%) were suffering from depression. 89 (47.34%) out of total 188 persons who lived in extended family were normal while 99 (52.65%) were suffering from depression. It is seen that persons living in nuclear families were more depressed. But the statistical corelation between type of family and depression was not significant.

Table 4 shows the association between addictions and mental health status in the study population. Out of 74 persons, who have addiction, 19 (25.67%) were normal and 55 (74.32%) showed depression. Out of them, 29 (39.18%) showed mild depression and 26 (35.13%) were suffering from major depression. Out of 262 persons, who were not having any addictions, 146 (55.72%) were not suffering from any type of depression, while 116 (44.27%) were depressed. The statistical co-relation was found to be significant between addiction and depression. Out of 33 employed old persons, 25 (75.76%) were normal while 08 (24.24%) were found depressed. 06 (18.18%) persons were mild depressive and 02 (6.06%) persons showed major depression. Out of 303 persons who were not employed, 140 (46.20%) were normal and 163 (53.79%) showed depression. 82 (27.06%) showed mild depression and 81 (26.73%) were suffering from major depression.

Also table 4 shows correlation between economic dependency and mental health status in older population. Out of total 33 old persons who were self-dependent, 25 (75.76%) were normal, 05 (15.15%) were having mild depression and 03 (9.09%) were suffering from major depression. Out of 303 subjects who were dependent on the Family members for economic support, 140 (46.20%) were normal, while 163 (53.79%) showed depression. 83 (27.39%) persons were mild depressive while 80 (26.40%) were suffering from major depression. The statistical co-relation between depression and dependency status was found to be significant. The statistical correlation between employment status and depression was found to be significant.

### **DISCUSSION**

In 2010, an estimated 524 million people were aged 65 or older was 8% of the world's population. By 2050, this number is expected to nearly triple to about 1.5 billion, representing 16 percent of the world's population. Although more developed countries have the oldest population profiles, the vast majority of older people and the most rapidly aging populations are in less developed countries. Therefore there is need to study their health and psychological problems.

# Depression and age

Though the prevalence of depression was highest in those above 80 years, age and depression were not associated statistically. This findings, somewhat correlate with those in Canada, where depression was seen increasing with age.<sup>5</sup>

Our study did not show a statistically significant correlation between education and depression, though the prevalence was lower in more educated women. This is in contrast to a study conducted in Norway, by Bjelland et al which showed that higher education had a protective effect against depression. The present study shows a statistically significant association between marriage and living with a spouse and depression, while type of family has no statistical association with depression, though women in joint family did have a lower prevalence.

# Depression and marital status

Widowed and divorced subjects showed higher rates of depression, which was statistically significant, too. These findings are similar to the study conducted by Akhtar et al.<sup>5</sup> It is known that lifestyle changes, like regular exercising, are known to ward off depression. Studies like the one by Mead et al also support this view. 6 The cooccurrence of addictions and depression is not unusual, and the present study, also shows that they are statistically co related. In our study, the addiction was of chewing tobacco, rather than alcohol, or substance abuse, as is seen elsewhere. Economic dependency has shown to be an important factor in depressed people. The studies by Udayar et al and Mehta et al show this, and the present study findings are also the same.<sup>7,8</sup> About 50.89% elderly studied were found to be depressed in the present study, while the figures are comparable to similar studies conducted in India using GDS. 8,9,10 In Male dominant Indian societies in which control of financial resources was exclusively with males along with low educational level in females may contribute to more economical dependence. Elderly females therefore seem to be more prone for depression.

# **CONCLUSION**

Around half of the study participants were found to be suffering from depression. Marital status, unemployed status, economic dependency, lack of regular exercise, presence of addictions was found to be statistically significant risk factors for the depression. The present study shows that there is a need of a geriatric OPD at major referral and peripheral hospitals. Also regular screenings for psychiatric illnesses along with other chronic morbidities should be made available for them. In order to ensure healthy ageing, health promoting behavior should be introduced in 'elderly of tomorrow' group i.e.

adulthood salient lifestyle factors to be encouraged right from adult age include prudent diet, regular physical exercise, avoidance of alcohol and smoking and adequate mental and social stimulation.

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