ORIGINAL RESEARCH PAPER

Volume-9 | Issue-1 | January-2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY ON STRESS, ANXIETY AND DEPRESSION AMONG CAREGIVERS OF THE PATIENTS WITH DEMENTIA IN A TERTIARY CARE HOSPITAL IN EASTERN INDIA.

Psychiatry

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ABSTRACT

Background: Dementia is the leading cause of disability in aged people and has a major impact by reducing the capacity to live independently. This condition of dependency involves all members of the family, particularly those who take direct care of patients. The changes that take place in care givers' lives may alter their health and have an effect on the care of the sick.

Aims: To determine the presence of stress, anxiety and depression in care givers of Dementia patients.

Methods: A descriptive cross-sectional study was performed in 60 primary care givers of Dementia patients from the cognitive Clinic of Dept. of Psychiatry, R. G. Kar MCH, Kolkata, W.B. Care givers were evaluated for intensity of Stress with the Kingston Care giver Stress scale and for both depression and anxiety using the respective Hamilton scales. Suitable statistical test were used.

Results: 80% of care givers were female, and 53% were older than 50 years. Majority (80%) of care giver exhibited high level of stress; 17% high anxiety symptoms; and 66% had moderate to severe depressive symptoms. A significant association was found in the Pearson correlation analysis. between intensity of stress in care giver and depression.

Conclusion: Care giver stress was associated with depression. It is important for health professionals to include care giver assessments in the treatment protocols of dementia.

KEYWORDS

dementia, caregiver stress, anxiety, depression.

INTRODUCTION:

Dementia refers to a disease process marked by progressive cognitive impairment in clear consciousness. Dementia involves multiple cognitive domains and cognitive deficits cause significant impairment in social and occupational functioning. There are four major types of dementias based on etiology: Alzheimer's disease, vascular dementia, dementia of Lewy bodies, fronto-temporal dementia. Dementia can also be cause by traumatic brain injury (TBI), HIV, prion disease, Parkinson's disease, and Huntington's disease and other medical and neurological conditions or can be caused by various substances. The critical clinical points of dementia are the identification of the syndrome and the clinical work up of its cause. The disorder can be progressive or static; permanent or reversible. [1]

The prevalence of dementia is rising. The prevalence of moderate to severe dementia in different population groups is approximately 5 percent in the general population older than 65 years of age, 20 to 40 percent in the general population older than 85 years of age. Of all patients with dementia, 50 to 60 percent have the most common type of dementia, dementia of the Alzheimer's type (Alzheimer's disease). Dementia of the Alzheimer's type increases in prevalence with increasing age. The second most common type of dementia is vascular dementia, which is causally related to cerebrovascular diseases. Vascular dementias account for 15 to 30 percent of all dementia cases. Vascular dementia is most common in persons between the ages of 60 and 70 and is more common in men than in women. Approximately 10 to 15 percent of patients have coexisting vascular dementia and dementia of the Alzheimer's type. [1,2]

Dementia is the leading cause of disability in aged people, and has a major impact by reducing the capacity to live independently, which requires increasingly complex care. Thus, the importance of the family is evident in the process of providing care to the elderly, because with disease progression the demands for care and constant supervision increase, in most cases provided by a family member. Such dependence of the patient may engage all members of the family, particularly those who provide direct care. In this sense, there are two types of caregivers: the primary caregiver, who has full or most of the responsibilities for the care of the elderly at home; and the secondary caregiver, volunteer or occupational caregiver, who provides complementary assistance in activities. In Indian culture, primary caregivers are one of the family member in most of the cases. The changes that take place in the life of caregivers, such as lack of time, reduction of intimacy, deterioration in social life, a sense of loss of control over their own lives, may cause physical and emotional burden (stress, anxiety and depression), acute and chronic diseases, as well as financial deterioration, affecting all activities. The physical and emotional condition of the caregiver directly affects the quality of care provided to the Alzheimer's patient. Perceived stress in Caregiver may give way to patient abuse, both physical and psychological, and even neglect of the patient. Although the care of the caregiver is always considered very important by keeping a balance of attention for both patient and caregiver. [3]

Evaluation of perceived stress and possible emotional problems of caregivers is not routinely carried out by health professionals. To date, very few research in eastern India, examined the frequency of perceived stress in caregivers and the presence of anxiety and depression in this population has been published.

The overall objective of this study was to determine the presence of stress, anxiety and depression in caregivers of dementia patients of the cognitive clinic of R.G.Kar Medical College, Kolkata and to assess co-relation between stress and anxiety/ depression in the caregivers (if any).

METHOD

This was a descriptive cross-sectional study. was performed in 60 principal caregivers of dementia patients from the cognitive Clinic of Dept. of Psychiatry, R.G.Kar MCH, Kolkata,W.B. Caregivers were evaluated for intensity of Stress with the Kingston Caregiver Stress scale and for both depression and anxiety using the respective Hamilton scales. Suitable statistical test were used.

POPULATION: Patients with dementia for last 6 months, from the cognitive clinic, Dept. of Psychiatry, R.G.Kar MCH, Kolkata.The diagnosis of dementia was based on ICD 10 criteria. The primary caregiver, having met the criteria for inclusion and exclusion, was included in the study.

Inclusion criteria: Informed consent given Residing at the patient's home. Providing more than 6 months of care giving.

Exclusion criteria: Individuals with a history of depression, or taking antidepressant or psychotropic drugs

Sample : Purposive sampling was done. Data was collected one day every week for 4 months (February 2019 to May 2019). As per inclusion and exclusion criteria, 60 primary caregivers were included in the study.

Assessment procedure and instruments: Information on perceived stress was obtained using the Kingston Caregiver Stress scale (KCSS). This scale consists of 10 items rated on an ordinal 5 point Likert scale. The items include aspects of care factor, family factor and financial issues for patient's care. The profile and severity of depressive symptoms was assessed using the Hamilton Rating Scale for depression (17-item). This is a Likert scale with operational criteria score (0-4).

- Normal State: 0-7.
- Mild/ minor depression: 8-13.
- Moderate depression: 14-18.
- Severe depression: 19-23.
- Very severe depression: >23

The Hamilton Anxiety Rating Scale was used to assess the presence and degree of anxiety. The breakpoints used were:
- 0-5 no anxiety.
- 6-14 mild anxiety.
- Over 15 moderate/severe anxiety.

Mini Mental Status Examination (MMSE) was done among the patients with dementia.

All the scales used here were previously validated.

Statistical Analysis:
For statistical analysis data were entered into a Microsoft excel spreadsheet and then analyzed by SPSS (version 25.0; SPSS Inc., Chicago, IL, USA) and GraphPad Prism version 5. Data had been summarized as mean and standard deviation for numerical variables and count and percentages for categorical variables. Correlation was calculated by Pearson correlation analysis. The Pearson product-moment correlation coefficient was a measure of the linear dependence between two variables X and Y. p-value ≤ 0.05 was considered for statistically significant.

RESULT AND ANALYSIS

The mean age of caregivers was 49.33 ± 12.06 years and mean age (mean± s.d) of dementia patients was 63.20 ± 6.48 years with 17% high anxiety symptoms.

48(80.0%) of the caregivers were female and 12(20.0%) were male. Among the caregivers 28(46.7%) were wife, 12(20.0%) of them were daughter, 6(10.0%) were daughter-in-low, 8(13.3%) were husband, 4(6.7%) were son, 2(3.3%) sister. All the caregivers were married. 28(46.7%) caregivers had rural background and 32(53.3%) of them had urban background. Majority (76.7%) of the caregivers were hindu by religion and rest of them were muslims. As per level of education, 16 (26.7%) caregivers were educated up to middle level, 24(40%) up to secondary level and 20(33.3%) up to higher secondary & above.

Most of the caregivers 44(73.3%) were homemaker. 30(50.0%) of the caregivers belonged to joint family and rest of them were from nuclear family. According to socioeconomic status (B.G.Prasad), 24(40.0%) caregivers belonged to lower middle class(IV), 18(30%) were from middle class(III), 12(20.0%) of them belonged to upper middle class(II), and 6(10.0%) caregivers were from lower socioeconomic status. 28(46.7%) caregivers had financial responsibility of the patients and rest of them had no financial responsibility.

According to behavioural and psychological symptom of dementia (BPSD), 42(70.0%) patients had BPSD symptom and rest of them (30%) had no BPSD.

The mean score of KCSS care factor (mean± s.d.) of caregivers was 22.87 ± 5.79. The mean KCSS Family factor of caregivers was 5.70 ± 2.10. The mean KCSS financial factor of caregivers was 3.70 ± 1.19. The mean KCSS Total of caregivers was 32.17 ± 8.34. The mean HAM-D score of caregivers was 15.83 ± 7.29. The mean HAM-A score of caregivers was 11.43 ± 6.17. The mean duration of illness of the dementia patients was 32.17 ± 21.52 months. The mean MMSE score of patients was 16.53 ± 5.41.

Positive correlation was found between HAM-D Score vs. KCSS Care Factor and it was statistically significant ($p<0.0001$). Positive correlation was found between HAM-A Score vs. KCSS Care Factor and it was statistically significant ($p<0.0001$). Negative correlation was found between duration illness in month vs. KCSS Care Factor and it was not statistically significant ($p=.602$). Negative correlation was found between MMSE Score vs. KCSS Care Factor and it was statistically significant ($p<0.0001$).

Positive correlation was found between HAM-D Score vs. KCSS Family factor and it was statistically significant ($p<0.0001$). Positive correlation was found between HAM-A Score vs. KCSS Family factors and it was statistically significant ($p<0.0001$). Positive correlation was found between duration illness in month vs. KCSS Family factor and it was not statistically significant ($p=.989$). Negative correlation was found between MMSE Score vs. KCSS Family factor and it was statistically significant ($p<0.0001$).

Positive correlation was found between HAM-D Score vs. KCSS Financial Factor and it was statistically significant ($p<0.0001$). Positive correlation was found between HAM-A Score vs. KCSS Financial Factor and it was statistically significant ($p<0.0001$). Positive correlation was found between duration illness in month vs. KCSS Financial Factor and it was not statistically significant ($p=.909$). Negative correlation was found between MMSE Score vs. KCSS Financial Factor and it was statistically significant ($p<0.0001$).

Positive correlation was found between HAM-D Score vs. KCSS Total and it was statistically significant ($p<0.0001$). Positive correlation was found between HAM-A Score vs. KCSS Total and it was statistically significant ($p<0.0001$). Negative correlation was found between duration illness in month vs. KCSS Total and it was not statistically significant ($p=.721$). Negative correlation was found between MMSE Score vs. KCSS Total and it was statistically significant ($p<0.0001$).

Positive correlation was found between HAM-D Score vs. duration illness in month and it was not statistically significant ($p=.416$). Positive correlation was found between HAM-A Score vs. duration illness and it was statistically significant ($p=.038$). Positive correlation was found between MMSE Score vs. duration illness and it was not statistically significant ($p=.332$).

Negative correlation was found between HAM-D Score vs. MMSE Score and it was statistically significant ($p<0.0001$). Negative correlation was found between HAM-A Score vs. MMSE Score and it was statistically significant ($p<0.0001$).

DISCUSSION

Regarding demographic variables associated with caregiver stress,[1] 75% were women, most between 46-59 years. In our study, the mean age of patients was 63.20 ± 6.48 years. The mean age of Caregivers was 49.33 ± 12.06. 80.0% of the caregivers were female.

We found among the caregivers 28(46.7%) were wife, 12(20.0%) of them were daughter, 6(10.0%) were daughter-in-low. 28(46.7%) caregivers had rural background. Majority (76.7%) of the caregivers were hindu. 24(40%) up to secondary level and 20(33.3%) up to higher secondary & above. Most of the caregivers 44(73.3%) were homemaker. 30(50.0%) of the caregivers belonged to joint family. According to socioeconomic status (B.G.Prasad), 24(40.0%) caregivers belonged to lower middle class, 18(30%) were from middle class. 28(46.7%) caregivers had financial responsibility of the patients and rest of them had no financial responsibility.

42(70.0%) of the patients had BPSD symptom.

In our study, 66% of the caregivers had moderate to severe depression. Pinto et al [2] reported, 65% of caregiver had depression. Notably, all caregivers in the present study were family members.

Proportion was low when compared with rates reported by Perez and Llibre[3]- 97%, and Alcaraz et al.[4] who observed that 73% of women

showed overburden signs. The time spent by the caregiver in hours per day has been associated with depressive symptoms, anxiety and caregiver burden, with hours being proportional to symptoms.[5,6]

In the present study, we found positive correlation was found between HAM-D Score, HAM-A Score and MMSE Score with KCSS Care Factor and which were statistically significant

In the present study, we found higher anxiety scores, higher depressive symptoms, as well as a positive correlation between caregiver stress and anxiety as well as between caregiver stress and depression. The findings of Corazza et al.[7] suggest that depressive symptoms and anxiety are variables that can predict caregiver burden. Similar data was found by Torti et al.[5]; the presence of depression, anxiety and stress are variables that characterize the psychological distress of the caregiver and therefore overburden. Carrasco et al.[7] found that psychological distress was significantly associated with caregiver burden assessed by the Zarit test.

We found that positive correlation was found between HAM-D and HAM-A Score with KCSS Total and which were statistically significant (p<0.0001). Negative correlation was found between duration illness in month vs. KCSS Total and it was not statistically significant (p=.721). Negative correlation was found between MMSE Score vs. KCSS Total and it was statistically significant (p<0.0001).

Present study showed that negative correlation was found between HAM-D and HAM-A Score with MMSE Score and it was statistically significant (p<0.0001).

CONCLUSION:

We believe that the economic factor is an important aspect of psychological distress for caregivers. It is essential to include an assessment of caregivers stress in the assessment and monitoring of dementia patients. We know that caregiver health, both physical and mental, ultimately impacts patient care. Those responsible for social and health policies should create support mechanisms for families who have family members with dementia, such as relief care, as well as psychological and recreational support programs where physical and social activities are offered.

Correlation of HAM-D Score, HAM-A Score, Duration ill in Month and MMSE Score with KCSS Care Factor

		KCSS Care Factor	Remarks
HAM-D Score	Pearson Correlation Coefficient (r)	.695**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
HAM-A Score	Pearson Correlation Coefficient (r)	.646**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
Duration illness in Month	Pearson Correlation Coefficient (r)	-.069	Negative correlation
	p-value	.602	Not significant
	Number	60	
MMSE Score	Pearson Correlation Coefficient (r)	-.763**	Negative correlation
	p-value	<0.0001	Significant
	Number	60	

Correlation of HAM-D Score, HAM-A Score, Duration ill in Month and MMSE Score with KC Family Factor

		KC Family fac	Remarks
HAM-D Score	Pearson Correlation Coefficient (r)	.505**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
HAM-A Score	Pearson Correlation Coefficient (r)	.491**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
Duration ill in Month	Pearson Correlation Coefficient (r)	.002	Positive correlation
	p-value	.989	Not significant
	Number	60	
MMSE Score	Pearson Correlation Coefficient (r)	-.519**	
	p-value	<0.0001	Negative correlation
	Number	60	Significant

Correlation of HAM-D Score, HAM-A Score, Duration ill in Month and MMSE Score with KC Financial Factor

		KC Financial Factor	Remarks
HAM-D Score	Pearson Correlation Coefficient (r)	.751**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
HAM-A Score	Pearson Correlation Coefficient (r)	.600**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
Duration illness in Month	Pearson Correlation Coefficient (r)	.015	Positive correlation
	p-value	.909	Not significant
	Number	60	
MMSE Score	Pearson Correlation Coefficient (r)	-.671**	Negative correlation
	p-value	<0.0001	Significant
	Number	60	

Correlation of HAM-D Score, HAM-A Score, Duration ill in Month and MMSE Score with KC Total

		KC Total	Remarks
HAM-D Score	Pearson Correlation Coefficient (r)	.694**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
HAM-A Score	Pearson Correlation Coefficient (r)	.653**	Positive correlation
	p-value	<0.0001	Significant
	Number	60	
Duration illness in Month	Pearson Correlation Coefficient (r)	-.047	Negative correlation
	p-value	.721	Not significant
	Number	60	
MMSE Score	Pearson Correlation Coefficient (r)	-.746**	Negative correlation
	p-value	<0.0001	Significant
	Number	60	

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