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ORIGINAL RESEARCH

Schizophrenia Treatment in Outpatient Psychiatry: Amisulpride vs. Olanzapine

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ABSTRACT

Background: Schizophrenia is a chronic and debilitating psychiatric condition. Although atypical antipsychotics have demonstrated improvements in managing this disorder, conclusive evidence from robust studies remains limited. This study aimed to compare amisulpride and olanzapine in schizophrenia patients with respect to therapeutic efficacy. **Materials and Methods:** A prospective, randomized, open-label comparative study was conducted. Patients diagnosed with schizophrenia were randomly assigned to two treatment groups. One cohort (n = 78) received olanzapine, while the other cohort (n = 78) was treated with amisulpride. Both groups were followed over 14 weeks. The efficacy of treatments was evaluated using the Positive and Negative Syndrome Scale (PANSS), and the associated costs of antipsychotic medications were analyzed. **Results:** During the 14-week treatment period, the reduction in positive and negative syndrome scores was 38.51% in the olanzapine group compared to 51.25% in the amisulpride group. The Clinical Global Impression (CGI) score showed a decrease of 54.74% in the olanzapine group and 35.21% in the amisulpride group. The reduction in both scores was greater in the Olanzapine group compared to the Amisulpride group. **Conclusion:** Both olanzapine and amisulpride resulted in significant reductions in PANSS and CGI scores. However, olanzapine demonstrated superior efficacy compared to amisulpride.

Key Words: Schizophrenia, Amisulpride, Olanzapine, Positive and Negative Syndrome Scale

INTRODUCTION

Schizophrenia is a long-term and debilitating psychiatric disorder characterized by abnormal perception and thought processes. Its prevalence in India is ranging from 4.3 to 8.7 million. Positive symptoms of schizophrenia are associated with an excess or distortion of normal functions, manifesting as delusions, hallucinations, and disorganized behavior. On the other hand, negative symptoms encompass features such as blunted affect, reduced speech output (alogia), diminished motivation leading to decreased goal-directed activity (avolition), lack of social interaction (asociality), and diminished capacity for pleasure (anhedonia) [1-3].

Amisulpride exerts its therapeutic effects by antagonizing post-synaptic dopamine D2 and D3 receptors, thereby alleviating overall symptom severity, including positive symptoms, similar to both conventional and newer atypical antipsychotics. Olanzapine, another antipsychotic, has demonstrated significant efficacy in improving symptoms in both acute and long-term management of schizophrenia [4,5]. However, its use is frequently associated with adverse effects, notably weight gain and an elevated risk of obesity and diabetes mellitus. When selecting appropriate pharmacological treatments, clinicians must carefully evaluate the risks and benefits, considering drug efficacy, safety, tolerability, cost-effectiveness, and the potential for adverse reactions [6-8].

A meta-analysis conducted by Zhang et al. [9] indicated that second-generation antipsychotics outperform conventional antipsychotics in reducing symptom severity and relapse rates. Despite this, there remains limited understanding regarding the therapeutic advantages and clinical use of both typical and atypical antipsychotic medications. There is a pressing need to further investigate the efficacy and cost parameters of atypical antipsychotics. Olanzapine, while highly effective, is associated with side effects such as akathisia, somnolence, weight gain, and hyperglycemia [10-12]. Furthermore, there is a scarcity of research focusing on the comparative effectiveness and economic considerations of

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amisulpride versus olanzapine in treating schizophrenia.

Given the increasing prevalence of psychiatric disorders, driven in part by diminished social interactions and interpersonal connections, innovative treatment approaches must be explored. Currently, limited no. of studies have directly compared the efficacy of amisulpride and olanzapine, particularly in India. This study was thus designed to conduct a comparative evaluation of these two antipsychotics.

MATERIAL AND METHODS

This study was a prospective, randomized, open-label, and comparative investigation conducted over 14 weeks. Participants included in the study were aged between 18 and 60 years, of either sex, and diagnosed with schizophrenia according to the DSM-V criteria [13]. Eligibility was further defined by a Positive and Negative Syndrome Scale (PANSS) total score of 60 or higher. Exclusion criteria encompassed individuals with a history of diabetes mellitus, hypertension, hepatic or renal disorders, pregnancy, other psychiatric illnesses, or prior use of psychotropic medications.

A total of 156 patients were divided into two groups (n = 78 each) using random allocation. One group received oral olanzapine at a dose of 10 mg once daily for 14 weeks, while the other group was treated with oral amisulpride at a dose of 200 mg twice daily for the same duration. Baseline assessments were recorded at the initial visit, followed by evaluations at weeks 4, 8, and 14.

The PANSS, comprising 30 items, was used to assess treatment response. A reduction of ≥40% in PANSS scores was considered indicative of a good response [14]. The Clinical Global Impression (CGI) scale, ranging from 1 (very much improved) to 7 (very much worse), was utilized to evaluate overall improvement [15].

Data were analyzed using SPSS software version 16, with results expressed as mean ± standard error of the mean. An unpaired t-test was used to evaluate improvements, while intergroup comparisons were performed using analysis of variance. Statistical significance was set at $P < 0.05$.

RESULTS

The baseline characteristics of schizophrenic patients receiving Amisulpride and Olanzapine are presented in Table 1. No significant differences were observed between the two groups in terms of age, gender, marital status, residence, employment, or history of substance abuse.

Table 1: Baseline details of schizophrenic patients

Characteristic	Amisulpride		Olanzapine		P Value
Age; years (Mean ± SD)	32.37 ± 5.5		30.63 ± 5.8		0.06
	n	**%**	**n**	**%**	
Gender					
Male	46	58.97	42	53.85	0.66
Female	32	41.03	36	46.15	
Marital Status					
Married	44	56.41	49	62.82	0.41
Unmarried	34	43.59	29	37.18	
Residence					
Rural	25	32.05	30	38.46	0.40
Urban	53	67.95	48	61.54	
Employment					
Unemployed	57	73.08	53	67.95	0.48
Employed	21	26.92	25	32.05	
History of Substance abuse					
Present	48	61.54	45	57.69	0.62
Absent	30	38.46	33	42.31	

The impact of Amisulpride and Olanzapine on the Positive and Negative Syndrome Scale (PNSS) is shown in Table 2. Both drugs resulted in significant reductions in PNSS scores over the 14-week period. However, the reduction in PNSS scores was greater in the Olanzapine group compared to the Amisulpride group, particularly at the 14th week.

Table 2: Effect of study drugs on PNSS

PNSS	Amisulpride	Olanzapine	P Value
Baseline	117.89 ± 0.88	118.07 ± 0.83	0.19
4th week	114.41 ± 0.50	114.49 ± 0.57	0.35
8th week	85.08 ± 0.46	78.24 ± 0.40	<0.05
14th week	77.64 ± 0.23	66.96 ± 0.25	<0.05

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Reduction in PNSS (%)	38.51	51.25	<0.05
P Value	<0.05	<0.05	-

The Clinical Global Impression-Improvement (CGI-I) scores, which assess the overall improvement in the patients, are summarized in Table 3. At baseline, the CGI-I scores for both treatment groups were similar (Amisulpride: 7.52 ± 0.88, Olanzapine: 7.72 ± 0.85; P = 0.15). Both drugs led to improvement over the 14-week period, but the difference between the groups became more pronounced by the 14th week. At 14 weeks, Olanzapine showed a more significant improvement, with a score of 2.93 ± 0.04 compared to 4.62 ± 0.59 for Amisulpride (P < 0.05), indicating a superior response to Olanzapine.

Table 3: Effect of study drugs on CGI-I

CGI-I	Amisulpride	Olanzapine	P Value
Baseline	7.52 ± 0.88	7.72 ± 0.85	0.15
4th week	6.40 ± 0.65	6.25 ± 0.32	0.06
8th week	5.05 ± 0.21	5.09 ± 0.18	0.2
14th week	4.62 ± 0.59	2.93 ± 0.04	<0.05
Reduction in CGI-I (%)	35.21	54.74	<0.05
P-value	<0.01	<0.01	-

DISCUSSION

Antipsychotic medications remain the cornerstone of schizophrenia management. In this study, the baseline positive and negative syndrome scores were comparable across both treatment groups. Over 14 weeks, a significant reduction in positive and negative syndrome scores was observed.

Interestingly, the baseline positive and negative syndrome scores in this study were higher compared to prior research, potentially due to demographic variables [16]. Olanzapine demonstrated a greater reduction in total positive and negative syndrome scores, highlighting its superior efficacy compared to amisulpride [17,18]. This enhanced efficacy might be explained by olanzapine's predominant dopamine D2 receptor antagonism compared to its 5HT2 receptor antagonism, which is particularly beneficial in addressing positive symptoms. Amisulpride, on the other hand, showed a modest yet non-significant improvement in negative symptoms, likely due to its lack of 5HT2 receptor antagonism over D2 receptor antagonism [19,20].

In this study, the olanzapine group achieved more than a 40% reduction in positive and negative syndrome scores, surpassing the improvements seen in the amisulpride group. These findings are consistent with earlier studies, including those by Haro et al. [21,22]. Furthermore, olanzapine demonstrated significant efficacy on the Clinical Global Impression–Severity scale when compared to amisulpride, aligning with findings by Subhash et al. [23]. Previous research has also highlighted olanzapine’s cost-effectiveness relative to conventional antipsychotics [24,25].

This study's limitations include its open-label design and small sample size, which may introduce bias. Future research employing longer durations, multi-center settings, double-blinded designs, and larger sample sizes is essential to generate robust, evidence-based conclusions for clinical application.

CONCLUSION

In the current study, both amisulpride and olanzapine demonstrated effectiveness in alleviating schizophrenia symptoms, as evaluated by the Positive and Negative Syndrome Scale (PANSS) and the Clinical Global Impression-Severity (CGI-S) scale. However, olanzapine exhibited superior efficacy compared to amisulpride.

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