Cognitive impairment is one of the major causes of disability after brain damage. The ultimate goal of neuropsychological rehabilitation is the reduction of that incapacity and the promotion of the highest independence and quality of life of those with brain damage.

Cognitive rehabilitation involves a set of therapeutic activities that are based on the evaluation and comprehension of the impairments resulting from brain damages; its fundamental objective is to promote the best patient functioning in relevant areas of his/her daily life (Cicerone et al., 2000).

This type of intervention is usually implemented through series of exercises (Uzzell, 2000) developed to rehabilitate the impairments of the following higher mental functions: attention and concentration, memory and learning, visual-spatial, visual-perceptual and visual-constructive abilities, language and executive functions (Cicerone et al., 2000; Gouvier, O’Jile, & Ryan, 1998).

AIM

The aim of the present study was to develop a set of rehabilitation exercises oriented to the rehabilitation of the following higher mental functions: memory, attention (focused, divided, sustained), executive functions, verbal fluency and constructive ability.

METHOD

PARTICIPANTS

The cognitive rehabilitation exercises developed were tested in three adult patients undergoing neuropsychological rehabilitation. These patients presented different kinds of brain damage, but similar mild impairments in terms of higher mental functions (memory and learning, attention, executive functions, verbal fluency and constructive ability).

MATERIAL

1. Memory and Learning Rehabilitation

Restoring, one of the memory rehabilitation strategies, involves the practice of certain tasks, such as learning strings of numbers or lists of words, using rehearsal and learning strategies that allow memory recall of items, grouping them into different categories (Skell & Edwards, 2001). Based on these strategies, different exercises were developed:

- In the developed exercise, there were two geometric forms presented (adapted from Simões, 2003): (a) table divided in small rectangles in which there were sets of numbers (cf. Figure 2) - the patient must say how many numbers are in each set and not the number in each rectangle; (b) contradictory commands (e.g., cf. Figure 3) - in this exercise the patient must memorize the instructions previously given so that in face of a certain stimulus he can inhibit the order of the card and follow the previously given instruction (adapted from Portelaino, 2005).

Reading and colour naming exercises were also developed, based on the Portuguese Neuropsychological Stroop (Castro, Martins, & Cunha, 2000).

![Figure 2. Table divided into small rectangles.](image)

Say “Blue” Say “Yellow”

- “Place where we sleep” “Place where we eat”

![Figure 3. Contradictory commands.](image)

Trail Making Test Paradigm

- In the developed exercise, there were two geometrical forms (square and triangle) and two colours (red and blue). The task consisted in connecting the different geometrical forms in the following alternate sequence: red square, blue square, blue triangle, red square and so on (adapted from Portelaino, 2005).

![Figure 1. Restaurant menu.](image)

![Figure 4. Complex geometric figure.](image)

REFERENCES


PRELIMINARY RESULTS AND FUTURE DIRECTIONS

According to the methodology followed, the exercises were considered adequate to the aims underlying their development.

With this work we have tried to give our contribution to reduce the lack of instruments available in the field of cognitive rehabilitation.

The exercises presented here may serve as a starting point in the preparation of cognitive rehabilitation programs, but the idiosyncratic aspects of the person must always be taken into account in the formulation of a successful therapy.