Sleep Disturbance in Dementia and Its Association with Caregiver Burden: A Cross-Sectional Dyadic Study

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Addressing sleep disturbances and strengthening family caregiver's support may reduce caregiver burden in dementia.

Introduction

Behavioral, emotional, and cognitive symptoms of dementia significantly contribute to caregiver burden [1].
Sleep disturbances, one of the most disruptive symptoms, often require increased nighttime supervision and may heighten caregiver stress [2].

Aims and Objective

This study examined the association between sleep quality in dementia patients and caregiver burden within a family-based care context.

Methods

Study Design : Cross–sectional
Sample Size (N) : Dementia Patients (N = 71) & Caregiver (N = 71)
Study Setting : Tertiary Care, AIIMS, New Delhi.
Target Population: 1. Diagnosed with Dementia.
2. Caregiver must be with the person with dementia for the last 6 months and must be unpaid for this role and be a family member.

Study Flow Chart

Step 1	Participants & their caregiver visited OPD setup. (AIIMS, New Delhi)
Step 2	Detailed Neuropsychological Assessment was conducted.
Step 3	Caregiver Interview: Information on socio-demographic details, risk factors, comorbidities & Zarit Burden Interview.

Neuropsychological Assessment

Dementia	• Addenbrooke's Cognitive Examination-III (ACE-III); • Clinical Dementia Rating (CDR); • Neuropsychiatric Inventory Questionnaire (NPIQ); • Pittsburgh Sleep Quality Index (PSQI) & • Everyday Abilities Scale for India (EASI).
Caregiver	• Zarit Burden Interview (ZBI).

Results

Table 1 : Socio–Demographic Profile of the Dementia Patients & Caregivers.

Variables	Dementia Patients (N=71)	Caregivers (N=71)
Age (years), Mean ± SD	67.5 ± 10.6	42.5 ± 3.3
Males, n (%)	46 (64.8%)	34 (47.9%)
Literate, n (%)	56 (78.9%)	67 (94.4%)
Nuclear, n (%)	54 (76.1%)	
Urban, n (%)	58 (81.7%)	
Upper Class, n (%)	37 (52.2%)	

Table 2 : Clinical Characteristics of the Dementia Patients

Variable	N=71
Duration of Illness (years), Mean ± SD	4 ± 1.4
Addenbrooke's Cognitive Examination–III Total Scores, Median (IQR)	30 (6, 58)
Everyday Abilities Scale for India Score, Median (IQR)	8.5 (1, 6)
Pittsburgh Sleep Quality Index Score, Median (IQR)	8.5 (1, 6)
Clinical Dementia Rating, Sum of Boxes, Median (IQR)	9.8 (4, 12)
Neuropsychiatric Inventory Questionnaire Distress Score, Median (IQR)	6.5 (1.5, 6)
Neuropsychiatric Inventory Questionnaire Severity Score, Median (IQR)	6.5 (2, 6)
Number of caregivers, Mean ± SD	2.5 ± 0.8
Number of hours spent in caregiving, Median (IQR)	24 (6, 24)
Zarit Burden Scale Interview score, Median (IQR)	27.5 (30.5, 74)

Table 3 : Correlation of Sleep Disturbance of Dementia Patients with Caregiver Burden.

Karl's Pearson Correlation Coefficient (r)	PSQI	Number of Caregivers	Number of Hours spent care giving
ZBSI	r = .248*	r = -0.432**	r = .214*

Other factors were not statistically significant: Duration of Illness (.08), ACE III Scores (.08), NPI (.14) and EASI score (.19).
**. Correlation is significant at the 0.05 level.*
***. Correlation is significant at the 0.01 level.*

Conclusions

Patient's sleep disturbance modestly increased caregiver burden, while shared caregiving significantly reduced it. Strengthening family support structures may help mitigate caregiver stress.

Future Directions

- Develop and evaluate sleep management programs for people with dementia.
- Design caregiver support interventions that encourage shared caregiving responsibilities.
- Assess the long-term effects of sleep improvement on caregiver mental health and quality of life.

References

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