Paranoid Schizophrenia versus Schizoaffective Disorder: Neuropsychological Aspects

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SUMMARY

Introduction Neuropsychological aspects of paranoid schizophrenia have still not been examined enough. These disorders are usually not studied separately, but are included in the studies about schizophrenic patients with positive symptoms. Despite the fact that schizophrenia represents a heterogeneous group of mental disorders, usually it is not separated from schizoaffective disorder in neuropsychological researches.

Objective The essence of this research is to evaluate cognitive functioning of patients with paranoid schizophrenia and schizoaffective disorder by applying neuropsychological tests.

Methods The research included 91 subjects, right handed, from 30 to 53 years old, who were classified into three groups: inpatients with paranoid schizophrenia in remission (n=31), inpatients with schizoaffective disorder in remission (n=30) and healthy subjects (n=30).

Results Both groups of patients showed poorer achievements than healthy subjects in most of the applied tests. Patients with schizoaffective disorder showed global loss of intellectual efficiency, executive dysfunction and compromised visual–construction organization. Patients with paranoid schizophrenia expressed partial loss of intellectual efficiency with verbal IQ and executive functions preserved.

Conclusion In the remission phase, patients with paranoid schizophrenia expressed cognitive disorders in moderate degree, but when it comes to patients with schizoaffective disorder, more massive cognitive deficits were registered.

Keywords: neuropsychology; schizoaffective disorder; paranoid schizophrenia

INTRODUCTION

It is well known that schizophrenic patients encounter difficulties with various cognitive tasks [1]. Even though there are numerous methodological problems that accompany neuropsychological evaluation [2], such as demographic characteristics of patients, pharmacotherapy, applied test type, various strategies of evaluating the results of neuropsychological studies, etc., it is possible to define the presence of most common deficits in schizophrenia. It is obvious that there is a high degree of correlation between schizophrenia and cognitive disorder [3, 4].

Neuropsychological investigations of schizophrenia are numerous and they offer reliable data on cognitive dysfunctions of these disorders. These studies mostly deal with establishing the differences of cognitive functioning of schizophrenic patients with negative, disorganized and psychotic symptoms [5, 6] with risk assessment of the first psychotic episode through neuropsychological parameters [7] or with investigating cognitive characteristics of negative symptoms [8, 9]. It has been found that certain negative symptoms are connected to memory disturbances, verbal fluency, psychomotor speed and executive functions, while positive symptoms are not connected to cognitive deficits [10]. Besides this, studies suggest that non-paranoid patients have a form of a disease characterized by weaker premorbid functioning and higher level of damage of thinking and cognition, in comparison to patients with paranoid schizophrenia [11, 12]. However, differences in cognitive functioning between different schizophrenia types do not offer the answer to the question to which extent the cognitive deviation of these patients is present, compared with healthy subjects.

Relatively small number of studies have been focused on the research of neuropsychological characteristics of paranoid schizophrenia, and those researches mostly deal with the investigation of ways in which delusional persons think and come to conclusions [13, 14], but with the application of measures that are not within neuropsychological test batteries.

On the other hand, schizophrenia represents heterogeneous group of disorders [15, 16], which, by its nature, can create methodological difficulties. This fact particularly brings into question findings of the studies that deal with the research of neuropsychological function in schizophrenia, not separating it from schizoaffective disorder [17]. Such approach is not surprising, considering the findings which suggest that schizophrenia and schizoaffective disorder have similar cognitive impairment [18], and considering the opinion that diagnosis of schizoaffective disorder should be eliminated from diagnostic nomenclature [19].

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A recent study [20] showed significant improvements of all cognitive functions among patients with schizoaffective disorder in remission, contrary to patients with paranoid schizophrenia in remission, whose cognitive deficits were prominent in the domain of verbal memory, verbal thinking and executive functioning. In this research neuropsychological evaluation based on Luria's systematic approach was applied. Cognitive functions were evaluated according to 0–3 rating scale, where 0 is no deficit, 3 marked deficit. However, gradation of only three degrees makes it difficult to estimate damaged functional systems precisely enough. Also, this battery lacks the scale for evaluation of attention [21] (for example, attention is a dominant factor in the Memory Scale) and existing scales are not capable of determining mild disturbances [22].

OBJECTIVE

In order to examine neuropsychological functions of patients with paranoid schizophrenia and schizoaffective disorder, in this study we have applied standard neuropsychological tests. The aim of the study is to define differences in cognitive profile of patients with schizoaffective disorder and patients with paranoid schizophrenia more precisely. Besides that, with this strategy it is possible to interpret the results as deviation from cognitive functioning of healthy population, which is very important considering the fact that these patients, after their hospital treatment, return to their families, social and often working surroundings, where problems of their adaptation caused by cognitive disturbance might occur and it is even possible that they might not be able to perform their job in a competent way.

METHODS

Subjects

The sample included 91 subjects, right handed, of both sex, 30–53 years old, classified into three groups: 31 patient with paranoid schizophrenia (19 males; 12 females), 30 patients with schizoaffective disorder (18 males; 12 females) and 30 healthy subjects (18 males; 12 females).

Both groups of patients were hospitalized in the Psychiatry Clinic, Clinical Center of Serbia, and had been diagnosed according to ICD-10 criteria. Patients were included into the research on the basis of consecutive admissions, taking into account that all of them had at least 10 years of education in order to prevent educative omissions from influencing the test results.

The criteria for the exclusion from the group with paranoid schizophrenia and group with schizoaffective disorder referred to: the appearance of psychotic phenomenology within neurological disease, organic psychosyndrome, somatic disease, neurological disorder (head trauma, brain insult, epilepsy); information on drug or alcohol abuse. Patients were in the clinical remission during testing (although still on the hospital treatment in order to monitor remission stability), which is presented in score on Positive and Negative Syndrome Scale (PANSS) [23] where an average result was 51.24 (SD±3.65; range 44–56) for patients with paranoid schizophrenia and 52.14 (SD±2.86; range 43–57) for patients with schizoaffective disorder.

For the group of patients with paranoid schizophrenia, disease length was from five to ten years, with average value of 8.41 years, and number of hospitalizations from two to three, average 2.93. The average age was 42.96 (SD±7.39; range 30–53) years, and average educational level was 13.29 (SD±2.24; range 10–17) years.

For the group of patients with schizoaffective disorder, the disease period was also from five to ten years, with average value of 8.32. Number of hospitalizations varies from two to three, with average value of 2.86. The average age was 41.70 (SD±6.57; range 30–53), and average educational level was 13.46 (SD±2.62; range 10–16) years.

The group of healthy subjects was formed on the basis of regular medical findings, among the population that came to regular, six-month, general medical examination required for employees in educational field, catering and food trade. This group included subjects who have never suffered psychotic or neurological disorders (head injuries, epilepsy) or diseases, and in whose anamnesis there was no information on drug or alcohol abuse. The average age was 41.73 (SD±6.59; range 30–53) years, and average value of educational level was 13.56 (SD±2.54; range 11–17) years.

The groups were equal according to age ($H_{(2.91)}$=0.739, p=0.691), education ($H_{(2.91)}$=0.046, p=0.976) and sex (chi-square$_{(2)}$=0.142, p=0.993).

Neuropsychological tests

All subjects were tested with the following tests: Wechsler's Individual Test of Intelligence (VITI) [24], the first Serbian standardized modification of Wechsler Adult Intelligence Scale; Mini Mental State Examination (MMSE) [25]; Trail Making Test (TMT) [26]; Hooper Visual Organization Test (HVOT) [27]; Rey Complex Figure (RCF) [28]; Rey Auditory Verbal Learning Test (RAVLT) [29]; Wisconsin Card Sorting Test (WCST) [30]. The applied battery in its base was eclectic and pragmatic; the selected tests represented common neuropsychological tools which are applied by neuropsychologists in clinical work in Serbia. All subjects were informed about the type of the examination that was to be conducted and they agreed to participate in the testing.

Statistical analysis

The research task was to define the differences between groups that were formed according to the above mentioned diagnostic criteria. Since the samples were small, non-parametric methods were applied to analyze the differences between the groups: Kruskal-Wallis H-test and post-hoc analysis Mann-Whitney U-test, with Bonferroni correction for Type I error.

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As for descriptive indicators, the average value and standard deviation are presented, not average ranges, so that our results can be compared with the results of other researchers.

RESULTS

Table 1 shows the achievements of the subjects on VITI (mean, standard deviation), and Table 2 shows statistical significance of the differences between examined groups on this test (p-value with Bonferroni correction).

Significant differences between groups have been registered in terms of verbal ($H_{(2.91)}$=17.255, p=0.000), manipulative ($H_{(2.91)}$=37.139, p=0.000), and full scale IQ ($H_{(2.91)}$=18.654, p=0.000). Compared to the healthy subjects, both groups of patients have significantly lower manipulative and full scale IQ. In case of patients with schizoaffective disorder, significantly lower verbal IQ is registered, while there are no significant differences in this parameter between the group with paranoid schizophrenia and healthy patients.

There are significant differences between groups at the following VITI subtests:

- Digit Span ($H_{(2.91)}$=14.070, p=0.000),
- Block Design ($H_{(2.91)}$=36.441, p=0.000),
- Information ($H_{(2.91)}$=9.184, p=0.010),
- Vocabulary ($H_{(2.91)}$=8.593, p=0.013),
- Similarities ($H_{(2.91)}$=6.628, p=0.036),
- Digit Symbol ($H_{(2.91)}$=13.242, p=0.001),
- Object Assembly ($H_{(2.91)}$=13.679, p=0.001).

Both groups of patients showed weaker results on Digit Span and Block Design subtests than healthy subjects.

Patients with schizoaffective disorder achieved much lower results on Information, Vocabulary, Similarities and Digit Symbol subtests than healthy subjects. In the Object Assembly subtests the achievements of the group with schizoaffective disorder were far lower than the achievements of not only the healthy group, but also of the group with paranoid schizophrenia.

Table 3 shows the results of subjects in neuropsychological tests (mean, standard deviation) and Table 4 presents statistical significance of differences between examined groups in these parameters (p-value with Bonferroni correction).

Significant differences between groups are registered in the following neuropsychological tests:

- MMSE ($H_{(2.91)}$=59.548, p=0.000),
- TMT A ($H_{(2.91)}$=38.116, p=0.000) i TMT B ($H_{(2.91)}$=47.405, p=0.000),
- HVOT ($H_{(2.91)}$=55.520, p=0.000),
- RCF (complex figure copying $H_{(2.91)}$=53.685, p=0.000; visual memory, $H_{(2.91)}$=21.835, p=0.000),
- RAVLT (word list learning $H_{(2.91)}$=45.176, p=0.000; evocation $H_{(2.91)}$=51.953, p=0.000; recognition $H_{(2.91)}$=58.009, p=0.000),
- WCST (failures to maintain set $H_{(2.91)}$=34.786, p=0.000; number of categories achieved $H_{(2.91)}$=35.801, p=0.000; number of perseverative responses $H_{(2.91)}$=8.720, p=0.012).

Table 1. Achievements of the groups in Wechsler's Individual Test of Intelligence (VITI) (mean±SD)

Variable	PSCH	SCHD	HLTH
IQt	102.74±9.57	99.66±9.92	110.83±8.97
IQv	106.67±9.57	99.66±9.98	111.03±0.05
IQp	98.74±10.18	89.46±9.70	108.13±9.00
Information	18.03±7.27	16.46±5.88	21.50±5.69
Digit span	12.96±3.74	11.96±2.48	16.23±6.92
Vocabulary	43.96±17.57	41.20±13.70	52.43±14.17
Arithmetic	11.29±2.99	9.60±2.09	11.50±3.03
Comprehension	18.35±5.23	16.23±5.61	19.30±5.01
Similarities	17.54±4.41	17.10±6.24	19.83±4.53
Picture completion	11.09±3.28	10.40±3.72	12.06±2.98
Picture arrangement	7.48±3.61	7.20±4.29	9.96±4.65
Block design	30.30±7.72	22.80±8.80	37.46±6.06
Object assembly	25.80±5.81	20.56±6.37	26.66±6.69
Digit symbol	41.09±12.11	36.23±9.40	47.56±16.15

SD – standard deviation; PSCH – patients with paranoid schizophrenia, SCHD – patients with schizoaffective disorder; HLTH – healthy subjects; IQt – full scale IQ; IQv – verbal IQ; IQp – performance IQ

Table 2. Post-hoc analysis Mann-Whitney U-test, with Bonferroni correction for Type I error in Wechsler's Individual Test of Intelligence (VITI)

Variable	p		
	PSCH–HLTH	PSCH–SCHD	HLTH–SCHD
IQt	0.002	0.002	0.000
IQv		0.020	0.000
IQp	0.001	0.001	0.000
Information			0.005
Digit span	0.035		0.000
Vocabulary			0.012
Similarities			0.041
Block design	0.000	0.002	0.001
Object assembly		0.004	0.004
Digit symbol			0.001

Table 3. Achievements of the groups in neuropsychological tests (mean±SD)

Variable	PSCH	SCHD	HLTH
MMSE	27.58±1.64	23.93±1.17	28.60±1.24
TMT A	78.16±16.85	74.70±25.56	47.00±10.68
TMT B	145.93±35.32	155.20±47.71	92.06±9.52
HVOT	16.79±4.14	18.13±1.45	24.55±2.40
RCF C	20.77±5.68	17.95±2.54	29.75±2.85
RCF 40′	10.30±3.02	9.13±3.78	14.15±4.35
RAVLT t	32.90±4.62	34.10±6.14	46.50±7.83
RAVLT e	5.51±1.80	6.20±1.03	8.90±1.09
RAVLT r	9.41±1.43	10.06±0.69	12.93±1.11
WCST ca	4.67±1.70	3.76±0.67	5.36±1.06
WCST fms	1.35±0.91	1.86±1.22	0.26±0.52
WCST per	48.4 ±24.81	72.43±35.66	48.36±27.20

SD – standard deviation; MMSE – Mini Mental State Examination; TMT – Trail Making Test; HVOT – Hooper Visual Organization Test; RCF – Rey Complex Figure; RCF C – copying of the RCF; RCF 40′ – postponed visual memory; RAVLT t – total number of repeated words in five attempts; RAVLT e – number of repeated words after 30 min (evocation); RAVLT r – number of correctly recognized words (recognition); WCST ca – categories achieved; WCST fms – failures to maintain set; WCST per – perseverative responses

Patients with schizoaffective disorder achieved significantly lower scores on MMSE compared to the healthy subjects and patients with paranoid schizophrenia; healthy subjects and patients with paranoid schizophrenia did

Table 4. Post-hoc analysis Mann-Whitney U-test, with Bonferroni correction for Type I error in neuropsychological tests

Variable	p		
	PSCH–HLTH	PSCH–SCHD	HLTH–SCHD
MMSE	0.049	0.000	0.000
TMT A	0.000		0.000
TMT B	0.000		0.000
HVOT	0.000		0.000
RCF C	0.000		0.000
RCF 40'	0.000		0.000
RAVLT t	0.000		0.000
RAVLT e	0.000		0.000
RAVLT r			0.000
WCST ca		0.000	0.000
WCST fms	0.000		0.000
WCST per		0.029	0.032

not show significant differences according to the scores achieved on this test.

Both groups of patients required more time to complete the tasks in TMT A and TMT B than healthy subjects.

Concerning the scores at HVOT, the achievements of both groups of patients were far below the achievements of healthy subjects.

The analysis of differences between groups on RCF parameters showed significantly poorer results among both groups of patients compared to the healthy subjects, both in terms of complex figure copying and in terms of visual memory.

The importance of differences examination in RAVLT indicates insufficiency among both groups of patients in terms of learning new verbal material compared to the healthy subjects; evocation is, compared to the healthy subjects, also significantly poorer among both groups of patients; recognition is reduced not only among the group of paranoid schizophrenia, but also among the group of schizoaffective disorder, when it is compared to the healthy subjects.

The importance of differences between groups in WCST analysis shows that both groups of patients had more failures to maintain set than healthy subjects. Concerning the categories achieved and the numbers of perseverative responses, significantly weaker achievements were registered among the group with schizoaffective disorder, while patients with paranoid schizophrenia and healthy subjects achieved similar scores on these parameters.

DISCUSSION

Scores of both groups of patients were lower in most applied tests than the achievements of the healthy subjects. The results indicated global decrease of intellectual efficiency among patients with schizoaffective disorder, as their general cognitive level (MMSE), full scale IQ, verbal and performance IQ were significantly lower than IQ of both healthy subjects and patients with paranoid schizophrenia. This group showed parameters of more massive intellectual deficits, as their achievements in most VITI subtests were significantly reduced (Information, Vocabulary, Similarities, Digit Symbol, Object Assembly).

Among patients with paranoid schizophrenia, partial loss of intellectual efficiency was registered, above all in the domain of simple attention (Digit Span) and constructional praxia (Block Design). Since the value of verbal IQ of this group of patients didn't defer much from healthy subjects, these findings showed that global impairment of verbal abilities was not present among patients with paranoid schizophrenia.

Both groups of patients showed weaker achievements in Digit Span and Block Design subtests. Digit span defines the level of subject's attention for simple situations; more precisely, the ability to maintain attention and short-term memorizing. The attention which is engaged by these subtests represents effortless, passive and undisturbed contact with reality, i.e. this type of attention exhibits free receptivity that can be disturbed if the affects and anxiety are not controlled. Besides unbalanced affects, the attention may be occupied by ideas influenced by emotions. These emotional factors could be in the base of the disturbance of simple verbal attention and, consequently, of worse short-term memory among both groups of patients. Block Design evaluates constructional praxia in three dimensions i.e. perceptive organization and spatial visualization. Poorer achievements in this subtest indicated disturbed analytic-synthetic function and insufficient reproductive ability through visual-motor coordination. On the other hand, partial decrease of cognitive efficiency in the group with paranoid schizophrenia was not of high degree, since general cognitive capability was within range of the average intellectual functioning, according to the full scale IQ. Also, the mean value of MMSE score varied almost within normal range, which supports the absence of more serious cognitive deficiencies in the group with paranoid schizophrenia. Contrary to this group, in the one with schizoaffective disorder the indicators of serious cognitive deficit (the mean value of MMSE score and VITI score) were present.

Visual–construction functions constitute cognitive domain in which these two groups of patients differ the most; the group with schizoaffective disorder is significantly beyond the group with paranoid schizophrenia in terms of spatial element organization capacity, especially for activities where parts are organized to form unity (Block Design, Object Assembly). Also, patients with schizoaffective disorder showed weaker verbal and manipulative intellectual capacities, as well as poorer global intellectual efficiency compared to the patients with paranoid schizophrenia.

The results of neuropsychological tests of both groups of patients indicated reduced speed of mental monitoring (TMT A), impaired visual-spatial evaluation (TMT B, HVOT) and difficulties in focusing on a single stimulus for any longer period of time (failure to maintain set in the WSCT). The findings also showed disturbed engagement of visual-motor and constructional praxia in two dimensions (RCF C). Besides this, the reduction of declarative memory was registered, both in verbal and visual modality (RAVLT, RCF 40'). Such cognitive deficits among patients with schizophrenia reflect frontal and temporal cortical

dysfunction, as it has been shown in many studies [31, 32]. Namely, studies show that the activation of certain enzyme complexes (I, III and IV) which participate in metabolism energy is significantly reduced in frontal and temporal lobe and in basal ganglia. In this way, the mechanism of energetic metabolic deficit within schizophrenia is explained.

General cognitive level (MMSE) and executive functions of patients with schizoaffective disorder were significantly weaker than those of patients with paranoid schizophrenia. Such cognitive profile of the group with schizoaffective disorder indicated the presence of more massive cognitive disturbances.

On the other hand, the group with paranoid schizophrenia had verbal intellectual capacities preserved, and, in contrast to the group with schizoaffective disorder, also had preserved executive functions, which allows us to regard the degree of cognitive distortions in paranoid schizophrenia as moderate. However, the question is whether the executive functions would be preserved among the group with paranoid schizophrenia if their global intellectual efficiency was disturbed. Also, it is not sure whether executive functions in this group were preserved even in active phase of the disease or there was spontaneous recovery within remission on the basis of the preserved global intellectual efficiency.

To summarize, the investigation results support the fact that schizoaffective disorder exists as a separate entity and contribute to differential diagnostics between schizophrenias, and, most importantly, between paranoid schizophrenia and schizoaffective disorder.

CONCLUSION

In most applied tests both groups of patients showed poorer achievements compared to the healthy subject.

Differences between cognitive profiles of both groups of patients were the most obvious in the domain of visual–construction and executive functions, since the group with schizoaffective disorder showed severe reduction of these capabilities.

Massive neuropsychological deficits that are, above all, expressed through global loss of intellectual efficiency and executive dysfunction are still present in remission phase among patients with schizoaffective disorder. Such cognitive deficits reflect diffuse brain dysfunction.

Patients with paranoid schizophrenia show partial loss of intellectual efficiency in the domain of attention and constructional praxia. Their verbal capacities and executive functions are preserved. Neuropsychological disorders among patients with paranoid schizophrenia in remission phase, after psychotic episode, are expressed in moderate degree. Such cognitive deficits reflect fronto-temporal cortical dysfunction.

REFERENCES

1. Tyson PJ, Laws KR, Flowers KA, Mortimer AM, Schulz J. Attention and executive function in people with schizophrenia: Relationship with social skills and quality of life. Int J Psychiatry Cilin Pract. 2008; 12(2):112-9.
2. Kunert HJ, Norra C, Hoff P. Theories of delusional disorders. Psychopathology. 2007; 40:191-202.
3. Bowie CR. Cognitive impairment in schizophrenia spectrum personality. Current Psychosis and Therapeutics Reports. 2005; 3(4):147-51.
4. Pickup G J. Relationship between Theory of Mind and executive function in schizophrenia: s systematic review. Psychopathology. 2008; 41(4):206-13.
5. O'Leary DS, Flaum M, Kesler M, Flashman LA, Arndt S, Andreasen NC. Cognitive correlates of the negative, disorganized, and psychotic symptom dimensions of schizophrenia. J Neuropsychiatry Clin Neurosci. 2000; 12:4-15.
6. Dibben CRM, Rice C, Laws K, McKenna PJ. Is executive impairment associated with schizophrenic syndromes? A meta-analysis. Psychol Med. 2009; 39:381-92.
7. Hawkins KA, Addington J, Keefe RS, Christensen B, Perkins DO, Zipursky R, et al. Neuropsychological status of subjects at high risk for a first episode of psychosis. Schizophr Res. 2004; 67:115-22.
8. Rodriguez-Sanchez JM, Crespo-Facorro BC, González-Blanch C, Perez-Iglesias R, Alvarez-Jimenez M, Martinez O, et al. Cognitive functioning and negative symptoms in first episode schizophrenia: different patterns of correlates. Neurotox Res. 2008; 14(2-3):227-35.
9. Heydebrand G, Weiser M, Rabinowitz J, Hoff A L, DeLisi LE, Csernansky JG. Correlates of cognitive deficits in first episode schizophrenia. Schizophr Res. 2004; 68:1-9.
10. Auslander, LA, Perry W, Jeste DV. Assessing disturbed thinking and cognition using Ego Impairment Index in older schizophrenia patients: paranoid vs. nonparanoid distinction. Schizophr Res. 2002; 53:199-207.
11. Citak S, Cakici ET, Cakici M, Kose S. Neuropsychological assessment in patients with paranoid and non-paranoid schizophrenia. Bulletin of Clinical Psychopharmacology 2013; 23(4):294-304.
12. Huq SF, Garety P A, Hemsley DR. Probabilistic judgements in deluded and non-deluded subjects. Q J Exp Psychol A. 1988; 40(4):801-12.
13. Colbert S M, Peters ER. Need for closure and jumping-to-conclusions in delusion-prone individuals. J Nerv Ment Dis. 2002; 90:7-31.
14. Goldstein G, Shemansky WJ, Allen DN. Cognitive function in schizoaffective disorder and clinical subtypes of schizophrenia. Arch Clin Neuropsychol. 2005; 20(2):153-9.
15. Reichenberg A, Harvey PD, Bowie CR, Mojtabai R, Rabinowitz J, Heaton RK, et al. Neuropsychological function and dysfunction in schizophrenia and psychotic affective disorders. Schizophr Bull. 2009; 35(5):1022-9.
16. Bilder RM, Goldman RS, Robinson D, Reiter G, Bell L, Bates JA, et al. Neuropsychology of first-episode schizophrenia: initial characterization and clinical Correlates. Am J Psychiatry. 2000; 157(4):549-59.
17. Jaeger J, Tatsuoka C, Berns SM, Varadi F. Distinguishing neurocognitive functions in schizophrenia using Partially Ordered Classification Models. Schizophr Bull. 2006; 32(4):679-91.
18. Gooding D, Tallent K A. Spatial working memory performance in patients with schizoaffective psychosis versus schizophrenia: a tale of two disorders? Schizophr Res. 2002; 53:209-18.
19. Lake CR, Hurwitz N. Schizoaffective disorder merges schizophrenia and bipolar disorders as one disease – there is no schizoaffective disorder. Curr Opin Psychiatry. 2007; 20(4):365-79.
20. Zaytseva Y, Gurovich I, Sarkisyan G, Sarkisyan V. Neurocognitive functioning in drug-naive patients with first episode of psychosis before and after treatment. Psychiatr Danub. 2011; 23(1):155-7.
21. Pavlović D. Dijagnostički testovi u neuropsihologiji. Beograd: Grafos; 1999.
22. Lezak MD. Neuropsychological Assessment. 3rd ed. New York: Oxford University Press; 1995.
23. Kay SR, Opler LA, Lindenmayer JP. Reliability and validity of the positive and negative syndrome scale for schizophrenics. Psychiatry Res. 1988; 23:99-110.

24. Berger J, Marković M, Mitić M. Vekslerov individualni test inteligencije. Beograd: Centar za primenjenu psihologiju Društva psihologa Srbije; 1991.
25. Folstein MF, Folstein S, McHugh PR. "Mini Mental State". A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975; 12:189-98.
26. Reitan RM. Validity of the Trail Making test as an indication of organic brain damage. Perceptual and Motor Skills. 1958; 8:271-6.
27. Hooper HE. The Hooper Visual Organisation Test. Manual. Los Angeles: Western Psychological Services; 1958.
28. Rey A. L'examen psychologique dans les cas d'encephalopathie traumatique. Archives de Psychologie. 1941; 28:286-340.
29. Rey A. L'examen clinique en psychologie. Paris: Presses Universitaires de France; 1964.
30. Berg EA. A simple objective technique for measuring flexibility in thinking. J Gen Psychol. 1948; 39:15-22.
31. Ragland JD, Gur RC, Valdez J, Turetsky BI, Elliott M, Kohler C, et al. Event-related fMRI of frontotemporal activity during word encoding and recognition in schizophrenia. Am J Psychiatry. 2004; 161:1004-15.
32. Ha TH, Youn T, Ha KS, Rho KS, Lee JM, Kim IY, et al. Gray matter abnormalities in paranoid schizophrenia and their clinical correlations. Psychiatry Res. 2004; 132:251-60.

Параноидна схизофренија *versus* схизоафективни поремећај: неуропсихолошки аспекти

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КРАТАК САДРЖАЈ

Увод Неуропсихолошки аспекти параноидне схизофреније нису истражени у довољној мери. Ови поремећаји се најчешће не испитују посебно, него у склопу студија схизофрених болесника с позитивним симптомима. И поред чињенице да је схизофренија хетерогена скупина менталних поремећаја, у неуропсихолошким истраживањима се често не раздвајају схизоафективни поремећаји од схизофреније.

Циљ рада Суштина овог истраживања је процена когнитивног функционисања болесника с параноидном схизофренијом применом неуропсихолошких тестова у поређењу са здравим испитаницима и болесницима са схизоафективним поремећајем.

Методе рада Истраживање је обухватило 91 десноруког испитаника старости од 30 до 53 године, који су сврстани у три групе. Прву групу је чинио 31 болесник с параноидном схизофренијом у ремисији, другу је чинило 30 болесника са схизоафективним поремећајем у ремисији, док је трећу групу чинило 30 здравих испитаника.

Резултати Обе групе болесника показале су слабија постигнућа у односу на здраве испитанике на већини примењених тестова. Болесници са схизоафективним поремећајем испољавали су општи пад интелектуалне ефикасности, нарушену визуоспацијалну организацију и дисегзекутивни поремећај. Болесници с параноидном схизофренијом показивали су парцијални пад интелектуалне ефикасности уз очуван вербални *IQ* и извршне функције.

Закључак У фази ремисије болесници с параноидном схизофренијом испољавају когнитивне поремећаје у умереном степену, док се код болесника са схизоафективним поремећајем бележе опсежнији когнитивни дефицити.

Кључне речи: неуропсихологија; схизоафективни поремећај; параноидна схизофренија

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