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Screening for depression and its risk factors in geriatric population: A rural community based study

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ABSTRACT

This is a rural community-based study for screening depression and its risk factors in a geriatric population. A proportionate random sample was collected from six villages in Maval Taluka through house-to-house surveys conducted by the authors. A short (15 item) form of the geriatric depression scale was used, along with a semi-structured questionnaire specially designed for the study. On this 15-item scale, 41.1% scored 5 or higher, which suggests likely depression, and 18.9% scored higher than ten, which suggests definite depression. Depression was significantly more prevalent in those who had faced a stressful event in the past two years, in those lacking emotional support from a close confidant and in those suffering some systemic illness or sensory deprivation. The commonest stressor faced was the death of their spouse or child. This was statistically the most significant finding in those depressed ($P = 0.0007$). The need for treatment was perceived by these old people, but often not by their relatives. They could not seek treatment on their own due to restrictions on mobility due to old age, and being in rural areas, where psychiatric treatment facilities are not easily accessible.

1. Introduction

Old age is the last and the most difficult developmental stage in life. The daunting tasks of this stage along with the physical and cognitive decline make these senior citizens prone to sadness. As per definition of the World Health Organization, a person beyond 65 is considered to be of old age. It is the age at which a person retires from active employment and mostly becomes dependent on others in various ways. According to the 2001 census, 6.1% of Indian populations belong to this age group and it is estimated that by 2025 this number will increase to 12% (Namboodiri, 2005).

Prevalence of depression in Indian studies of old age has been found to be 30–40%. Data from one of the first specialty geriatric clinics in India showed prevalence of depression as 39.9% (Agarwal, 2006; Nandi et al., 1975; Venkoba Rao and Mahadevan, 1982). Lifetime risk for depression in males is 8–12% and for females is 20–26% (Ahuja, 2006). Point prevalence of major depression in the elderly is reported as approximately 4.4% in women and 2.7% in men (Steffens et al., 2000).

Geriatric depression has been identified as a major public health problem due to its serious consequences such as functional decline, diminished quality of life, demands on caregivers and increased health service utilization apart from mortality due to associated physical illness or suicide (Spar and La Rue, 2009). Symptoms for patients at this age and in this social situation are often considered normal or expectable. Somatization of emotional symptoms is found to be more common in Indian settings (Amin et al., 1998).

Physical ill health imposes severe restrictions in all walks of existence, including work, social relations and independence. Seniors also have momentary or lasting preoccupations with death and dying. Dependency on caregivers is highly distressing for some people, whereas some suffer sadness due to loss of near and dear ones. Close interpersonal relationships are known to be one of the protective factors for depression (Amin et al., 1998). With the fall of the joint family system and decline of traditional values, the social position of the aged in India has started to become comparable to that in western countries. Thus, the prevalence of geriatric depression is likely to increase in the future.

Research to find risk factors, develop useful tools to identify depression at a primary care level and provision for treatment would all be necessary in the future to reduce the morbidity and mortality arising from depression. Mental health problems are rarely discussed by health professionals during routine health visits. They often cause significant disability and also interpersonal conflicts. This increases the burden of caregivers and may pose various practical problems in taking care of the elderly.

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2. Method

This was an observational cross-sectional descriptive study. The aim of this study was to screen the geriatric population for depression in a rural community in Maval Taluka of Maharashtra. Permission of the Institutional Ethical Committee was obtained prior to this study. Informed verbal consent of participants was taken before interviewing. The relatives were asked to allow reasonable privacy during the interview. The elderly subjects themselves answered all the questions. Gross cognitive impairment, if any, was screened clinically during initial conversation while developing rapport with them.

The study was conducted across six villages adopted by the rural health centre of this hospital. This population included 4798 males and 4511 females. Number of seniors expected was considered 7% of this population, of which 25% were included in this study by systematic proportionate random sampling technique. Thus, the number of males and females to be interviewed from each village were calculated based on population of that village. A proportionate sample was then collected by randomization.

Out of these, those who consented were included in the study. Very few declined to participate due to personal reasons and medical problems. They were no different from the study population. As this area was routinely surveyed and provided health care by the department of community medicine of this institute, overall cooperation obtained was excellent. The social worker, who frequently visited the area, introduced the interviewer to the family.

House to house surveying using a semi-structured questionnaire and GDS (geriatric depression scale, short form) (Yesavage et al., 1983) was carried out by the authors. Semi-structured format for the study documented sociodemographic factors and some risk factors for depression including recent stressors, social support, and presence of physical ailments. Stressors and other information were documented verbatim. Marathi translation of GDS was then administered. GDS is a self rating scale, including 30 items about cognitive complaints and social behavior. The 15 item short form has been developed which includes all key items for dysphoria but not cognitive items, which may be confused due to memory changes with aging (Brown and Schinka, 2005). It has been translated in 24 languages and its validity is well established. This scale is not sufficient to diagnose depression but identifies individuals whose depressive symptoms exceed the norm. A score of higher than 5 is suggestive of depression and a score of higher than 10 is almost always definite depression.

3. Results

Data obtained was entered into an Excel spreadsheet and analyzed using SPSS 15. Out of 180 patients screened in this study, 74 (41.1%) scored 5 or higher, which is a score suggestive of depressive disorder, while 18.9% of total scored higher than 10 which suggests definite depression.

The Table 1 shows frequency of various sociodemographic variables among those depressed, defined as a cut off of scores of 5 and 10 as per GDS. The percentage of depressed people is steadily increasing with age if we consider more depressed people (GDS score > 10, $P = 0.08$). Equal numbers of males and females screened positive for depression as is expected in old age.

The number who screened positive is significantly higher in those widowed or divorced. Marriage continues to be a protective factor at this age as also revealed from the results about the availability of a close confidant. Remaining occupied in work also seems to be associated with less depressive symptoms ($P = 0.11$). Undergoing considerable stress in the past two years was

Table 1
Various socio-demographic factors in depressed and non-depressed population considering GDS cut off of 5 and 10.

Criteria	*N* (%)	*D* (5 as cut off) (% *d*)	*D* (10 as cut off) (% *d*)
Age group			
65–69	112 (62.2)	39 (34.8)	16 (14.3)
70–74	34 (18.8)	16 (47.1)	6 (17.6)
75–79	17 (9.4)	9 (52.9)	5 (29.4)
≥80	17 (9.4)	10 (58.8)	7 (41.2)
		$\chi^2 = 3.24$	$\chi^2 = 6.75$
		$P < 0.34$	$P < 0.08$
Sex			
Male	92 (52.1)	37 (40.2)	21 (22.8)
Female	88 (48.9)	37 (42.0)	13 (14.8)
		$\chi^2 = 0.03$	$\chi^2 = 1.54$
		$P < 0.86$	$P < 0.215$
Marital status			
Married	124 (68.5)	42 (33.9)	27 (21.7)
Widowed	54 (30)	30 (55.5)	5 (9.25)
Unmarried	1 (0.6)	1 (100)	1 (100)
Remarried	1 (0.6)	1 (100)	1 (100)
		$\chi^2 = 6.02$	χ^2 10.01
		$P < 0.11$	$P < 0.011$
Past occupation			
Housewife	18 (9.9)	6 (33.3)	3 (16.13)
Farmer	117 (64.9)	49 (41.9)	22 (18.8)
Service	35 (19.6)	17 (48.6)	7 (20.0)
Self employed	9 (5)	1 (11.1)	2 (20.2)
No work	1 (0.6)	0	0
		$\chi^2 = 3.55$	$\chi^2 = 1.23$
		$P < 0.46$	$P < 0.87$
Present occupation			
Home	124 (68.9)	59 (47.6)	20 (16.13)
Farm work	45 (24.9)	13 (28.9)	12 (26.7)
Other shop/job	11 (6.2)	2 (18.2)	2 (18.2)
		$\chi^2 = 4.3$	$\chi^2 = 1.9$
		$P < 0.11$	$P < 0.38$
Recent stressors			
Yes	49 (27.2)	33 (67.4)	21 (42.9)
No	131 (72.8)	41 (31.3)	13 (9.9)
		$\chi^2 = 11.3$	$\chi^2 = 20.3$
		$P < 0.0007$	$P < 0.000001$
Other/past stressors			
Yes	55 (30.4)	28 (50.9)	16 (29.1)
No	125 (69.6)	46 (36.8)	18 (14.4)
		$\chi^2 = 1.85$	χ^2 4.3
		$P < 0.17$	$P < 0.03$
Close confident			
None	63 (35.0)	35 (55.6)	21 (33.33)
Spouse	58 (32.2)	17 (29.3)	3 (5.17)
Other relative	33 (18.3)	14 (42.4)	9 (27.7)
Friend	26 (14.4)	8 (30.8)	1 (3.85)
		$\chi^2 = 6.02$	$\chi^2 = 16.97$
		$P < 0.11$	$P < 0.0007$
Education			
Illiterate	106 (58.9)	49 (46.2)	22 (20.75)
Up to 4th	39 (21.7)	14 (35.9)	11 (28.21)
Up to 10th	29 (16.1)	9 (31.0)	1 (3.33)
College	4 (2.2)	1 (25)	0
Graduate and above	2 (1.1)	1 (50)	0
		$\chi^2 = 6.02$	$\chi^2 = 6.7$
		$P < 0.11$	$P < 0.15$

Table 2
Various physical illnesses and depressed population considering cut off score of 5 or more.

Total	*N*	Number depressed	Percentage
Total	180	74	41.11
Any illness	116	53	45.69
Systemic illness	55	29	52.73
Cataract	31	17	54.84
Orthopedic problems	47	21	44.68

$\chi^2 = 2.0004$, $P < 0.26$ (difference not statistically significant).