Original Research Article

Prevalence of depression and associated risk factors among the elderly in rural field practice areas of a tertiary care institution in Katihar, Bihar

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ABSTRACT

Background: Despite depression is one of the most common emerging psychiatric morbidity among elderly now days, yet the depressive symptoms are not diagnosed appropriately. The objective of the study was to estimate the prevalence of depression and identify associated risk factors in the elderly population.

Methods: A community based cross-sectional descriptive study was conducted from January 2013 to December 2013 in villages under field practice area of Katihar Medical College in the state of Bihar, India. Multistage sampling technique was employed, and a total 450 elderly persons were interviewed after obtaining written informed consent. Subjects with score >20 on the mini-mental state examination, were assessed for depression using the Short Form Geriatric Depression Scale. Study variables included bio-social parameters such as age, gender, literacy status, occupation, socioeconomic status, financial dependency and marital status.

Results: The prevalence of depression in the study population was 39.6%. Mild depression was present in one-fourth (24.4%) of the study population followed by moderate depression (11.55%). Even 3.7% of the elderly were severely depressed. It was significantly higher in females (p = 0.00), those who were single (p = 0.00), those who belonged to upper socioeconomic strata (0.00) and were financially dependent on others.

Conclusions: The study revealed the need for development of community based comprehensive strategy for early diagnosis and prompt treatment of depression among elderly as well as to promote mental health.

Keywords: Depression, Elderly, Rural

INTRODUCTION

Over the past few decades, life expectancy has increased drastically in India from 36.7 years in 1951 to as 67 years in 2012.¹ It is projected that by 2050, elderly will constitute 20–30% of India's population.² Ageing is a period during which a gradual transition takes place and one has to adapt themselves not only for physical changes, but also has to encounter and need to act accordingly with mental dilemmas as well as social wellbeing. Depression is the most common psychiatric disorder and commonest causes of disability in the elderly.¹ ¹ In a systematic of community based studies for mental health surveys on geriatric depressive disorders in those aged 60 years and above in Indian population, pooled prevalence of depression among elderly was found to vary between 8.9 to 62.16 percent.² Depression not only results in reduced life satisfaction and quality but also lead to cognitive decline as well as impairments in activities of daily living.³ A major misconception that depression is part of aging rather than a treatable condition, has resulted in quite negligence this problem
with increased prevalence of depression among elderly over past few years. Limited studies to assess the depression among the elderly population has been done in Bihar focusing on rural community, so the present study would enlighten about the problem of depression among geriatrics in a rural area Bihar.

**METHODS**

A community based cross sectional study was conducted in Katihar district in rural field practicing area Katihar Medical College, Bihar for a period of one year from January 2013 to December 2013. A maximum of 450 elderly persons were enrolled using multistage sampling and were interviewed using pre-designed, pre-tested and semi-structured questionnaire after obtaining consent. Cognitive impairment was assessed using the Mini-Mental State Examination (MMSE), and subjects with MMSE score <25 (cognitively impaired) were excluded from the study.

**Assessment of depression**

Assessment of depression was done using the 15-item geriatric depression scale (GDS) consist of 15 self-report items. Accuracy of the GDS-15 is not affected due medical conditions, age, or other bio-social characteristics. Even presence of a major depressive episode among elderly home-bound adults can be reliably assessed.

**Data analysis**

Data entry and statistical analyses was done using Epi Info version-6 software. Frequency distributions were calculated for almost all the variables. To test significant associations between independent variables and depression, chi-square test was used (p <0.05).

**RESULTS**

Of 450 study respondents interviewed, about half (54.6%) were aged 60-74 years and 233 (51.7%) were male. Most of them were married (56.0%) and belonged to joint families (94.9%). About two-third (68.0%) were illiterate and 67.2% were financially dependent on others.

**Table 1: Distribution of elderly population on the basis of GDS-15 scores (N = 450).**

| Depression per GDS score | Number | Percentage |
|--------------------------|--------|------------|
| Absent (0-4)             | 271    | 60.2       |
| Mild (5-8)               | 110    | 24.4       |
| Moderate (9-11)          | 52     | 11.5       |
| Severe (12-15)           | 17     | 3.7        |

**Table 2: Association between socio-demographic variable and depression (N = 450).**

| Bio - social characteristic | No. (%) | Present No. (%) | Absent No. (%) | p   |
|-----------------------------|---------|-----------------|----------------|-----|
| **Age group (Years)**       |         |                 |                |     |
| 60-74                       | 246 (54.6) | 97 (39.4)     | 149 (60.6)     | 0.53|
| 75-84                       | 164 (36.5) | 69 (42.1)     | 95 (57.9)      |     |
| Above 85                    | 40 (8.9)  | 13 (32.5)      | 27 (67.5)      |     |
| **Gender**                  |         |                 |                |     |
| Male                        | 233 (51.7) | 73 (31.3)     | 160 (68.7)     | 0.00|
| Female                      | 217 (48.3) | 106 (48.8)    | 111 (51.2)     |     |
| **Religion**                |         |                 |                |     |
| Hindu                       | 88 (19.5)  | 36 (40.9)     | 52 (59.1)      | 0.80|
| Non Hindu                   | 362 (80.4) | 143 (39.5)    | 219 (60.5)     |     |
| **Type of family**          |         |                 |                |     |
| Nuclear                     | 23 (5.1)  | 7 (30.4)       | 16 (69.6)      | 0.34|
| Joint                       | 427 (94.9) | 172 (40.3)    | 255 (59.7)     |     |
| **Socio economic status**   |         |                 |                | 0.00|
| Lower middle and above      | 218 (48.4) | 103 (47.2)    | 115 (52.8)     |     |
| Upper lower and below       | 232 (51.6) | 76 (32.8)     | 156 (67.2)     |     |
| **Employment status**       |         |                 |                |     |
| Employed                    | 197 (43.7) | 79 (40.1)     | 118 (59.9)     | 0.48|
| Unemployed                  | 253 (56.3) | 100 (39.5)    | 153 (60.5)     |     |
| **Educational status**      |         |                 |                |     |
| Illiterate                  | 306 (68.0) | 122 (39.9)    | 184 (60.1)     | 0.95|
| Literate                    | 144 (32.0) | 57 (39.6)     | 87 (60.4)      |     |
| **Marital status**          |         |                 |                |     |
| Married                     | 252 (56.0) | 78 (31.0)     | 174 (69.0)     | 0.00|
| Others                       | 198 (44)  | 101 (51.0)    | 97 (49.0)      |     |
| **Financial dependency**    |         |                 |                |     |
| Independent                 | 148 (32.8) | 65 (49.2)     | 67 (50.8)      | 0.00|
| Dependent                   | 302 (67.2) | 114 (35.8)    | 204 (64.2)     |     |

*Modified BG Prasad socioeconomic scale 2013; †Includes divorced, separated, unmarried, widow/widower; *p value significant
DISCUSSION

In the present study prevalence of depression, based on GDS-15 scores was found to be 39.6%. The results of present study were much higher as compared to studies in Ludhiana, Dharwad and that in Vellore which reported prevalence of depression 8.9%, 29.36% and 12.7% respectively.10-12

However, on the other hand the prevalence of depression was much lower as that reported in various other Indian studies.13-16 This wide variation in prevalence rates of depression might be due to differences in baseline characteristic of study population and different sample sizes or might be attributed to the method used for assessment of depression. In the present study female preponderance was found to be significantly associated with depression. Similar findings were also reported in other studies.10,11,13,14,16 However no such findings were observed by Kumar et al and Goyal et al.12,15

As reported by Sinha et al and Taqui et al those who were single (divorced, separated, widow, unmarried) were found to be more susceptible for depression.13,16 But such type of findings was not reported in other studies.10,15 Depression was found significantly higher among those who belonged to upper socioeconomic group and those who were not financially dependent on other. Contradictory to the findings as reported by majority of Indian studies no significant association was observed between education and employment status with depression.11,14,15 In contrast to other studies no association was observed between depression and family composition.10,16

CONCLUSION

Depression in elderly is a significant problem in rural community. Particularly in females and among those who are single without partner.

These findings emphasized the need for community-based interventions to be formulated for effective and timely implementation of mental health promotion activities so as to prevent geriatric depression. On the other hand efforts must be made for early diagnosis and prompt treatment of depression in elderly.

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REFERENCES

1. Life expectancy at birth: total population. Available at http://www.indexmundi.com/india/life_expectancy_at_birth.html. Last accessed on 18 January 2016.
2. United Nations Dept. of International Economic and Social Affairs, population Division (2010) World Population Ageing 2009. United Nations NY. 2010
3. Radhakrishnan S, Nayeem A. Prevalence of depression among geriatric population in a rural area in Tamilnadu. Int J Nutr Pharmacol Neurol Dis. 2013;3:309-12.
4. Satcher D. Mental Health: A report of the surgeon general executive summary. Prof Psychol Res Pr. 2000;31:5-13.
5. Grover S, Malhotra N. Depression in elderly: A review of Indian research. J Geriatr Ment Health. 2015;2:4-15.
6. Steffens DC, Skoog I, Norton MC, Hart AD, Tschanz JT, Plassman BL, et al. Prevalence of depression and its treatment in an elderly population: The Cache County study. Arch Gen Psychiatry. 2000;57:601-7.
7. Barua A, Ghosh M, Kar N, Basilio M. Distribution of depressive disorders in the elderly. J Neurosci Rural Pract. 2010;1:67-73.
8. Folstein MF, Folstein SE, McHugh PR. Mini Mental State. A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12:189-98.
9. Ganguly M, Dubey S, Johnston JM, Pandav R, Chandra V, Dodge HH. Depressive symptoms, cognitive impairment and functional impairment in a rural elderly population in India: A Hindi version of the Geriatric Depression Scale (GDS-H). Int J Geriatr Psychiatry. 1999;14:807-20.
10. Sengupta P, Benjamin AL. Prevalence of depression and associated risk factors among the elderly in urban and rural field practice areas of a tertiary care institution in Ludhiana. Indian J Public Health. 2015;59:3-8.
11. Pracheth R, Mayur SS, Chowti JV. Geriatric Depression Scale: A tool to assess depression in elderly. Int J Med Sci Public Health. 2013;2:31-5.
12. Rajkumar AP, Thangadurai P, Senthilkumar P, Gayathri K, Prince M, Jacob KS. Nature, prevalence and factors associated with depression among the...
13. Sinha SP, Shrivastava SR, Ramasamy J. Depression in an Older Adult Rural Population in India. MEDICC Review. 2013;15(4):41-4.
14. Jain RK, Aras RY. Depression in geriatric population in urban slums of Mumbai. Indian J Public Health. 2007;51:112-3.
15. Goyal A, Kajal KS. Prevalence of Depression in Elderly Population in the Southern Part of Punjab. Family Med Prim Care. 2014;3(4):359-61.
16. Taqui AM, Itrat A, Qidwai W, Qadri Z. Depression in the elderly: Does family system play a role? A cross-sectional study. BMC Psychiatry. 2007;7:57.

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