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PREVALENCE OF DEPRESSIVE SYMPTOMS AMONG PRIMARY CAREGIVERS OF PATIENTS WITH MAJOR NEUROCOGNITIVE DISORDER – A CROSS SECTIONAL STUDY

Psychiatry

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ABSTRACT

Background: Major Neurocognitive Disorder describes a disease process marked by progressive cognitive impairment. Major Neurocognitive disorder is one of the major causes of disability and dependency worldwide. Caregivers are vulnerable to stress and other adverse effects. The stressful experiences through which they are passing each day can affect their physical and psychological health. **Objectives:** The study primarily aims to estimate the prevalence of depressive symptoms in primary caregivers of patients with Major Neurocognitive Disorder. The study also estimates correlation of depressive symptoms with perceived stress and association of Depressive symptoms with various sociodemographic and clinical variables. **Methods:** A hospital based cross sectional study was carried out among 110 adult patients from Psychiatry and Medical neurology OPD and IPD, Government Medical College Thiruvananthapuram. Caregivers were assessed for depressive symptoms by using PHQ 9, Perceived stress was assessed by PSS 10 scale. By using Chi-square test association between sociodemographic and clinical variables were found out, and Pearson correlation test was used to assess the correlation between stress and depressive symptoms **Results**: The prevalence of depressive symptoms among primary caregivers of patients with Major Neurocognitive Disorder is 72.9% and 36.9% primary caregivers had clinical depression. The study showed positive correlation of depressive symptoms with stress. **Conclusion**: Prevalence of depressive symptoms and clinical depression is high in primary caregivers of patients with Major Neurocognitive Disorder. Hence it is mandatory to do caregiver assessment as a part of providing treatment for the patient.

KEYWORDS

Major Neurocognitive Disorder, Primary caregiver, depression, anxiety

INTRODUCTION

Major Neurocognitive Disorder, previously called Dementia characterised by symptoms of large group of diseases leading to deterioration in cognitive function (1). It involves significant cognitive decline from previous level of performance in one or more cognitive domains including complex attention, executive function, learning and memory, language, perceptual-motor and social cognition (2). The worldwide estimate of persons with Dementia was 35.5 million in 2010, and it is surprising that the number of patients affected with Dementia is almost doubling every 20 years, it is expected to reach 65.7 million by 2030 and 115.4 million by 2050 (3).This rising trend is particularly evident in low and middle income countries, and around two third of global estimate constituted by these countries (4).

Major Neurocognitive Disorder is classified into two based on aetiology, as primary and secondary. Primary can be due to degenerative conditions and secondary occurs as a consequence of other conditions(1). Alzheimer's Disease is the most common cause of Major Neurocognitive Disorder and it is the fifth leading cause of death in people aged more than 65 years (5). Other causes include Vascular Dementia, Lewy Body Dementia and Frontotemporal Dementia etc.

Major Neurocognitive Disorder is considered as an expensive medical illness, and providing care for the patients is extremely time and cost consuming (6). It is a disease with significant global socioeconomic impact (7). Patient's impairment in thinking, memory and behaviour will compromise their ability to operate in everyday life as previously and which is usually more evident compared with mild cognitive impairment (8). People with Dementia are more likely to suffer from pain, malnutrition, dehydration, frequent falls, wandering, behavioural and psychological disturbances(9). The important feature of patients with Major Neurocognitive Disorder is their dependency and vulnerability, both socially and also in terms of physical and mental health. There will be reduced ability to do activities of daily living, changes in personality and behaviour, increased use of health care services and economic burden on families and society(10). This makes the disorder a challenge to the society and health care system(11).

Caregiving have both psychosocial and physical health effect (12). Level of stress, depression and anxiety symptoms will be high and subject well being and self efficacy will be low in caregivers(13). The quality of life is most often impaired(14). Increased caregiver burden is associated with increased risk of patient hospitalisation(15), increased incidence of institutionalization(16) and sometimes ends up in death of the Demented patient as well as increased mortality rate in caregivers(17). Depression can cause a variety of psychological and physical problems and raise the risk of caregiver suicide(18).

The study primarily aimed to estimate the prevalence of depressive symptoms in primary caregivers of patients with Major Neurocognitive Disorder and also attempted to study the correlation between depressive symptoms and stress.

METHODS

This was a descriptive cross sectional study, conducted at Government Medical College, Thiruvananthapuram. Sample size was calculated based on a study that reported 64% prevalence of depressive symptoms in caregivers of patients with Major Neurocognitive Disorder (19). Our study was performed in 111 primary caregivers, attending OPD of department of Psychiatry and Neurology. Primary caregivers between 18 to 60 years who is providing care for at least 6 months were included in this study. Caregivers with severe cognitive impairment and intellectual disability were excluded. Patients were diagnosed for Major Neurocognitive Disorder according to DSM 5 criteria. Primary caregiver in this study was operationally defined as person who is a family member of the patient, has full or most of the responsibilities for the care of patients for at least for 6 months.

A semi-structured questionnaire was used to collect socio demographic and clinical variables such as age, sex, education, marital status, occupational status, socioeconomic status, history of psychiatric illness, history of suicide attempt, history of substance use and duration of illness. The presence and severity of depressive symptoms was assessed using Patient Healthcare Questionnaire 9 [20]. Cut off score of ≥10 was diagnosed as clinical depression. Information on perceived stress was obtained using Perceived Stress Scale10 [21]. All scales used were previously validated.

Ethical approval and permission from concerned authorities were obtained. Informed consent was taken from individual participants.

For statistical analysis, data were entered into a Microsoft spreadsheet and was analyzed by SPSS version 26. Categorical variables were represented by frequency and percentage, and continuous variables as mean and standard deviation. Chi square test was used to find out the

association between sociodemographic variables and clinical variables. Pearson test was used assess the correlation between depressive symptoms with stress.

RESULTS

Mean age of the caregivers was 48.13±11.003 years (mean± s. d.). 64.9% (72) of the caregivers were female and majority (86.5%) were married. From the study population majority (37.8%) were high school educated followed by diploma/intermediate educational status (23.4%), but 66.7% of study population were unemployed. 36% of caregivers from lower middle socioeconomic status family followed by upper lower socioeconomic status (35%) family.

In our study 7.2% of caregivers had past history of psychiatric illness. 12.6 % caregivers revealed history of substance use.

Table 1: Demographic characteristics

Parameter	N (%)
Age	
18-30	13 (11.7)
31-40	14 (12.6)
41-50	29 (26.1)
51-60	55 (49.5)
Sex	
Male	39 (35.1)
Female	72 (64.9)
Education	
Professional	17 (15.3)
Diploma/Intermediate	26 (23.4)
High school	42 (37.8)
Middle school	16 (14.4)
Illiterate	10 (9)
Occupation	
Professional	15 (13.5)
Clerical	4 (3.6)
Skilled worker	6 (5.4)
Semiskilled	2 (1.8)
Unskilled	10 (9)
Unemployed	74 (66.7)
Socioeconomic status	
Upper class	8 (7.2)
Upper middle	4 (3.6)
Lower middle	40 (36)
Upper lower	39 (35.1)
Lower	20 (18)
Marital Status	
Married	96 (86.5)
Unmarried	15 (13.5)
others	0 (0)

Only 3.6% of the caregivers had history of Deliberate Self Harm. The mean PHQ 9 score is 7.67±3.51 (mean± s d.). Among total of 111 caregivers 36.9% (41) caregivers had moderate level of depression and 36% (40) had mild and 27% (30) had minimal/no depression according to PHQ 9 scores . According PSS10 scores 77.5% (86) caregivers had moderate stress, 17.1% (19) caregivers with low level of stress and 5.4%(6) caregivers had high level of stress. Mean score of PSS 10 is 18.59±5.13 (mean±s.d.).

Table 2 : Prevalence of depressive symptoms

PHQ 9 Scoring	N (%)
Minimal/no depression	30 (27)
Mild depression	40(36)
Moderate depression	41(36.9)

Statistically significant association was found between depressive symptoms with age, sex, education, occupation and socioeconomic status. There is no statistically significant association found between depressive symptoms and marital status.

We also found statistically significant association between depressive symptoms with past history of psychiatric illness ($P<0.05$) and duration of illness of the patient ($P<0.01$). We could not find any statistically significant association between history of suicide attempt and history of substance use.

In the present study we found positive correlation between depressive symptoms and perceived stress, and which was statistically significant ($P<0.05$).

Table 3: Correlation between depressive symptoms and stress

Variable	Test	r value	P value	Negative correlation
PSS 10	Pearson	0.647	<0.05	

DISCUSSION

The present study was intended to estimate the prevalence of depressive symptoms of primary caregivers of patients with Major Neurocognitive Disorder in a tertiary care hospital. We found that a considerable proportion of caregivers had depressive symptoms.

In our study, 72.9% caregivers had mild to moderate depression. Kamal Hassan et al [19] reported 66% of caregivers had moderate to severe depression. Notably, our study did not exclude caregivers with psychiatric illness except severe cognitive impairment and intellectual disability.

Prevalence was less compared with prevalence reported by Pinto et al [22] who observed that 66% of caregivers had depression. Another study by Fong et al [23] revealed 64.7% prevalence of depression. Omranifard et al [24] also found similar results, showed that 69.8% of main caregivers had depressive symptoms. The study identified 20.8% caregivers with mild depression, 40.6% with moderate and 8.3% had scores in the range of severe depression. Mild differences might be attributed to different setting and scales.

In the present study, we found higher prevalence of stress in caregivers. The findings of Zucca [25] et al suggest high prevalence of stress was also, they found 77.5% caregivers with moderate stress and 5.4% with high stress. Even though different scales were used, similar prevalence were obtained in both studies.

We found positive correlation between depressive symptoms and stress. Kim et al also found similar results, even though the study population were different.

In this study significant association was found between depressive symptoms and age. It may be due to hight chance of other associated physical illness as the age advances. A study reported age differences are greatly influenced by health status [26].

CONCLUSION

Caregiving is a complex task that demands total well being of the caregiver. Caregiver stress and depression depends on so many factors including attitude of the society and cultural factors. Financial status is also an important determinant for quality of caregiving. Since there is higher prevalence of stress and depression in primary caregivers of patients with Major Neurocognitive Disorder, high index of suspicion is needed from the part of physician.

Government programs and awareness classes will be helpful to create an environment which is more supportive for the caregiver. Over all more research is needed in this area especially for finding out best and effective nonpharmacological ways for the prevention and treatment of depressive symptoms. Social and cultural factors on caregiving also demands further exploration and changes appropriately.

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