

Short communication

## Comparison of adverse drug reactions with typical and atypical antipsychotic drugs

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### Abstract

Organized studies on incidence of ADRs have been very few and are confined to very few centres. The prescribing of psychotropic medicines is rapidly increasing in psychiatry patients. Although treatment with antipsychotics is relatively effective, a large fraction of the patients may not respond, responding patients may develop treatment resistance eventually and severe adverse drug reactions (e.g. extra-pyramidal symptoms, sexual dysfunction, sedation, and diabetes mellitus) may occur. In attempt to control the use of psychotropic medicine the regulatory authorities have issued various warnings about risks associated with use of these psychotropic drugs. Little evidence has been reported about the ADRs of these medicines in practice. The objective was to understand, document, categories, and report ADRs for feature safety and well-being of the patients.

**Keywords:** Antipsychotic, ADR awareness, monitoring and Reporting.

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### 1. Introduction

An adverse reaction to medicines is the response to a drug, noxious and unintended, for prophylactics, of diagnosis or therapeutics effects, or for modification of the psychological function that happens in normal dosage. Multiple factors associated to these side effects

as well as a lack of diagnosis methods to some specific drugs lead to difficult diagnosis.

The study was designed on a preliminary and prospective basis for the incidence of ADR awareness, adverse drug reactions and reporting among both inpatients during their stay as well as outpatients in a tertiary care Hospital, private clinics and community Pharmacies located in

Bathinda district, which persisted for more than four years.

## 2. Materials and Method

Institutional ethics committee (IEC) approval was obtained before starting a study. The study was carried out for 04 years in one 750 bedded tertiary teaching hospitals and two private clinics bathinda district, Punjab. The drug information data was collected from in-patients and out-patients, who visited for the treatment whereas intentional and accidental poisoning patients were excluded from the study. A standard ADR form was used to document and collect the information provided by healthcare and individual patients. All the suspected ADRs will be assessed for causality by using Naranjo's algorithm and approved by the panel of experts.

The finally approved, documented and reported to ADR reporting centre for future awareness, safety and well-being of the patients.

## Results and Discussion

A total of 405 ADRs were reported for psychotropic medicines during four years of time in one tertiary care hospital, two private clinics and one community pharmacy respectively. In our study The ADRs reported from typical agents were Haloperidol 86 (6.98%), Chlorpromazine 25 (2.03%), Trifluoperazine 47 (3.81%) and atypical responsible were Ziprasidone 37 (3.00%), Risperidone 33 (2.68%), Clozapine 11 (0.89%) and Quetiapine 07 (0.56%) respectively. Atypical antipsychotics produce minimal side effects (weight gain, hypotension and metabolic abnormalities) at the effective antipsychotic doses in comparison to typical ones produce more serious extra-pyramidal side effects.

The comparison data was analysed using Graph Pad Prism 5 software. All values are expressed as mean  $\pm$  S.D. The data for typical and Atypical was statistically analysed using student Unpaired t-test. The p value <0.05 was

considered to be statistically no significant. (Table no. 1 and Fig. no 1).

**Table no. 1:** Comparison of ADRs with Typical and Atypical Drugs

Category	Antipsychotics Drugs	No. of ADRs	Cases in %
Typical	Chlorpromazine	25	2.03
	Trifluoperazine	47	3.81
	Haloperidol	86	6.98
Atypical	Quetiapine	7	0.56
	Risperidone	33	2.68
	Ziprasidone	37	3
	Clozapine	11	0.89

*The ADRs reported from typical agents were Haloperidol 86 (6.98%), Chlorpromazine 25 (2.03%), Trifluoperazine 47 (3.81%) and atypical responsible were Ziprasidone 37 (3.00%), Risperidone 33 (2.68%), Clozapine 11 (0.89%) & Quetiapine 07 (0.56%) respectively. Most of the atypical antipsychotics have similar efficacy, a particular side effect may be the deciding factor in the selection of a drug. Atypical antipsychotics produce minimal side effects at the effective antipsychotic doses.*

*The atypical antipsychotics compared to typical antipsychotics have low rate of dyskinesia but may produce side effects like weight gain, hypotension and metabolic abnormalities.*

*This might be the reason why doctors decide to prescribe Atypical as first choice for psychiatric disorder*

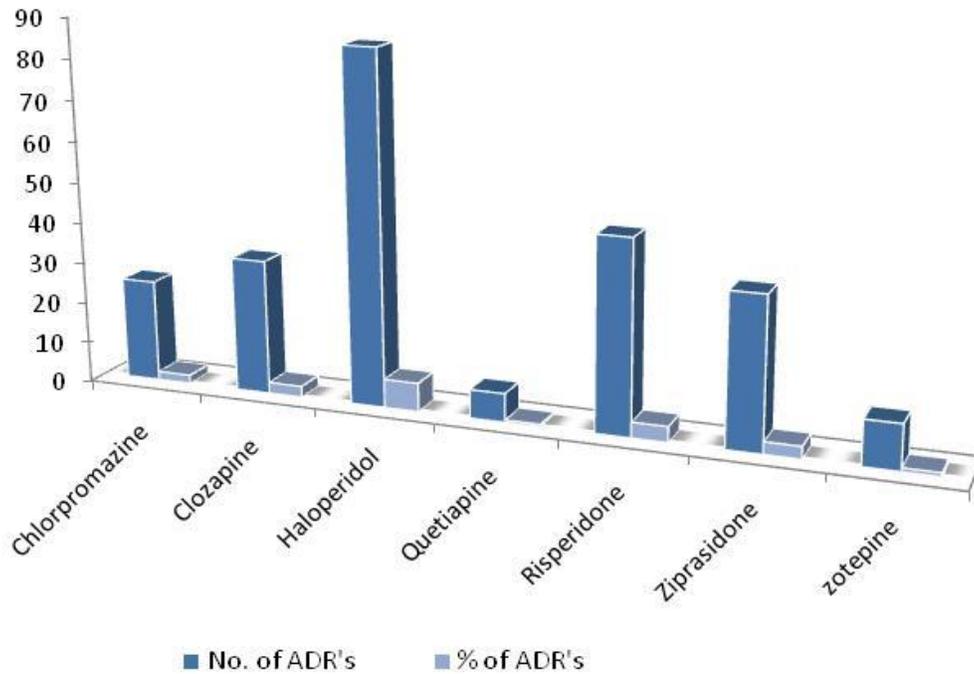
## Statistical analysis:

Data analyzed using Graph Pad Prism 5 software .All values are expressed as mean  $\pm$  S.D. The data for Atypical and typical was statistically analyzed using student Unpaired t-test. The p value <0.05 was considered to be statistically no significant.

## Conclusion

The high number of serious ADRs reported for psychotropic medicines is a concern for health care professionals and physicians. In

Figure 1: Comparison of ADRs with Typical and Atypical Drugs



Antipsychotic drugs were responsible for 405 ADRs (32.9%) was most commonly associated with the reports in our study. Atypical antipsychotics produce minimal side effects at the effective antipsychotic doses. The graph represents the total number of ADRs associated with typical & atypical category of drugs. Atypical were less responsible for side effects in comparison to typical antipsychotic drugs.

conclusion, such studies enables in obtaining information on the incidence, pattern and rational use of Psychotropic drugs in psychosis. This type of programme can bring awareness for healthcare professionals and improve the quality of patient care by ensuring safer use of drugs.

**Conflict of interest:** None

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