

## A Study to Assess Depression among Caregivers of Persons Suffering From Dementia

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**Abstract:** The study was conducted at the outpatient department of Sree Balaji Medical College and Hospital, Chennai with the objective to assess prevalence and severity of depression among the caregiver of persons with dementia. In this study, 41 elderly persons suffering from Dementia who fulfilled the criteria of ICD-10; along with their caregivers were recruited. Caregivers of persons with severe dementia suffer from severe depression than caregivers of persons suffering from mild dementia. The mean age of caregiver is 59.12(sd 10.35). Majority of caregivers were full time caregivers (75.5%), men (53.7%), married (82.9%). This study highlights the need for treatment of both the persons suffering from dementia and their caregivers.

**Keywords:** Depression, Caregiver, Dementia.

### INTRODUCTION

#### Definition

Dementia is a syndrome due to disease of brain, usually of a chronic or progressive nature in which there is disturbance of multiple cortical functions, including memory, thinking, orientation, comprehension, and calculations, learning capacity, language and judgement. Consciousness is not clouded. Impairments of cognitive function are commonly accompanied and occasionally preceded by deterioration in emotional control, motivation or social behaviour (ICD, 2007). In DSM 5, Dementia is subsumed under Major Neuro cognitive disorder. Although dementia becomes more common among elderly individuals, most aged persons do not exhibit dementia syndromes.

### Dementia in India

India is one of the largest countries in the world with a marked increase in number of elderly individuals. WHO studies indicate that in 1975 there were 23,750,000 people over the age of 65 in India; by 2025 it will reach 108 million [1]. Rajkumar and colleagues [2] investigated the prevalence of dementia in a rural population near Chennai and found an overall prevalence rate among those aged 60 and over 3.5%. Study of Dementia in urban population in Chennai by Thara *et al.* [3] showed prevalence as 2.7%.

### Impact of Dementia on patient and family

Dementia progresses from a mild syndrome to increasingly severe impairment and eventually causes the death of victim. Throughout the process, the demands on family changes and increase. Alzheimer's disease and stroke related dementia account for a majority of cases of dementia.

Individuals suffering from Alzheimer's dementia have progressive cognitive decline, a high risk of evidencing behavioural changes, progressive loss of ability to perform daily functions. Individuals with Alzheimer's dementia have progressive cognitive decline, behavioural changes, and progressive loss of ability to perform daily functions. Dementia of vascular origin is the second most common type with abrupt onset within three months of a stroke and progresses in a step wise decline. Around 20-30 % of those with Parkinson's disease develop dementia. Fronto temporal dementia (FTD) encompasses a heterogeneous group of progressive neurodegenerative syndromes. In FTD, social misconduct, passivity and loss of executive function have been found to be common early symptoms.

Comparative studies between Fronto Temporal Dementia and Alzheimer's Dementia family caregivers

suggest that FTD caregivers experience higher levels of burden and distress [4]. According to Moishi *et al.* [5], found that levels of depression for FTD caregivers were twice that of adult caregivers, even after controlling for caregiver age and length of symptoms.

Caring for an elderly person with dementia is a major life challenge and it entails emotional, physical, social, and financial burden [6]. It has been described as one of the most difficult situations encountered by caregivers [7].

Caregivers of dementia patients can experience various emotional problems during the course of illness [8]. It has been documented that family caregivers of persons with dementia have significantly more depressive symptoms than age and gender matched non caregivers [9]. Studies in the developing world have confirmed the impact upon family caregivers [10]. Female caregivers of dementia patients were found to have more depression and poorer quality of life than their male counterparts [19].

#### **Depression of caregivers**

Caregiver's depression is a complex interplay of medical, social and economic factors. Patient behaviour such as anger and aggressiveness influence caregiver depression and these behavioural manifestations of dementia may be more influential than the degree of cognitive impairment [11]. Prevalence rates for depressive symptoms among caregivers of persons with dementia are reported to range from 28 to 55% [12].

Caregivers depression may increase with severity of illness [13] in particular increased behavioural, cognitive and functional problems displayed by persons with dementia have been identified as the key predictors for depression. Caregiver characteristics that predicted depression included low levels of financial resources or income, the relationship to the patient, more hours spent caregiving and poor caregiving functional status [14].

Both male and female spouses had high levels of depression but among adult children, levels of depression were higher among daughters than sons [15]. Depression affects different people on different ways and at different times.

#### **AIM AND OBJECTIVES**

This study was undertaken with the objective to assess prevalence and severity of depression among the caregiver of persons with dementia.

## **MATERIALS & METHODS**

### **Sample size, sampling methods**

The study was conducted at the outpatient department of Sree Balaji Medical College and Hospital, Chennai. 41 elderly persons suffering from Dementia along with their caregivers were recruited from outpatient department of Sree Balaji Medical College and Hospital, Chennai.

### **Inclusion criteria**

For patients, diagnosis of dementia according to ICD 10, duration of illness for a minimum period of 6 months, age group above 60 years should be present. For caregivers, consenting adult, and the person should have stayed with the patient for at least one year.

### **Exclusion criteria**

Persons with presence of any severe mental illness and presence of any substance abuse or dependence except that of tobacco were excluded from the study.

### **Assessment**

Following assessment instruments were used:

- International classification of diseases volume 10, diagnostics criteria for research (ICD 10 DCR)
- Socio demographic data – semi structured interviews developed especially for this study
- Mini-mental status examination (MMSE)
- Hamilton Depression Rating Scale (HAM-D) for the caregiver group

## **RESULTS**

### **Persons suffering from dementia**

The age of persons with dementia ranged from 63 to 83 and the mean was 69.8. Of the total sample 68.3% were women and 31.7% were men. 65.9% came directly to psychiatry, 34.1% were referred from other departments both outpatient and inpatient. Hindus constituted 65.9% of sample, Christians and Muslims were 17.1 % each, 39 % belong to nuclear family type and 59% joint family type. Of the total sample 58% were married and 39% were widowed. 75.6 % had completed high school and 24.4% did not complete high school. 9.8% depend upon pensions for their source of income, 36% from savings, 22% income from other sources, 24% depend on children, 7.3% dependence on others.

### **Clinical variables of person suffering from dementia**

On studying history of comorbid physical illness in patients suffering from dementia, 37.5% have comorbid Diabetes mellitus, 34.1% hypertension, 40% have osteoarthritis, 4% have respiratory distress, 10% sustained fractures in the past, and 7% had history of cerebrovascular accident in the past. 17% of total sample have family history of depression. On screening with Mini Mental Status Examination, scores ranged

from 5 to 24 with mean of 15.9 (sd 4.9). Mean duration of illness of =dementia is 2.21 years (sd 1.33). The mean duration of treatment for dementia is 1.70 years (sd 1.11).

**Type of Dementia**

Of the subtypes of Dementia in study sample, 63.4% had Alzheimer’s dementia, 22% vascular dementia, 12.2% Parkinson with dementia and 2.4% others (Post head injury Dementia). Of the sample size of patients suffering from Dementia 63.4% has history of behavioural and psychological symptoms of Dementia.

**Caregiver sample characteristics - demographics**

The age of caregivers ranged from 42 to 76. The mean age of the caregiver is 59.12 (sd 10.35). Of the caregivers sample 46.3% were women and 53.7% were men. In the total sample 2.4% were unmarried, 82.9% married and 14.6% widowed.

48.8% of the caregivers were spouses, while 19.5% were daughters, 27% were sons and 9.8% were daughters in law. The mean age of spouse is 69.22 (sd 5.3). Of the caregivers 2.4% were illiterate, 9.8% had completed primary education, 17.1% had completed middle school education, 24.4% had completed high school, 19.5% had completed intermediate or post high school diploma, 17.1% had graduated and 9.8% are

postgraduates. Of the caregivers occupation 12.2% were professionals, 48.8% are skilled workers, 39% were housewives. 75.5% of them are full time caregiver to the patient and 24.4% of them are part-time caregiver. 58.5% of the caregiver study sample has time for religious activities.

**Clinical variables of caregiver**

20% of them have a past history of depression. On studying history of comorbid physical illness in the caregivers 43.9% have comorbid diabetes mellitus, 26% have hypertension and 24.3% have osteoarthritis.

**Depression among caregivers of people suffering from dementia**

Severity of depression was assessed using Hamilton Depression Rating Scale which contained 21 items. Scores ranged from 9 to 32 with a mean of 20.34 (sd 7.42). Based on the scores, 31.7% had mild depression, 14.6% had moderate depression and 53.7% had severe depression.

**Correlation between caregiver age and depression**

Caregivers whose age is above 60 years are severely depressed compared to the caregivers who are below 60 years based on the HAM D scores.

Moderate to severe depression is common in males (63.2%) compared to females (45%) (Table-1).

**Table-1: Correlation between caregiver sex and depression among the caregivers**

	HAM-D		
	Mild	Moderate	Severe
Male	26.3%	10.5%	63.2%
Female	36.4%	18.2%	45.5%

**Correlation between caregiver marital status and depression of the caregiver**

There was no correlation between the marital status of the caregiver and depression of the caregiver.

**Table-2: Correlation between caregiver relationship with patient and Depression**

	HAM-D		
	Mild	Moderate	Severe
Spouse	45%	0%	55%
Son	33.3%	44.4%	22.2%
Daughter	0%	12.5%	87.5%
Daughter in law	25%	25%	50%
Pearson chi square	0.01		

According to study, poor quality of life is seen in spouses and daughters. Daughters are perceived to have more depression compared to the sons.

**Table-3: Correlation between past histories of physical illness of patient to the depression among aregivers**

Physical illness	HAM-D		
	Mild	Moderate	Severe
NO	41.2%	23.5%	35.3%
YES	31.7%	14.6%	53.7%
Pearson Chi square	0.08		

Positive correlation is found between the comorbid physical illnesses of the caregiver to the depression among the caregiver.

Moderate to severe depression is more common in persons who are full time caregivers to patients. 64.5% of caregivers had severe depression that was full time and 20% of caregivers had severe depression who was part time caregiving.

**Correlation between HAM D of caregiver and caregiving time spent with the patient**

**Table-4: Correlation between behavioural and psychological problems of dementia patients with caregiver depression**

BPSD	HAM-D		
	Mild	Moderate	Severe
YES	0%	15.4%	84.6%
NO	86.7%	13.3%	0%
Pearson Chi square	0.00		

Depression in caregivers of the patients suffering from behavioural and psychological problems

of dementia suffers from severe depression compared to caregivers of patients without BPSD.

**Table-5: Correlation between the caregiver depressions to severity of Dementia**

MMSE	HAM-D		
	Mild	Moderate	Severe
Mild	100%	0%	0%
Moderate	20%	24%	56%
Severe	0%	0%	100%
Pearson Chi Square	0.00		

Severity of dementia was diagnosed by clinical diagnosis or ICD 10. Care givers of persons suffering from severe dementia showed severe depression compared to the mild dementia patient caregivers.

positively correlated with severity of depression in caregivers of persons suffering from dementia showing that; severe dementia in the patient is correlated with moderate to severe depression compared to caregivers who are mild to moderate depressed. This shows that as the cognitive ability declines the patient becomes more and more dependent on caregivers for his daily activities and behavioural problems are also bound to be more in these cases. Hence the caregiver has to supervise more and more as the patient does not perform daily activities of living and it will definitely place more stress on the caregiver leading to severe depression in the caregiver and they have no time for religious activities. According to McCusker Bellavance & Baumgarten study [16] as dementia progresses caregivers give up activities to provide more time for care giving, friends, family and others associated may withdraw from these caregivers hence leading to depression.

In the study sample, caregivers of the persons suffering from severe dementia have no time for religious activities compared to the caregivers of the mild and moderate dementia persons. 75% caregivers of persons suffering from severe dementia had no time for religious activities. There is a positive correlation between the duration of dementia illness of patient to the caregiver depression.

**DISCUSSIONS**

The higher age of the persons suffering from dementia, the caregivers taking care of the patient have increased responsibility and so they are at risk of having severe depression. According to Eagles *et al.* study, the cognitive and functional decline of dementia patients has a great impact on the caregiver depression.

A study by Wig *et al.* [19] proposed that female key caregivers of dementia patients have more depression compared to their male counterparts. In this study the same results were found showing that

The severity of dementia in patients was diagnosed by clinical diagnosis or ICD-10. It is

daughters are more severely depressed than sons who are taking care of their demented patients. There is no correlation between marital status and the caregiver depression. According to Covinsky KE *et al.* study [17], caregivers with poorer health are at high risk of depression. In this study, there is a positive correlation between depression and presence of comorbid physical illness in them compare to those who do not have it.

There is a positive correlation between depression of caregiver of persons suffering from dementia and behavioural and psychological problems in the dementia patients. Severe depression is common among caregivers of patients who have dementia with BPSD compared to caregivers of persons suffering from dementia without BPSD. According to study by Eagles *et al* and Leon *et al*, behavioural and psychological problems displayed by persons with dementia have been identified as key predictors for depression among caregivers.

Positive correlation is seen between times spent by caregiver with patient to the severity of depression among caregivers. Full time caregivers have moderate to severe depression. In this study, there is a positive correlation between comorbid physical illness like diabetes mellitus, hypertension, osteoarthritis and respiratory distress in patients with dementia and depression of caregivers. There is a strong association found between caregiver depressions in persons suffering from Parkinson's dementia than patients suffering from Alzheimer's dementia.

According to study by Vellone E, Piras G [18] caregivers of poor socioeconomic status have severe depression, but in this study there is no correlation between family incomes to caregiver depression. According to study by Piercy KW fewer depressive symptoms in caregivers with higher levels of education, but in this study there is no correlation between education status and depression.

Severity of depression of caregivers would affect the care given by them to persons suffering from dementia. This will further increase cognitive as well as behavioural problems of patient thus a vicious cycle. Hence persons suffering from dementia along with their relatives have to consider as a unit and treatment should not only focus on the patients but also on their caregivers. Application of recent advances in medical therapies and treatment of behavioural problems along with counselling the caregivers manage the patients would go a long way in reducing the stress.

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