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Research Article

Functionality, Autonomy and Executive Function in Patients with Schizophrenia and Schizoaffective Disorder

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Abstract

Cognitive deficits in psychotic disorders can be potential markers of the prognosis, among other factors. Initiative, planning, adaptability, concentration and consistency/regularity are very valuable competences in the labor market and it is possible and foreseeable that psychotic patients will probably have problems in obtaining and maintaining a job. The main goal of this study is to describe the relation between the patient's global and labor functionality and executive dysfunction in schizophrenia and schizoaffective patients.

The results shows that the fluency subdomain is probably related with difficulties in the basic performance in the labor market. Patients diagnosed with psychotic disorders have a tough time entering the working marked and yet it is known that it is an aspect of normalization that affects the global functionality of a person. During the process of insertion and maintenance of a working place, it should be an important issue to remember to make the appropriate adjustments.

Introduction

Cognitive deficits in psychotic disorders can be potential markers of the prognosis, among other factors [1]. In fact, some authors correlate premorbid cognitive capacities (cognitive reserve) with functionality in the long term [2,3].

On the other hand, in regard of diagnosis, cognitive dysfunction has been compared between schizophrenic and schizoaffective patients. Clinical experience could make us believe that schizoaffective patients might have better cognitive functionality than those with a schizophrenia diagnosis. Nevertheless, this has not been proved clearly scientifically, with articles pro [4-8] and against this theory [9,10], the latter ones showing minimal or inexistent difference between groups.

Among cognitive domains, executive function is one of the best related with daily functionality in patients [11,12], and also with clinical severity of the illness, basically in relation with negative symptomatology [13]. Within executive functions, there are different dimensions such as flexibility, inhibition, planning and fluency [11]. All those are localized in the frontal lobe of the brain and are directly conditioned by dopaminergic hypo-function in this area. They are correlated with amotivational syndrome, initiative and adaptation to the medium. This meaning, clinical symptomatology and cognitive difficulties affect directly to the patients' daily life, this including their performance at work. Initiative, planning, adaptability, concentration and consistency / regularity are very valuable competences in the labor market and it is possible and foreseeable that psychotic patients will probably have problems in obtaining and maintaining a job.

The main goal of this study is to describe the relation between the patient's global and labor functionality and executive dysfunction in schizophrenia and schizoaffective patients. Plus, we would like to study if there are any differences according to the diagnostic (schizophrenia vs schizoaffective disorder) or the phase of the disease (initial <5 years' vs advanced >5 years), following the critical period [14].

Methods

Participants

We included 74 patients diagnosed with schizophrenia or schizoaffective disorder (DSM-5, 2014) [15] being followed in the outpatient clinic of the Hospital of Mataró (Consorci Sanitari del Maresme). We included all the patients between the ages 18 to 65, currently being followed at the outpatient psychiatric clinic and meeting the criteria for stability of their disease (no pharmacological changes in their usual treatment during the 3 months before the start of the study). We excluded all patients with: intellectual disability (IQ<70), history of neurological disease or active use of drugs.

Instruments

- Structured clinical interview for DSM-IV (SCID) [16]. Semi-structured interview used to corroborate the diagnosis.

- Trail Making Test part B [17]. It was used to evaluate working memory, cognitive flexibility and inhibition.

- Phonetic verbal fluency and semantics test [18,19]. This instrument evaluates the capacity to elaborate strategies oriented to the search of precise words, according to concrete instructions.

- Stroop test [20]. Used to evaluate attention and the capacity to control interference and the inhibition of automatic answers.

- Personal and Social Performance (PSP) (spanish version) (Morosini *et al.* 2009). Used to evaluate the global performance of the patient [21].

- Social Functioning Scale (spanish version) (Birchwood *et al.* 1990) is an instrument specifically designed to evaluate the social functioning of schizophrenic patients. During our study we mostly used the sub-scale "job" in the Spanish version [22].

Procedures

We accomplished a first recollection of sociodemographic and clinical data doing interviews and a revision of clinical registers. Thereafter, clinically trained psychologists run tests and diagnostic tools to the patients.

Results

85 patients were included in the study, 7 of them do not finally participated and 4 others did not meet the inclusion criteria. The mean of age was 38,16 (SD= 10.56). The patients (ages 19 to 65) had a mean age of schooling of 15,58 (SD=3,68). 25.7% of the patients were women and 74.3% were men. Among them, 24.3% were working at the time of the study.

According to the diagnosis, we observed a better global executive functioning in the schizoaffective group, though without being statistically significative. Notwithstanding, when we look at the semantics fluency there were statistically significant differences among groups (table 1).

Table 1: *Difference in executive functions among groups*

Executive function	Test	Diagnosis group		t	df	p values
		Schizophrenia N=39	Schizoaffective disorder n=35			
Plannig and flexibility	TMT-B	144,92 (63,47)	72,10(23,05)	.866	44	.39
Phonetic fluency	FAS	34(10.07)	36,33 (14,58)	-.56	44	.57
Semantic fluency	Isaac Test	16.08.(4.5)	22.56(4.66)	3.84	44	.00
Inhibition	Stroop	324.21(44.98)	527.5(66.8)	-.58	44	.57

The analysis according to the diagnosis and the laboral performance did not show significant differences (p=0,14). Nevertheless, a higher percentage of schizoaffective patients are working (36.8% vs 20% in the schizophrenia group).

If we focus on the phase of the disease, 72,7% of the patients were active in the labor market when the disease started. This percentage diminished with time and from all the patients with more than 5 years of progression of the disease, only 15.9% were working. The differences between those groups according to the progression of the disease were statistically significant ($\chi 2$=6.44; p=.000). On the other hand, when we observe the results of the executive functions, those do not show any statistically significant differences between the two groups (at none of the studied functions). Same situation when we look at functionality: we do not observe any statistically significant differences between groups (table 2). Nevertheless, we do find statistically differences with the correlations between the PSP scale of functionality and the phonetic fluency (r=.348; p=.018).

Table 2: *Differences in functionality among groups*

Social Functioning	Test	Diagnosis group		t	df	P values
		Schizophrenia N=39	Schizoaffective disorder n=35			
Global functionality	PSP	63.73(14.51)	66.50(13.26)	-,545	45	,589
Work functionality	SFS-W	1,78(0.94)	2(1)	-,566	25	,576
Autonomy	SFS-A	27.59(8.5)	27.11(9)	,133	24	,895

Autonomy showed inverse correlation and statistically significant differences with age (r-6.51;p=.000) but this was not observed with the mean age of schooling (with none of the variables of the PSP scale, p>0,05).

To put in a nutshell, the percentage of patients with a schizophrenia or with a schizoaffective diagnosis that maintain a working activity is low. Globally, patients with schizoaffective disorders obtain better scores at executive functions tests that those with schizophrenia. Fluency is the executive function that shows statistically significant differences between groups. Plus, the results display a relation between this function and global performance of the patients. In the initial stage of the disease, the percentage of patients maintaining a working activity is higher than those observed at the advanced stages (72.7% vs 15.9%) and the autonomy levels show an inverse relation with age. Nevertheless, the schooling years do not seem to have any relation with global functionality, working performance or autonomy.

Conclusions

The fluency subdomain is probably related with difficulties in the basic performance in the labor market. The stage of the disease and the age are two important factors to keep in mind to facilitate insertion and occupation with our patients. Patients diagnosed with psychotic disorders have a tough time entering the working marked and yet it is known that it is an aspect of normalization that affects the global functionality of a person. During the process of insertion and maintenance of a working place, it should be an important issue to remember to make the appropriate adjustments. We believe that those modifications would facilitate the social and working integration of these patients, with the consequent diminution /weakening of the stigma.

Disclosure and Conflict of Interests: None

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