Original Research Article

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20205151

Prevalence and factors associated with depression among the elderly in a rural community

Sandhya Mishra^{1*}, Amit Nandan Mishra², Vaibhav Singh¹, Vijayshree Verma¹

Received: 02 November 2020 Revised: 19 November 2020 Accepted: 20 November 2020

*Correspondence:

Dr. Sandhya Mishra,

E-mail: sandhyamishralko27@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Senior citizen elderly or old age consists of ages close to or exceeding the average life span of human beings. The limit of old age cannot be defined precisely because it does not have the same meaning in all societies by the middle of this century, there could be 100 million elderly people living in the India according to United Nations World population prospects report. Depression is the common psychiatric disorder among elderly. The aim of the study was to estimate the prevalence of Depression among elderly in a rural population. Design of the study was a cross sectional study conducted among 450 elderly populations in rural community of Lucknow, Uttar Pradesh.

Methods: A validated geriatric depression scale (Geriatric depression scale (GDS) 30) was used to assess their depression status and the various demographic details, socio economic status and living arrangements were analyzed to see for any association with depression. Statistical analysis was chi square test and odds ratio.

Results: Among the 450 elderly subjects studied. The prevalence of depression among elderly males was found to be 48% and among females 56% and the difference in the prevalence of depression among males and females was found to be statistically significance (p=0.03).

Conclusions: The results confirmed that there is a high prevalence of depression among the elderly population. There is a need to improve geriatrics health care services combined with proper monitoring and evaluation.

Keywords: Depression, Elderly, Health care services

INTRODUCTION

Elderly or old age consists of ages close to or exceeding the average life span of human beings. Old age refers to ages nearing or surpassing the life expectancy of human beings and is thus the end of the human life cycle. The United Nation agreed cutoff is 60+ years to refer to the older or elderly persons. Within the elderly population, further classification like oldest old (normally those 80+) and centenarian (100+) and ever super centenarian (110+) are also made. The limit of old age cannot be defined accurately because it does not have the same meaning in

all societies by the middle of this century, there could be 100 million elderly people living in the India according to United Nations World population prospects report. Ageing is a common process that is associated with deteriorating health status.²

Even though depression is the commonest psychiatric disorder in the elderly, it is commonly misdiagnosed and under treated. This could be due to the fallacy that depression is part of aging rather than a treatable condition. For a developing nation like India, this may pose mounting pressures on various socio-economic fronts including

¹Department of Community Medicine, MIMS, Lucknow, Uttar Pradesh, India

²Orthopedics Surgery, Eras Lucknow Medical College, Lucknow, Utter Pradesh India

pension outlays, health care expenditures, financial discipline, savings levels etc.

Social and cultural shift has also encroached rural India, which for centuries it was boasted of joint family system with high respect for its elderly members, but now it is more of nuclear families are indifferent towards the elderly.³

Today depression is one of the leading causes of disability in the elderly. Elderly people tend to be physically less healthy and are more socially withdrawn. They are less comfortable with the manner in which they handle their problems and social life according to world health organization reports on elderly.³⁻⁵ A very few studies has been done among elderly in the rural population to assess their depression. So this study will reflect the extent of depression among elderly in rural population of Lucknow, Uttar Pradesh. The aim of the present study was to estimate the prevalence of Depression among elderly in a rural population of Lucknow, Uttar Pradesh.

METHODS

The present cross-sectional study was conducted for a period of 7 months from June 2016 to December 2016 at Integral Institute of Medical Sciences and Research, Lucknow. Cluster sampling method was used for selecting the elderly as study subjects. Based on a study, 34.4% as prevalence of depression and relative precision 15 %, the minimum sample size required for the study was 370. Though the minimum sample size calculated was 370 it was decided to have a little larger sample size of 450 for better evidence Thirty clusters were selected by probability proportionate to size (PPS) method and 15 elderly were selected from each cluster to obtain sample size of 450 elders. Sample size calculation was performed as follows,

$$N = Z^2 1 - \alpha \div 2PQ \div \varepsilon^2$$

N=total sample size (number of experimental units)

P=Prevalence of depression (34.4% taken)

Q=1-P(65.6%)

Z (1- $(\alpha/2)$ =related to the chosen significance criterion α ; can be found in normal distribution tables, (1.96).

ε: relative precision (15 % is taken in the present study).

Minimum sample size=370

Taking 10% of sample size as non-responder=370+37=407

So, sample size of 450 was taken for the study.

The non-respondents and those who are not willing to participate in the study were excluded and an informed consent was obtained from the study subjects who participated in the study. A validated geriatric depression scale (GDS-30) was used to assess their depression status and the various demographic details, socio-economic status and living arrangements were analyzed to see for any association with depression.⁶

RESULTS

The total number of elderly subjects studied was 450. Elderly males were 150 (33%) and females were 300 (66.7%). The elderly females were two thirds of the total subjects. Large proportion of elderly 265 (58.8%) were in the age group 60-70 years, followed by 185 (41.1%) in the age group more than 70 years. Age group and sex distribution of elderly is given in Table 1.

Among the 450 elderly subjects studied 240 have depression and the overall prevalence of depression was 53.3% with 95% confidence interval from 41.2 to 66.9%. The prevalence of depression among elderly males was found to be 48% and among females 56% and the difference in the prevalence of depression among males and females was found to be statistically significance (p=0.03) (Table 2). The prevalence of mild depression among elderly was 19.6% and prevalence of severe depression was found to be 52.1%.

Table 1: Distribution of participants by age group and sex.

Age	Male		Female		Total	
Group, (years)	No.	%	No.	%	No.	%
≤70	85	32	180	68	265	58.8
>70	65	35.1	120	64.9	185	41.1
Total	150	33.3	300	66.7	450	100

Table 2: Prevalence of depression classified by sex and age group.

Variables		Total No.	Depressed No.	Prevalence of depression (%)	95% CI	P value
Com	Male	150	72	48	41.1-58.2	0.02
Sex	Female	300	168	56	49-66.1	0.03
Age Group	≤70	265	105	39	34.6-51	
(years)	>70	185	135	56.2	51.2-66.4	0.01

Variables		Not depressed No.	Depressed No.	Odds atio	95% CI	P value
Sex	Male	78	72		1.28-1.82	0.03
	Female	132	168	1.37		
Age	70	160	105			
(years)	>70	150	135	1.33	1.21-1.51	0.045
	Literate	160	55			
Education	Illiterate	150	185	8.4	6.1-11.9	< 0.001
	Employed	130	70			
Occupation	Unemployed	80	170	3.94	2.9-6.3	< 0.001

Table 3: Association between risk factors and depression.

Sex, age group, education, occupation was measured for association with depression. Females were found to be 1.37 times at a greater danger for depression than males and it is found to be statistically significant (p=0.03). Higher age group more than 70 years is found to be risk factors for depression compared to lower age group. Illiterates are at 8.4 times at a greater risk for depression compared to literates and it is found to be statistically significant (p=0.001). Unemployed elderly subjects are 3.94 times at a greater risk for depression compared to the employed ones and this association is found to be statistically significant (Table 3).

DISCUSSION

In this study among the 450 elderly subjects studied 240 were found to have depression and the overall prevalence of depression was 53.3%. Which was higher than the study done by Krishnan et al.⁷ In the present study the prevalence of depression among elderly females 56%. The elderly females have much higher prevalence of depression and the difference in the prevalence of depression is found to be statistically significant (p=0.03). This result was higher than a study done in Kanchepuram by Sati et al in the present study the prevalence of severe depression among elderly were found to be 51.3%. The prevalence of severe depression was found to be 11% according to Sharad et al in a study done in Karnataka.

In the present study prevalence of mild depression among elderly was found to be 19.6% which is a lower prevalence than a study done by Rahata et al which showed 52.2%. In the present study females were found to be 1.37 times at a greater risk for depression than males and it is found to be statistically significant (p=0.03). The similar result was found in the study done in Bangalore using GDS-15 Scale revealed that females are found to be 1.4 times at a greater risk for depression than the males. In the present study illiterates are at 8.4 times at a greater risk for depression compared to literates and it is found to be statistically significant (p=0.001). Similarly, illiterates are at 5.5 times

at a greater risk for depression in a study done in west Bengal. ¹¹ In the present study unemployed elderly subjects were 3.94 times at a greater risk for depression compared to employed ones and this association is found to be statistically significant. Similarly, unemployed people were 3.04 times at risk for depression in a study done in West Bengal. ¹²

CONCLUSION

Among 450 elderly participants 240 were found to have depression and the overall prevalence of depression was 53.3%. The present study had shown the prevalence of mild depression among elderly was 19.6% and prevalence of severe depression was found to be 52.1%. Illiterates and unemployed elders were found to be severely depressed. Adequate measures should be taken to detect this psychiatric disorder in elderly.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- 1. World Health Organization. http://www.searo.who.int/entity/health_situation_tre nds/ data/ chi/elderly-population/en/. Accessed on 10 October 2020.
- 2. 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.
- 3. World Health Organization. World Health Day. 2012. Good health adds life to years. http://www.who.int/mediacentre/news/releases/2012/whd_20120403/en/index.html. Accessed on 10 October 2020.
- 4. World Health Organization. Non-communicable diseases. WHO Factsheet.

- www.who.int/mediacentre/factsheets/fs355/en/index .html. Accessed on 10 October 2020.
- World Health Organization. Mental health and substance abuse, facts and figures, conquering depression. http://www.searo.who.int/en/Section1174/ Section11 99/Section1567/Section1826_8101.htm. Accessed on 10 October 2020.
- Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. Clin Gerontol. 1986;5(1/2):165-173.
- Radhakrishnan S, Nayeem A. Prevalence of depression among geriatric population in a rural area in Tamil Nadu. International Journal of Nutrition, Pharmacology, Neurological Disease. 2013;3(3):309-12.
- 8. Depression: A treatable disease. Washington: National Academy on an Aging Society. 2000. http://www.agingsociety.org/agingsociety/pdf/depression.pdf. Accessed on 10 October 2020.

- Sinha SP, Shrivastava SR, Ramasamy J. Depression in an older adult rural population in India; MEDICC Review. 2013;15(4):41-4.
- 10. Dighe SV, Gawade EM. Depression among Rural Elderly Population. E. Journal of Nursing. 2012;2(2):18-22.
- 11. Sanjay TVS, Gangaboraiah JR, Lakshmi P, Jayanthi S. Prevalence and factors influencing depression among elderly living in the poor urban locality of Bengaluru City. International Journal of Health & Allied Sciences. 2014;3(2):105-9.
- 12. Maulik S, Dasgupta A. Depression and its determinants in the rural elderly of West Bengal: A cross sectional study. Int J Biol Med Res. 2012;3(1):1299-302.

Cite this article as: Mishra S, Mishra AN, Singh V, Verma V. Prevalence and factors associated with depression among the elderly in a rural community. Int J Community Med Public Health 2020;7:4850-3.