

Epidemiological Determinants of Depression among the Geriatric Population Residing in a Slum of Urban India: A Cross-sectional Study

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Abstract

Background: Mental health is important at every stage of life, from childhood and adolescence through adulthood. Worldwide interest in geriatric depression has increased but studies to assess the depression among the elderly population in urban slums has hardly been done. So this study would shed light on the risk factors of depression among geriatrics in urban slums.

Aim & Objective: To study the epidemiological determinants such as age, marital status, education, financial dependency, economic status and chronic illness in relation to of depression among the geriatric population (60–80 years).

Settings and Design: Community-based, cross-sectional study for 24 months with a sample size of 209.

Methods & Material: Urban slum area represented by one health post was selected as the study area which caters to around 96,630 slum residents. Pre-tested semi-structured interviews were conducted after selecting households by systematic random sampling.

Statistical analysis: Data was analyzed using SPSS version 21. A chi-square test was applied.

Result: The present study shows overall prevalence of depression among the elderly above 60 years of age to be 48.6%. Depression is found to be significantly associated with an increase in age, living alone (72.7%), lower class economic status (100%), financial dependency (54%), history of chronic family illness (54.7%) and with no formal education (62.1%) among elderly dwelling in slums.

Conclusions: There is a high prevalence of depression in the community and hence, a need to sensitize primary level health care services to institute screening tests considering the association of these determinants with depression and link them to specialized services for further management.

Keywords: Humans, Aged, Child, Adolescent, Adult, Poverty Areas, Cross-Sectional Studies, Prevalence, Sample Size, Depression, One Health, Home Environment, Community Health Services.

INTRODUCTION

Aging population is increasing the older adult proportion is estimated to double from 12 to 22% between 2015 to 2050.^[1] Accordingly, the elderly over 60 years constitutes 8.6 and 9.9% of its population in India and Maharashtra, respectively.^[2] Depression and anxiety are among top causes of health loss worldwide, analyzed by the Institute of Health Metrics and Evaluation and are steadily increasing.^[3]

More than 20% of the elderly suffer from a mental or neurological disorder and 6.6% of all disability (DALYs) among elderly is attributed to neurological and mental disorders with dementia and depression being the most

common disorders. In the elderly, the symptoms of depression are normally overlooked and untreated because they coincide with other problems encountered by them.^[1]

Over the past decades, India's policies have been focusing much on issues like population stabilization, maternal and child health care and disease control activities. There is a

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need to highlight the medical and social problems that are being faced by the elderly population.^[5] Worldwide interest in 3 world have examined its prevalence, but studies to assess the depression among the elderly population has hardly been done in this part of the country and very few in urban slums. So this study would shed light on the risk factors of depression among geriatrics in urban slums.

AIM AND OBJECTIVE

To study the epidemiological determinants such as age, marital status, education, financial dependency, economic status and chronic illness in relation to depression amongst the geriatric population (60–80 years).

MATERIALS AND METHODS

A health post catering to about 96,630 slum residents, including 76,966 migratory population, was selected as the study area. The health post is under Urban Health Training Centre (UHTC) of a Medical Institution.

Study Duration: 24 months (based on feasibility and availability of resources to complete the study)

Study Design: Community-based, cross-sectional, uni-centric study

Sample Design

With 95% confidence interval, allowable error of 15%, previous study prevalence to be 49.5%, and $d = 15\%$ of the assumed/expected prevalence of morbidity, the calculated sample size is 209.^[14] Eleven (11) sampling units were added to account for attrition, non-cooperation, locked houses as a consideration of buffer. After rounding off, a total of 220 subjects were enrolled in the study. The households were sampled by a systematic random sampling method by a selection of households. Ethical clearance was obtained from

the Institutional Ethical Committee.

Inclusion Criteria

Geriatric people of both sexes in the age group 60 to 80 years residing in study area.

Exclusion Criteria

- Geriatric population who were not willing to participate in the study.
- Geriatric population who were bedridden and in incapacitated.
- Geriatric population who were seriously ill and hospitalized.

Data Collection

Data was collected by conducting in-depth Interviews (IDI) using a semi-structured questionnaire on subjects selected by systematic random sampling.

Data Analysis

Data was collected and compiled using Microsoft Excel 2013 and then analyzed using SPSS version 21. Chi-square test was applied to test the significance of the association.

RESULTS

The present study population comprised males (44.5%) and females (55.5%). There was almost equal numbers of muslims, Hindus 103 (46.8%), 95 (43.2%) respectively, followed by Christians 14 (6.4%) and Buddhists 8 (3.6%). It also comprised of higher numbers of homemakers, financially dependent individuals (Table 1). The present study shows an overall prevalence of depression among the elderly residing in slums to be 48.6%. Among the various epidemiological determinants that were selected in the study, increase in age, being single (divorced, separated, unmarried, widow/widower), illiteracy, financial dependency, lower economic status and presence of illness had a significant association with depression (Table 2).

DISCUSSION

A study conducted by Patil K, Kulkarni M, Dharmadhikari P^[6] and Swarnalatha N^[7] reported that the prevalence of depression increases with increasing age. Vishal J, Bansal RK, Swati P, Bimal T^[8] observed that unmarried was having 74.4% of depression compared to married 18.2% and it was statistically significant. Various studies which were conducted in India by Thirthahall *et al.*,^[9] Sharma K D^[10] revealed similar findings as those of the current study that there was a gradual decrease in the prevalence of depression as the literacy status increase. Jain RK, Aras RY^[5] showed that socio-economic status, illiteracy, and dependency had a statistically significant effect on depression, similar to that seen in the current study.^[11] Financial dependency was found to be significantly associated with depression by Sanjay *et al.*^[10] and Thirthahalli *et al.*^[9] Nair SS, Hiremath SG,^[11] Jain RK, Aras RY^[5] observed that depression is significantly associated with poor socio-economic status which was similar to present study findings.

Table 1: Socio-economic data wise distribution of study subjects

Factor	Frequency	Percentage (%)
Occupation		
Unskilled	45	20.5
Semi-Skilled	30	13.6
Skilled	15	6.8
Semiprofessional	7	3.2
Professional	5	2.3
Homemaker/Unemployed	118	53.6
Financial dependency		
Dependent	139	63.2
Independent	81	36.8
If independent, current source of income		
Working	43	53.1
Pension	23	28.4
House Rent	13	16.0
Fixed Deposit	2	2.5

Table 2: Association of depression with various factors

Epidemiological determinants	Categorization	Frequency (out of 220)	Prevalence of depression	Chi-square value	p-value
Age	60–64	113	44 (38.9%)	14.948	0.005
	65–69	62	31 (50.0%)		
	70–74	32	21(65.6%)		
	75–79	09	08 (88.9%)		
	80–84	04	03 (75.0%)		
Marital status	Married	130	54 (41.5%)	6.409	0.011
	Single*	90	53 (58.9%)		
Education	Literate	117	43 (36.8%)	14.129	0.000
	Illiterate	103	64 (62.1%)		
Financial dependency	Dependent	139	75 (54%)	4.278	0.039
	Independent	81	32 (39.5%)		
Type of family	Nuclear	115	46 (40%)	8.247	0.016
	Non-nuclear**	94	53 (50%)		
	Alone	11	8 (72%)		
Economic status	Lower class	13	13 (100%)	17.143	0.000
	Middle class	181	86 (47.5%)		
	Upper class	26	08 (30.8%)		
Family h/o	Present	128	70 (54.7%)	4.486	0.034
illness	Absent	92	37 (40.2%)		

Single* = Includes divorced, separated, unmarried, widow/widower.

Non- Nuclear** = Joint and Three generation families

This reflects the role of economic dependency and, thereby, negligence by the family members. A study conducted by Hughes *et al.*^[14] showed that elderly with a positive history of family illness showed higher prevalence of depression and found similar findings with the current study. The reason could be a financial concern, stress, poor support by family members. Studies by Patil K, Kulkarni M, Dharmadhikari P^[6] and Sengupta P, Benjamin AI^[13] showed a contradictory result to the current study that is people living in nuclear families were more prone to depression.

CONCLUSION

An in-depth understanding of depression in geriatrics would help to tackle the issue more appropriately by knowing the web of causation. Determinants as increase in age, illiteracy, financial dependency, economic status and presence of illness had significant association with depression. There is high prevalence of depression in the community and hence, a need to sensitize 'Primary level Health Care Services' to institute screening tests considering various determinants in the causation of depression and link them to specialized services further treatment.

RECOMMENDATION

There is a need to conduct multicentric and longitudinal studies to evaluate the various factors associated with the

causation of depression in the elderly. There is a need for further studies to evaluate psychological factors, cost, attitude toward treatment, adherence, compliance and neurobiological correlates. In order to account for socio-cultural factors that are unique to our society a suitable indigenous scale should be developed. The referral system, health education regarding depression, and community participation for removing the stigma must be strengthened. Hence, Governmental agencies should carry out special surveys to identify the vulnerable aged and the deprivations suffered by them. There is a growing need for good quality geriatric health care service at the primary level, which should be based on the "Felt needs." Regular screening and health check-ups to lessen morbidity should be promoted.

LIMITATIONS OF THE STUDY

The arrangement of houses in the slum community is quite irregular in their location and hence, selection bias cannot be totally eliminated.

Information bias can still be present because of differences in their native languages and level of understanding by the study participants.

RELEVANCE OF THE STUDY

Various factors play a role in the web of causation of depression and thus an in-depth knowledge about determinants of

depression would help to screen and treat the disease more appropriately. The present study is an attempt in a similar direction to find out the association of various determinants of depression among the elderly in urban slums.

SOURCE OF SUPPORT

Nil

CONFLICT OF INTEREST

Nil

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