

# Cognitive Deficits between Typical and Atypical Anti-Psychotics-in Tertiary Health Care Centre in Eastern India.

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## ABSTRACT

**Introduction**-The introduction of second-generation antipsychotics, with atypical mechanism of action. Literature says that there is a correlation between different antipsychotic drugs and cognitive functions in patients with psychosis. Since second-generation antipsychotic drugs are available, many studies have found that such drugs enhance neurocognitive performance as compared to first generation antipsychotics. Cognitive components that are improved with second-generation antipsychotics include attention, verbal fluency and other global cognitive function components.

**Material and methods**-100 patients with any psychotic symptoms were taken up in this study. To assess the cognitive status of the patients M.M.S.E Scale was applied to each patient at base line and three month interval up to one year.

**Results**:At the end of 1 year treatment 40% of the study subjects receiving typical antipsychotics were having more cognitive deficit as compared to 12.5%, receiving atypical antipsychotics.

**Interpretation and conclusion**: Cognitive deficit is also more commonly encountered in patients taking typical antipsychotics than atypical antipsychotics.

**Key words**- Anti-psychotics, cognitive deficits, Comparison

## I-INTRODUCTION

In psychological parlance cognition refers to intellect or the information processing. Any disorder in the sphere of cognition such as information processing, intelligence, abstract thinking and orientation may thus be termed as cognitive deficits. Obviously this leads to general loss of interest in mental & physical activity and interaction around the patient.

Antipsychotics are used to treat psychosis as well as many other related disorders. Significant adverse effects associated with conventional (typical) antipsychotics and availability of the alternatives, better tolerated medications in other classes like new atypical antipsychotics with their improved adverse effect profiles may make this practice more acceptable.

However, compared to older medications the atypical agents are chemically and pharmacologically different, have fewer side effects and hold the promises of greater clinical efficacy.

As compared to typical antipsychotics atypical one produce cognitive deficits, is the basic theme of my study. In sum cognitive deficiency mainly reflects the idea of disorganizations in perception, thought and emotion.

## II-AIMS & OBJECTIVE

The study aim to assess and compare the cognitive status between the patients taking typical and atypical antipsychotics duration wise.

## III-MATERIAL AND METHODS

1. The study was conducted in the O.P.D & I.P.D Dept. of Psychiatry, Mental health institute SCB Medical College Cuttack, Odisha, India
2. The patients diagnosed with –Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder, Affective Psychosis, other psychosis, as criteria led down in DSM-V, were taken up for the study.
3. The age group between 20 to 60 yr were taken up for the study
4. Both sexes were included
5. Exclusion were done those patients receiving mood stabilizers with anti psychotics, ECT, above 60 yrs patients to rule out organicity, ISOL, substance induced psychosis & irregular patients
6. 100 patients with any psychotics symptoms were taken up
7. All patients gave written informed consents to participate the study
8. 8 patients denied to participate, 10 patients irregularly irregular and 2 patients left without informed. So 80 patients were participate finally.
9. Chloropramazine therapeutic dose equivalents as per (APA.1997) guidelines.
10. At the beginning of the study socio-demographic data were recorded.
11. 40 patients taking typical anti-psychotics and another 40 patients taken anti-psychotics medication
12. To assess the cognitive status of the patients was applied M.M.S.E Scale to each patient at base line and three month interval up to one year. Lack of education may give false results is the limitation of the scale.
13. **Statistic analysis** were done from observation by using the formula chi-square (2 x 2 fold). In this research the comparison is made between the groups to know whether they are comparable or not.

## IV-OBSERVATION & DISCUSSING

### MMSE SCORES OF STUDY SUBJECTS

Antipsychotic agents	3 months		6 months		1 yr		Total
	Score< 25	Score> 25	Score< 25	Score> 25	Score< 25	Score> 25	
Typical Antipsychotics	12 (30%)	28 (70%)	13(32.5%)	27(67.5%)	16(40%)	24(60%)	40
Atypical Antipsychotics	3 (7.5 %)	37(92%)	4(10%)	36(90%)	5(12.5%)	35(87.5%)	40

**AFTER 3 MONTHS:**  $\chi^2 = 6.646$  df=1      P < 0.01, statistically significant.

It was observed that at the end of 3 months treatment 30% of the study subjects receiving typical antipsychotics were having more cognitive deficit as compared to 7.5%, receiving atypical antipsychotics.

**AFTER 6 MONTHS:**  $\chi^2 = 6.05$  df =1            P < 0.05, statistically significant.

It was observed that at the end of 6 months treatment 32.5% of the study subjects receiving typical antipsychotics were having more cognitive deficit as compared to 10%, receiving atypical antipsychotics.

**AFTER 1 YEAR**  $\chi^2 = 7.8$  df =1            P < 0.01, statistically significant

It was observed that at the end of 1 year treatment 40% of the study subjects receiving typical antipsychotics were having more cognitive deficit as compared to 12.5%, receiving atypical antipsychotics.

The cognitive deficits comparatively more mark in the group of patients receiving typical antipsychotics. It may be inferred that long term use of antipsychotics have more side effects(cognitive deficits) than that of short term use. The observations have been correlated with the studies earlier done in this area.

This study of **RollnikJdet al.(2002)** is based on short-term cognitive improvement in schizophrenics treated with typical and atypical neuroleptics. The observation in this study is in consonance with the study of **RollnikJD,et al.(2002)** that atypical neuroleptics seem to be more beneficial than typical ones with respect to long term neuropsychological functioning.

Also with the study of **Green (1996),Greenet al.(1997)** that the cognitive functions improve with atypical antipsychotics are those which have been associated more strongly with outcome(eg Verbal memory,working memory and executive function).

The study of **PurdonSE et al.(2003)** has also concluded that first generation(typical) antipsychotics induce Extra-Pyramidal motor symptoms(E.P.S)and may also produce impairment of cognitive process, such as procedural learning.

## V-CONCLUSION

1. The new atypical antipsychotics medications represent a major step forward in the treatment of schizophrenia and other psychotic disorders than the typical antipsychotics.
2. The advantage of atypical antipsychotics is their lesser side effect profiles in cognitive deficit.
3. Atypical antipsychotics (SDA) have minimal cognitive side effects which can be due to its serotonergic effects than typical antipsychotics.
4. Long-term use of antipsychotics give more cognitive deficit than the short term use.
5. Low education sometimes becomes a bar for the treatment procedure.
6. Further refinement of our understanding of the clinical utility of these drugs awaits their widespread use in mainstream clinical setting and further controlled studies comparing them to one another.

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