

- **Introduction:** The neuropsychology of HIV, is a multidisciplinary field that aims to give a better understanding about the interaction between brain/mind functions and seropositivity/ infection related with HIV.
- The new ART for treating HIV gives a better lifespan and better immunological function that permits the reduction of incidence of AIDS related Dementia.
- The prevalence of “ANI” Asymptomatic Neuropsychological Impairment and “MND” Mild Cognitive Impairment are raising, having a negative impact in live of people with HIV.
- A correct neuropsychological evaluation and stimulation program can improve the cognition of people with ANI and MND, improving better quality of live, and retarding or improving the cognitive declining .

Methods:

- For the present study, the list of Positivo (Association) members was surveyed, having randomly connected the users of the same association, and by order of random telephone calls, the subjects who were available for the study are inviting to participate.
- The sample consisted of 7 subjects with HIV (random sample), with an average level of education level 3 (CE), 5 males and 2 females, with an average age of 52.4 years, without previous brain pathology.
- Subsequently, a presentation action was carried out on the project and, in parallel, a psychoeducation session on cognition and HIV was held.

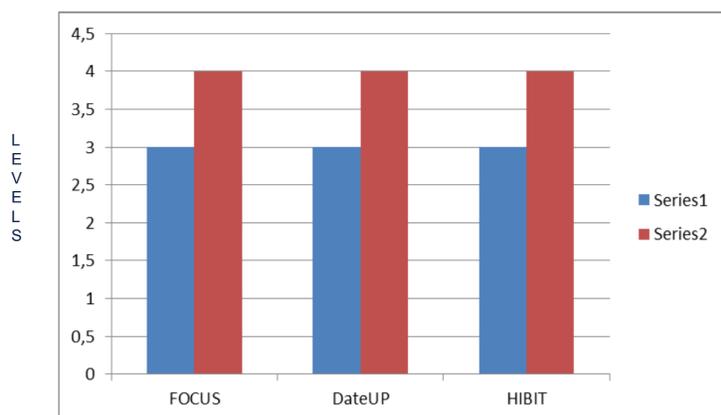
Procedure and Materials

- The informed consent and BDI,WHOQOL-HIV was applied, followed by the MOCA test to collect clinical data.
- Cognitive rehabilitation sessions were organized with Cogniplus in groups of 2 people where Focus S1 (concentrated attention), DateUp (visual spatial memory) and HIBIT (Inhibition of response) were applied, with all sessions lasting an average of 30 to 40m. Data from MOCA, BDI and WHOQOL-HIV were quoted and analyzed in addition to having a qualitative assessment of the results of the “Cogniplus” sessions (7 sessions) and their usability in subjects with HIV.

Results:

- The results point to a high rate of cognitive impairment present in 5 of the 7 subjects in the sample, with only 1 presenting an indicator of depression and none showing changes in quality of life.
- The adaptation to the program “Cogniplus” was easy in terms of qualitative observation by the investigators.
- We done 7 sessions with the program, and understand a subjective first line effect in the subjects submitted to program of attention/ executive function and short term memory.
- There was no regression between the application of level of intra program trains (short term memory; executive function and attention).
- The level of drop outs was high in our sample “low sensibility to the problem of cognition and HIV”.

Figure 1. Cogniplus: Resume of Evolution of Programs



Notes: Series 1: first presentation of programs Series 2: second presentation of programs

Table 1. Resume of Sample Data

Subjects code	Demographic Variables		
	Sex	Age	scholarity
1	f	50	2 (CE)
2	m	58	5 (CE)
3	m	55	4 (CE)
4	m	39	4 (CE)
5	m	61	4 (CE)
6	m	57	4 (CE)
7	f	47	5 (CE)

Discussion:

- Our project aimed to assess the importance of neuropsychological assessment and neuropsychological rehabilitation in people with HIV to assess the impact on cognitive functions and how they can be stimulated.
- The study carried out in our sample is in line with the scientific literature that shows the importance of neuropsychological assessment and the potential to be able to stimulate subjects with cognitive changes.
- The applicability of Cogniplus to this sample revealed a good level of usability among the subjects to which it was applied, having been identified that in the intermediate levels of the program the subjects revealed a good integration of the training in relation to the cognitive situations object of training.
- The study in question has many limitations where the sample size stands out, which led to constraints throughout the project, however we know that the little dissemination of this theme in the population with HIV and even in the clinical and scientific community show the dimension of the work to be done. In a research on cognitive rehabilitation in subjects with HIV, only 3 studies with effective scientific interest were found by us.

Other Considerations:

- The application of a systematic and computerized system of cognitive stimulation seems to be a measure of cognitive stimulation to be used in subjects with cognitive impairment and HIV.
- It's necessary to make previous sensibilization sessions with satkeholders and patients to educate in the subject of cognition and HIV.
- There is a gap between theoretical concepts in the subject and intervention programs focused in patients.

Table 2. Resume of Tests Results

Subject	MOCA	BDI
1	23/30	6
2	17/30	6
3	21/30	7
4	22/30	5
5	28/30	7
6	25/30	3
7	29/30	14

MoCA Montreal Cognitive Assesment cutt of 26; BDI Beck Depression Inventory cutt of 10

Conclusions:

- The results obtained warn of the need to carry out new studies with more effective control methodologies along with the replication of the study by similar studies with larger samples, as well as with eminently non-clinical samples for comparison with the results obtained. Concomitantly, further sub-factors of cognitive functions should be placed in future studies to better understand the impact of changes in the functions being trained and the improvement of quality of life in subjects with HIV. We also leave the opinion that in order to carry out more “robust” studies, we must create new integrated methodologies that bring together neurocognitive aspects, infection aspects, functional neuroimaging, emotional, social and even genetic, so that the problem can be studied taking into account the heredity / genetics trinomial and the environment.
- The neuropsychology stimulation must be effective based in new web and computer technologies “user friendly” to improve the compliance to the intervention and give objective results to create integrated matrix data to correlate with other clinical and scientific aspects related to this conditions of health to permit the development of new approaches to this important condition related to self autonomy and process of decision making in daily living “latus sensus”.

Acknowledgments: Viiv and participants of the project

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