

AN OVERVIEW ON PRESCRIPTION ANALYSIS OF PSYCHOTROPIC DRUGS IN POLYPHARMACY**Anitha Mol*¹, MinuBoban*¹, SandhraBabychan*¹, K. Krishnakumar², L. Panayappan²**¹Pharm.D students, Department of Pharmacy Practice, St James College of Pharmaceutical Sciences, Chalakudy, Kerala.²St James Hospital Trust Pharmaceutical Research Centre (DSIR Recognized), Chalakudy, Kerala.**ABSTRACT**

Prescription analysis helps in promoting rational use of drugs in which right drug is prescribed for right condition in right dose, duration and also gives information about any dispensing errors. Psychiatric polypharmacy refers to the prescription of two or more psychiatric medications concurrently to a patient. Patient demographics, clinical diagnosis, department, prescribing standards, doctor's name and signature are the parameters analysed in prescription analysis. It is important to understand merits versus demerits of polypharmacy, but unfortunately, this has not been scientifically studied well. This article reveals types of polypharmacy as same-class, multi-class, adjunctive, augmentation and total polypharmacy through prescription analysis, a quality improvement process that seeks to improve patient care.

Key Words: Drugs, Prescription analysis, Polypharmacy.**No: of Tables: 1****No: of References: 6**

INTRODUCTION

Prescription analysis is a tool to analyse the prevailing disease pattern and drug use in a community. Irrational prescription leads to ineffective and unsafe treatment, exacerbation or prolongation of illness, distress and harm to the patient along with higher costs^[1]. Psychiatric polypharmacy refers to the prescription of two or more psychiatric medications concurrently to a patient^[2]. Most commonly studied medications were antipsychotics, antidepressants, and anti-anxiety drugs. The study observed the prescription patterns for different types of indications: psychosis, depression, schizophrenia, anxiety and bipolar affective disorder apart from other indications. This effort led to the evaluation of the drug prescribing pattern. There are only few studies have evaluated the prescription pattern and the issue of polypharmacy in psychiatric patients from India. In view of this, an attempt has been made to study the pattern of drug combinations prescribed to psychiatric patient and analyse the same^[3].

Aims of prescription analysis

The goals towards effective prescription analysis includes:

- Regular and effective medication reviews.
- Regular audit of repeat prescription systems.
- Significant event reviews for prescribing errors.

- Use of systems to reduce medication error and potential for interaction.
- Ready access to up-to-date information about medicines.
- Uptake of electronic systems for transmission of prescriptions.
- Co-ordination between General Practitioner (GP) and hospital, and between GP and pharmacies.
- Extra support, and more frequent review, for those on six or more medications (polypharmacy).
- Cost-effective prescribing, including the use of decision support prescribing systems.
- Use of generic prescribing where clinically appropriate.
- Robust training for new prescribers and prescribing support staff.
- Patients views and choices being explored and taken into account (eg, by patient surveys) ^[4].

Parameters analysed in prescription analysis:

1. Patient demographics: Patient name, Sex, Age, Bodyweight and Date of prescription received.
2. Clinical diagnosis.
3. Department.
4. Prescribing standards: Dose, Dosage form, Generic name, Brand name, Duration of treatment and Time of administration.

5. Doctors name and signature.

These indicators can be analysed either by retrospectively, from data recorded in patient medical records or can be prospectively, data from a group of patients visiting on the day. The various prescribing indicators are meant to elucidate peculiar prescribing characteristics relating to polypharmacy, level of antibiotic and injection use and adherence to guidelines relating to generic and Essential Medicine List prescribing [5].

Types of polypharmacy

Same-Class Polypharmacy refers to the use of more than one medication from the same class. E.g.: Use of two selective serotonin reuptake inhibitors in a case of depression.

Multi-Class Polypharmacy is the use of full therapeutic doses of more than one medication from different classes for the same symptom cluster .E.g.: Use of valproate along with an atypical antipsychotic, such as olanzapine, for treatment of mania.

Use of one medication to treat the side effects of another medication from a different class, is described as **Adjunctive Polypharmacy**. E.g.: Using trazodone for insomnia caused by bupropion.

Augmentation Polypharmacy

refers to the use of one medication at a lower than normal dose along with another medication from a different class in full therapeutic dose for the same symptom cluster. E.g.: Addition of low dose haloperidol in a patient responding partially to risperidone or the addition of a medication that would not be used alone for the same symptom cluster e.g. augmentation of antidepressants with lithium or thyroid hormone.

Total Polypharmacy is the total count of medications used in a patient, or total drug load [6].

Merits and demerits of polypharmacy

It is important to understand merits versus demerits of polypharmacy, but unfortunately, this has not been scientifically studied well. The major merits and demerits are discussed below.

Table 1: Merit and Demerits of Polypharmacy

Merits	Demerits
Judicious polypharmacy can provide better symptoms relief and disease management, especially in patients with refractory diseases.	Increased adverse drug reactions and the severity of those reactions.
Polypharmacy appropriately treats certain co-morbidities.	Harmful drug to drug interactions.
Polypharmacy may decrease drug dosage that issued in monotherapy.	Over or under dosage of medications.
Polypharmacy may treat sideeffects associated with high dose monotherapy.	Cumulative toxicity.
A synergistic effect for better disease management.	Complicated drug regimen.
Provide acute relief while awaiting the delayed effect of other medications.	Non-compliance.
Polypharmacy is justified to treat intervening phases of an illness.	Therapeutic duplication.
Polypharmacy may required to augment efficacy of the primary treatment.	Increased cost of medications.

CONCLUSION

Prescription analysis highlights the necessity of improving the quality of life of patients. The understanding of prescribing patterns in the treatment and concomitant use of psychotropic drugs can provide valuable information for refining clinical practice in this field. Polypharmacy is common and seems to be problematic, especially when same class of drugs are prescribed together.

Polypharmacy with psychotropic drugs is a prevalent prescription practice in patients with mental disorders in India. Men are more exposed to be treated with multiple psychotropic medications when compared with females. These data helped to estimate epidemiological measures of polypharmacy and identified those through prescription analysis.

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