

Clinical utility of plasma P-tau217 as an early diagnostic tool in a cohort of patients with cognitive complaints in primary care

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BACKGROUND

Alzheimer’s disease (AD) is the leading cause of dementia. Early and accurate diagnosis has become increasingly relevant with the advent of disease-modifying therapies. Plasma biomarkers, particularly **phosphorylated tau 217 (P-tau217)**, show high diagnostic accuracy for AD [1] and may support early triage, referral decisions and diagnostic orientation in primary care (PC) settings [2]. A blood-based test that can be implemented close to the patient could help **prioritise specialist referrals and reduce reliance on lumbar puncture and amyloid-PET imaging**. However, evidence on how plasma P-tau217 affects the diagnostic performance and confidence of clinicians in **real-world primary care** remains limited.

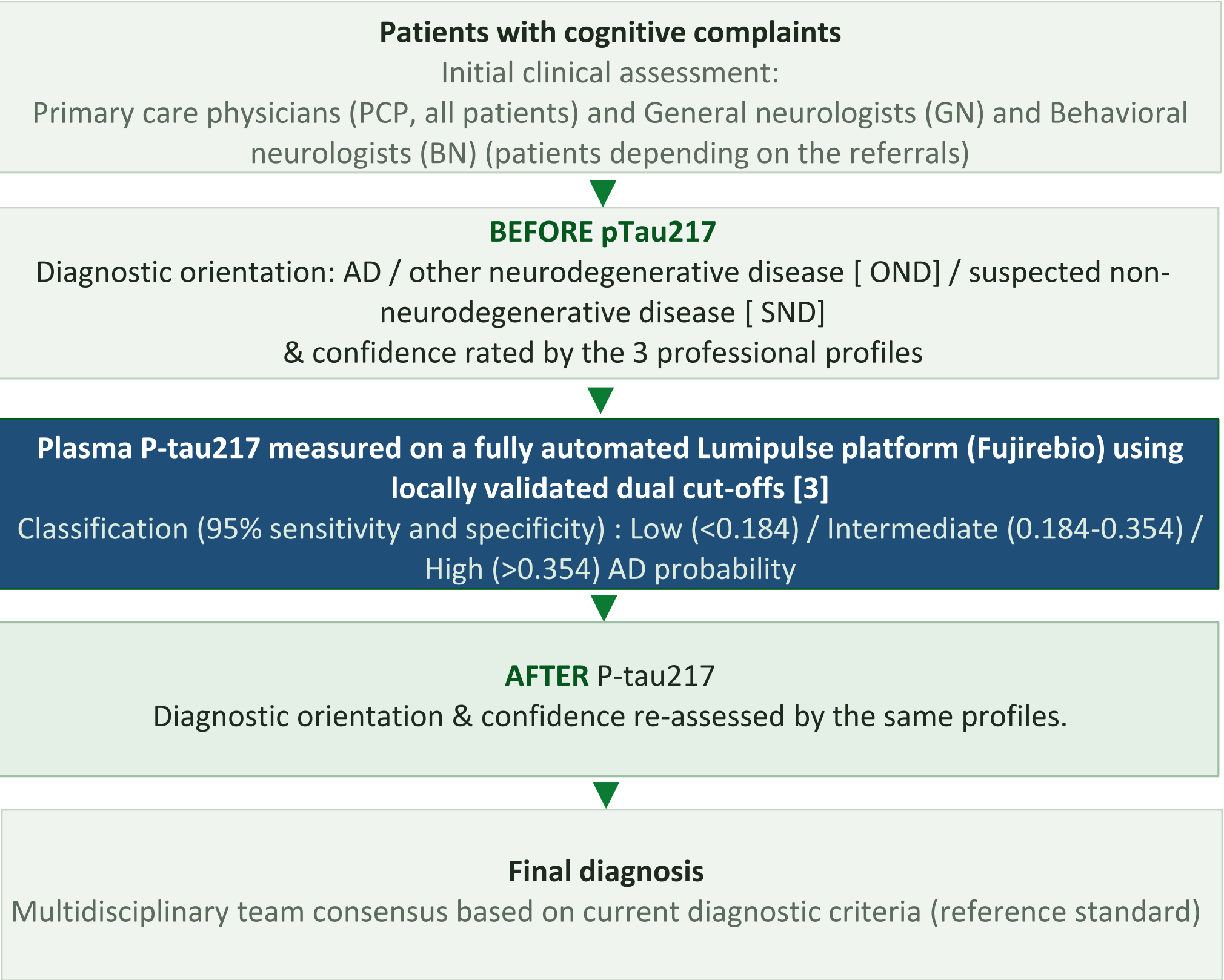
METHODS

Study design — ongoing prospective, multicenter study conducted in 6 PC centers

Participants — patients with mild cognitive impairment or mild dementia undergoing routine clinical assessment.

Outcomes — change in diagnostic accuracy and in diagnostic confidence before vs. after plasma P-tau217 availability.

STUDY WORKFLOW



REFERENCES

- [1] Massons M, et al. Predictive ability of plasma p-tau217 for β -amyloid status: a prospective multicenter study. Ann Clin Transl Neurol. 2026.
- [2] Palmqvist S, et al. Plasma phospho-tau217 for Alzheimer's disease diagnosis in primary and secondary care using a fully automated platform. Nat Med. 2025;31:2036–2043.
- [3] Sarto J, et al. Accuracy and clinical applicability of plasma tau 181 and 217 for Alzheimer's disease diagnosis in a memory clinic cohort. J Neurol. 2025;272:160.

RESULTS

	TOTAL (n=203)	AD (n=122)	OND (n=14)	SND (n=67)
Age, years	79.25 $\pm$ 7.45	80.73 $\pm$ 6.24	79.93 $\pm$ 7.71	76.42 $\pm$ 8.63
Age at onset, years	77.14 $\pm$ 7.74	78.72 $\pm$ 6.57	78.36 $\pm$ 7.53	74.06 $\pm$ 8.82
Female sex, %	61.6%	63.9%	35.7%	62.7%
Years of education	10.57 $\pm$ 5.23	11.02 $\pm$ 5.33	10.38 $\pm$ 6.04	9.80 $\pm$ 4.87
MMSE at baseline	23.79 $\pm$ 4.00	22.97 $\pm$ 4.16	23.14 $\pm$ 3.92	25.38 $\pm$ 3.21
CDR = 0.5, %	79.8%	79.5%	64.3%	83.6%
Plasma P-tau217 (pg/mL)	0.42 $\pm$ 0.31	0.57 $\pm$ 0.30	0.24 $\pm$ 0.20	0.18 $\pm$ 0.12

TABLE 1

Predefined cut-offs enabled effective triage.

- High-probability group was predominantly AD (91.3%).
- Low-probability group predominantly SND (84.0%).
- Intermediate group was mixed (53.1% AD, 36.7% SND, 10.2% OND) [Figure 2].

Overall, 76% of patients fell into a high- or low-probability group.

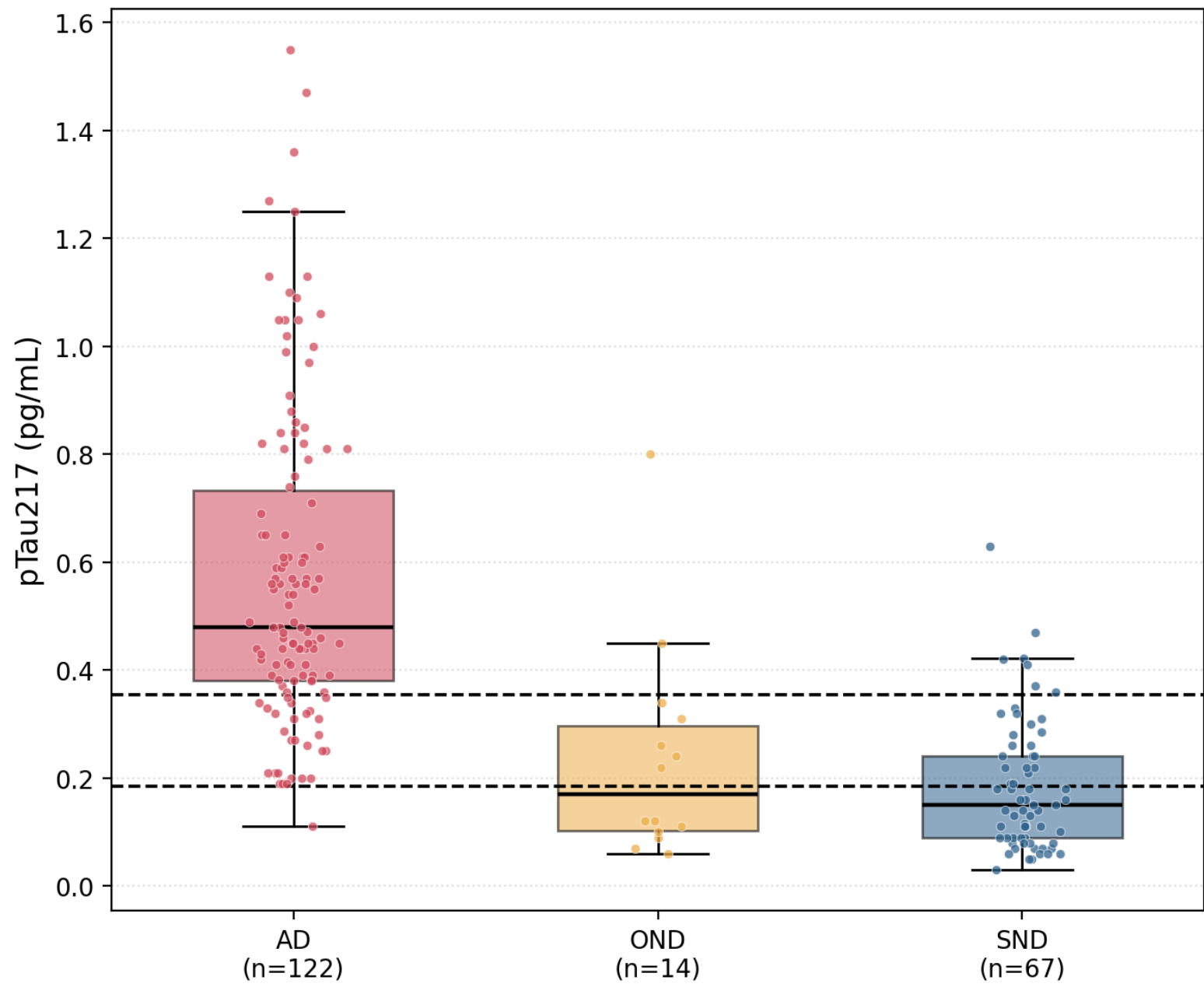


FIGURE 1

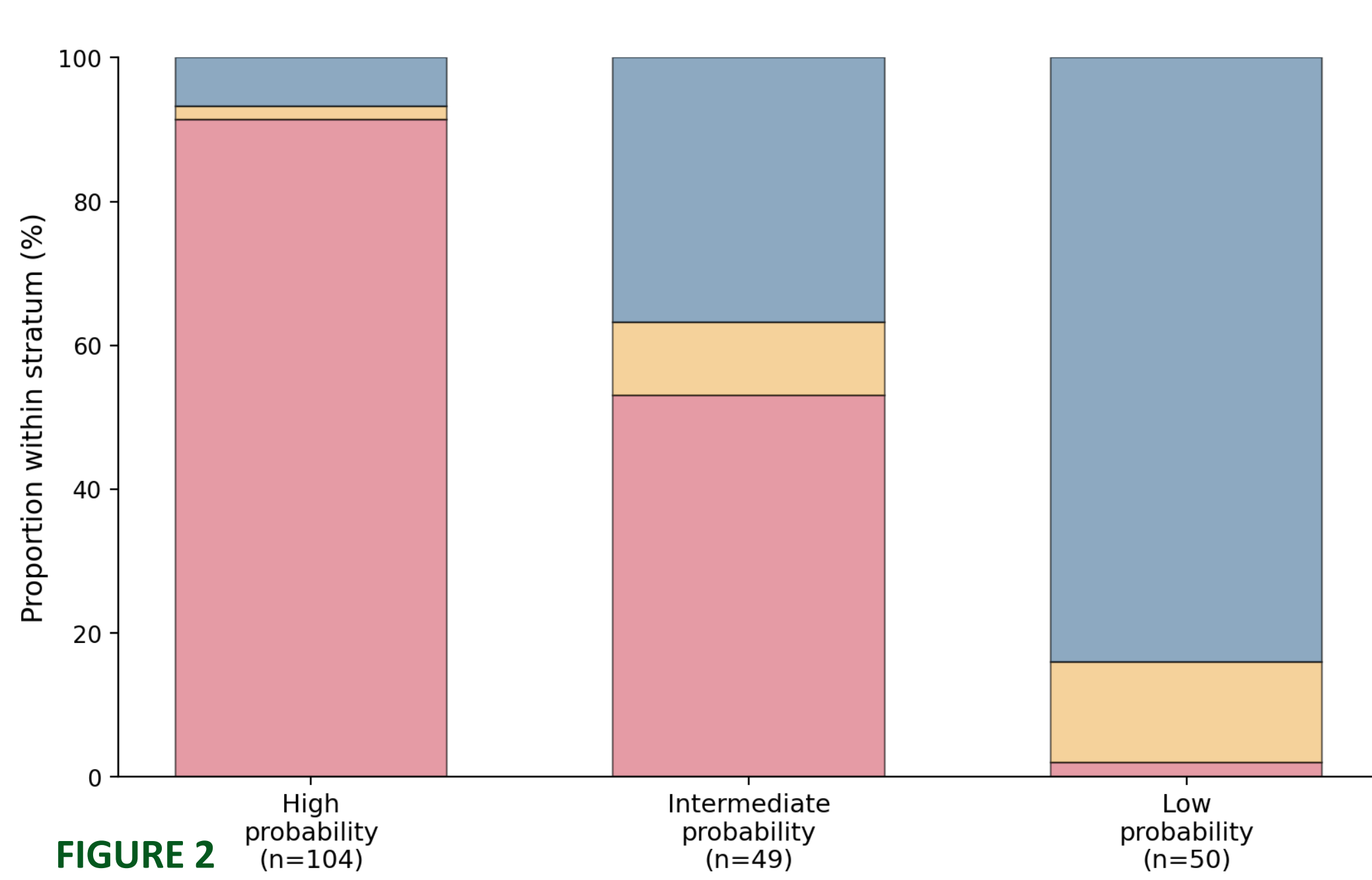


FIGURE 2

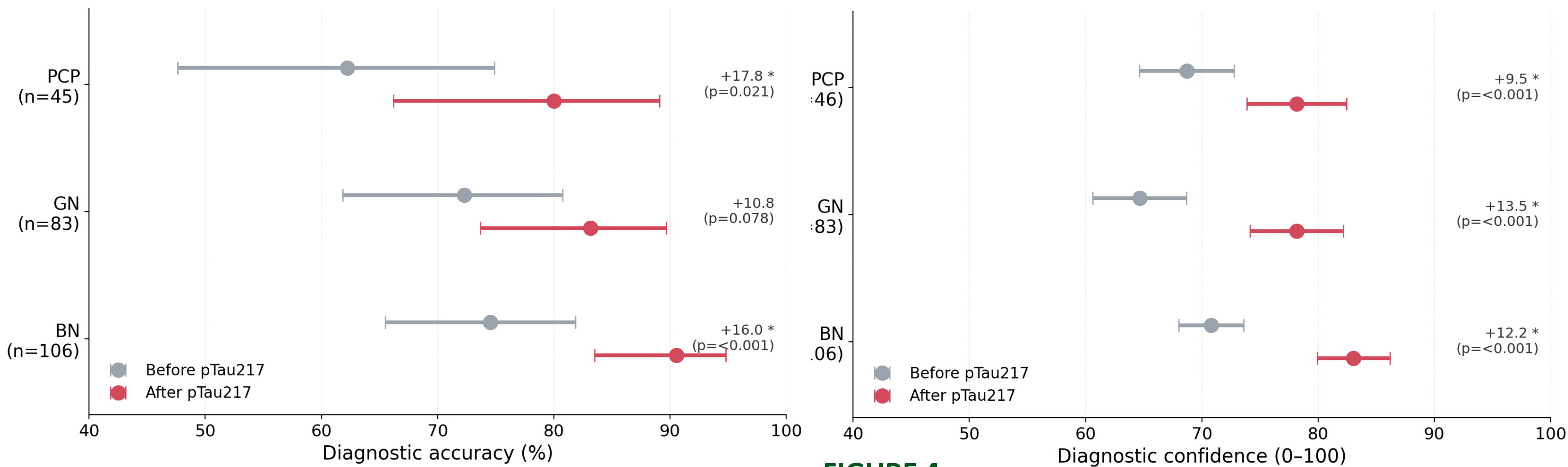


FIGURE 3

FIGURE 4

CONCLUSIONS

Plasma P-tau217 shows high diagnostic value for AD in a cohort of patients with cognitive complaints in primary care, clearly separating AD from non-AD around the predefined cut-offs.

Using predefined cut-offs, 76% of patients were directly assigned to a high- or low-probability group, reducing the need for lumbar puncture or amyloid-PET.

Disclosure of plasma P-tau217 improved diagnostic accuracy and confidence across all professional profiles, including non-specialised settings such as PC.

Further studies are needed to determine the clinical utility of requesting plasma P-tau217 in PC, including which patients would benefit most from testing.