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## **IMPACT OF CLINICAL PHARMACIST TOWARDS POLYPHARMACY**

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### **ABSTRACT**

Polypharmacy is a common practice in old patients with many chronic conditions. It is the reason for problems like an increase in the incidence of drug-related consequences and their adverse drug reactions and their quality of living. The proper way of prescribing medicines through clinical pharmacists by giving them proper strategies may decrease the dangers of Polypharmacy. Proper doses of medication can be taken from time to time through patients by arranging the medication therapy management services or any other interventions for patients through clinical pharmacists can reduce the side effects of Polypharmacy.

**Keywords:** - Clinical pharmacist, polypharmacy, drug-related problems

## INTRODUCTION

Polypharmacy (PP) is the simultaneous use of multiple drugs. Several studies have proven that PP can be a health hazard, such as adverse drug reactions, medication errors, and poor compliance. Further, PP may cause unnecessary drug expenditure, and PP increases the risk of hospice seeking. PP can thus be a problem for both patients and societies.

### **Therapeutic Polypharmacy:**

When this type of disorder occurs, it is often carefully monitored by pharmacists and is needed to treat the condition and reach the therapeutic goal. The combined treatment of isoniazid, rifampin, ethambutol, pyrazinamide, and pyridoxine as the initial treatment for tuberculosis is one of the best-described examples of therapeutic polypharmacy. It is also explained in multiple drugs that are used to manage heart failure (such as digoxin, angiotensin-converting enzyme inhibitors, and a diuretic).<sup>1-3</sup>

### **Polypharmacy in the elderly population:**

A geriatric patient is one who is 65 years old or more. This is a special group of people because they have many challenges like comorbidities, come disabilities and frailty. According to the World Health Organization (WHO) every nine people there is an elderly person. This constitutes a significant challenge for health authorities worldwide because of the age of advancement with multiple chronic diseases like hypertension, arthritis, diabetes mellitus, chronic heart disease, renal diseases, etc are associated. Due to which elderly people use more drugs in a single day which can be referred to as Polypharmacy. According to other studies carried out worldwide, the data shows that an elderly person takes an average of 2-9 medications each day. The prevalence of inappropriate medication used by the elderly population was found to be about 11.5-62.5%.<sup>1-3</sup>

The population in India is aging, increasing the frequency of drug use and polypharmacy, creating the need for favorable intervention for pharmacotherapy. In this regard, psychotropics are the most important, especially because their use can lead to many important drug-drug interactions (DDIs) and adverse drug reactions (ADRs). This can lead to treatment failure and the cost of care. The drugs most commonly used in this study were hypnotic and sedative. Simultaneous use of many different psychotropics (e.g., antipsychotic polypharmacy, APP) was also common, however, there is little evidence for the efficacy and

safety of the treatment of AP1. Psychotropics are mainly used to treat mental and behavioral disorders, which means that diagnosis is needed to determine psychotropics 3-5. Although controlled trials are valuable, they often exclude patients with polypharmacy in search of experimental validity, so studies equipped with strong environmental validity in clinical practice are needed to improve the management of polypharmacy.<sup>1-3</sup>

A 65-year-old woman named Mrs. Parvati used to complain about stomach aches and dark debris at an outpatient clinic. Five years ago, she suffered a heart attack. Three weeks before her previous visit, she was complaining of developing muscle soreness while working in her lungs. She was given diclofenac, a non-steroidal anti-inflammatory drug (NSAID). Her other drugs included in aspirin and three drugs for her heart condition (simvastatin, her serum cholesterol-lowering drug; enalapril, angiotensin-converting enzyme (ACE) inhibitor; and beta-blocker). She was taken to the hospital because of symptoms of blood loss (fatigue and dark stools). She was diagnosed as bleeding peptic ulcer due to NSAIDs and her doctor discontinued diclofenac and stopped the proton pump inhibitor prescribed omeprazole. After her discharge, her son collected her prescribed medication from the pharmacy. Of the drugs, he noticed that omeprazole had started and that all his previous medications were given with NSAIDs. His mother was a little confused and did not remember exactly what the doctor said, so the child advised his mother to take all the supplements. After a week, the pain in her stomach continued and the boy took her to the hospital. The clinic confirmed that the NSAID, which should have been discontinued (expelled), had been mistakenly continued. At this point, Mrs. Parvati was given a list of clinics when she left the hospital, which included all the medications she needed to take, and advice on which medications were discontinued and why.

### **Drug-related problems:**

DRPs have been identified as potential or expressive. Potential DRPs were described in terms of risk factors, which was one of the possible reasons for the DRP to occur in practice. At the end of the study, we examined whether a potential DRP occurred. Problems identified as problems related to the effectiveness of treatment, adverse events (safety of treatment), and problems related to unnecessary medication (eg no indication) were identified. The following interventions were selected: discontinuing the drug, initiating medication, adjusting the medication, counseling to correct the improper use of the drug, and monitoring treatment

with disease monitoring if the disease was not prescribed. The impact of the CP intervention was assessed based on the severity of the problem at the end of the research period, which was evaluated from the information obtained from the patient's medical documentation at the time of the initial interview and the end of the study. Period researchers managed to remove the risk factors for DRP and found the problem to be resolved and did not report any problems to the patient at the end of the study. <sup>4-5</sup>

## **DISCUSSION**

The development and faster pace of electronic patient records - especially in primary care settings where most are prescribed - makes monitoring of patients easier than in the past, and especially to identify subgroups of patients with adverse drug events and complications. If it is not medically beneficial, the drug is reviewed and stopped, making it easier to 'deprive' the process. In recent years, we have also seen the development of smartphone 'apps' to improve communication between patients and healthcare professionals, improve understanding of people's conditions and treatment, and record changes in patient treatment. In the long run, such things as artificial intelligence and the clinical decision support system have the potential to be written down and reduced from the risk of polypharmacy. Finally, using non-medical groups such as pharmacists, specialist nurses, and physician assistants provides an opportunity to improve the quality of risk reduction through policy-pharmacy.

### **The challenges of ensuring proper Polypharmacy:**

The widespread adoption of the term 'appropriate polypharmacy' is not straightforward. Researchers and clinicians must overcome challenges to identify patients at risk for PIP and to apply the basic concepts of appropriate polypharmacy in clinical practice, namely evidence-based prescribing drugs and optimization methods.

### **Causes of Polypharmacy:**

1. The elderly population suffers from many health conditions requiring the use of many drugs.
2. Patients refer to many doctors but do not inform each other and fill all medicines.
3. The side effects of a drug are misinterpreted as a symptom of a disease and additional medications are prescribed.

4. Use of self-medication and herbal medicines without clear knowledge of side effects.

## **CONCLUSION**

Pharmacists play an important role in reducing health problems in society. Pharmacists can play multiple roles rather than prescribing and counseling. These systematic studies can change the point of view of society towards Polypharmacy. Patient care is an essential factor in every pharmacist's professional life. So it concludes that Polypharmacy adverse reactions can be reduced through the proper impact of clinical pharmacists through this article.

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