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Original article

Prevalence of Urban Geriatric Depression - A Cross sectional Study in Pondicherry

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ABSTRACT

Background: Geriatric depression is an important public health problem. There is a dearth of community studies from India investigating geriatric depression and its associated risk factors. This study aimed to establish the nature, prevalence and factors associated with geriatric depression in an urban south Indian community. **Methods:** This was a cross sectional study in an urban background. 100 individuals in the geriatric age group were randomly selected from among the members list of the Vilianur senior citizens society. They were administered the Geriatric depression scale and the results were compiled and analyzed by chi^2 with Yates correction using the statistical software SPSS 19. **Results:** Prevalence of geriatric depression was 98% with 78% mild and 20% severe depression. Majority were from the lower socio economic status. The prevalence of mild depression among males was 80.8% and it was 75.4% among females while 14.8% males had severe depression as compared to 24.5% of the females. Looking at the sleep patterns, again the proportion of severe depression was significantly higher among the ones that had a disturbed sleep (25.4%) when compared to those with a satisfactory sleep pattern (10.8%). The proportion of severe depression was significantly higher among those participants whose spouse had expired (38.8% vs 8.1%] **Conclusions:** Geriatric depression is highly prevalent in this urban community. Higher age, disturbed sleep pattern, death of spouse etc were some of the factors that had an association with chances of depression.

KEYWORDS: Depression, Geriatric, South India

INTRODUCTION

A robust growth in the number of elderly people in the general population in recent years is termed as “greying of the world”. Population ageing is the result of a process known as demographic transition, in which there is a shift from high mortality/high fertility to low mortality/low fertility, resulting in an increased proportion of older people in the total population. India is presently undergoing such a demographic transition. The life expectancy in India has almost doubled from 32 years in 1947 to 63.4 years in 2002.[1].The World Health Organization estimated that the overall prevalence rate of depressive disorders among the elderly generally

varies between 10% and 20% depending on cultural situations.[2,3] The community-based mental health studies in India have revealed that the point prevalence of depressive disorders in the elderly Indian population varies between 13% and 25%.[4,5] Although India is the second most populated country in the world in terms of elderly population of 60 years and above,[1,2] depression in the elderly is not yet perceived as a public health problem in India. A very few community-based studies have been conducted in India so far, to address this issue.

MATERIALS AND METHODS

This was a cross sectional study in an urban background. 100 individuals in the geriatric age group were randomly selected from among the members list of the Vilianur senior citizens society. Information was gathered using a proforma which was prepared as a structured format covering all the relevant aspects including the demographic details and information regarding presence of any health problems like diabetes mellitus, hypertension, cardiac ailments and chronic arthritis . It was pretested and finalized with suitable modifications. Geriatric depression scale (GDS) was used as the screening instrument, which as a scale for assessing depression, was developed by Yesavage et al. in 1983.[6]. Participants were interviewed by four trained medical undergraduate students according to the study protocol and physical examination was also carried out. In case of any difficulty in communication, help of other members of the family was used. The data was compiled and transformed into proportions for comparison and analysis was done using chi^2 test using the statistical software SPSS 19. A p Value of less than 0.05 was considered as statistically significant.

RESULTS

All the participants willingly participated in the study. Of these 53 (53%) were females. Overall majority of them were in the 60-69 age category 75(75%). Gender wise, among the males 72.3% and among females 77.3% belonged to 60-69 age category. [Table 1].

Table 1: Distribution of participants based on age

Age category	Males	Females
60-69	34	41
70 and above	13	12
Total	**47**	**12**

Looking at the socio economic status 73(73%) of them were from the class V, 7(7%) from class IV, 3(3%) from class III, 13(13%) from class II and 4(4%) from class I as per the kuppuswamy scale of socio economic classification. As for the overall marital status, 61(61%) were living with the spouse and for 36(36%) their spouse had expired. Splitting based on gender, 26 of the males (55.3%) were still living with spouse as compared to 35 of the females(66%). For 23 of males (48.9%) their spouse had expired while among the females 13(24.5%) had lost their spouse to death. Only a very small proportion, 3%, was either separated or unmarried (2 males and 1 female). Considering the educational qualifications overall, 59(59%) were literate. The literacy in males was 74.4% and much higher than it was in the females 43.8. Fourteen, 14(29.8%) of the males and 11(20.7%) of the females were still working. Substance abuse was present in 24(24%) of the study participants and only 37(37%) had a satisfactory sleep pattern.

The overall prevalence of depression was 98% (98) of which 78% was mild depression and 20% was severe depression. The prevalence of mild depression among males was 80.8% and it was 75.4% among females while 14.8% males had severe depression as compared to 24.5% of the females. Based on age categories, both in males and females, among those with severe depression the proportion of people in the age group of ‘70 years & above’ was significantly higher while among those with mild depression the proportion of people in the age group of ’60-69’ was significantly higher.[Table 2]

Table 2: Depression grading based on gender and age

MALES (47)							FEMALES (53)					
Mild Depression (38)		Severe Depression (7)		No Depression (2)			Mild Depression (40)		Severe Depression (13)		No Depression (0)	
60-69 Yrs	70 & Above	60-69 Yrs	70 & Above	60-69 Yrs	70 & Above		60-69 Yrs	70 & Above	60-69 Yrs	70 & Above	60-69 Yrs	70 & Above
30	8	2	5	2	0		39	1	2	11	0	0
P=0.016							P=0.000					

Among the literates, mild depression was 71.2% and severe depression was 25.4% while among the illiterates mild depression was present in 87.8% and severe depression in 12.2%. Considering occupation, the presence of severe depression in the people not currently working (21.3%) was significantly higher than in those who were still working (16%).Among the ones who had substance abuse the prevalence of severe depression (75%) was significantly higher than among the ones that did not have any substance abuse(2.6%).[Table3].

Table 3: Depression grading based on literacy, occupational status and substance abuse

	Mild Depression	Severe Depression	No Depression	
Literate	42	15	2	59
Illiterate	36	5	0	41
Total	**78**	**20**	**2**	**100**
P=0.113				
Still Working	19	4	2	25
Not Working	59	16	0	75
Total	**78**	**20**	**2**	**100**
P=0.043				
Substance Abuse Absent	72	2	2	76
Substance Abuse Present	6	18	0	24
Total	**78**	**20**	**2**	**100**
P=0.000				

Looking at the sleep patterns, again the proportion of severe depression was significantly higher among the ones that had a disturbed sleep (25.4%) when compared to those with a satisfactory sleep pattern (10.8%). The proportion of severe depression was significantly higher among those participants whose spouse had expired (38.8% vs 8.1%). Also the proportion of severe depression was significantly higher among those with co-morbidities (that included diabetes mellitus, hypertension, cardiac ailments and chronic arthritis), as compared to the ones that did have co-morbidities (22.8% vs 6.6%). [Table 4].

Table 4: Depression grading based on sleep pattern, spouse status and co-morbidity

	Mild Depression	Severe Depression	No Depression	
Sleep Satisfactory	31	4	2	37
Disturbed Sleep	47	16	0	63
Total	**78**	**20**	**2**	**100**
P=0.04				
Living with spouse	54	5	2	61
Spouse expired	22	14	0	36
Others	2	1	0	3
Total	**78**	**20**	**2**	**100**
P=0.006				
Co-Morbidity present	54	16	0	70
Co-Morbidity absent	26	2	2	30
Total	**78**	**20**	**2**	**100**
P=0.019				

DISCUSSION

This study attempted to find the prevalence and the factors associated with depression among the elderly in a South Indian community. The prevalence of depression amounting to 98% in our study was alarmingly high. The prevalence rates in past Indian studies have widely varied, ranging from 6%[7] to 55.2%.[8]. The association of severe depression with a 'disturbed sleep pattern', substance abuse, not working, Death of spouse and co-morbidities is clearly brought out while gender and literacy did not seem to have any influence on the prevalence of depression. Also higher age was associated with more chance of severe depression both among males and females.

The distribution of depression in our study with prevalence of severe depression of 20% and mild depression of 78% suggests that this wide prevalence range in past Indian studies might be mainly concerning the identification of mild depression. In literature from the west Depression prevalence rate of 13.3–18.3% has been reported.[9,10]. The low positive predictive value [11] as well as doubtful external validity of screening instruments [12] may yield many false positive cases and may inflate the prevalence rates of geriatric depression in community settings. Concerns regarding the different cut-off values used to diagnose depression across various settings also exist.[11] This is an issue that needs to be addressed in community studies of depression.

The depressed individuals in low-income communities rarely subscribe to biomedical causal models and hold more to psychosocial as well as interpersonal explanatory models for depression.[13] Such explanatory models may mitigate perceived stigma. [14] The meager expectations by families of their elderly relatives may also contribute towards high tolerance of depressive symptoms and functional impairment. [15]. Elderly people report depressive symptoms when they are distressed, when they are ill or are worried about the implication of their symptoms. Stressful life events and inability to cope with psychosocial problems may also lead the elderly to mention such symptoms. Consequently, the

difficulty in separating distress from depression becomes a major issue.[16] While psychiatrists suggest that brief screening instruments can easily identify people with depression [17], most general practitioners (GPs) would argue that many of those identified are distressed [16].

The kind of response to the nature of questions asked as a part of the screening instrument regarding energy, hopelessness, memory, concentration etc are very likely to be influenced by the socio-cultural background that the individual is a part of. This includes religion, beliefs regarding the purpose of life and the expected social role at different age categories which more often than not is a set of unwritten rules that individuals are expected to naturally adapt themselves to. As an example, in some religions the belief is, that whatever one experiences, it is a result of one's past karma and that one has to bear it without complaining. This code of functioning would be imposed by the individual on him or herself well supported by the social surroundings by what is called the collective mind. So in spite of being in psychological pain the individual would not say that it is so. The reverse may happen in a different cultural background.

The depression seen in the community and which many GPs encounter is often viewed as a result of personal and social stress, lifestyle choices or as a product of habitual maladaptive patterns of behavior. Consequently, the general population and primary care physicians often uphold psychological and social models for depression. [15] Psychiatrists, with their biomedical frameworks, would on the other hand argue for disease models [17]. The relationship between poverty, social isolation, physical health and mental health is complex and needs a constant and dynamic assessment to be understood.

CONCLUSION

The association of severe depression with factors like increasing age, co-morbidity, disturbed sleep etc has to be further confirmed by analytical epidemiological study designs. The need for screening instruments to be tailored to the socio-cultural framework of the community on which it is to be administered is brought out. The primary care physician and the general practitioners can however keep his mind open and be extra alert to a possibility of depression in senior citizens when these factors are found as a part of history taking and examination so that they can at least be identified and efforts may be taken to tackle them effectively either at their level or by further referral.

Conflicts Of Interest: None

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REFERENCES

1. UN population Division: World population prospects, the 2000 revision. New York: United Nations publication; 2001, *www.un.org/spanish/esa/population/wpp2000h.pdf*

2. Rangaswamy SM, editor. Geneva, Switzerland: World Health Organization; 2001. The World Health Organization (WHO). World Health Report: Mental Health: New Understanding New Hope, *www.who.int/whr/2001/en/whr01_en.pdf*

3. Wig NN. World Health Day, 2001. Indian J Psychiatry. 2001;43:1–4.

4. Nandi DN, Ajmany S, Ganguli H, Banergee G, Boral GC, Ghosh A et al, The incidence of mental disorders in one year in a rural community in West Bengal, Indian J Psychiatry. 1976; 18:79-87

5. Ramachandran V, Menon SM, Arunagiri S, Socio-cultural factors in late onset depression, Indian J Psychiatry. 1982;24:268-273

6. Yesavage JA, Brink TL, Rose TL, Lum O, Huang V, Adey M, et al. Development and validation of a geriatric depression screening scale.A preliminary report. J Psychiatry Res. 1983;17:37–49

7. Rao AV, Madhavan T. Geropsychiatric morbidity survey in a semi-urban area near Madurai, Indian J Psychiatry.1982;24:258–62.

8. Nandi PS, Banerjee G, Mukherjee SP, Nandi S, Nandi DN. A study of psychiatric morbidity of the elderly population of a rural community in West Bengal. Indian J sychiatry. 1997;39:122–129

9. Lindesay J, Briggs K, Murphy E0. The Guy's / Age concern survey: Prevalence rates of cognitive impairment, depression and anxiety in an urban elderly population. Br J Psychiatry, 1989;155:332–8

10. Beekman AT, Copeland JR, Prince MJ. Review of community prevalence of depression in later life. Br J Psychiatry. 1999;174:307–11.

11. Arthur A., Jagger C., Lindesay J., Graham C., Clarke M.. Using an annual over-75 health check to screen for depression: validation of the short Geriatric Depression Scale (GDS15) within general practice. *International Journal of Geriatric Psychiatry*. 1999;14:431–439.

12. Kørner A.. et al. Rating scales for depression in the elderly: external and internal validity, Journal *of Clinical Psychiatry*. 2007;68:384–389.

13. Pereira B., Andrew G., Pednekar S., Pai R., Pelto P., Patel V.. The explanatory models of depression in low-income countries: listening to women in India. *Journal of Affective Disorders*.2007;102:209–218

14. Raguram R., Weiss M. G., Channabasavanna S. M., Devins G. M.. Stigma, depression, and somatization in South India. *American Journal of Psychiatry*. 1996;153:1043–1049

15. Jacob K. S., Senthil Kumar P., Gayathri K., Abraham S., Prince M. J.. The diagnosis of dementia in the community. *International Psychogeriatrics*. 2007;19:669–678

16. Heath I.. Commentary: there must be limits to the medicalisation of human distress. *BMJ*.1999;318:439–440

17. Kessler D., Lloyd K., Lewis G., Gray D. P.. Cross sectional study of symptom attribution and recognition of depression and anxiety in primary care. *BMJ*. 1999;318:436–439.

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