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A Study on Prescription Audit of OPD Patients of a Tertiary Care Hospital of North India

Dr. Haroon Rashid[1], Dr. Romana Rashid[2], Dr. Shafqat Un Nisa[3]

Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Jammu & Kashmir, India

Abstract: ***Background**: Rational prescribing is an essential component of quality healthcare and patient safety. This study aimed to evaluate prescribing practices at SKIMS Hospital in Kashmir by analyzing outpatient prescriptions using World Health Organization (WHO) prescribing indicators. **Methods**: A cross-sectional study was conducted from June to August 2025, involving 8415 outpatient prescriptions. Parameters such as prescription completeness, prescriber identifiers, generic prescribing, polypharmacy, legibility, and drug utilization patterns were assessed. Descriptive statistics were applied and results were compared against WHO standards. **Results**: Documentation of patient identifiers was excellent (99%), and completeness of prescriptions reached 98.7%. However, allergy documentation (15%), prescriber identifiers (60%), and legibility (85%) were suboptimal. Generic prescribing was very low (<2%), while polypharmacy was common (65%). Gastrointestinal drugs (35%) and antimicrobials (27%) were the most frequently prescribed categories. **Conclusion**: While prescriptions at SKIMS demonstrated high levels of completeness, significant challenges were identified in allergy recording, generic prescribing, and polypharmacy. Strengthening documentation practices, promoting rational antimicrobial use, and encouraging generic prescribing are essential. Regular prescription evaluations can help reduce errors, improve patient outcomes, and enhance cost-effectiveness.*

Keywords: Prescribing patterns, rational drug use, WHO indicators, outpatient prescriptions, SKIMS Hospital

1. Introduction

Prescribing medicines is one of the most important responsibilities of healthcare providers, as it directly impacts the quality of patient care and safety. A prescription is not only a therapeutic tool but also a medico-legal document that requires accuracy, completeness, and clarity. Errors or irrational practices in prescribing can lead to serious consequences, including adverse drug reactions, therapeutic failure, antimicrobial resistance, and unnecessary financial burden.

Globally, irrational drug use remains a challenge. Studies have highlighted issues such as overuse of antibiotics, polypharmacy, preference for branded medications over generics, and incomplete prescriptions. These practices increase treatment costs, compromise patient safety, and contribute to the growing problem of antimicrobial resistance. The World Health Organization (WHO) has established core prescribing indicators to evaluate prescribing trends and guide interventions toward rational use of medicines.

In India, prescription patterns vary widely across regions and healthcare levels. While tertiary care hospitals provide specialized treatment, they also face challenges of high patient load, diverse case presentations, and clinical pressure, which may affect prescription quality. Previous studies in Gujarat, Delhi, and other regions have reported deficiencies in prescription practices, such as low generic prescribing, incomplete documentation, and frequent polypharmacy. However, there is limited literature from Kashmir, despite the fact that SKIMS Hospital is the largest tertiary care teaching hospital in the region.

Against this backdrop, the present study was undertaken to systematically analyze prescription patterns in the outpatient departments of SKIMS Hospital. By applying WHO prescribing indicators, the study aimed to identify strengths and gaps in prescribing practices and provide recommendations for improving rational drug use.

Objectives

1) To assess the completeness and quality of prescriptions at SKIMS Soura Hospital.
2) To evaluate prescribing patterns using WHO core prescribing indicators.

2. Materials and Methods

A cross-sectional study was conducted between June and August 2025 at SKIMS Hospital, a tertiary care teaching hospital in Kashmir. The sample size of 8, 415 was derived based on the outpatient load at SKIMS Hospital. On an average, around 1, 122 new patients are received daily in the OPD. Over a period of three months, this accounts for approximately 84, 150 patients. For the purpose of this study, 10% of this number, i. e., 8, 415 prescriptions, were randomly selected and analyzed. A structured checklist based on WHO prescribing indicators was used.

Parameters assessed included:

- Patient identifiers (name, age, ID, address, date).
- Prescriber identifiers (name, qualification, signature, registration number).
- Completeness of prescription (dose, dosage form, route, frequency, duration).
- Prescription quality indicators (legibility, allergy documentation, abbreviations, follow-up instructions).
- Drug utilization (therapeutic categories, formulation types).
- Polypharmacy (≥3 drugs per prescription).
- Generic prescribing vs brand prescribing.

Data were analyzed using descriptive statistics, and results were compared with WHO standards.

3. Results

A total of **8, 415 outpatient prescriptions** were included in the analysis. These prescriptions were carefully evaluated for patient identifiers, drug-related details, prescription quality indicators, prescriber details, and drug utilization patterns. The following were the key findings from the study:

1) Patient Details

Most of the prescriptions included essential patient identifiers, such as name, age, and patient ID. This indicates good documentation practices, ensuring prescriptions are traceable to the right patient.

Parameter	Percentage (%)	Number (n)
Patient identifiers documented	99	8, 331

2) Drug-Related Details

Drug-related information was generally well documented. The majority of prescriptions mentioned dose, dosage form, and frequency. Route of administration and date were almost universally recorded.

Parameter	Percentage (%)	Number (n)
Dose mentioned	89	7, 489
Dosage form specified	74	6, 225
Route of administration	99.7	8, 390
Frequency and timing documented	92	7, 742
Date documented	99	8, 331

3) Prescription Quality Indicators

While legibility and uniform treatment order were largely maintained, only a small proportion of prescriptions documented patient allergies. Non-standard abbreviations were used in some cases, potentially leading to misinterpretation.

Indicator	Percentage (%)	Number (n)
Legibility maintained	85	7, 153
Known allergies recorded	15	1, 262
Uniform treatment order	82	6, 900
Non-standard abbreviations	13	1, 094
Follow-up instructions	92	7, 742

4) Safety Checks

Potential safety issues were identified in a subset of prescriptions, including therapeutic duplication and drug interactions. These highlight areas requiring greater vigilance.

Safety Concern	Percentage (%)	Number (n)
Therapeutic duplication	7	589
Potential drug–drug interactions	3	252
Potential food–drug interactions	2	168

5) Prescriber Details

Only about 60% of prescriptions included the prescriber's signature and code, which are important for accountability and legal validity.

Parameter	Percentage (%)	Number (n)
Prescriber's signature & code present	60	5, 049

6) Drug Formulation Patterns

Tablets and capsules were the most frequently prescribed formulations, while injectables, syrups, and topical agents were much less common.

Formulation Type	Percentage (%)	Number (n)
Tablets/capsules	90	7, 574
Injectables	5	421
Syrups	3	252
Topical preparations	2	168

7) Generic Prescribing

Generic prescribing was extremely low, with less than 2% of drugs written by generic name. This suggests reliance on brand names.

Parameter	Percentage (%)	Number (n)
Prescribed by generic name	<2	≈168

8) Referrals

Most referrals included relevant clinical details, ensuring continuity of care between providers.

Parameter	Percentage (%)	Number (n)
Relevant clinical details documented	85	7, 153

9) Completeness

Almost all prescriptions were considered complete, demonstrating high adherence to prescribing standards.

Parameter	Percentage (%)	Number (n)
Prescriptions complete	98.7	8, 303

10) Drug Utilization Patterns

Gastrointestinal drugs were the most commonly prescribed, followed by antimicrobials and analgesics. Supplements and respiratory drugs were also notable, while CNS, CVS, and endocrine medications comprised 10%.

Drug Category	Percentage (%)	Number (n)
Gastrointestinal drugs	35	2, 945
Antimicrobials	27	2, 272
Analgesics	13	1, 094
Supplements	7.4	622
Respiratory drugs	6	505
CNS, CVS & Endocrine	10	842
Others	1.6	135

11) Polypharmacy

The average number of drugs per prescription was 2–3. However, polypharmacy was common, with 65% of prescriptions containing more than three drugs.

Parameter	Percentage (%)	Number (n)
Prescriptions with >3 drugs	65	5, 470

4. Discussion

This study revealed encouraging trends of prescription completeness (98.7%), consistent with WHO recommendations. Patient identifiers, dosage, route, and date were well documented, reflecting sound prescribing practices. However, important gaps were identified.

Documentation of known drug allergies was poor (15%), which may compromise patient safety. Prescriber identifiers were absent in 40% of cases, affecting accountability. Prescription legibility issues (15% illegible) also raise potential safety risks, as reported in similar studies across India.

The prevalence of polypharmacy (65%) was high, highlighting the need for stricter monitoring, since excessive use of multiple drugs increases the risk of interactions and non-compliance. Generic prescribing was extremely low (<2%), indicating preference for branded drugs and contributing to higher treatment costs. Gastrointestinal agents (35%) and antimicrobials (27%) were the most commonly prescribed categories. Antimicrobial overuse is concerning given the global rise in antimicrobial resistance.

Findings from this study are in line with those from other tertiary hospitals in India, where polypharmacy, incomplete documentation, and low generic prescribing are persistent issues. Interventions such as prescriber training, use of electronic prescribing, and regular monitoring are necessary to strengthen rational prescribing practices.

5. Conclusion

Prescriptions at SKIMS Hospital demonstrated high completeness and sound documentation of patient details. However, significant deficiencies were observed in allergy documentation, prescriber identifiers, legibility, generic prescribing, and polypharmacy. Addressing these gaps is crucial for ensuring patient safety, reducing errors, and promoting rational drug use.

References

[1] World Health Organization. How to investigate drug use in health facilities: selected drug use indicators. Geneva: WHO; 1993.
[2] Akoria OA, Isah AO. Prescription writing in public and private hospitals in Benin City, Nigeria: The effect of an educational intervention. Ann Afr Med.2008; 7 (3): 120-124.
[3] Jain S, Upadhyaya P, Goyal J, Kumar A, Jain P, Seth V, Moghe V. A systematic review of prescription pattern monitoring studies and their effectiveness in promoting rational use of medicines. Perspect Clin Res.2015; 6 (2): 86-90.
[4] Atif M, Sarwar MR, Azeem M, Naz M, Amir S, Nazir K, Scahill S. Assessment of WHO/INRUD core drug use indicators in two tertiary care hospitals of Bahawalpur, Pakistan. J Pharm Policy Pract.2016; 9: 27.
[5] Desalegn AA. Assessment of drug use pattern using WHO prescribing indicators at Hawassa University teaching and referral hospital, south Ethiopia: a cross-sectional study. BMC Health Serv Res.2013; 13: 170.

Figures

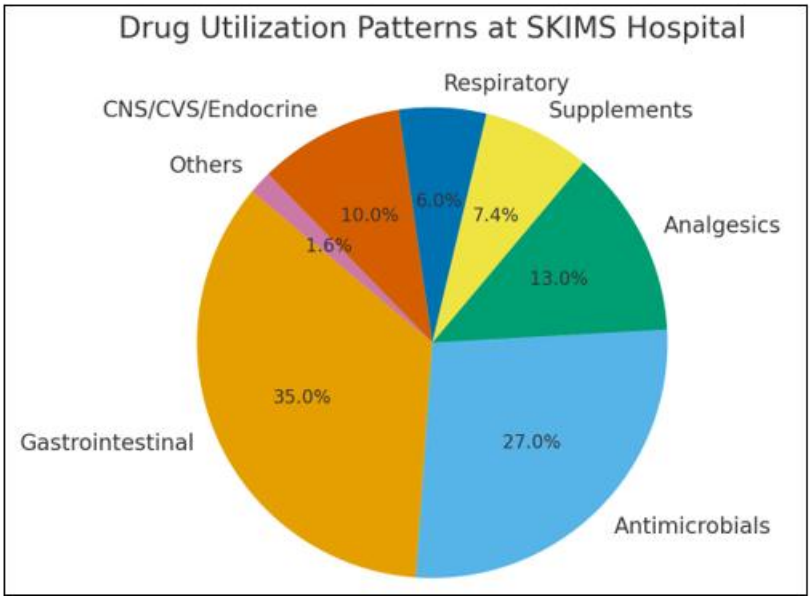

Figure 1: Drug Utilization Patterns

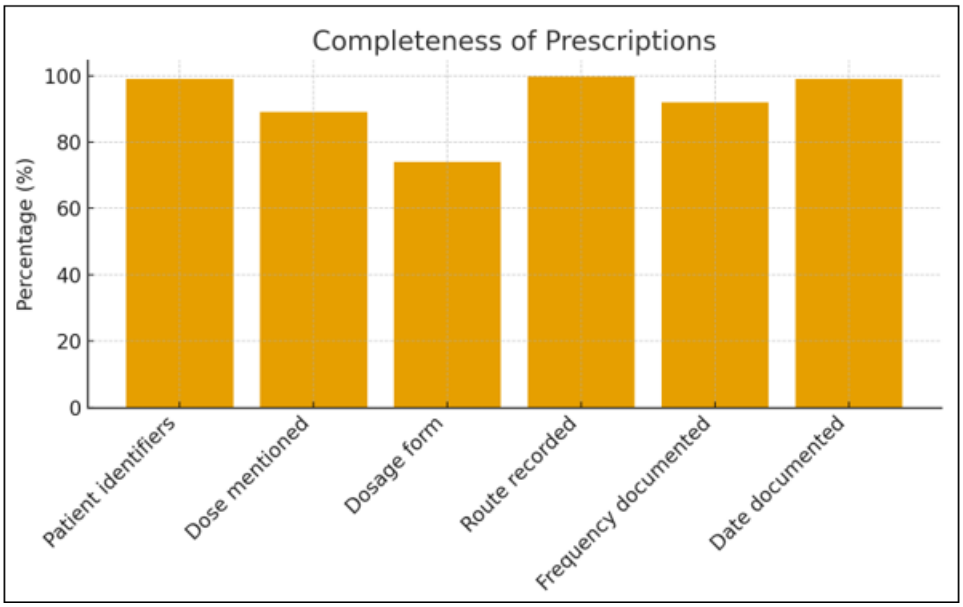

Figure 2: Completeness of Prescriptions

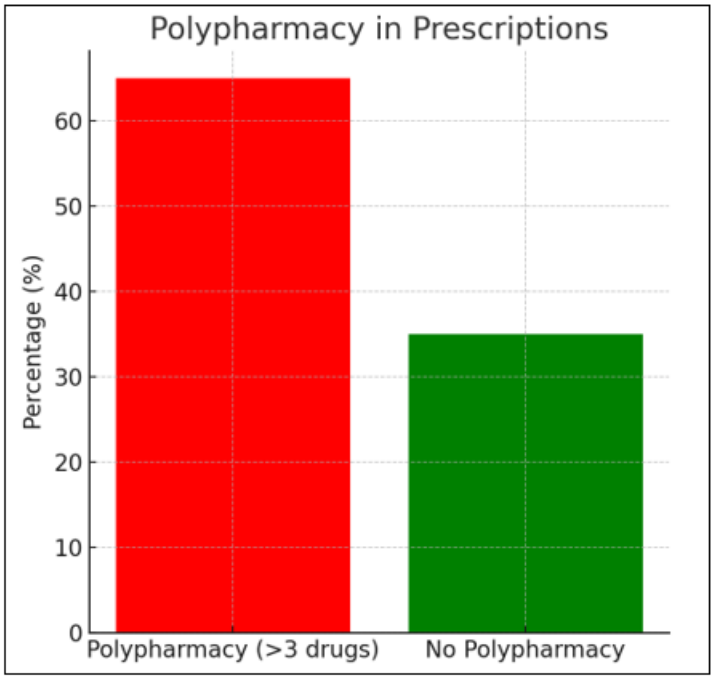

Figure 3: Polypharmacy in Prescriptions

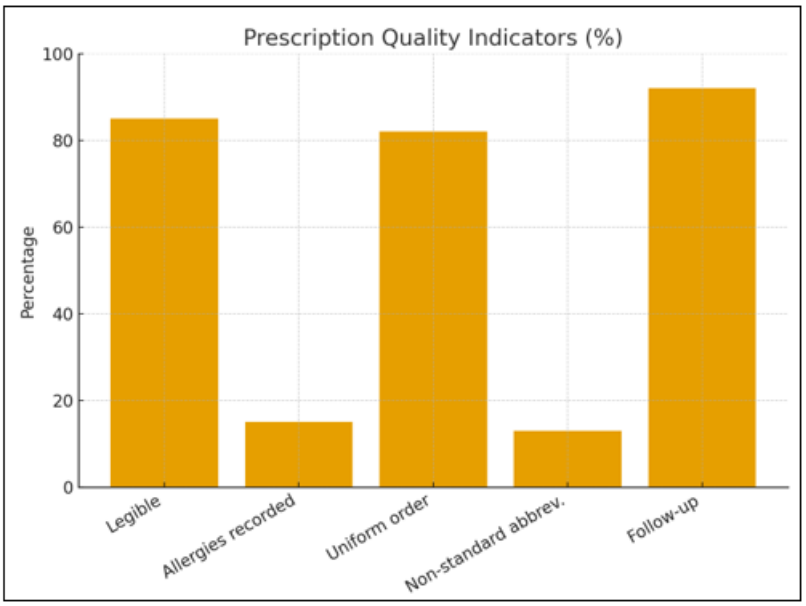

Figure 4

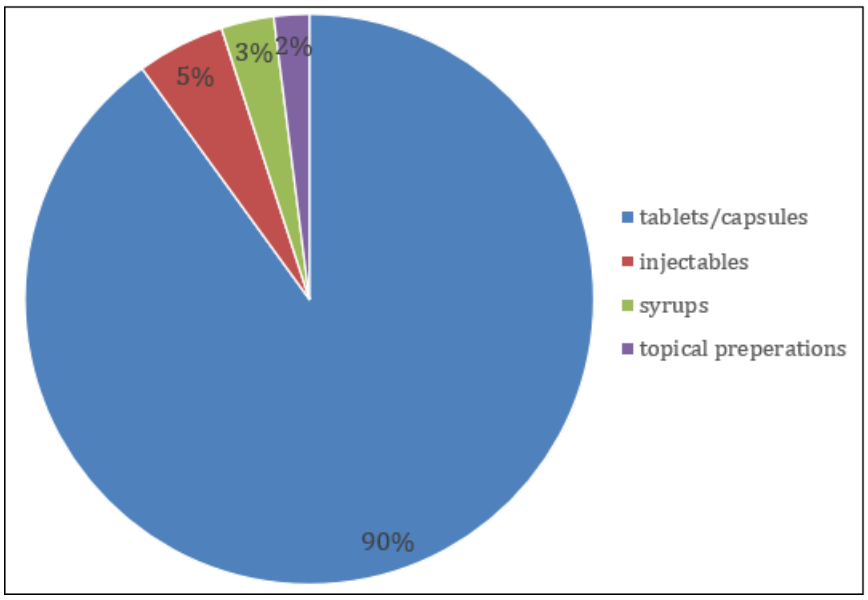

Figure 5: Drug Formulation Pattern