

A Clinical Prediction Model For High Neuropsychiatric Symptom Burden In Outpatients With Alzheimer's Disease At A Public Hospital In Peru

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BACKGROUND

- Neuropsychiatric symptoms are common in Alzheimer's disease and are associated with poorer outcomes and increased caregiver burden.
- Early identification of patients at high risk remains difficult in routine outpatient care, especially in resource-limited settings.
- We developed a clinical prediction model using routinely collected clinical data.

OBJECTIVE

✚ To develop and evaluate a clinical prediction model to identify Alzheimer's disease outpatients at high risk of severe neuropsychiatric symptom burden.

METHODS

Study design

Cross-sectional study

Setting

Public hospital, Peru

Outcome

- High neuropsychiatric symptom burden
- Composite NPI severity score

Cutoff

≥75th percentile
(≥12.5 points)

Participants

88 Alzheimer's disease patients

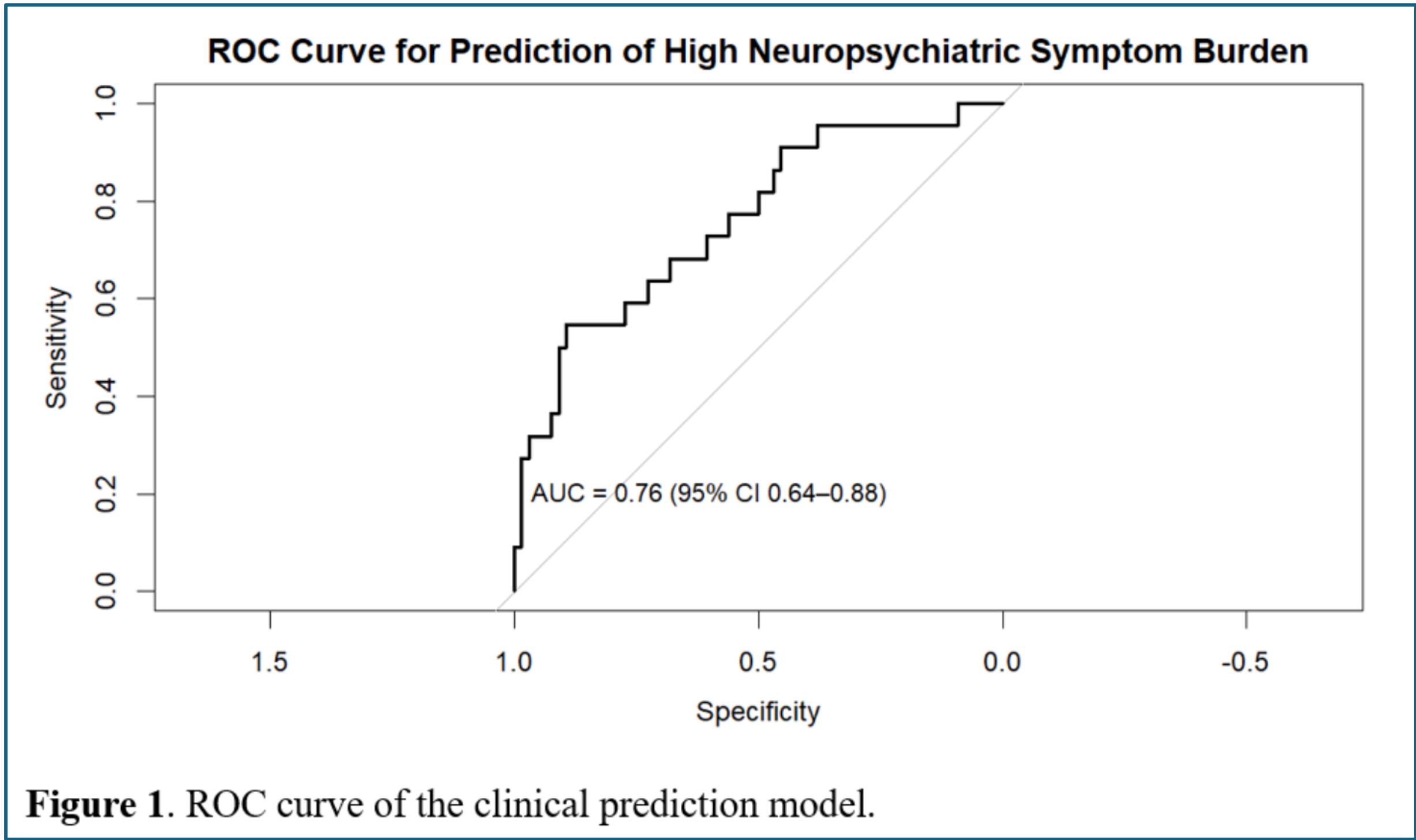
Analysis

Multivariable logistic regression

Performance:

- ROC curve (AUC)
- Hosmer–Lemeshow calibration

RESULTS



- ✓ 25.3% had high neuropsychiatric burden.
- ✓ Longer disease duration independently predicted severe symptoms.
- ✓ Model discrimination was good (AUC 0.76).
- ✓ Calibration was adequate (Hosmer–Lemeshow $p = 0.81$).

CONCLUSION

A simple clinical prediction model based on routinely collected outpatient data showed good performance for identifying patients at high risk of severe neuropsychiatric symptoms.

CLINICAL IMPLICATIONS

- May support early identification of complex Alzheimer's disease patients.
- Could facilitate triage for referral to neurology or psychiatry.
- Particularly useful in resource-limited healthcare settings.

PATIENTS	88
HIGH NPI BURDEN	25.3%
AUC (95%CI)	0.76 (0.64 – 0.88)
CALIBRATION	$p = 0.81$