



PREVALENCE OF DEPRESSION AMONG ELDERLY IN RANI BLOCK, KAMRUP (RURAL) DISTRICT, ASSAM

KEYWORDS

Depression, elderly, illiterates.

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ABSTRACT *Background - The increases in life expectancy have brought about increased numbers of certain illnesses, one of the major ones being chronic mental illnesses. It has been documented that elderly are more prone to psychological problems and depression is the commonest geriatric psychiatric disorders.*

Summary- In the present study the prevalence of depression was found to 14.1%. The prevalence of depression had a significant association with age, education, socio economic status, marital status. This calls for early detection of depression and early development of preventive strategies to halt this silent epidemic.

Introduction-

Ageing it is said, begins with conception. Ageing can be defined as a progressive functional decline, or a gradual deterioration of physiological function with age, including a decrease in fecundity or the intrinsic, inevitable, and irreversible age-related process of loss of viability and increase in vulnerability[1]. The increases in life expectancy have brought about increased numbers of certain illnesses, one of the major ones being chronic mental illnesses. It has been documented that elderly are more prone to psychological problems and depression is the commonest geriatric psychiatric disorders [2]. Depression is a silent disorder, which is difficult to be detected especially in the elderly. This is because the elderly do not present with typical symptoms of depression such as lack of energy, loss of appetite, constipation, no interest in work, poor sleep or loss of weight [3]. Depression contributes to increase medical morbidity and mortality, reduces quality of life and elevates health care costs. Therefore early diagnosis and effective management are required to improve the lives of those suffering from depression [4]. WHO reports that in 2004 there were 0.5 million adults aged ≥ 60 years with moderate or severe depression in high-income countries and 4.8 million in low- and middle-income countries. According to WHO, factors increasing depression risk in older adults include genetic susceptibility, chronic disease and disability, pain, frustration with limitations in activities of daily living (ADL), personality traits (dependent, anxious or avoidant), adverse life events (separation, divorce, bereavement, poverty, social isolation) and lack of adequate social support. Community based studies done on depression among elderly in India are very few, thus this study was an attempt to assess the prevalence of depression among elderly using the Geriatric Depression Scale (GDS) and to determine the factors associated with depression

Objectives- 1. To study the prevalence of depression among the elderly residing in Rani block. 2. To identify the various factors associated with depression amongst the study population.

Methodology

This was community based cross-sectional study conducted in Rani block, Kamrup Rural (Assam) conducted for **one year from August 2013 to July 2014**. Ethical clearance was obtained before conducting the study from the Ethical Committee of Gauhati Medical College, Guwahati. The sample size was estimated using the formula $n = 4pq/L2$. The prevalence of depression, "p" among elderly persons was taken as 31.4% [5] with 95% confidence interval and allowable error of 5%. The sample size was calculated to be 345. Total 390 elderly were included in the study. The inclusion criteria comprised of all consenting subjects, aged ≥ 60 years, and who were permanent residents of Rani Block. The exclusion criteria comprised of subjects who refused to give informed consent for participating in this study. A house to house survey was conducted and a systematic random sampling procedure was applied to achieve the required sample size. After obtaining written informed consent from all the elderly study participants, the data was collected by using a pre-designed and pre-tested proforma along with GDS- 15[6]. Scores of 0–4 were considered normal; 5–8 indicated mild depression; 9–11 moderate depression and 12–15 severe depression. Data entry and statistical analyses used SPSS version 17. Frequency distributions were calculated for all variables. The chi-square test was used to test significance of associations between independent variables and depression. A p-value of < 0.05 was taken as the criteria of significance for all purposes. Information regarding marital status, education status, occupation, socio-economic status using modified B.G Prasad classification, 2013 was collected. Presence of chronic illness was made based on the respondents' self-reports of illnesses that were diagnosed, under follow-up and treatment by doctors at medical and health facilities. The illnesses included diabetes mellitus, hypertension, hearing impairment, visual impairment, hemiplegia, arthritis.

Results-The demographic characteristics of the elderly is summarised in table 1. Out of 390 elderly 68.5% belonged

to the age group of 60-69 years, 24.4% belonged to 70-79 years age group and 7.2% belonged to ≥ 80 years age group. 233(59.7%) of the respondents were females and 157(40.3%) of elderly were males. Majority (82.8%) were found to be Hindus, 9.2% were Muslims and 7.9% were Christians. Majority (89%) lived in joint family and only 11% lived in nuclear family. The study revealed that 53.6% elderly were living with their spouse and children, 38.5% were living with their children, 3.6% were living with their spouse, 3.1% were living alone and 1.3% were living with their relatives. Maximum elderly, 271(69.5%) were illiterate, 77(19.7%) studied upto primary level, 23(5.9%) studied till middle school, 15(3.8%) studied till high school, while 3(0.8%) were HSLC passed and only 1 (0.3%) was post-graduate. Majority of the elderly (48.2%) belonged to Class IV category, 160(41%) were from class III category, 31(7.9%) belonged to class II, while only 11(2.8%) belonged to class V category. Table 2 shows the prevalence of elderly as per GDS. The overall prevalence of depression was 14.1%, of which 30 (7.7%) were found to have mild depression, 16 (4.1%) had moderate depression and 9 (2.3%) had severe depression. Table 3 shows the association of socio demographic parameters with depression. Depression was found to be more common in males (17.2%) compared to females (12%). But this difference was not statistically significant. Depression was more common in the elderly belonging to ≥ 80 years age group (42.9%) and 70-79 years age group (35.8%) compared to those belonging to 60-69 age group (3.4%) and this difference was found to be statistically significant ($p < 0.05$). It was observed that illiterates were suffering more from depression (17%) compared to literates (7.6%) and this difference was also found to be statistically significant ($p < 0.05$).

Discussion- The present study showed that most of the elderly (68.5%) belonged to the age group of 60-69 years, 24.4% belonged to 70-79 years age group and only 7.2% belonged to ≥ 80 years age group which is similar to the findings by Madhukumar Suwarna et al [7] in their study conducted in Miraj, Maharashtra where 64.5% belonged to the age group of 60-69 years, 28.2% belonged to 70-79 years age group and 7.2% belonged to > 80 years age group. Deepak Sharma et al [8] in their study conducted in Shimla found that in rural area 58.5% belonged to the age group of 60-69 years, 30 % belonged to 70-79 years age group and 11% belonged to > 80 years age group. Sati P et al [9] in their study conducted in the rural village of Sembakkam, Kancheepuram District in the state of Tamil Nadu Of 103 respondents interviewed, 73 (70.9%) were aged 60-69 years, 26 (25.2%) were in 70-79 years age group and 4 (3.9%) belonged to ≥ 80 years age. In the present study majority (59.7%) of the elderly were females and 40.3% of elderly were males. Shraddha K et al [10] in their study conducted in Mysore, Karnataka found that 39.4% were males and 60.6% were females. Pooja Chauhan et al [11] in a study conducted in Venkatachalem village in Nellore district, AP found that 33.4% were males and 66.2% were females. The present study revealed that 69.5% were illiterate, 19.7% studied upto primary level, 5.9% studied till middle school, 13.8% studied till high school, 0.8% were HSLC passed and 0.3% was post-graduate. Anil Jacob Purty et al [12] in their study in a rural area of Tamil Nadu found that 78.7% of elderly were illiterate. There was a statistically significant association of depression with socio economic status and marital status with the depression more common in elderly belonging to lower socio economic status and those who are widow, widower and unmarried. Depression was more common in case of elderly who were suffering from some chronic illness but

this difference was not statistically significant ($p > 0.05$). In the present study the prevalence of depression was found to be 14.1% which is lower compared to the studies conducted by Sati P et al (42.7%) [9], Radhakrishnan and Nayeem (58.75%) [13]. Makwana et al [14] reported the presence of depressive feeling in 18.3% of the respondents. The prevalence of depression was found to be more among the males compared to females which is in contrast to the findings of other studies like S.V Kamble et al [15], Sati P et al [9] where the prevalence was higher in females compared to males and the difference was found to be statistically significant. The present study revealed that depression was highest in the elderly aged ≥ 80 years age (42.9%) and the association between age and depression was found to be statistically significant ($p < 0.05$) which is similar to the findings by Ankur Barua et al [16] in a study conducted in rural south India where the prevalence of depressive disorders was highest (34.4%) in the age group of 80 years and above. The difference in prevalence of depression between different age groups was found to be statistically significant ($\chi^2 9.932$, $df 2$, $p 0.007$). The prevalence of depression was found to be higher among the illiterates (17%) compared to literates (7.6%) which was found to be statistically significant. A study done by Ankur Barua et al [16] and S. V Kamble et al [15] also found that depression was more among the illiterates. The present study indicates that depression is higher among elderly belonging to lower SES which is similar to other studies done by Pracheth R et al [17], Ankur Barua et al [16], Rajkumar AP et al [18]. The present study revealed that prevalence of depression was higher among the elderly who were unmarried or lost their spouse (22.6%) compared to those who were married (7.7%). A study done by SV Kamble et al [15] also concluded that widowhood, marital disruption and single status were associated with a higher prevalence of depression in both men and women. Pracheth R et al [17] also found that the elderly who had lost their spouse (57.81%) were suffering from a higher rate of depression. The present study revealed that elderly who were suffering from chronic diseases were more depressed (14.6%) which is similar to the findings by Pracheth R et al [17].

Conclusion- In the present study the prevalence of depression was found to 14.1%. The prevalence of depression had a significant association with age, education, socio economic status, marital status. This calls for early detection of depression and early development of preventive strategies to halt this silent epidemic.

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TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF ELDERLY

AGE GROUP (YEARS)	NUMBER	PERCENTAGE
60-69	267	68.5
70-79	95	24.4
>80	28	7.2
SEX		
MALE	157	40.3
FEMALE	233	59.7

AGE GROUP (YEARS)	NUMBER	PERCENTAGE
RELIGION		
HINDU	323	82.8
MUSLIM	36	9.2
CHRISTIAN	31	7.9
TYPE OF FAMILY		
JOINT	347	89
NUCLEAR	43	11
LIVING STATUS		
SPOUSE AND CHILDREN	209	53.6
CHILDREN	150	38.5
SPOUSE	14	3.6
ALONE	12	3.1
RELATIVES	5	1.3
EDUCATIONAL SATUS		
ILLITERATE	271	69.5
PRIMARY SCHOOL	77	19.7
MIDDLE SCHOOL	23	5.9
HIGH SCHOOL	15	3.8
HSLC PASSED	3	0.8
POST GRADUATE	1	0.3
SOCIO ECONOMIC STATUS		
CLASS II	33	8.5
CLASS III	158	40.5
CLASS IV	188	48.2
CLASS V	11	2.8

Table-2: Prevalence of Depression among the Elderly as per Geriatric Depression Scale

GDS SCORE	MALE (N=157)	FEMALE (N=233)	TOTAL (N=390)
NORMAL (0-4)	130 (82.8)	205 (88)	335 (85.9)
MILD (5-8)	14 (8.9)	16 (6.9)	30 (7.7)
MODERATE (9-11)	9 (5.7)	7 (3)	16 (4.1)
SEVERE (12-15)	4 (2.5)	5 (2.1)	9 (2.3)
TOTAL	157	233	390

Table 3: Sociodemographic characteristics and depression

Gender	Depression		Total	P value
	Present	Absent		
Male	27 (17.2)	130 (82.8)	157(100)	0.149
Female	28 (12)	205 (88)	233(100)	
Age group				
60-69 years	9 (3.4)	258 (96.6)	267 (100)	0.000
70-79 years	34 (35.8)	61 (64.2)	95 (100)	
>80 years	12 (42.9)	16 (57.1)	28 (100)	
Education status				
Illiterate	46 (17)	225 (83)	271(100)	0.014
Literate	9 (7.6)	110 (92.4)	119(100)	
Socio economic status				
Class II	1(3)	32 (97)	33 (100)	0.006
Class III	16 (10.1)	142 (89.9)	158(100)	
Class IV	34 (18.1)	154 (81.9)	188(100)	
Class V	4 (36.4)	7 (63.6)	11(100)	
Marital status				
Married	17 (7.7)	205 (92.3)	222 (100)	0.000
Unmarried/ Widow/ Widower	38 (22.6)	130 (77.4)	168 (100)	
Chronic morbidity				
Present	55 (14.6)	323 (85.4)	378 (100)	0.154
Absent	0 (0)	12 (100)	12 (100)	

REFERENCE

1. Partridge, L., and Mangel, M. (1999). "Messages from mortality: the evolution of death rates in the old." *Trends in Ecology and Evolution* 14(11):438-442. | 2. The World Health Organization. *World Health Report Mental Health: New understanding New Hope*. Geneva: The institute; 2001 | 3. Deva MP. 1997. *Psychiatry for the General Practitioner*. Med J Malaysia. 52. | 4. Sherina M, Sidik Rampal L, Aini M, M Norhidayati H. The prevalence of depression among elderly in an urban area of Selangor, Malaysia. *The International Medical Journal* Vol. 4 No 2 Dec 2005 | 5. S. V. Kamble, G.B.Dhumale, R.C.Goyal, D. B. Phalke, Y. D.Ghodke. Depression among Elderly Persons in a Primary Health Centre Area in Ahmednagar, Maharashtra. *Indian Journal of Public Health* Vol.53 No.4 October-December, 2009. | 6. Sheikh, J.I., and Yesavage, J.A. Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. *Clinical Gerontologist* 5(1-2): 165-173, 1986. | 7. Madhukumar Suvarna and Naik Jayashree: An epidemiological study in elderly and its morbidity in urban slum population in Miraj district, Maharashtra *International Journal of Public Health and Human Rights* 2011:1: 05-10 | 8. Deepak Sharma, Salig Ram Mazta, Anupam Parashar. Morbidity pattern and health seeking behaviour of aged population residing in Shimla Hills of North India. *Journal of Family Medicine and Primary Care* 2013; 2: 188-193 | 9. Sati P. Sinha, Saurabh R. Shrivastava, Jegadeesh Ramasamy. Depression in an Older Adult Rural Population in India. *MEDICC Review*, October 2013, Vol 15, No 4. | 10. Shraddha K, Prashantha B, Prakash B. Study on morbidity pattern among elderly in an urban population of Mysore, Karnataka. *International journal of medicine and biomedical research* 2012; 1: 3: 215-223 | 11. Pooja Chauhan, V. Chandrashekar. A study on the morbidity pattern among the geriatric people of Venkatchaleem village in Nellore district, AP. *Journal of Health Sciences* 2013; 1: 2: 48-53. | 12. Anil Jacob Purty, Joy Bazroy. Morbidity pattern among the elderly population in the rural area of Tamil Nadu, India. *Turk Journal of Medical Science*. 2006; 36: 45-50. | 13. Shankar Radhakrishnan and Abdul Nayeem. Prevalence of depression among geriatric population in a rural area in Tamil Nadu. *International Journal of Nutrition, Pharmacology, Neurological Diseases* : July-September 2013 : Vol 3: Issue 3 | 14. Makwana, Naresh R , Shah, Viral R, Goswami Kalpesh, Yadav Sudha. *Health Problems In Geriatrics- A Cross Sectional Study*. *Journal of Pharmaceutical and biomedical Science* 2012; 20:16. | 15. S. V. Kamble, S. S. Avchat, R. C. Goyal. Health Status of Elderly Persons in Rural Area of India. *Indian Medical Science Gazette* August 2012: 295-299 | 16. Ankur Barua, Das Acharya, K Nagaraj, H Vinod Bhat, NS Nair. Depression in elderly: A cross sectional study in rural South India. *JIMSA 2007*: Vol. 20 No. 4:259-261. | 17. Pracheth R, Mayur SS, Chowti JV. *Geriatric Depression Scale: A tool to assess Depression in elderly*. *International Journal of Medical Science and Public Health*; 2013 :Vol 2 : Issue 1: 31-35. | 18. Rajkumar AP, Thanagadurai P, Senthikumar P, Gayathri K, Prince M, Jacob KS. Nature, prevalence and factors associated with depression among elderly in a rural South Indian Community. *Int Psychogeriatr* 2009; 21; 1:372-8. |