



POSTER SESION 1	167
NEUROPSYCHOLOGY.....	167
AGING AND DEMENTIA.....	167
BRAIN ELECTRICAL CORRELATES AND NERUOMODULATION	167
DEVELOPMENTAL PSYCHOBIOLOGY	167
LEARNING AND MEMORY	167
COGNITION AND EMOTION	167
ETHOLOGY.....	167
EFFICACY OF INTENSIVE TELE-REHABILITATION COMBINEDWITH DONEPEZIL COMPARED TO FACE-TO-FACE ADMINISTRATION	168
PAIN-RELATED EVOKED POTENTIALS ARE DIFFERENTIALLY AFFECTED BY CHRONIC PAIN AND AGING	169
CAN PRESURGICAL EPITRACK PERFORMANCE DIFFERENCIATE POSTSURGICAL AFFECTIVITY AND QUALITY OF LIFE PROFILES IN EPILEPSY?	170
POSITIVE IMPACT OF SOCIAL SUPPORT ON COGNITIVE DEFICITS IN FIBROMYALGIA SYNDROME	171
COGNITIVE DECLINE IN FIBROMYALGIA SYNDROME PATIENTS. EXPLORING THE ROLE OF BODY MASS INDEX AND CLINICAL SYMPTOMS OF THE DISORDER	172
NEUROPSYCHOLOGICAL ASSESSMENT IN CHILDREN WITH HYDROCEPHALUS: A SYSTEMATIC REVIEW	173
COMPARISON OF THE PERFORMANCE OF YOUNG PEOPLE IN THE COMPLEX FIGURE OF REY-OSTERRIETH AND IN THE COMPLEX FIGURE OF TAYLOR	174
SELF-CONCEPT AND LIFE SATISFACTION IN ACQUIRED BRAIN INJURY: A CASE STUDY (I) .	175
PERFORMANCE DIFFERENCES BETWEEN ALLOCENTRIC AND EGOCENTRIC SPATIAL STRATEGIES MEDIATED BY WORKING MEMORY AND TEMPORAL CAPACITY.....	176
REDUCED CORTICAL PAIN PROCESSING AND HYPOALGESIA DUE TO SOCIAL STRESS	177
EFFECTS OF VALPROIC ACID ON EXECUTIVE FUNCTION AND VERBAL MEMORY IN TEMPORAL LOBE EPILEPSY PATIENTS.....	178
OBJECT-LOCATION MEMORY DEFICITS IN LONG COVID: APRELIMINARY STUDY USING A VIRTUAL REALITY-BASED TASK.....	179
NEUROPSYCHOLOGICAL PROFILE OF PATIENTS WITH BORDERLINE PERSONALITY DISORDER	180
SELF-CONCEPT AND LIFE SATISFACTION IN ACQUIRED BRAIN INJURY, A CASE REPORT (II)	181



EFFICACY OF INTENSIVE TELE-REHABILITATION COMBINED WITH DONEPEZIL COMPARED TO FACE-TO-FACE ADMINISTRATION

Neuropsychology

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Keywords: Post-Stroke Aphasia; Intensive Language Rehabilitation; Tele-Rehabilitation; Donepezil

Objetivos / Objectives

- (a) To evaluate the benefits promoted by two modalities of intensive language-action therapy, telerehabilitation (Tele-ILAT) and face-to-face (ILAT), applied alone and in combination with Donepezil to persons with chronic post-stroke aphasia (PSA) (phase 1).
- (b) To examine the best remote or hybrid strategy to maintain the gains in language and language-affiliated behaviours (communication, psychological adjustment, and quality of life) promoted by both modalities of ILAT, and to determine the efficacy of these interventions in reducing the therapist burden (phase 2).
- (c) To identify potential predictors of treatment response, including gene markers, and to detect changes in language, cognition, emotional functions, and neural plasticity using multimodal MRI.

Metodología / Methodology

Estimated sample size: 48 participants with chronic PSA are required to obtain a power of 80% (increment of 5 points \pm 4) relative to baseline scores on the Western Aphasia Battery-Revised. Methods and design: a randomised control trial involving four groups comparing the effectiveness of ILAT applied online, and face-to-face administered alone and with Donepezil (phase 1); three quasi-randomised parallel groups (asynchronous, hybrid and control) (phase 2).

Resultados y Conclusiones / Results & Conclusions

Primary outcome measures: aphasia severity, communication, behaviour, and quality of life. Likewise, evaluations will determine potential predictive variables of response and brain and language changes associated with the treatments at different timepoints. This trial will determine: (a) whether Tele-ILAT administered alone and combined with Donepezil reduces aphasia severity and language-affiliated deficits in the same manner as face-to-face ILAT and the contribution of adding Donepezil to these interventions; (b) the best long-term remote maintenance-therapy.

EFFICACY OF INTENSIVE TELE-REHABILITATION COMBINED WITH DONEPEZIL COMPARED TO FACE-TO-FACE ADMINISTRATION

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BACKGROUND

Approximately 30% of the people who suffer from stroke will develop aphasia, typically evolving to chronic aphasia with great personal, familiar and economic costs. Therefore, it is vital to optimize economic resources while maximizing the benefits of language rehabilitation therapies.

Intensive Language Therapy (ILAT) has proven to report greater benefits than conventional language therapy. Moreover, the use of cholinergic drugs has been reported to have an enhancement effect when combined with ILAT.

Internet based delivery of ILAT has the potential to facilitate access and decrease the cost. However, interactions may be different in a virtual environment and, thus, studies assessing its feasibility and benefits are needed before an extended use is implemented!



OBJECTIVES

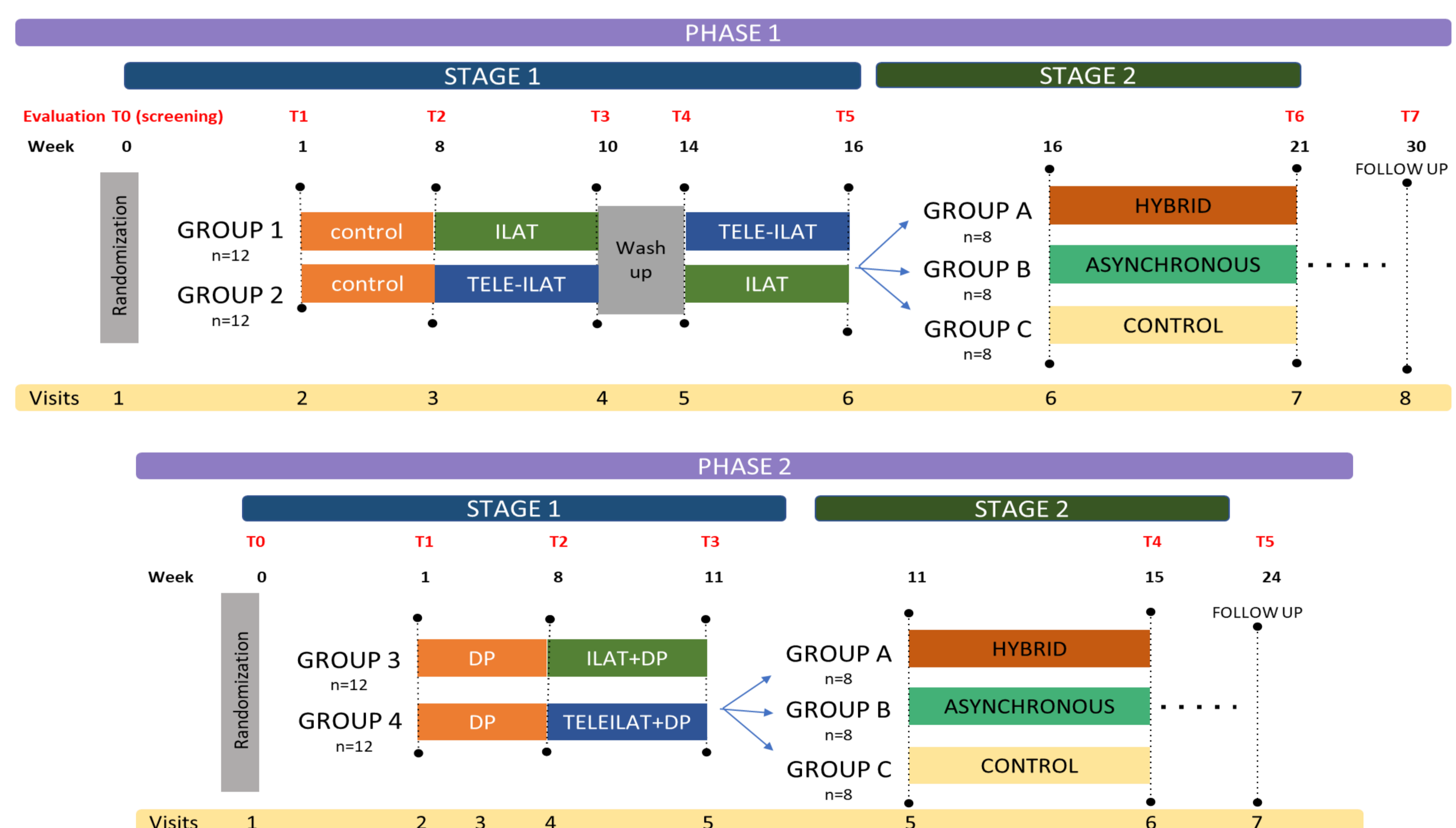
- To determine whether remote ILAT (Tele-ILAT), on its own and in combination with Donepezil, is as effective as face-to-face ILAT
- To establish what is the most efficient remote or hybrid strategy to maintain the gains in language and language-affiliated behaviors promoted by both modalities of ILAT while reducing the therapist burden
- To identify potential response predictor variables, such as gene markers
- To detect changes in language, cognition, emotional functions, and neural plasticity using multimodal MRI

STUDY DESIGN

Two-phase crossover intrasubject design:

Phase 1: A randomized control trial involving four groups comparing the effectiveness of ILAT applied online, and face-to-face administered alone and with Donepezil.

Phase 2: Three quasi-randomized parallel groups (asynchronous, hybrid and control).



Estimated sample size: 48 participants with chronic PSA are required to obtain a power of 80% (increment of 5 points \pm 4) relative to baseline scores on the Western Aphasia Battery-Revised.

METHOD

Multimodal evaluation including:

- Language and cognitive evaluations
- Functional MRI (resting state and during repetition); structural MRI (T1 and DTI). Evaluations T1, T2 and T3.
- Genotyping of ApoE and BDNF genetic variants (blood sample will be collected at evaluation T1)

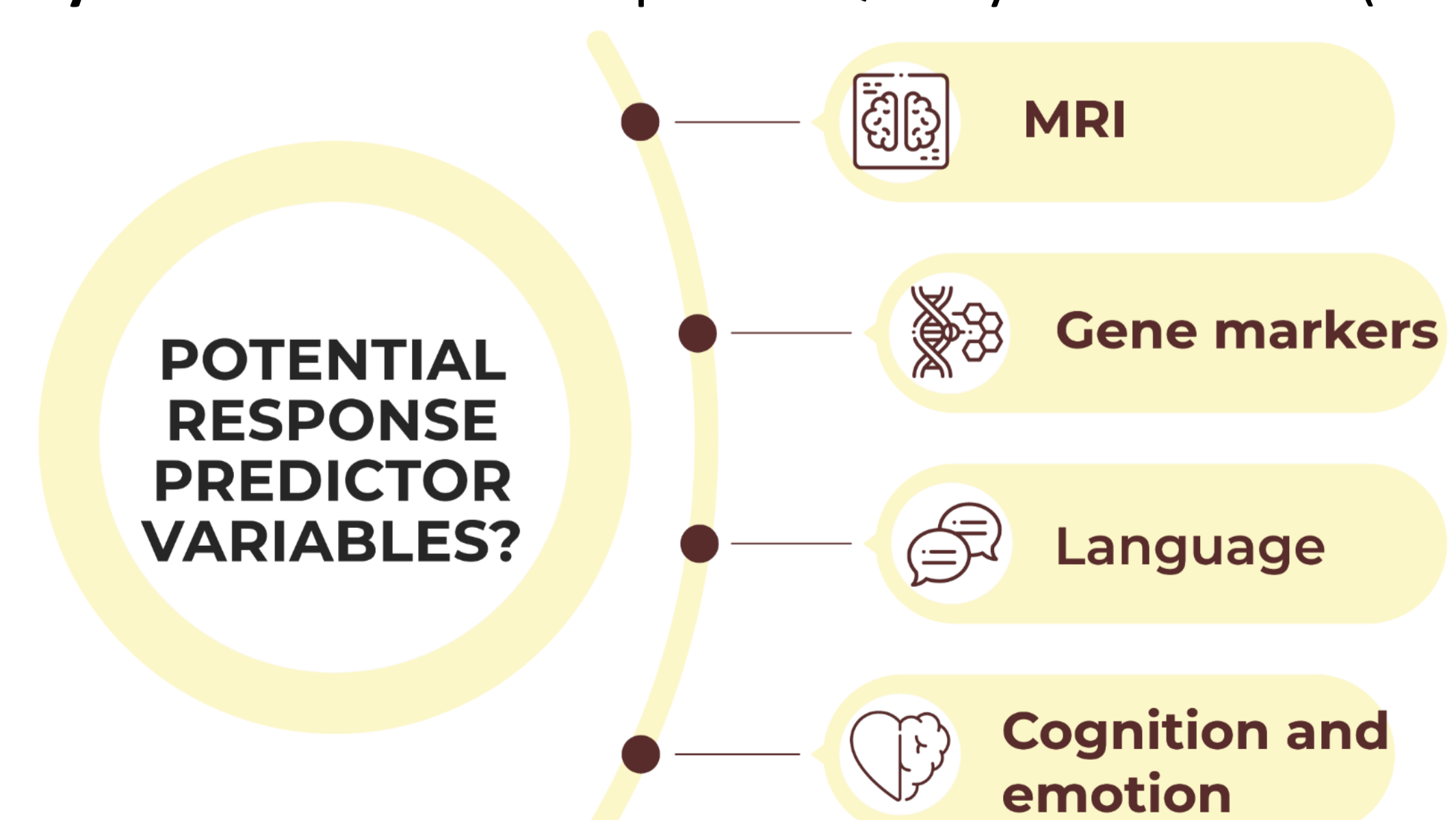
Primary outcome measures:

- **Aphasia severity:** Western Aphasia Battery-Revised (WAB-R)
- **Communication:** Communicative Activity Log (CAL)
- **Behaviour:** Stroke Aphasia Depression Questionnaire (SADQ)
- **Quality of life:** Stroke and Aphasia Quality of Life Scale (SAQOL-39)

WHERE ARE WE NOW?

We are recruiting!

- People with chronic post-stroke aphasia (left-hemisphere single stroke)
- Right-handed, native Spanish speakers; between 18-70 years old



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References



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EFFICACY OF INTENSIVE TELE-REHABILITATION COMBINED WITH DONEPEZIL COMPARED TO FACE-TO-FACE ADMINISTRATION

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(a) To evaluate the benefits promoted by two modalities of intensive language-action therapy, telerehabilitation (Tele-ILAT) and face-to-face (ILAT), applied alone and in combination with Donepezil to persons with chronic post-stroke aphasia (PSA) (phase 1).

(b) To examine the best remote or hybrid strategy to maintain the gains in language and language-affiliated behaviours (communication, psychological adjustment, and quality of life) promoted by both modalities of ILAT, and to determine the efficacy of these interventions in reducing the therapist burden (phase 2).

(c) To identify potential predictors of treatment response, including gene markers, and to detect changes in language, cognition, emotional functions and neural plasticity using multimodal MRI.

Methodology:

Estimated sample size: 48 participants with chronic PSA are required to obtain a power of 80% (increment of 5 points \pm 4) relative to baseline scores on the Western Aphasia Battery-Revised.

Methods and design: a randomized control trial involving four groups comparing the effectiveness of ILAT applied online, and face-to-face administered alone and with Donepezil (phase 1); three quasi-randomised parallel groups (asynchronous, hybrid and control) (phase 2).

Results and conclusions:

Primary outcome measures: aphasia severity, communication, behaviour, and quality of life. Evaluations will determine potential predictive variables of response, as well as brain and language changes associated with the treatments at different timepoints.

This trial will determine: (a) whether Tele-ILAT administered alone and combined with Donepezil reduces aphasia severity and language-affiliated deficits in the same manner as face-to-face ILAT and the contribution of adding Donepezil to these interventions; (b) the best long-term remote maintenance-therapy.

Efficacy Of Intensive Tele-Rehabilitation Combined With Donepezil Compared To Face-to-face Administration

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