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PREVALENCE OF DEPRESSION AMONG ELDERLY POPULATION 60 YEARS AND ABOVE IN URBAN AREA – CHIDAMBARAM

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ABSTRACT

Mental disorders have got higher prevalence and low priority in most of the countries around the world, of which depression among the elderly population being the most common treatable medical condition. The present study was undertaken to find out the prevalence of depression among elderly population and to find out the association of depression with socio-psychological variable. Cross-sectional study was carried out in urban area Chidambaram. Sample size was calculated as 207, after conducting pilot study, which showed prevalence rate of 65%. Geriatric depression scale was used to find out depression among elderly. Analysis was done by Pearson Chi-Square test and logistic regression method. Total 2663 population were surveyed out of which 8.6% of the population were ≥60 years. 211 respondents were included in the study and 62.6% of them were found to have depression with 71.2% moderate and 28.78% severe depression. Statistically significant association was found between depression and socio-psychological variables like age, sex, marital status, living arrangement (staying with) and significant life events. Prevalence of depressive disorder is high but are under-recognized and often untreated.

Key words: Elderly; Mental health; Depression.

INTRODUCTION

Ageing is a natural process and should be regarded as a normal, inevitable biological phenomenon. As life expectancy at every age increases, the absolute number and proportionate number in total population of a country of elderly is increasing.

In the year 2002, there were an estimated 605 million old persons in the world of which 400 million are living in low income countries [1]. Italy and Japan have the highest proportion of older persons (16.7% &16% respectively in 2003). By 2025, the number of elderly population is expected to rise more than 1.2billion with about 840 million of them in low-income countries [2]. In India, although the percentage of aged persons to the total population is low in comparison to the developed countries, the absolute size of aged population is considerable.According to 2011 census 8.57% (8.20% males and 8.99% females) of the total population were ≥60 years. The Indian elderly population is currently the second largest in the world [3].Mental disorders have got high prevalence and low priority in most of the countries around the world, of which depression among the elderly

population being the most common treatable medical condition and is the most frequent cause of emotional distress. Depression is likely to increase in number due to increase in life expectancy, rapidly changing social and physical environment that gives rise to psychological stress, breaking of traditional protective measures, increase in morbidity due to chronic non communicable disease and increase in medicaments and alcohol. Various studies have reported prevalence rates ranging from 25 -50%. Depression may accompany a chronic illness or a condition that causes pain & suffering.Depression among the elderly population further complicates the existing morbidity conditions such as diabetes, hypertension, and cerebrovascular accidents. It decreases the quality-of-life, functional ability, increases the mortality, and health care utilization [4]. Majority of depressive disorders remains undiagnosed and untreated because of a wrong belief that it is a part of ageing and a social stigma. With this background this study was conducted with the following objectives 1) To find out the prevalence of depression among elderly aged ≥ 60 years 2) To find out the

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association of depression with socio-psychological variables.

MATERIALS AND METHODS

The community based cross-sectional study was conducted in urban field practice area of Chidambaram during August 2013 to April 2014.

Determination of Sample Size

A review of international studies suggested a prevalence range of 10.1% - 46.2% [5,6]. Studies in India indicated a prevalence range of 6%- 52.2% [7,8]. Because of wide range, the prevalence of depression among elderly was assessed by a pilot study among individuals aged 60yrs and above in Chidambaram. The prevalence of depression assessed in the pilot study was 65%. This prevalence has been used in the calculation of the sample size.

Sample size is calculated by,

Sample Size (n) $= \dfrac{(1-P)Z^2_{1-\alpha/L}}{\varepsilon^2 P}$

Where, P=Proportion(65%), ε = Relative precision, $Z^2_{1-\alpha/L}$ = 95% C.I

Hence, the sample is 210 subjects for the study. From the 2011 census figures, the geriatric population is 8.6%. To have a sample of 210 persons of age 60 years and above, the general population to be covered is (210×100/8.6 = 2442). The study variables were age, sex, level of education, occupational status, annual family income, marital status, living arrangement and significant life events like financial loss, loss of spouse or other close family members. The data was collected with the pre-tested proforma. Depression was assessed using GDS 15 [1].

Data Analysis

Data was entered in Microsoft Excel and analyzed using SPSS Software. Appropriate tests of significance were used wherever necessary. Chi-square test and multiple logistic regression method were used for qualitative data. Vancouver style was used in writing Bibliography.

RESULTS

Out of total population surveyed (2663) from 586 house holds 8.6% (230) were ≥ 60 years. Out of 211 study subjects majority were in the age group of 60-69 years. 52.1% of the elderly were males and 47.9% females. 45.5% of respondents were illiterates. Majority were economically dependent (79.1%). Majority of the females were widows (55.44) and were staying with their children. 89.5% of elderly were not having any difficulty to carry out their daily activities. 37% of the respondents had significant life events during the past 5 years like separation of family members (17.53%), loss of spouse (12.32%), financial loss and loss of son/daughter each (4.26%).

Table 1. Prevalence of depression according to socio-psychological characteristics

Socio-psychological characteristics	Depression				Chi-square	P value
	Present		Absent			
	No	%	No	%		
Age						
60-64	40	61.5	25	38.5	2.861	0.413
65-69	39	61.9	24	38.1		
70-74	29	56.9	22	43.1		
≥75	24	75	8	31.6		
Sex						
Male	61	55.5	49	44.5	4.952	0.026
Female	71	70.3	30	29.7		
Marital status						
Married	70	54.7	58	45.3	8.608	0.003
Widow/er/single	62	74.7	21	25.3		
Staying with						
Spouse & children	30	48.4	32	51.6	13.554	0.019
Spouse only	17	70.8	7	29.2		
With children	40	72.7	15	27.3		
With in laws/ relatives	5	50	5	50		
Joint family	29	60.4	19	39.6		
Alone	11	91.7	1	8.3		
Annual family income						
<21000	41	64.1	23	35.9	1.980	0.739
21,001-62,500	50	62.5	30	37.5		

62,501-1,04,500	16	72.7	6	27.3		
1,04,501-1,56,000	11	55	9	45		
>1,56,000	14	56	11	44		
Significant life events						
Absent	67	50.4	66	49.6	22.800	0.000
Present	65	83.3	13	16.7		
Physical illness						
Absent	46	56.1	36	43.9	2.391	0.122
Present	86	66.7	43	33.3		
Marital status of children						
No unmarried child	113	61.1	72	38.9	1.401	0.237
With unmarried child	19	73.1	7	26.9		

Table 2. Association between depression and socio-psychological factors by multiple logistic regression.

Variables	B Coefficient	Sig. p value	Exp(B) Odds ratio	95% C.I.for EXP(B)	
				Lower	Upper
Age					
60-64	-	-	-	-	-
65-69	.428	.337	1.534	.640	3.676
70-74	.124	.804	1.132	.424	3.023
≥75	1.222	.048	3.392	1.012	11.374
Sex					
Male	-	-	-	-	-
Female	.710	.042	2.034	1.144	4.478
Marital status					
Married	-	-	-	-	-
Widow/er/single	1.253	.216	3.500	.482	25.444
Annual family income					
<21000	-	-	-	-	-
21001-62500	.606	.170	1.833	.771	4.358
62501-104500	1.181	.073	3.259	.894	11.881
104501-156000	-.158	.807	.854	.241	3.033
>156000	.182	.767	1.199	.361	3.981
Staying with					
Spouse & children	-	-	-	-	-
Spouse only	.544	.411	1.722	.471	6.292
With children	-.736	.490	.479	.059	3.874
With in laws/ relatives	-1.925	.115	.146	.013	1.595
Joint family	-.003	.995	.997	.407	2.444
Alone	.450	.773	1.568	.074	33.337
Physical illness					
Absent	-	-	-	-	-
Present	.309	.375	1.362	.689	2.692
Marital status of children					
No unmarried child	-	-	-	-	-
With unmarried child	.656	.289	1.926	.573	6.471
Significant life events					
Absent	-	-	-	-	-
present	1.400	.001	4.057	1.725	9.538

Prevalence of depression was found to be 62.6% with 71.2% moderate and 28.78% severe depression. Table no.1 shows the association of depression with various socio-psychological characteristics. Depression was found to be more among female respondents (70.3%) than among male respondents (55.5%). The difference was found to be statistically significant (p=0.026). Marital status of the respondents and depression were found to be statistically significant (p=0.003). Depression was found to be significantly high among widow/er (74.7%) than those who were currently married (54.7%). The results have indicated that the respondents who were living alone have had relatively more depression (91.7%) as compared to other groups and the difference was found to be statistically significant (p=0.019). Depression and significant life events were found to be statistically significant (p=0.000). Those who had significant life events were more depressed (83.3%) than others (50.4%).Age $\geq$ 75 years, female sex and significant psychosocial factors due to life events occurred during past five years are found to be the significant independent predictors of depression as shown in multiple logistic regression analysis (Table no.2).

DISCUSSION

This study has been conducted with 211 subjects from urban area Chidambaram. The study population comprise of 110 males and 101 females. The prevalence of depression was found to be 62.6% among this study population (71.2% moderate and 28.78% severe depression). Nandi et al studied that the total mental morbidity rate was as high as 621 per 1000 population. Depression was the commonest illness of old age in this sample, the rate being 522/1000 population [8].

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% [8-10].

Depression was found to be increasing as age increases. Age $\geq$75 years was identified as a significant independent predictor of depression in this study. Similar finding was observed in a study conducted by Gautam R *et al.*, Gautam R *et al.*, in their study in Nepal, have showed

depression was significantly more severe with increasing age (p<0.001 [11]. In contrast to this, there was no significant association with age according to a study by Wijeratne M *et al.*, [12].

Higher prevalence of depression was seen in females (70.3%) and was statistically significant. Similar finding were observed in studies done by Gupta et al, the overall prevalence of depression was 28%, with a higher prevalence among females (33.33%) as compared to males (22.7%) [13]. In contrast to this Taqui A M *et al.*, found prevalence of depression more among males (78%) [14].

This study revealed more depression among widows/er/single (74.7%) compared to currently married elderly. Those who were living alone had relatively more depression (91.7%). A statistically significant association was found between depression and marital status. Similar findings were seen in the following studies. Taqui A M *et al.*, pointed out depression is prevalent among nuclear family system, female sex, being single or divorced/widowed, unemployment and having a low level of education. The elderly living in a nuclear family system were 4.3 times more likely to suffer from depression than those living in a joint family system (AOR = 4.3 [95% CI = 2.4–7.6]) [14]. Gupta *et al.*, observed that, Depression was more prevalent in rural vs urban population (33.3% vs 25.2%), illiterate vs literate (34% vs 24%), those living without spouse (33.3% vs 26%), non-pensioners vs pensioners (31.6% vs 23%) [13]. Since this study was done in urban area comparison between rural and urban could not be elicited.

Significant life events during past five years such as, loss of spouse or children and financial loss was found to be associated with depression (83.3%) in this study.

CONCLUSION

Depression is not a normal part of ageing. As it is often undiagnosed and untreated in the elderly, depression causes needless suffering for the individual and for the family. Elderly people with untreated depression are more likely to have worse outcome from other conditions like hypertension, diabetes mellitus and heart diseases.

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