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Original Research Article

Study of the morbidity profile including depression among the elderly in the rural area, East Bangalore

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ABSTRACT

Background: Old age is associated with diminished physiological reserve; so any physical illness, metabolically derangement or pharmacological challenge can worsen cognitive and physical function. The only way to minimize or avoid these will be to be on the lookout and have a proactive approach and assessment in every older patient irrespective of the presenting complaint. This study aimed to assess the socio-demographic profile and self reported morbidity pattern of the elderly population and to estimate the prevalence of depression among the elderly population using the geriatric depression scale.
Methods: A pre-designed, pretested and semi-structured questionnaire was used in the study. The data collection technique is by personal interview of the study subjects. A pre-designed, pretested and semi-structured questionnaire was used in the study. The data collection technique is by personal interview of the study subjects.
Results: In our study more women were under depression than the men. The most common physical morbidity among the elderly population was cataract (59.7%), followed by arthritis (57.1%), non- specific body pains (40.1%) and hypertension (39%).
Conclusions: Prevalence of depression among the elderly population is reported to be high (84.3%) in this study. Multi morbidity, socio economic factors and financial dependence were factors associated with depression in elderly.

Keywords: Chronic morbidity conditions, Depression, Geriatric population, Socio economic status

INTRODUCTION

Over the last few decades the standard of living in India has improved a lot which has led to the increase in life expectancy further leading to the increase in the proportion of the ageing population. The geriatric elderly population has increased from 5.5% in 1961 to 8.5% in 2011 and it has been estimated that it will increase to 12% by 2025.[1] It has been estimated that India has the 2nd largest population of elders in the world. It has also been predicted that by 2050 the population of elders in India would have reached about 19% of the total population.[2,3]

In a developing country like India the health services are not distributed evenly and further the healthcare services provided to the elderly is of poor quality as they are the most neglected population. India's rural population constitutes two thirds of its total population; three fourths of Indian elders live in rural areas (NSSO, 2006).[3]

Old age is associated with diminished physiological reserve, so any physical illness, metabolically derangement or pharmacological challenge can worsen cognitive and physical function. With early preventions, the morbidity will be less and this will lead to decrease in the medical expenditure of the family and the community.

To make any policy, a detailed picture of the prevalence of these morbidities should be known. India's greatest concern is how to provide adequate health care and income security for its huge elderly population, especially the uneducated rural poor.[4]

With increasing age, the social isolation is said to increase proportionally, further increasing their susceptibility to mental illnesses like depression. Depression is a problem among the elderly which is either under diagnosed or not treated at all. Almost 15% of the elderly population suffers from depression.[5]

This study aimed to assess the socio-demographic profile and self-reported morbidity pattern (hypertension, diabetes mellitus, skin disorders, cataract and arthritis) of the elderly population in the rural area, East Bangalore. Also, to estimate the prevalence of depression among the elderly population using the geriatric depression scale in the rural area, East Bangalore.

METHODS

The study was a community based cross-sectional study was done in the rural area of East Bangalore (Jadigenahalli Primary Health Centre area) which has 28 villages with a population of 26,143 in months of January 2019 to January 2020. The study population included the elders who are 60 years and above and who were willing to participate in the study. Those who are very sick and not able to answer and do not have anyone willing to answer for them were excluded from study.

Sample size was calculated using the prevalence of depression (40%) among elders in the study by Sahna et al with 95% confidence interval and 15% margin of error.[6] Using the formula: 1.96*1.96pq/d*d, the sample size arrived was 567. The present study included a sample of 600. Probability Proportional to Size (PPS) technique will be used to identify the study subjects. The required sample size of 600 will be divided among the 6 sub centres based on the population of each sub center. In each sub centre, one village will be randomly chosen from a list of all the villages. In the selected village, the streets will be numbered starting from the center of the village. On the selected street, all the houses will be covered, enlisting all geriatric individuals in the house at the time of the visit. The process will be continued till the required sample size under the sub center is achieved. If the required number of study subjects are not available on this street, the nearest adjacent street will be considered.

Data will be collected by using pretested and semi-structured proforma. The interview schedule consists of socio demographic profile, illness related questions, and Geriatric Depression Scale. The scale consists of 15 questions with yes/ no answers and each "no" indicates one point. Score of more than 5 indicates depression. The collected data will be entered in MS excel spreadsheet (version 2013) after coding. It will be further processed and analyzed using Open Epi statistical software. Data will be expressed as percentages and proportions and chi-square test will be used to explore association of socioeconomic factors with morbidities. A p value of <0.05 and <0.001 are considered as significant and highly significant respectively. Study participants were explained about the purpose of the study and after obtaining informed written consent, data was collected. Confidentiality of the patient was maintained.

RESULTS

The sociodemographic characteristics of the respondents. 89.3% of the elderly population belonged to the age group of 60-75 years. There was a male preponderance (55.3%) noted. 85% belonged to upper lower socio-economic status. Most of them (88.5%) were financially dependent on their family members. Even after the age of 60 yrs 43.3% of them were still working and most of them were into agriculture. 88.5% were financially dependent on their family members (Table 1).

The most common physical morbidity among the elderly population was cataract (59.7%), followed by arthritis (57.1%), non-specific body pains (40.1%) and hypertension (39%). In the male population, the comorbidities reported were most commonly related to respiratory system (64.1%). In the female population, arthritis (63%) was the most commonly reported physical morbidity (Table 2).

Table 1: Socio demographic profile of the elderly population (n=600).

Sociodemographic profile		Total (%)
Age in years	60-75	536 (89.3)
	>76	64 (10.7)
Sex	Male	332 (55.3)
	Female	268 (44.7)
Religion	Hindu	570 (95)
	Muslim	24 (4)
	Christian	6 (1)
Education	Illiterate	60 (10)
	Primary	186 (31)
	Middle	312 (52)

Continued.

Sociodemographic profile		Total (%)
	High school	36 (6)
	PUC	6 (1)
Marital status	Married	281 (46.8)
	Unmarried	0 (0)
	Widow	148 (24.7)
	Widower	168 (28)
	Divorced	3 (0.5)
Socioeconomic status	Upper class	0 (0)
	Upper middle	6 (1)
	Lower middle	36 (6)
	Upper lower	510 (85)
	Lower class	48 (8)
Occupation Present	Not working	340 (56.7)
	Agriculture	228 (38)
	Other working	32 (5.3)
Indira Gandhi national old age pension scheme	Not receiving	567 (94.5)
	Receiving	33 (5.5)
Financial dependency	Dependent	531 (88.5)
	Independent	69 (11.5)
Physical activity	Yes	92 (15.3)
	No	508 (84.7)
Personal profile current	Current tobacco use (smoking or chewing)	173 (28.7)
	Current alcohol use	101 (16.8)

Table 2: Gender wise distribution of physical morbidity pattern in the elderly population (n=600).

Morbidity pattern	Male (n=332) (%)	Female (n=268) (%)	Total (n=600) (%)
Respiratory	41 (64.1)	23 (35.9)	64 (10.6)
Hypertension	113 (48.2)	121 (51.8)	234 (39)
Diabetes	68 (39.1)	106 (60.9)	175 (29.1)
Stroke	8 (40)	12 (60)	20 (3.3)
Heart related diseases	8 (50)	8 (50)	16 (2.66)
Cataract	172 (48)	186 (52)	358 (59.7)
Skin diseases	59 (57.2)	44 (42.8)	103 (16.7)
Deafness	38 (54.2)	32 (45.8)	70 (11.67)
Gastritis	46 (59.7)	31 (40.3)	77 (12.8)
Arthritis	127 (37)	216 (63)	343 (57.1)
Deafness	34 (45.3)	41 (54.7)	75 (12.5)
Cough	38 (61.2)	24 (38.8)	62 (10.3)
Weakness	74 (62.1)	45 (37.9)	119 (19.8)
Mass per vagina	0 (0)	20 (100)	20 (3.3)
Loss of appetite	81 (58.2)	58 (41.8)	139 (23.1)
Body pain	115 (47.7)	126 (52.3)	241 (40.1)

Table 3: Association between socio-demographic variables and physical comorbidity with depression in the elderly.

Variables	Depression (%)		P value
	Yes	No	
Gender			
Male	259 (78)	73 (22)	0.0001*
Female	247 (92)	21 (8)	
Age			
60-75 years	445 (83)	91 (17)	0.01*
>76 years	61 (95)	3 (5)	
Comorbidity			0.0001*

Continued.

Variables	Depression (%)		P value
	Yes	No	
Single physical comorbidity	69 (55)	57 (45)	
Multiple physical comorbidities	361 (96)	16 (4)	

The depression identified in elderly population in this study was 84.3%. Women (92%) were more depressed than the men (78%) (Figure 1).

The depression was more among the age group greater than 76 years than the age group of 60-76years. The geriatrics with more comorbidities were more depressed than those with less comorbidities (96%) and (55%) respectively (Table 3).

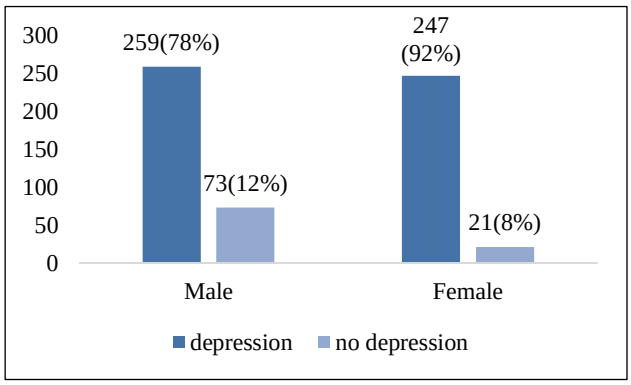

Figure 1: Showing prevalence of depression among male and female elderly population (n=600).

DISCUSSION

In present study, depression observed among elderly was found to be 84.3%.it was higher compared to be study done by Sahni et al where it was 40%.[6] Even after the age of 60 yrs 43.3% of them were still working because of their need for finance and most of them were into agriculture. 85% of the senior citizens were dependent on their family members financially. About 75.8% of the respondents reported that they were either partially or completely financially dependent on someone else**.** This finding was supported by a study done by Hwang et al, socioeconomic factors play an important role in late life depression.[7] Deterioration in financial status is among the most frequently-endorsed stressful life events experienced by older adults by Fiske et al.[8] Older adults who are economically disadvantaged are more likely to experience persistent depressive symptoms by Mojtabai et al, consistent with the chronic nature of the stressors associated with low income, including financial strain and exposure to unsafe and unstable environments.[9] Practical issues such as these may also complicate treatment for those low-income older adults who are depressed by Areán et al.[10]

Ashe et al also states that independent risk factors of severe depression by multiple logistic regression analysis were low socio-economic class, female gender, diabetes mellitus, hypertension, death in family members, conflicts in family and chronic illness in family members.[11]

In our study among the geriatric age group more women than men were depressed. In a similar study by Sonnenber and SeoYeon Hwang et al prevalence of depression was high in women when compared to the males.[7]

Those with multimorbidity had a higher risk of depression than those without chronic conditions. Similar finding was also noted in studies conducted by Kumar et al and Hwang et al studies.[12]

In present study, higher age group, co morbidities and financial were found to be important factors associated with depression. Similar finding was observed in study done by Bincy et al where older adults above 80 years, female sex, widow, living with children, lack of family support and physically dependent were associated with depression among older adults. Additional to this, people with diabetes also associated with the depression.[13]

CONCLUSION

Prevalence of depression among the elderly population is reported to be high in this study. Screening the elderly for depression at the primary care level helps in early detection of depression. Geriatric care should become a part of primary health care. Regular screening and information, education, and communication activities need to be provided early in life for ensuring healthy aging. This suggests the need for community-based interventions for effective management of older adults with chronic diseases.

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