

Cognitive rehabilitation program for people with a first episode of schizophrenia and the use of new technologies

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Introduction

People with psychosis use to have some cognitive difficulties such as memory, processing speed, attention and learning, that are associated with a poorer social and occupational functioning. This project includes cognitive rehabilitation and ICTs with actions of employment, looking for increasing the psychosocial development and empower people with incipient psychosis, preventing from dependency and disability. Young people with schizophrenia have a high risk of social exclusion. Whereas functional capacity is in the forefront of therapeutic targets for schizophrenia, the next challenge is to design programs that enhance interaction with other RC interventions in order to maximize the impact on patients functionality, in daily life activities and academic performance and employment. This project is designed by Parc de Salut Mar in Barcelona and AREP Foundation, which has a lot of experience with rehabilitation and reintegration programs, and currently developing the WAY program, focussed on training and support towards employment through individual mentoring, training and support.

Aims

The main general objective is to improve the social and professional integration of people with incipient psychosis, through an interdisciplinary evaluation and integration of cognitive rehabilitation in a program for employment specifically for young people who have suffered a first psychotic episode. The cognitive stimulation program improves memory, attention and other deficits that are predominant in post psychotic episodes, then, the aim is to integrate these service users in a program of training and labour insertion.

More specific objectives are:

- Improve the cognitive abilities of young people suffering from incipient psychotic disorder in order to increase the success of a rehabilitation program and work reinsertion.
- Individualize the process of cognitive rehabilitation and other rehabilitation process by evaluating clinical and social skills of young people suffering from neurocognitive previous incipient psychotic disorder to improve their efficiency and increase the chances of success.
- Increase the success of the rehabilitation process and cognitive rehabilitation specifically through the use of mobile applications.
- Improve access to rehabilitation and employment of young people suffering from incipient psychotic disorder.

Methods

60 service users will be recruited through different mental health services. After clinical, social and neurocognitive assessment, a computerized cognitive rehabilitation has been created (Rehacom), to stimulate cognitive domains using a software based on overcoming tasks (screens), 3 times a week during 3 months. The subjects are young people from 18 to 30 years old who recently suffered a psychotic episode, and the recruitment is done in the Parc de Salut Mar where exists an specific program for first psychotic episodes, also Mental Health Centres and social services. A mobile app should be created to encourage adherence to the program, monitor and give feedback of the performance in cognitive rehabilitation for each patient. A new medical, social and neurocognitive assessment will be done at the end of the program. A survey to evaluate the user's satisfaction will permit to improve the program for new groups.

Results

The expected results are:

- Improve cognitive capacities (indicators: neurocognitive evaluations, results and progression during the program)
- Increase autonomy and capacity for coping basic activities of daily living (indicators: disability questionnaire WHO-DAS)
- Increase quality of life and satisfaction of life (indicator: quality of life questionnaire SF-35)
- Reduce family overload (indicator: Zarit family overload questionnaire)
- Increase by 20% employment reinsertion (indicator: compare the percentage of previous years)

By now, 9 service users have participated, 6 men and 3 women, with a mean age of 24.7 years old (from 19 to 29). The time from the first episode varies from 1 year to 8 years (mean: 3.55 years), and the main diagnosis are schizophrenia (4), unspecific psychosis (2), bipolar disorder (2) and schizo-affective disorder (1). At the beginning of the program they filled the GAP questionnaire.

Of these 9 users, only finished the program 5. 3 people abandoned because they couldn't manage to go to all the sessions (they referred difficulties mostly to wake up and stay 5 hours in the same place), and the other one found a job. All the 4 people that left the program were consuming cannabis sometimes.

We are now re-evaluating cognitive changes (we could not re-evaluate them before 6 months because of the learning effect). By the moment we have observed that there is an improvement in the general cognitive performance, also influenced by the learning effect of such tests. The attention and concentration have improved and consequently also their performance on memory tests. However, problems in tasks that require specific executive functioning persisted.

Table 1. Summary results

	GAF	Sex	Age	Time from 1st episode	Substance abuse	Finishes the program
User 1	80	H	26	19 (7)	no	Yes (is working now)
User 2	65	H	29	21 (8)	no	Yes
User 3	55	H	21	17 (4)	cannabis	Yes (is working now)
User 4	60	H	19	18 (1)	cannabis	NO (leaves)
User 5	70	D	22	21 (1)	cannabis	NO (found a job)
User 6	55	H	23	21 (2)	cannabis	NO (leaves)
User 7	50	D	25	21 (4)	cannabis	NO (can't follow the program)
User 8	60	H	29	26 (3)	cannabis	Yes (is working now)
User 9	70	D	29	27 (2)	no	Yes

Table 2. Satisfaction questionnaire (from 1-low to 5-high) of those who finished (4 users filled the questionnaire):

expectations	3	3	4	1
Utility of the contents	4	3	4	5
Depth of the contents	3	3	4	1
application of knowledge	1	4	4	1
Duration of the course	3	3	4	1
Teacher: knowledge	3	5	5	5
Teaching methods	3	3	5	1
Number of participants	5	4	5	5
Environement	5	3	5	5
	3,3	3,4	4,4	2,8

Discussion

The main difficulty of the program was the funding source (the Occupational Service from Catalonia participated) that conditioned the intensity of the program and did not finance the app which was designed to improve the efficacy of the program.

Moreover, the time schedule was difficult to follow for some participants. We observed that those who had more negative symptoms and poor functionality at baseline, that is those who could be more beneficiaries of the program, are those who came more irregularly and could not follow it.

We need more participants to keep improving the program and also there are some issues to be reviewed, for instance, the time schedule and the possibility of doing it or part of it at home online.

Conclusion

This project integrates computerized cognitive rehabilitation and employment reinsertion for young people with incipient psychosis. This project takes place in early stages of the disease, and it's been demonstrated that it is the most efficient stage for this kind of interventions to improve clinical, social and functional prognosis. Employment will reduce stigma and social exclusion. To improve autonomy promotes a better self care.