

BACKGROUND

Primary Progressive Aphasia (PPA) progressively affects language, everyday communication, participation, and quality of life, creating a need for early, continuous, and specialised speech-language intervention.

Digital delivery may reduce access barriers and support more flexible, home-based rehabilitation, but evidence specific to PPA remains fragmented.



This systematic review aimed to synthesise the evidence on digital speech and language therapy (SLT) for PPA, focusing on treatment effects, delivery models, functional outcomes, generalisation, feasibility, and methodological quality.

REFERENCES

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- [2] Wauters, L. D., et al. (2024). Behavioral treatment for speech and language in primary progressive aphasia and primary progressive apraxia of speech: A systematic review. *Neuropsychology Review*, 34(3), 882–923. doi:10.1007/s11065-023-09607-1
- [3] Dial, H. R., et al. (2019). Investigating the utility of teletherapy in individuals with primary progressive aphasia. *Clinical Interventions in Aging*, 14, 453–471. doi:10.2147/CIA.S178878

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METHODS

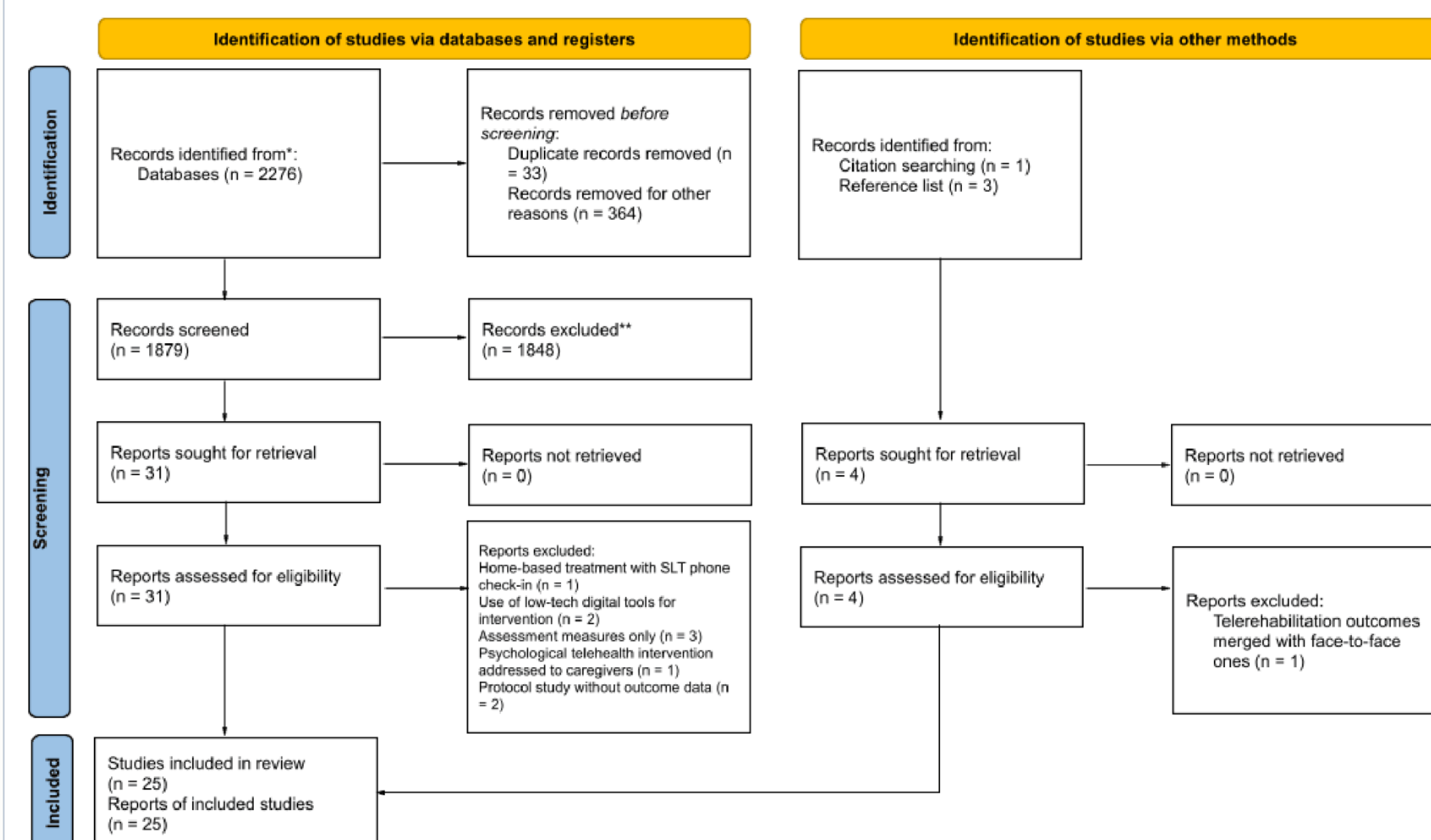
A systematic review was conducted according to PRISMA guidelines and registered in PROSPERO. Medline/PubMed, PsycINFO, and Scopus were searched for English-language studies on digital or telerehabilitation-based speech and language interventions in PPA.

Eligibility criteria were defined according to the PICOS framework.

- P** **Population:** Adults diagnosed with PPA (any variant) or with diagnoses consistent with PPA prior to the 2011 Gorno-Tempini criteria, receiving SLT through telerehabilitation or digital delivery.
- I** **Intervention:** Digital, technology-assisted, remote, computer-based, tablet-based, or other electronic-device-delivered SLT rehabilitation.
- C** **Comparison:** Any comparator, including no treatment, active control, standard care, untreated control items, or baseline comparison.
- O** **Outcomes:** Language, communication, cognitive-linguistic, functional communication, participation, quality of life, caregiver/partner interaction, generalisation, maintenance and acceptability/engagement.
- S** **Study design:** RCTs, SCEDs, quasi-experimental, pre-post, case series and single-case studies.

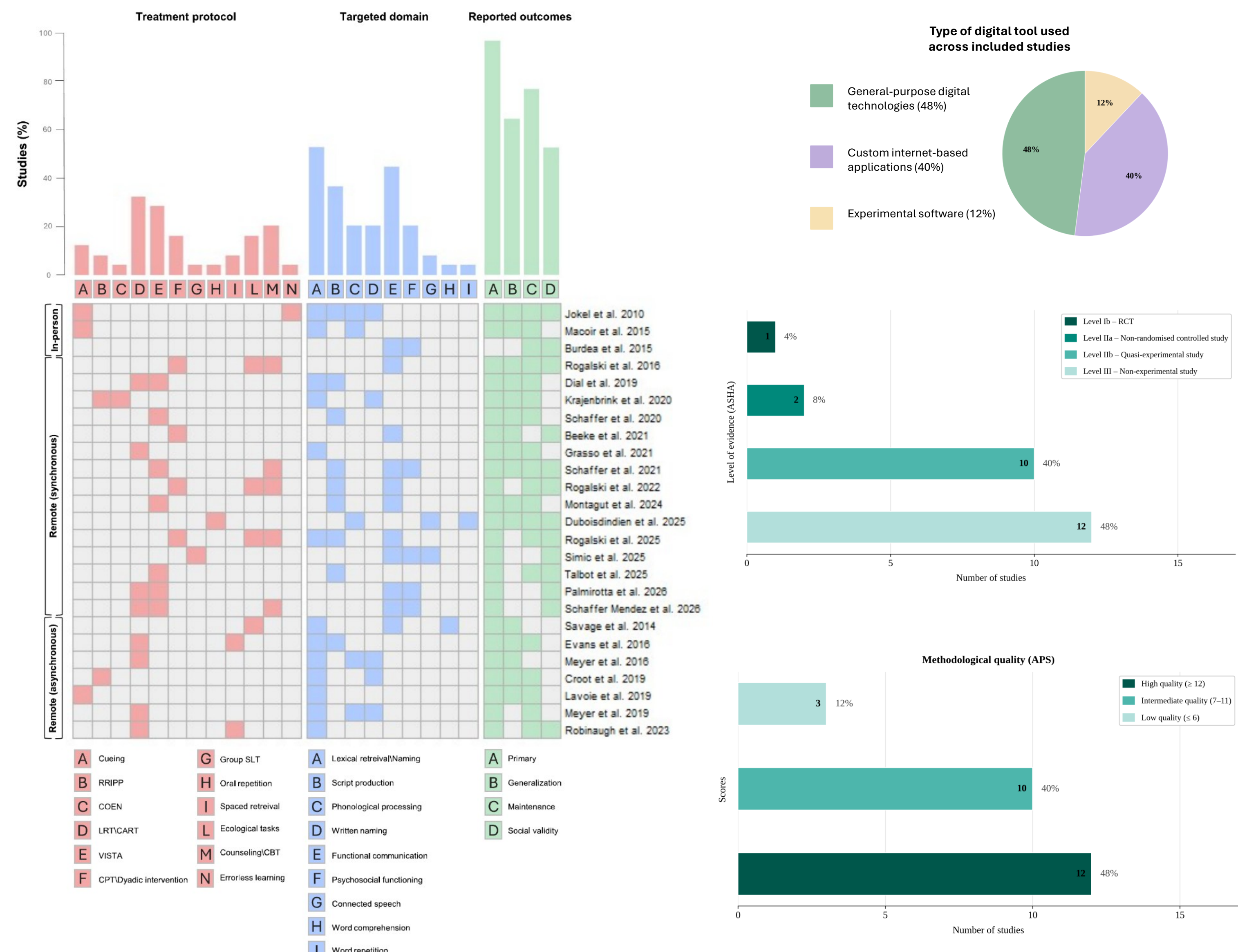
Study selection, data extraction, and quality appraisal were conducted independently by multiple reviewers. Intervention characteristics were extracted using the TIDieR framework.

Methodological quality and risk of bias were assessed using the Appraisal Point System, and levels of evidence were classified according to adapted ASHA criteria.



RESULTS

Twenty-five studies including 287 individuals with PPA were included.



CONCLUSIONS

Digital speech and language interventions appear promising for supporting communication rehabilitation in PPA, particularly where access to specialised and continuous care is limited. Current evidence suggests benefits for trained language outcomes and, in some studies, functional communication and maintenance of gains. Nevertheless, heterogeneous protocols, variable outcome reporting, incomplete fidelity/adherence data, and limited controlled evidence reduce the strength of clinical recommendations.



Future research should prioritise:

- Stronger designs
- Standardised outcomes
- Transparent reporting
- Real-world implementation