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# **EVALUATION OF ANTICHOLINERGICS AND BENZODIAZEPINES NECESSITY IN THE TREATMENT OF PSYCHIATRIC DISORDERS-A PROSPECTIVE STUDY**

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ABSTRACT

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#### INTRODUCTION

The antipsychotic drugs used for the treatment psychotic disorders are supported by benzodiazepines and anticholinergics to hasten the patient recovery. Benzodiazepines (BZD) are a class of psychotropic drugs with rapid onset of action, which possess sedative, hypnotic, muscle relaxant and anti-epileptic properties [1-6]. It is used for the management of anxiety, insomnia and acute alcohol withdrawal. Benzodiazepines work by increasing the efficiency of a natural brain chemical, GABA to decrease the excitability of neurons and this reduces the communication between neurons and. therefore, has a calming effect on many of the functions of the brain [7]. With the repeated use of benzodiazepines, tolerance, dependence, subsequent withdrawal symptoms, memory impairment and gait disturbances are developed. Impairment in performing daily activities, falls, negative effect on cognitive functioning, impaired coordination are the other serious adverse effects [8,9].

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The judicious use of anticholinergics and benzodiazepines is advised for the treatment of psychiatric diseases along with antipsychotics. Aim to evaluate the necessity of anticholinergics and benzodiazepines in the treatment of psychiatric disorders. This prospective study evaluates the extend of usage of these supportive treatment using well-structured data collection form. The results of the study reveal the off-label use of anticholinergics was 18.56% and benzodiazepines 38.8%. Through this study we pave a path for promoting the rational use and prevent the harmful effects like cognitive impairment, dependence and tolerance.

Benzodiazepines use in older people have been associated with serious adverse effects including marked sedation, psychomotor impairment, increased risk of hip fracture and increased development of tolerance, dependence and withdrawal as compared to adults [10,11]. The occurrence of adverse effects is mainly due to the reduced drug clearance in geriatrics.

Anticholinergics are used to treat antipsychotic drug induced extrapyramidal symptoms. These block the action of neurotransmitter acetylcholine which involves in transmitting messages that affect muscle contractions in the body, learning and memory in the brain. The central nervous system is very sensitive to anticholinergic side effects due to substantial decrease in the cholinergic neurons or receptors in the brain of older individuals. As well as the age-related changes in pharmacokinetics and pharmacodynamics, reduced acetylcholine-mediated transmission in the brain and increased permeability of the blood-brain barrier are major contributing factors for the occurrence of anticholinergic side effects in older people [12]. The prevalence of anticholinergic use in older adults ranges from 8% to 37% [13]. Our study aims to evaluate the necessity of anticholinergics and benzodiazepines in the treatment of psychiatric disorders.



Patients of either sex.

Patients below 60yrs.

Patients not willing to participate in the study.

The data was collected from the patients who

completed the consultation with physician also procured

medicines from pharmacy. Permission was taken from the patient for retrieving the information necessary information

Exclusion criteria:

for the study.

#### MATERIALS AND METHODS

This prospective observational study was carried out in the neuropsychiatry government run tertiary care hospital in Northern India over a period of 3months from January 2016-march 2016. The data was obtained using specially designed Performa including demographic details, diagnosis, past and present medical / medication history from the outpatient department of the hospital.

#### Inclusion criteria:

• Patients above 60yrs and above.

#### RESULTS

A total of 377 cases were collected from the out-patient department of the neuropsychiatry specialty hospital.

#### Table 1. Gender Distribution: n=377

GENDER	TOTAL NUMBER	PERCENTAGE (%)
Male	212	56.2
Female	165	43.7

The total samples were categorized based on the gender is depicted in Table 1.

#### Table 2. Age Distribution

AGE GROUP	NUMBER OF PATIENTS	PERCENTAGE (%)
60-70	321	85
71-80	49	13
81-90	5	1.3
>90	2	0.5

From Table 2, it is clear that most of sample population were in the age group between 60-70

#### Table 3. Distribution pattern of Anticholinergics and Benzodiazepines

Drugs		Old cases	Percentage (%)	New cases	Percentage (%)
Anticholinergics n=89	THP	70	18.56	19	5
Benzodiazepines n=219	Clonazepam	82	21.8	36	9.5
	Lorazepam	57	15.1	22	5.8
	Clobazam	7	1.9	15	4

Of the total 377 cases, 308 prescriptions comprised of anticholinergics and BZD. The prescriptions were analyzed and grouped into old and new cases. The patients who were taking anticholinergics and BZD for more than three months were categorized as old cases while new cases were patients under treatment below three months.

#### Figure 1. Prescription Pattern Of Anticholinergics & Benzodiazepines





The above figure represents the use of anticholinergics, BZD and both whereas, 69 prescriptions were free of anticholinergics and BZD. Khalid et al., says that the prevalence of anticholinergics were prescribed for 57.3% of patients on antipsychotic monotherapy even in the absence of EPS which is in support of the results of our study [14]. Lehman et al., also disagrees with prophylactic use of anticholinergics supported by the guidelines of British National Formulary [15,16]. WHO strictly recommends that the Anticholinergics should not be used routinely for preventing extrapyramidal side-effects with psychotic disorders. Short term use of anticholinergics may be considered only in individuals with significant extrapyramidal side effects which occurs dose reduction and switching strategies due to the ineffectiveness or when these side- effects are acute or severe [17]. Even if the course of anticholinergics is started it should be tapered and withdrawn within 3 months. [18]. Even though the adverse and withdrawal effects of BZD are renounced, the usage of BZDs are inevitable in a psychiatric setting. Council of the College of Psychiatry of Ireland June 2012 recommended the labelled use of BZD is for four weeks followed by the dose tapering and stoppage of drug, extended use is considered as off-label use. Khawaja et al., proposed the use of BZD for four months [7, 19].

#### CONCLUSION

The study demonstrates the common practice of prescribing anticholinergics and benzodiazepines along with antipsychotics to prevent the adverse effects. It is always advised to follow WHO guidelines for the treatment of psychiatric disorders to avert the off-label use of these drugs to prevent harmful effects like cognitive impairment, dependence swaying quality of life of elderly. The judicious use of anticholinergics and benzodiazepines is recommended to promote rational prescription of drugs.

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