BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA IN THE TREVISO DEMENTIA (TREDEM) REGISTRY

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OBJECTIVE

Behavioral and Psychological Symptoms of Dementia (BPSD) represent one of the main challenges in managing patients with cognitive impairment, as they significantly impact quality of life and the burden on caregivers. The presentation of these symptoms can vary according to the type of dementia, cognitive profile and the presence of comorbidities and frailty. A multidimensional assessment, incorporating neuropsychological, clinical and instrumental evaluations, is crucial for identifying the interactions between these factors and defining more targeted and effective intervention strategies.
The objective of this study was to explore the possible associations between BPSD, comorbidity, frailty, cerebral atrophy, cerebral vascular load, cognitive profile in SCD, MCI subjects, and those with the main types of dementia (AD, DLB, FTD, VD, Mixed=AD+VD)

METHODS

This secondary analysis of the Treviso Dementia Registry (TREDEM) is based on data from 2,505 patients who attended the Center for Cognitive Disorders and Dementia (CDCD) between 1999 and 2018. All patient received a clinical, neuropsychological, and instrumental examination useful for formulating a diagnosis of cognitive impairment. Functional disability was assessed using the ADL and IADL scales. The cognitive profile was evaluated through a battery of tests including, among others, MMSE, RAVLT (IR-DR), CDT, Attentional Matrices, and the Token Test. Frailty was calculated by using the Cumulative Illness Rating Scale (CIRS), the Frailty Index (FI), and the Multidimensional Prognostic Index (MPI). The Neuropsychiatric Inventory (NPI) was used to evaluate non-cognitive behavioral symptoms. All statistical analyses were performed by means of SPSS v. 28.

Sample Characteristic	Value
Total sample size	2505
Males	929
Females	1576
Mean age ± SD	78.5 ± 7.5 years
Age range	39-100 years

RESULTS

Diagnosis	N	(%)
Dementia (CDR ≥ 1)	1439	57.4%
MCI	945	37.7%
SCD	121	4.8%

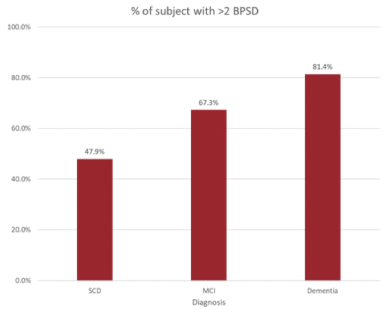
Dementia Subtypes	N	(%)
AD	502	34.9%
FTD	95	6.6%
DLB	71	4.9%
VD	634	44.1%
Mixed (AD + HVRS ≥ 2)	137	9.5%

Additional Findings

- Depression, anxiety, and apathy symptoms were in more than half of the SCD subjects, MCI, and patients with dementia
- The VD and DLB patients showed higher frailty scores (CIRS and MPI, FI) than AD patients.
- DLB patients had a higher total NPI score (50.2) and a higher number of concurrent BPSD symptoms (9) than other diagnoses.
- DLB patients showed worse scores in attentional matrices ($p < 0.001$) and RAVLT-IR ($p < 0.001$) than other demented patients.

BPSD were of mild severity (NPI ≤ 56) in over 90% of the studied population, with more than 70% presenting at least 2 concurrent symptoms.

Correlation	r	p
NPI total - Caregiver distress	0.933	<0.001
NPI total - Frailty Index (FI)	0.649	<0.001
NPI total - MPI	0.548	<0.001



DISCUSSION

The present retrospective observational study has some strengths, such as being conducted in a naturalistic setting and the use of a large sample size. The study shows a rich description of BPSDs in relation to diagnostic, comorbidity and frailty data. These data showed that BPSD appear to be strongly associated with DLB. A less pronounced association in FTD patients may be due to the greater propensity to prescribe antipsychotic drugs in this type of patients. Verbal memory deficits, including issues with encoding new information, are common in DLB, as suggested by the poor RAVLT-IR performance.

CONCLUSION

BPSD represent a significant management and treatment challenge. Detailed knowledge of comorbidity, frailty, and type and severity of cognitive impairment, can help in improving their management.

BIBLIOGRAFIA

Gallucci M, Mariotti E, Saraggi D, et al. The Treviso Dementia (TREDEM) Study: A Biomedical, Neuroradiological, Neuropsychological and Social Investigation of Dementia in North-Eastern Italy. J Frailty Aging. 2012;1(1):24-31. doi:10.14283/jfa.2012.5
Watt JA, Porter J, Tavilsup P, et al. Guideline Recommendations on Behavioral and Psychological Symptoms of Dementia: A Systematic Review. J Am Med Dir Assoc. 2024;25(5):837-846.e21. doi:10.1016/j.jamda.2024.03.007
Kwon CY, Lee B. Prevalence of Behavioral and Psychological Symptoms of Dementia in Community-Dwelling Dementia Patients: A Systematic Review. Front Psychiatry. 2021;12:741059. Published 2021 Oct 21. doi:10.3389/fpsyt.2021.741059

The authors declare that they have no conflicts of interest.

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