

The CBI-R BADL Composite: A Brief and Valid Tool for Detecting Clinical Stages in Alzheimer’s Disease

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INTRODUCTION

With the arrival of new anti-amyloid therapies for Alzheimer's disease (AD), accurate tools that capture patients' functional stage while being applicable in real clinical practice are more necessary than ever, enabling discrimination of eligible patients (mild AD). The objective was to determine the ability of the "Cambridge Behavioural Inventory-Revised Basic Activities of Daily Living composite score" (CBI-R BADL; 9 items) to detect clinical stage in AD and compare it with the widely used scales Functional Activities Questionnaire (FAQ; 11 items) and Interview for Deterioration in Daily Living Activities in Dementia (IDDD; 33 items).

METHODS

- Patients were retrospectively selected from those evaluated at the Memory Unit of Torrecárdenas University Hospital (Almería) between June 2025 and January 2026.
- Inclusion criteria: diagnosis of AD and available data for the IDDD, FAQ and CBRI-R scales from the first visit.
- “CBI-R BADL composite” was derived by summing the scores os the “Everyday Skills” and “Self-Care” domains of the CBI-R.
- Scores were compared between mild cognitive impairment (MCI) and dementia groups using the Mann-Whitney test, and AUC and ROC curves were calculated for all three scales to discriminate between GDS 3 vs. ≥4 (dementia) and GDS 3–4 vs. ≥5 (moderate dementia), with comparisons made using the DeLong test

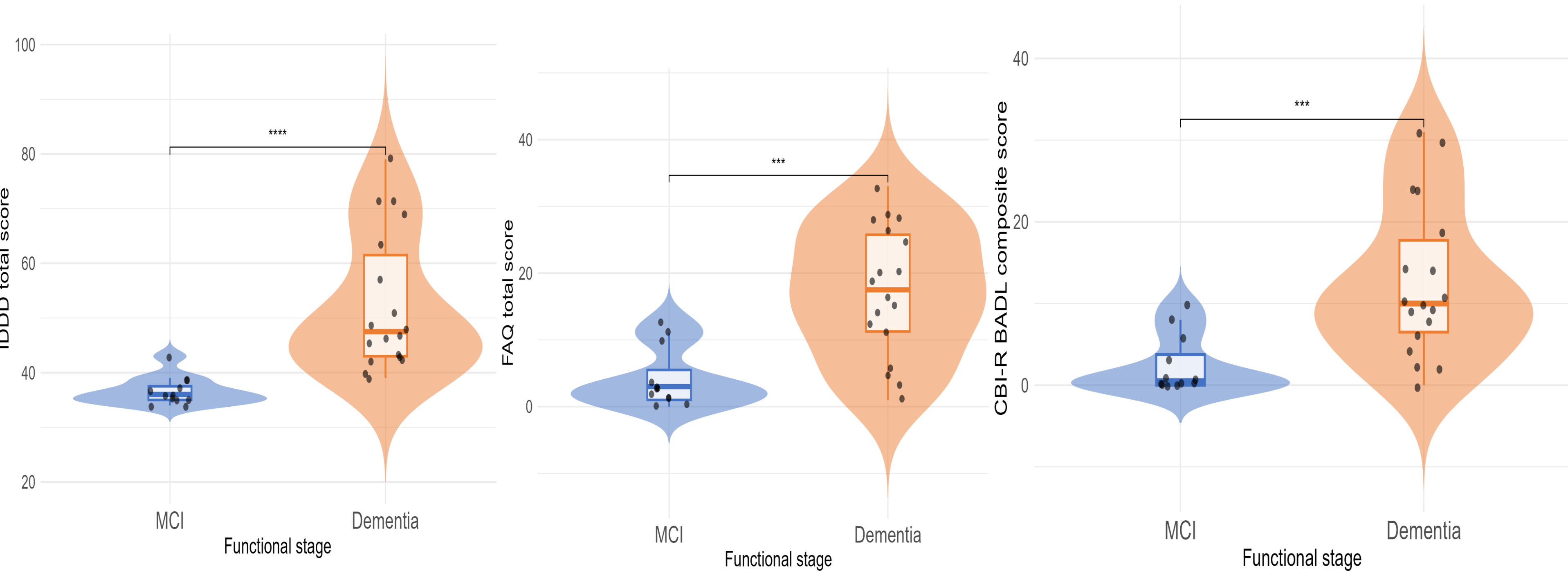
RESULTS

Thirty patients diagnosed with AD were included. The median age was 71.5 years (range 59–79), 56% were women, and 46% had not completed primary education. Biomarker data were available in 19/30 patients (17 CSF p-tau 181/Aβ42; 2 amyloid PET), all consistent with AD. Regarding clinical staging, the distribution ranged from mild to severe cognitive decline: 12 patients were at GDS 3, 10 at GDS 4, 4 at GDS 5, and 4 at GDS 6.

IDDD, FAQ, and CBI-R BADL scores were significantly higher in the dementia group (Figure 1).

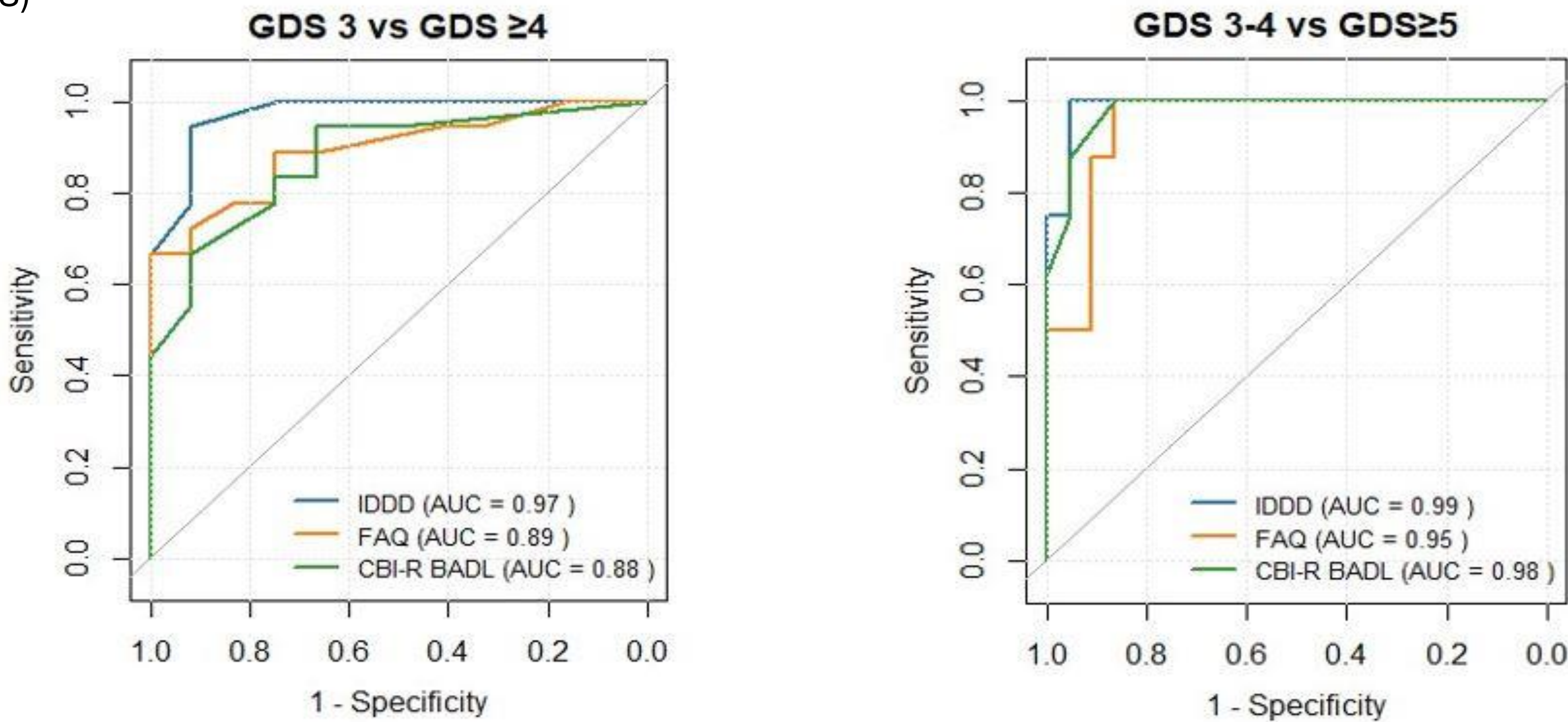
IDDD showed greater accuracy in detecting dementia (AUC=0.97) compared to FAQ (0.88) and CBI-R BADL (0.88), with no significant differences. However, CBI-R BADL demonstrated excellent ability to detect moderate dementia (AUC=0.98), not different from IDDD (0.99) and FAQ (0.95) (Figure 2).

Figure 1. Distribution of IDDD, FAQ and CBI-R BADL total score by funtional stage of AD.



MCI: mild cognitive impairment; IDDD: interview for deterioration in daily living activities in dementia; FAQ: functional activities questionnaire; CBI-R BADL: Cambridge behavioural.inventory-revised basic activities of daily living composite score

Figure 2. ROC curves of IDDD, FAQ, and CBI-R BADL for the discrimination of cognitive impairment stages (GDS)



GDS: global deterioration scale; IDDD: interview for deterioration in daily living activities in dementia; FAQ: functional activities questionnaire; CBI-R BADL: Cambridge behavioural.inventory-revised basic activities of daily living composite score

CONCLUSIONS

The CBI-R BADL, a brief 9-item composite applicable in clinical practice, demonstrates good ability to detect dementia clinical stage and excellent discriminative capacity for moderate dementia, with no significant differences compared to FAQ and IDDD. These findings support its utility as a screening tool for identifying AD patients eligible for antiamyloid treatments.

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