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Research Article

Epidemiological study of socio demographic factors in relation to depression among the elderly people in a rural area of Chittoor district of Andhra Pradesh, India

Sharvanan Eshwaran Udayar *, Devi Vara Prasad

Department of Community Medicine, PES Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh, India

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***Correspondence:**
Dr. Sharvanan Eshwaran Udayar,
E-mail: saravananudayar83@gmail.com

ABSTRACT

Background: Population ageing is a major global demographic trend in the twenty-first century and is progressing at a rapid phase in developing countries. Depression is a common mental disorder in the old age and it continues to be an under-recognized and undertreated disorder particularly in rural areas. The main objective of the study was to assess the prevalence of depression among elderly persons living rural area and to determine the factors influencing it so that appropriate preventive measures can be recommended.
Methods: Community based cross sectional study was undertaken in of Chittoor District in Andhra Pradesh state. Data was collected regarding socio-demographic profile and depression by using a semi structured and pretested questionnaire & analyzed using SPSS software.
Results: Of the 451 subjects who participated in the study, the overall prevalence of depression among the studied population was 38.8%.Females with depression (47.5%) were more, compared to males (32%). Depression among 60-69 years age group people was more (44.5%) than remaining age groups. Depression was high among people who were alone like widowed, divorced, illiterate, poor socio economic status.
Conclusions: There is high prevalence of depression and is significantly associated with various socio demographic factors considered in the study.

Keywords: Population ageing, Depression, Elderly, Socio demographic factors

INTRODUCTION

Population ageing is the process which involves a rise in proportion of older persons in the total population and it is a major global demographic trend in the twenty-first century.[1] This process of population ageing, which started first in the developed regions, is progressing at a rapid phase in developing countries, including those with large youth populations.[2] It can be attributed to rise in life expectancy brought about by better nutrition, sanitation, health care, education and economic well-being etc.[1]

Currently in India 72 million people aged above 60 years are living and it is expected to reach 179 million in 2031 and further to 301 million in 2051.[3] Older person's contributions in care giving, volunteering, and passing cultural traditions to younger generations are invaluable. Yet, they have weak social support networks, lack income, and are subjected to discrimination and abuse. Chronic and degenerative diseases which are more common in old ages increase the risk of depression, which in turn has a negative impact on the course of medical illness.[4]

Depression is a common mental disorder in the old age that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration.[5] Reports show that the depression is the third leading cause of global disease burden, and will be the leading cause of disease burden by the year 2030. Though effective treatments are available, it continues to be an under-recognized and undertreated disorder as it is difficult to diagnose at primary health settings, among the elderly living in the rural areas in particular.[4] Hence with this background, the study was undertaken to assess the prevalence of depression among elderly persons living rural area and to determine the factors influencing it so that appropriate preventive measures can be recommended.

METHODS

Community based cross sectional study was undertaken for a period of six months (July-December 2014) in the villages of Ramakuppam Mandal of Chittoor District in Andhra Pradesh State. The sample size obtained by using the formula $4pq/d^2$ with 10% allowable error was 327 based on the study done in rural Andhra Pradesh, in which the overall prevalence of depression due to economic insecurity among old age was around 52.5%.[6] However , a desired sample of 533 elderly people was considered adequate for the study.

Multistage sampling design was used in the study. In the first stage the gram panchayaths in the Ramakuppam mandal were listed, out of 17 gram panchayaths three were selected randomly. Thus Manendram, Ramakuppam and Chaldiganipalli gram panchayaths were selected. The revenue villages in the each of the Gram panchayats were listed and two villages from each Gram panchayat were randomly selected. Athikuppam, Chinthakuppam from Manendram gram panchayaths and Mittapalli, Kempasamudram from Ramakuppam gram panchayat and Burugumakulapalli, Chaldiganapalli villages from Chaldiganipalli gram panchayats were included in the study. Approximately 75 individuals aged 60 years and above were selected from each village for the study by house to house visit. The first house on the left hand side was visited and subsequently the remaining households were followed by following the left hand method, until 75 individuals were interviewed. Only one individual from each household was included in the study. If any individual was not present at the time of first visit, a repeat visit was made to the house with prior information to the household members. Households were excluded when the elderly persons were not available even after three visits to the house.

Data was collected by using a semi structured and pretested questionnaire after obtaining informed consent from each participant explaining that the information will be kept confidential. All participants were assessed face to face and socio demographic data were obtained in the same interview. The modified BG Prasad scale was used to classify socioeconomic status.[7] Geriatric Depression Scale (GDS-15) was used to assess depression.[8] Scores of 0–4 were considered normal; 5–8 indicated mild depression; 9–11 moderate depression and 12–15 severe depression. Old age pension details like availing, reasons for not availing and economic dependency were included. Statistical analysis was performed using SPSS version 19. Approval for the study was obtained from the PESIMSR ethics committee.

RESULTS

Of the 451 subjects who participated in the study (Table 1), 253(56.1%) were males and 198(43.9%) were females. Majority of them fall under the age group of 60–69 years i.e. 319 people(70.7%), 113(25.1%) and 19(4.2%) people were of 70-79 years and 80-89 years respectively. 276(61.2%) people were married and remaining 175(38.8%) people were either widowed or unmarried or divorced. Illiterates constituted 54.1% i.e. 244 people and literates were 207(45.9%) in number. Considering their socio economic status, people included in Class I were 41(9.1%), Class II 93(20.6%), Class III 109(24.2%), Class IV 176(39%), and 32(7.1%) in Class V. Coming to their occupation, 379(84%) people were working and earning and 72(16%) were at home (not earning). People from nuclear type of family were 140(31%) in number, from joint family and three generation family, they were 190(42.2%) and 121(26.8%) respectively. 197(43.7%) people were consulted for decisions, while 254(56.3%) were not consulted.

The overall percentage of prevalence for depression among the studied population was 38.8%, of which, major share was by the people suffering from the mild form of depression (Table 2).With respect to the various socio demographic variants influencing the prevalence of depression among the studied population (Table 3), females with depression (47.5%) were more, compared to males (32.0%). Depression among 60-69 years age group people was more (44.5%) than remaining age groups. widowed/ unmarried/ divorced people with depression were more (46.3%) than married people with depression. Percentage of illiterates with depression (46.3%) was more compared to literates (30.0%). Depression was more common with people from lower socio economic status than with the upper class people. With regard to the occupation, working and earning people (38.0%) were less affected by depression compared to the people who were at home or not earning (43.1%). Depression among people from Nuclear family (49.3%) was more than in the people from other family types. Depression was more among the people who were not consulted for decisions (42.9%) than the people who were consulted.

Table 1: Various socio demographic factors considered for the study.

Variables	Number (n)	Percentage (%)
Age (years)		
60–69	142(44.5%)	177 (55.5%)
70-79	29 (25.7%)	84 (74.3%)
80-89	4 (21.1%)	15 (78.9%)
Sex		
Male	81 (32.0%)	172 (68.0%)
Female	94 (47.5%)	104 (52.5%)
Marital status		
Widowed/ unmarried/ divorced	81 (46.3%)	94 (53.7%)
Married	94 (34.1%)	182 (65.9%)
Educational Status		
Illiterates	113(46.3%)	131 (53.7%)
Literates	62 (30.0%)	145 (70.0%)
Socio-economic Status		
Class I	11 (26.8%)	30 (73.2%)
Class II	30 (32.3%)	63 (67.7%)
Class III	41 (37.6%)	68 (62.4%)
Class IV	74 (42.0%)	102 (58.0%)
Class V	19 (59.4%)	13 (40.6%)
Occupation		
Working and Earning	144(38.0%)	235 (62.0%)
At home (not earning)	31 (43.1%)	41 (56.9%)
Family Type		
Nuclear	69 (49.3%)	71 (50.7%)
Joint	64 (33.7%)	126 (66.3%)
Three Generation Family	42 (34.7%)	79 (65.3%)
Consulted for decisions		
Yes	66 (33.5%)	131 (66.5%)
No	109(42.9%)	145 (57.1%)

Table 2: Prevalence of depression in the Studied Population.

Depression as per GDS Score	Number (n)	Percentage %
Absent	276	61.2%
Mild	95	21.1%
Moderate	57	12.6%
Severe	23	5.1%

DISCUSSION

Prevalence of depression in the community samples of the elderly in India varied from 6% to 58% in various studies.[9-12] In the current study, the overall prevalence of depression among the elderly was found to be 38.8% which is comparable to the findings by Vishal J et al (47.9%) and Kumar R et al (54.3%).[10,11] Taking into account the various parameters included in the study, prevalence of depression is more among 60-69 years age group individuals, which can be explained by considering the 60 plus age as a transition period, where there is sudden loss of work, to which they are used to for many years.

Elderly females with depression were more compared to males, similar to the results in a study by Pracheth R et al in which percentage of females with depression was 31.39% while it was 25.93% among males.[3] These results were in contrary with the study done by Sandhya GI in which depression among females was 22.9% and in males it was 29.1%.[13] Though they render invaluable services in the family, females are always neglected part in the society, particularly in the rural areas. They are still neglected when they can't do these things due to

advancing age and this leads to depression which may also be associated with chronic illnesses, loss of spouse as life expectancy among males is less compared to females.[14]

Table 3: Association between depression and the socio demographic factors.

Variables	Depression Present n(%)	Depression Absent n(%)	χ2 value	p-value
Age (years)				
60–69	142 (44.5%)	177 (55.5%)	15.1	0.001
70-79	29 (25.7%)	84 (74.3%)		
80-89	4 (21.1%)	15 (78.9%)		
Sex				
Male	81 (32.0%)	172 (68.0%)	11.2	0.001
Female	94 (47.5%)	104 (52.5%)		
Marital status				
Widowed/ unmarried/divorced	81 (46.3%)	94 (53.7%)	8.3	0.004
Married	94 (34.1%)	182 (65.9%)		
Educational Status				
Illiterates	113 (46.3%)	131 (53.7%)	12.6	0.000
Literates	62 (30.0%)	145 (70.0%)		
Socio-economic Status				
Class I	11 (26.8%)	30 (73.2%)	10.4	0.03
Class II	30 (32.3%)	63 (67.7%)		
Class III	41 (37.6%)	68 (62.4%)		
Class IV	74 (42.0%)	102 (58.0%)		
Class V	19 (59.4%)	13 (40.6%)		
Occupation				
Working and Earning	144 (38.0%)	235 (62.0%)	0.65	0.41
At home (not earning)	31 (43.1%)	41 (56.9%)		
Family Type				
Nuclear	69 (49.3%)	71 (50.7%)	9.4	0.009
Joint	64 (33.7%)	126 (66.3%)		
Three Generation Family	42 (34.7%)	79 (65.3%)		
Consulted for decisions				
Yes	66 (33.5%)	131 (66.5%)	4.1	0.04
No	109 (42.9%)	145 (57.1%)		

Illiteracy and lower socio economic status also influenced the prevalence of depression as subjects with these backgrounds are most affected by depression compared to their counterparts. It can be explained in terms of knowledge and awareness to health and disease, and access to health services.

Depression was more among the people who were widowed or divorced, and living with nuclear families, which can be attributed to the loneliness that has a very bad effect on the mental health, leading to increased feeling of worthlessness, depression etc.

CONCLUSION

Present study shows higher depression rates among females, illiterates, those who are living alone, and people from low socio economic status. There is a statistically significant association of these factors with depression among the studied elderly population. As Population ageing is the current trend, Community based health education towards depression among the elderly is to be done because depression is presented as medically unexplained somatic symptoms or masked depression in majority of the cases. Also that, depression is cyclically related to chronic illness, and is heritable to some extent as suggested by some studies; screening campaigns for depression should be included in the national programs.[15]

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