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To Evaluate And Analyze The Prescription Pattern In Hospital Setting.

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Abstract

Prescription pattern evaluation is a useful method for examining how medicines are prescribed in healthcare settings. It helps identify prescribing trends among healthcare professionals and determines whether medicines are being used appropriately and effectively. Irrational prescribing practices, such as excessive use of multiple medicines, unnecessary antibiotic prescriptions, and inappropriate drug choices, can increase treatment costs, cause adverse drug reactions, and negatively affect patient health outcomes.

This study was carried out to assess prescribing patterns in a hospital and evaluate the rational use of medicines. A cross-sectional observational approach was adopted, and prescriptions were collected and reviewed over a defined study period. Several prescribing indicators were analyzed, including the average number of medicines prescribed per patient, the use of generic and brand names, the frequency of antibiotic and injectable drug prescriptions, and the completeness of prescription information.

The analysis showed that many prescriptions contained multiple medications, indicating a trend toward polypharmacy. Antibiotics were prescribed frequently, and in some cases their use appeared unnecessary, which may contribute to the growing problem of antimicrobial resistance. The study also found that brand-name prescribing was more common than generic prescribing, potentially increasing the financial burden on patients.

Furthermore, some prescriptions lacked important information such as dosage instructions, duration of therapy, and other essential details required for safe medication use.

The findings emphasize the need for regular monitoring and evaluation of prescribing practices. Prescription audits can help identify areas for improvement and encourage rational drug use. Overall, continuous assessment and appropriate interventions are important for promoting safe, effective, and cost-efficient medication therapy, ultimately improving the quality of healthcare services and patient outcomes.

Keywords: Prescription Pattern Evaluation, Rational Drug Use, Hospital Prescriptions, Drug Utilization Study, Prescribing Practices, Medication Safety, Polypharmacy, Antibiotic Use, Generic Prescribing, Essential Medicines, Clinical Pharmacy, Healthcare Quality, Drug Therapy Assessment, Prescription Monitoring, Patient Safety, Medication Errors, Drug Interactions, Pharmacovigilance, Rational Prescribing, and WHO Prescribing Indicators.

I. INTRODUCTION

Prescription pattern evaluation is an important method used to understand how medicines are prescribed in healthcare settings. A prescription is a written instruction from a qualified doctor to a pharmacist for providing medicines to a patient. Studying prescription patterns helps in analyzing doctors' prescribing habits, the use of

medicines, and the overall quality of healthcare services provided in hospitals.

Today, irrational prescribing is a major concern in many countries. Common problems include prescribing too many medicines at the same time (polypharmacy), unnecessary use of antibiotics and injections, prescribing medicines without proper diagnosis, and preferring brand names instead of generic names. Such practices can increase treatment costs, cause adverse drug reactions, and reduce the effectiveness of therapy. Therefore, regular evaluation of prescription patterns is necessary to encourage safe and rational use of medicines.

According to the World Health Organization (WHO), rational use of medicines means that patients should receive the right medicine for their health condition, in the correct dose, for the required duration, and at the lowest possible cost. Prescription pattern studies help determine whether prescribing practices follow these principles and standard treatment guidelines.

Hospitals generate a large number of prescriptions every day. Evaluating these prescriptions helps identify common diseases, frequently prescribed medicines, and trends in prescribing practices. It also helps detect medication errors, drug interactions, and other issues that may affect patient safety.

Prescription pattern analysis generally focuses on several important factors, such as:

- Average number of medicines prescribed per prescription
- Use of generic names instead of brand names
- Frequency of antibiotic prescriptions
- Use of injections
- Use of fixed-dose combinations
- Completeness and clarity of prescriptions
- Adherence to the Essential Medicines List

Polypharmacy is commonly observed in patients with chronic illnesses and in elderly patients. The use of multiple medicines increases the risk of drug interactions, side effects, and poor patient compliance. Evaluating prescriptions helps identify unnecessary medications and supports safer treatment.

Antibiotics are among the most frequently prescribed medicines in hospitals. However, their irrational use can lead to antimicrobial resistance, which is a serious global health problem. Prescription evaluation helps assess whether antibiotics are prescribed appropriately and according to treatment guidelines.

Similarly, unnecessary use of injections can increase healthcare costs and the risk of infections. Whenever

possible, oral medicines are preferred because they are safer, more convenient, and less expensive. Prescription pattern studies help evaluate the extent of injection use in hospitals.

Generic medicines are usually more affordable and provide the same therapeutic benefits as branded medicines. Encouraging generic prescribing can reduce the financial burden on patients and improve access to essential treatments. Prescription analysis helps measure the level of generic prescribing among healthcare professionals.

Pharmacists also play an important role in prescription evaluation. Through prescription review, they can identify medication errors, incorrect doses, drug interactions, and duplicate therapies. This contributes to better patient care and improved treatment outcomes.

In India, irrational prescribing remains a challenge due to factors such as inadequate awareness of updated treatment guidelines, influence of pharmaceutical promotions, patient expectations, and limited prescription monitoring systems. Conducting prescription pattern studies can help improve prescribing practices and promote evidence-based healthcare.

The present study, titled "Evaluation of Prescription Patterns in a Hospital," was conducted to analyze prescriptions collected from hospital departments. The study aims to assess prescribing trends, evaluate the rationality of drug use, and determine adherence to WHO prescribing indicators. It also provides valuable information regarding common diseases, frequently prescribed medicines, and overall prescribing practices within the hospital.

II. MATERIALS AND METHODS

A. STUDY DESIGN

The present research was conducted using evaluate & Analyze survey design to evaluate & Analyze prescribing pattern of hospital setting. This Type of study design are data collected from a hospitals. A evaluate & Analyze approaches was selected because it is helps to Identify prescribing trends common disease the extent of irrational prescribing and commonly prescribed drugs.

That study also provides information about medication errors., Incomplete prescription. Adverse drug effects . that's are helping to healthcare professionals Improve prescription quality

B. STUDY AREA

The present. research was conducted using. (ross-section Survey design. to evaluate and Analyze prescribing pattern in 3 different hospitals. prescriptions were collected from different hospitals department to evaluate & Analyze the prescribing

trends across the different hospitals

C. STUDY POPULATION.

The study population has different - Age group in different hospitals department.

The survey on the basis of the prescribing trends And prescription are collected different hospitals department are used to evaluate & Analyze the prescription pattern

D. INCLUSION CRETERIA

- Individual Age groups of patients prescription
- collect prescription from inpatient & out patient department.
- patient are all age group & both genders.
- prescriptions issued by, medical practitioner
- Incomplete and handwriting errors of prescription.
- prescription without Physician signature.
- patient Age distribution

E. EXCLUSION CREATION

- Incomplete and missing information prescription.
- Prescription without Physician Signature.
- prescription that difficult to read.
- Emergency & Icu patient prescription.
- unavailable & error of prescription record.
- prescription Not properly Analyzed
- Duplicate prescription.

F. SAMPLE SIZE.

A large sample size of 745 was selected & evaluate & Analyze the prescribing trends. I also ensure perfect representation of general prescription. That 745 prescription were are obtain. accurate., reliable, and representative. Deteremaing prescribing practices in Different hospitals The study can better represent the actual evaluate the prescribing trends

G. DATA COLLECTION TOOLS

The selected prescriptions were collected from three hospitals:

1. Titan Hospital
2. Medicovert Hospital
3. Hedgewar Hospital

The prescriptions were collected from different hospital departments, including Pediatrics, Surgery, Gynecology, Orthopedics, and General Medicine. The survey was conducted by collecting prescriptions from these three hospitals to study and analyze prescribing trends.

H. DATA COLLECTION PROCEDURE

The data for the study were collected from different departments of the selected hospitals. Three hospitals

were chosen for prescription data collection. Prescriptions from various departments were gathered and evaluated to analyze prescribing trends.

The collected data were carefully examined to obtain accurate, reliable, and relevant information regarding prescribing practices. The analysis helped in understanding prescription patterns and evaluating the rational use of medicines across different hospital departments.

I. STATISTICAL ANALYSIS

Data for the present study were collected from the collected prescriptions and evaluated for accuracy.

The prescriptions were analyzed based on WHO prescribing indicators and rationality of therapy.

The parameters included in the study were:

1. Polypharmacy
2. Antibiotic use
3. Use of brand names
4. Use of gastroprotective agents
5. Completeness of prescriptions

These parameters were included in the analysis of prescribing trends.

K. ETHICAL CONSIDERATIONS

Permission was obtained from the hospital administration before starting the study. Patient information was kept confidential and used only for research purposes. Patient names, addresses, or personal details were not included in the study. The study did not interfere with the care and treatment of patients. Data collected from prescriptions were used only for academic and research purposes.

III. RESULT

A total of 745 prescriptions were evaluated. The present study was conducted on 745 prescriptions. The findings revealed that, in prescription evaluation: 280 prescriptions (37.6%) were from the General Medicine department. 105 prescriptions (14.1%) were from Pediatrics. Gynecology: 96 prescriptions (12.9%). Surgery: 88 prescriptions (11.8%). Orthopedics: 82 prescriptions (11.0%). Others: 94 prescriptions (12.6%). The study assessed the rational use of medicines according to WHO prescribing indicators. A total of 745 prescriptions collected from different hospital departments were analyzed during the study period.

Among the 745 patients included in the study:

- Male patients constituted 56.6% of the total population.
- Female patients constituted 43.4% of the study population.

The majority of patients belonged to the adult age group (19–60 years), while the proportion of pediatric patients was smaller.

The General Medicine Department had the highest number of prescriptions compared to other departments because most common illnesses were treated there. total number of drugs prescribed in 745 prescriptions was comparatively high. The average number of drugs per prescription ranged between 4 to 5 drugs. This value was higher than the WHO recommended range, indicating the presence of moderate polypharmacy in hospital prescriptions.

The study showed generic prescribing was comparatively low. Most physicians prescribed medicines using brand names rather than generic names. Only a limited percentage of drugs were prescribed by generic names. This increased treatment cost and financial burden on patients.

Prescription Completeness

Most prescriptions contained:

- Patient name
- Age
- Diagnosis
- Drug dose
- Frequency
- Doctor's signature

Incomplete prescription details may increase the risk of medication errors and improper drug use.

Table 1 : Age Wise Distribution

Age Group	Number Of Patients	Percentage
Pediatric (0–12 years)	102	13.7%
Adolescents (13–18 years)	74	9.9%
Adults (19–60 years)	456	61.2%
Geriatric (>60 years)	113	15.2%

Table 2 : Gender Distribution

Gender	Number of Patients	Percentage
Male	422	56.6%
Female	323	43.4%

Table 3 : Department-wise Distribution

Prescriptions were collected from hospital departments to evaluate prescribing trends across different specialties. Hospital Names :-

Hospital Names	No.of Prescription
1. Titan Hospital	420
2.Medi Cover Hospital	210
3. Hedgewar Hospital	115
Total	745

Figure 1

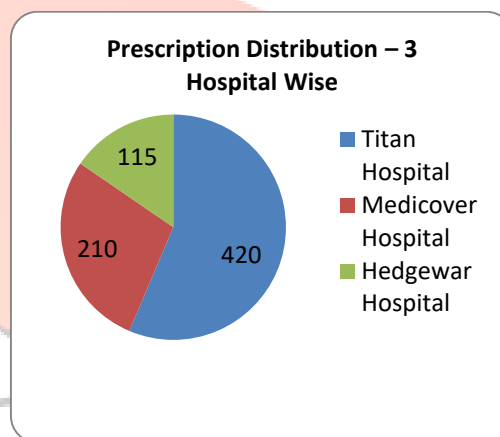


Table 4 :

Department	Number of Prescriptions	Percentage
General Medicine	280	37.6%
Pediatrics	105	14.1%
Orthopedics	82	11%
Surgery	88	11.8%
Gynecology	96	12.9%

Figure 2 :

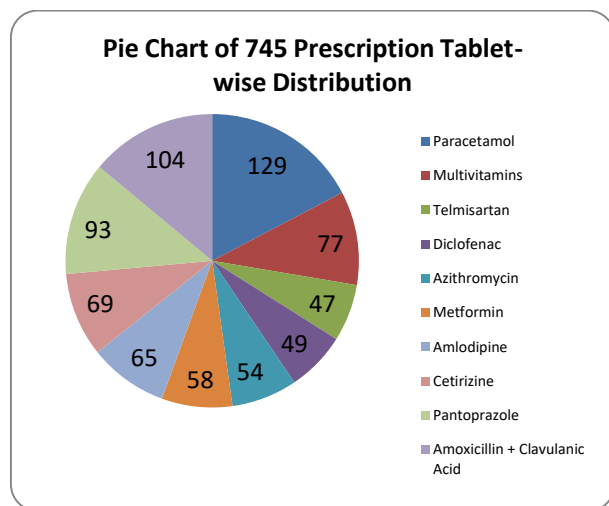
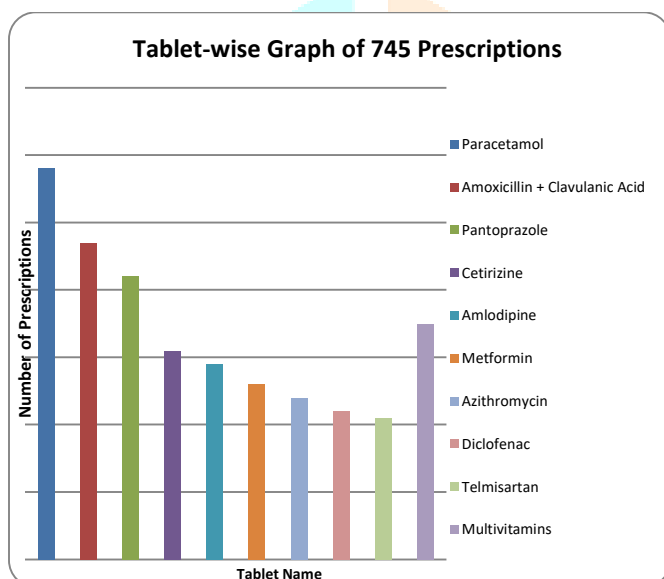


Figure 3 :



Duration of treatment: 5 days

IV. Discussion

The present study was conducted to evaluate and analyze the prescribing pattern. Prescription studies provide reliable information about prescribing habits and help to identify where improvements can be made. The analysis of prescriptions showed the common medicines prescribed to patients and highlighted the overall prescribing trends in the hospital.

The findings helped to understand the prescribing of antibiotics and other commonly used drugs. Analyzing and monitoring these factors is essential because inappropriate prescribing increases treatment costs, causes adverse drug reactions, and reduces patient compliance. Overall, the study provides a clear picture of prescribing practices in hospitals and highlights the need for continuous evaluation to ensure the safe, effective, and economical use of medicines.

V. Conclusion

Evaluation of Prescription Pattern in a Hospital The evaluation and analysis of prescription patterns in a hospital setting provide information about the prescribing practices of healthcare professionals.

The study helps in understanding whether medicines are being prescribed in a safe, effective, and rational manner. By examining prescriptions, it is possible to identify trends in drug use, detect inappropriate prescribing practices, and assess adherence to treatment guidelines. Such evaluation contributes to improved patient care and enhances the overall efficiency of healthcare services.

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