



A Study on Visuo-Motor Perceptual Dysfunction Among Positive Schizophrenics and Negative Schizophrenics

KEYWORDS

Aleena Ignatius

Research Scholar, Department of psychology,
Bharathiar University, Coimbatore

Dr. Monsy Edward

Associate Professor, Prajyothi Niketan College,
Pudukad

ABSTRACT A person with perceptual and motor problems cannot sustain functionally without the help of others, provided we get a better understanding of who needs more help and what kind of help. The objective of the study was to find out the visuo-motor perceptual dysfunction among positive and negative schizophrenics. The sample consisted of 60 schizophrenic patients from Thrissur district within the age range of 20 to 60 years. They were divided into positive schizophrenics and negative schizophrenics using the Positive and Negative Syndrome Scale (PANSS) rating. Later Bender Gestalt Test (BGT) was administered to both these groups. Students t-test and descriptive statistics was used to test the significant difference between both groups. The result shows that there is a difference in visuo motor perceptual dysfunction between both groups. It was also proved that schizophrenics with negative symptoms are seen to have more visuo motor deficit than positive schizophrenics. Findings also prove that rotation for BGT figures are seen more in negative schizophrenics than positive schizophrenics. The results also show a positive correlation between the symptoms and visuo-motor dysfunction

Introduction

Schizophrenia is a clinical syndrome of variable, but profoundly disruptive, psychopathology that involves cognition, emotion, perception, and other aspects of behavior. Schizophrenics are usually considered as severe symptomatic individuals who are not able to adjust to their surrounding and their own life. Only a small percentage of schizophrenics fall into severe; from which there is no improvement at all. But a majority of them can adjust to life if proper training and support is given. This proper training can be given only if their cognitive and behavioral disturbances are clearly understood. It also helps their family members to communicate with them easily if these problems are understood better. Even though schizophrenics are diagnosed according to DSM-IV, all the symptoms need not be present to diagnose the disorder. It says, Two (or more) of the symptoms, each present for a significant portion of time during a 1 month period. We are supposed to encourage and enhance their ability for future usage. This could also give the patient confidence and reassurance, which will enable him to fight through his own problems.

Review of Literature Green, Michael, Walker, Elaine (1985) found that negative symptom ratings were inversely associated with performance on visual-motor tasks. Results also suggested that there may be specific cognitive correlates of both the positive and negative symptom dimension.

Raymond, David and Eric (1985) concluded that the deficit in perceptual organization best accounts for the apparent disruptions in poor premorbid schizophrenics Short Term Visual Memory (STVM)

Ileana , Barbara, Amalia, Edward, Demetra , Alan (1997) concluded that their findings support that the positive and negative symptoms may be associated with distinct neuropsychological deficits and thus with distinct neurological substrates and points the need to address both positive and negative dimensions when studying schizophrenia.

Narottam lal, Shrikant ,Abdul and Neera (1998) found

out, the positive schizophrenics had higher Wechsler memory scale (W.M.S.) and I.Q. scores and lower B.G.T. scores than negative schizophrenics.

Victoria Villalta-Gil, Miriam Vilaplana, Susana Ochoa, Josep Maria Haro, Montserrat Dolz, Judit Usall, Jorge Cervilla and NEDENA Group (2006) Concluded that negative symptoms are the major source of disability among the schizophrenics and are associated to cognitive functioning.

Lucie Godbout, Frédérique Limoges, Isabelle Allard, Claude M.J. Braun and Emmanuel Stip (2007) found out that the schizophrenic patients were cognitively impaired and were deficient in the complex activities of daily living (ADL).

Objective

To find out the visuo-motor perceptual dysfunction between positive schizophrenics and negative schizophrenics.

Variables and instrument

Positive and negative syndrome scale (PANSS) (Kay, Fiszbein and Opler 1987; Kay, Opler and Lindenmayer, 1988, 1989). In PANSS there are seven positive symptoms which is designated as P1, P2, P3....P7. They are delusions, conceptualize disorganization, hallucinatory behavior, excitement, grandiosity, suspiciousness/persecution and hostility respectively. The seven negative symptoms are designated as N1, N2, N3...N7. They are blunted affect, emotional withdrawal, difficulty in abstract thinking, lack of spontaneity and flow of conversation, poor rapport, social withdrawal and stereotyped thinking.

Each item in positive symptoms and negative symptoms has seven rating points, with definitions for all levels, ranging from one to seven. 1 for absent, 2 for minimal, 3 for mild, 4 for moderate, 5 for moderate severe, 6 for severe and 7 for extreme. Other than positive and negative scales; the PANSS also assess the general psychopathology scale.

Bender – Gestalt Test (BGT) Laretta Bender (1938). The BGT consists of nine simple figures and the subjects are asked to copy them as the figures are presented one by one singly to them.

Variables

- visuo-motor perception
- positive symptoms
- negative symptoms

Hypothesis

There is no significant difference in visuo-motor perceptual dysfunction between positive schizophrenics and negative schizophrenics.

Sample

The sample comprised of 60 patients who satisfied the DSM IV- TR criteria for schizophrenia. They were divided into 30 positive schizophrenics and 30 negative schizophrenics using the PANSS rating. Those patients with severe sensory impairment like blindness or deafness or any physical disability were not included in the research. The age limit of the patients were between 20 and 60.

Statistical analysis

The results have been analyzed using statistical methods. Students t-test and descriptive statistics were applied to determine the difference in mean and standard deviation among positive schizophrenics and negative schizophrenics.

Result

The table 1 shows the number of samples, mean, standard deviation and t-value of visuo-motor perceptual deficit between positive schizophrenics and negative schizophrenics.

Visuo motor deficit	n	Mean	S.D.	t-value
Positive schizophrenics	30	74.1667	33.44	*8.1149
Negative schizophrenics	30	142.567	31.83	

*P>0.005

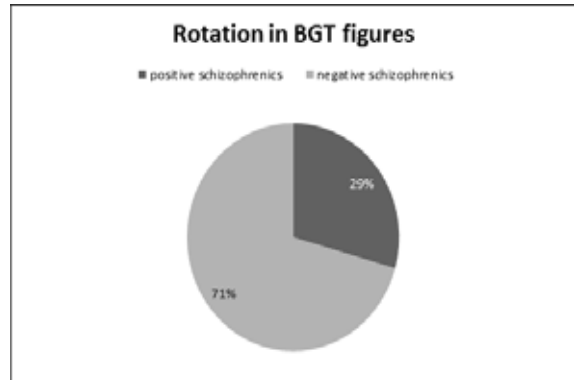
Table .2. Comparison of the mean, standard deviation and correlation calculated between positive symptoms and visuo-motor deficit.

Variables	n	Mean	S.D.	r
Positive symptoms	30	32.87	6.14	0.3472
Visuo-motor deficit	30	74.17	33.44	

Table. 3. Comparison of the mean, standard deviation and correlation calculated between negative symptoms and visuo-motor deficit.

Variables	n	Mean	S.D.	r
negative symptoms	30	34.23	6.95	0.3164
Visuo-motor deficit	30	142.57	31.83	

Figure. 1. Pie diagram showing the rotation in Bender-Gestalt test figures between positive and negative schizophrenics



The results are shown through the tables and figures. According to Table 1, the t-value is 8.1149 which is greater than the table value (2.915) so we reject the hypothesis. It was clear from table 2 that the correlation coefficient(r) is 0.3472. The result is significant which shows that positive symptoms and visuo-motor deficit are positively correlated. It was clearly seen that table 3 shows the correlation coefficient(r) is 0.3164. The result shows a significant positive correlation between negative symptom and visuo-motor deficit.

Figure 1 shows the rotation of B.G.T. figures in positive schizophrenics and negative schizophrenics. The above data shows that negative schizophrenics showed rotation in B.G.T. figures than positive schizophrenics. The mean scores of both groups support this.

Discussion

The aim of the study was to find out visuo-motor perceptual dysfunction in positive schizophrenics and negative schizophrenics. The results of the study indicated that negative schizophrenics have more visuo-motor perceptual dysfunction when compared to positive schizophrenics. So we could say that schizophrenics with negative symptoms performed badly on BGT when compared to schizophrenics with positive symptoms. From the correlation tables it is clear that the positive symptoms as well as the negative symptoms are directly proportional to visuo-motor perceptual deficit. Rotation of the BGT figures is another finding of the study. The negative schizophrenics seem to show rotation of the BGT figures when they reproduced the figures in the paper. This supports the result that the negative schizophrenics have more visuo-motor dysfunction when compared to the positive group.

Studies proved that the patients with negative symptoms are characterized by diminution of emotional reactions, lack of motivation in completing tasks and lack of initiative or goals with poorer social function and physical inert. So the lack of motivations in completing tasks might be one of the reasons why negative schizophrenics performed badly in BGT. Negative symptoms are associated to disability of cognitive functioning. A lack of initiative on these patients side itself will lead to a social stigma. Once this stigma gets in, then it's unchangeable. A lag or slowness in their daily activities has affected the lifestyle of these negative schizophrenic patients. They themselves feel very uncomfortable as they are not able to lead a normal life. It is also seen that these individuals become a burden to their family and caregivers. Social support plays a very im-

portant role in the life of patients, especially those having serious mental conditions so the patients need more social support from their families. A resolution is to be sought out to this problem. First we should know what problems these patients face and then find ways to help them primary line treatment could be to educate and train their caregivers.

Studies in the neurological aspect of the perceptual problem faced by the negative schizophrenics shows that the frontal function is being compromised and that training in the frontal functions will help the schizophrenic patients. The findings also suggest that Cingulum Bundle integrity disruptions might compromise the executive process in schizophrenia. This study also throws light to the neurological aspects of the problem. More attention in training to these areas in the brain will help these patients at least to an extent.

Conclusion this study shows that negative schizophrenics have more disability in the visuo-motor perceptual ability than the positive schizophrenics. Rotation of the BGT figures were also seen more evidently among the negative schizophrenics. This study thus proves that negative schizophrenics need more help and social support than the positive schizophrenics. A comprehensive training could be given to them.

Limitations

- The data collection for was confined to a limited area and therefore, the findings of this research may not be applied to the whole population.
- The number of samples selected for the study is small.
- The duration and the onset of schizophrenic symptoms were not considered.
- The different subtypes of schizophrenia were not considered for the study.

Reference

1. American Psychiatric Association(1994). *Diagnostic and Statistical Manual of mental disorders*,(4th ed.). Washington D.C.: Author.
2. Benjamin, J. S., & Virginia, A. S. (2007). *Synopsis of psychiatry Behavioral sciences/clinical psychiatry*. (pp.467-480), Wolters Kluwer (India) Pvt. Ltd., New Delhi.
3. Bleuler, E. (1950). *Dementia praecox of the group of schizophrenia*, International university press, New York.
4. Graham Beaumont J. (2008) *Introduction to Neuropsychology*. (pp.52-96), The Guilford Press, New York.
5. Green, A., Michael, J., Walker, H., & Elaine, T. (Nov 1985). Neuropsychological performance and positive and negative symptoms in schizophrenia. *Journal of Abnormal Psychology*, 94(4): 460-469. PsycARTICLES Database.
6. Ileana, B., Barbara, V., Amalia, M., Edward, A., Demetra, P., & Alan, I. G. (3 May 1997). Differential relationships between positive and negative symptoms and neuropsychological deficits in schizophrenia. *Schizophrenia Research*, 25(1): 1-10.
7. Kay, S. R. et.al (1987), The Positive And Negative Syndrome Sale (PANSS), *Schizophr Bull*.
8. Lauretta bender, M. D. & American Orthopsychiatric Association (1938). *Visual Motor Gestalt Test*, American Orthopsychiatric Association.
9. Lucie, G., Frédérique, L., Isabelle, A., Claude, M.J., Braunb, J., & Stip E. (30 March 2007). Neuropsychological and activity of daily living script performance in patients with positive or negative schizophrenia. *Comprehensive Psychiatry*, 48(3): 293-302. May-June 2007.
10. Narottam lal, Shrikant S., Abdul K. & Neera K. (1998). *Indian Journal of Psychiatry*, 04/1998; 40(2):180-5.
11. Raymond A. Knight, David S. Elliott & Eric G. Freedman (November 1985). Short-Term Visual Memory in Schizophrenics. *Journal of Abnor-*

mal Psychology, 94(4): 427-442.

12. Victoria Villalta-Gila, Miriam Vilaplana, Susana Ochoa, Josep Maria Haroa, Montserrat Dolza, Judit Usalla et.al. (October 2006). Neurocognitive performance and negative symptoms: Are they equal in explaining disability in schizophrenia outpatients? *Schizophrenia Research*, 87(1-3): 246-253.