



Optimizing Medication Use in Clinical Departments: A Prescription Audit at Government Doon Medical College, Uttarakhand

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ABSTRACT

A prescription, abbreviated as R or Rx, is a written communication from a physician or medical doctor to a pharmacist, instructing them to dispense a specific prescription drug for a specific patient. Prescription audits are often necessary for upholding the hospital's high standards for patient care. The purpose of our study is to audit prescriptions from different clinical departments at Government Doon Medical College in order to evaluate them, identify low-scoring characteristics, and apply those findings to enhance the quality of our prescriptions going forward. We were able to learn from this study how important it is to provide generic medications and to stay current on antibiotic policy and standard treatment guidelines. In order to raise the standard of patient care, we strongly advise carrying out similar research to educate medical faculty on prudent prescribing and regular data sharing with the management committee.

Keywords: Prescription, Medication use, audit, generic medication.

INTRODUCTION

Writing prescriptions is an essential skill for medical professionals in all specialties. A Registered Medical Practitioner must issue a prescription with the utmost discretion because it is a medicolegal document. It has been suggested that interactive teaching techniques including P-drug exercises, problem-based learning, and prescription writing can assist medical students learn how to prescribe rationally and prevent the emergence of illogical prescribing behaviors in the future.¹

Prescription audits are a vital tool for upholding the hospital's high standards for patient care.² As crucial as the prescription medications' applicability to the patient's diagnosis is how readable the paperwork is. A well-written prescription will meet the patient's medical needs, keep pharmacists from becoming confused, and establish the doctor's expertise.

It is best to conduct separate audits for OPD and IPD each month. Prescriptions should be examined as part of the audit to see if the WHO core drug use indicators are included in the superscription, inscription, transcription, and subscription.

The purpose of our study is to audit prescriptions from different clinical departments at Government Doon Medical College in order to evaluate them, identify low-scoring characteristics, and apply those findings to enhance the quality of our prescriptions going forward.

Aim

To conduct a prescription audit of prescriptions from various clinical departments in Government Doon Medical College

Objectives

1. To assess the presence of prescriber and patient information
2. To evaluate the drug-related information in prescriptions
3. To calculate WHO core prescribing indicators

MATERIALS AND METHODS

With institutional ethics committee clearance, the investigation was carried out as an observational cross-sectional study in the Government Doon Medical College's Department of Pharmacology. Prescription audit and prescription analysis procedures are well-known to the Department of Pharmacology's staff and students. They were told to gather prescriptions from different clinical departments every day and to turn in prescription copies together with the audit information on an Excel file that was pre-made. (See Annexure-1) The following parameters are being used to analyze the prescriptions:

1. Patient and Prescriber information
2. Drug related information
3. WHO Core Prescribing indicators³



The faculty independently reviewed the prescriptions that were turned in, recording their findings in a Microsoft Excel sheet. Descriptive parameters were then used to combine the results for statistical analysis.

RESULTS

The Department of Pharmacology at Government Doon Medical College's students and staff gathered and examined 600 handwritten prescriptions in total.

Prescriptions automatically print the prescriber's details. The majority of the prescriptions included the prescriber's signature and the patient's name, age, gender, and date of consultation; nevertheless, they omitted any instructions for precautions or follow-up care about the medications. The date of the next visit and a provisional diagnosis were not mentioned in the majority of the prescriptions. The findings of our study from patient and prescriber data are listed in Table 1.

61% of the prescriptions included vitamin, tonic, and enzyme recommendations. The hospital dispensary stocked 79% of the advised medications. 61% of the prescriptions were determined to be readable, while 42% and 23% of the prescriptions, respectively, lacked the duration of pharmacological therapy and the doses/schedule. The drug data findings are depicted in Figure 1.

The average number of medications per prescription, according to the WHO core prescribing indicators, is 3.5. 37% of prescriptions contained an antibiotic, and 14% involved an injectable. 84% of medications were prescribed from the National List of Essential Medicines (NLEM)⁴, and 69% of drugs were prescribed under their generic names. Findings are mentioned in table 2.

Table 1: Patient and Prescriber information

S.No	Parameter	Percentage
1	OPD Registration number mentioned	97%
2	Complete name of the patient is written	91%
3	Age in years (months if <5 years) mentioned	97%
4	Weight in kg (only patients of paediatric age group)	69%
5	Gender of patient	97%
6	Date of consultation (day/month/year)	94%
7	Brief history written	51%
8	Salient features of clinical examination recorded	43%
9	Allergy status mentioned	3%
10	Presumptive/definitive diagnosis written	53%
11	Investigations advised	49%
12	Follow up advice and precautions are recorded	34%
13	In case of referral, the relevant clinical details and reason for referral given	21%
14	Date of next visit written	22%
15	Prescription duly signed	89%

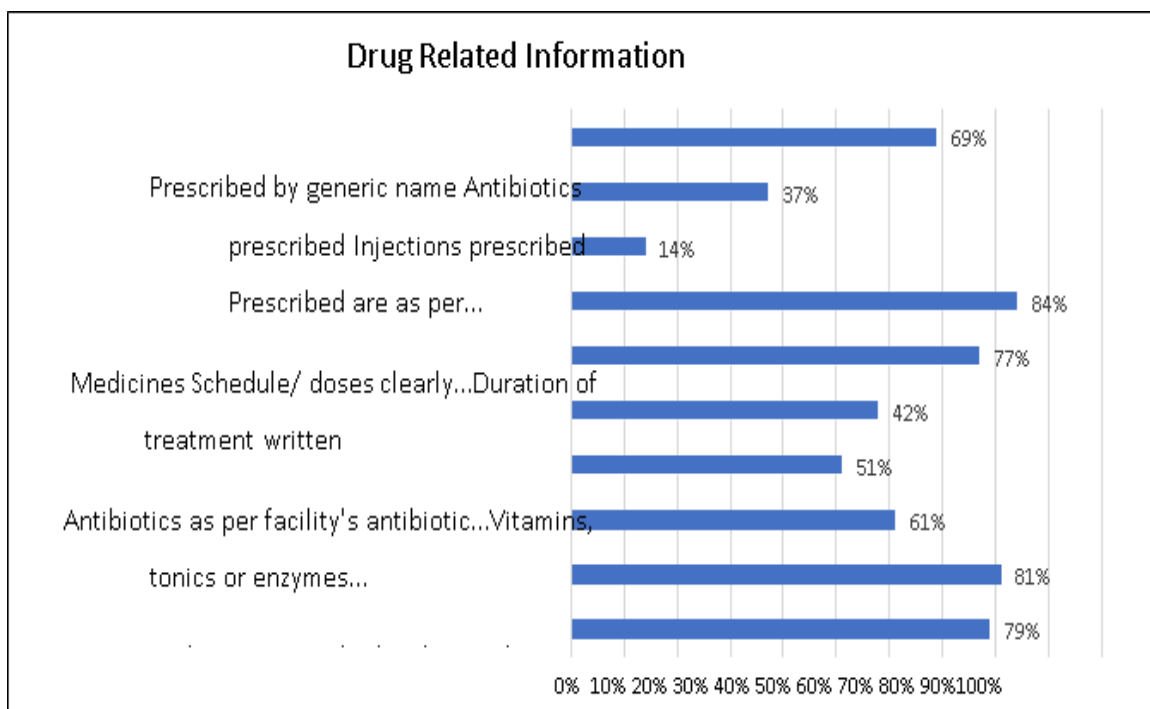


Figure 1: Drug Related Information



Table 2: WHO Core Prescribing Indicators

S.No	WHO Indicators	Findings	WHO standard ⁵
1	Average number of drugs per prescription	3.5	1.6 - 1.8
2	Percentage of drugs are prescribed by generic name	69%	100%
3	Percentage of encounters with an antibiotic prescribed?	37%	20.0 - 26.8%
4	Percentage of encounters with an injection prescribed?	14%	13.4 - 24.1%
5	Medicines prescribed are as per NLEM/Formulary	84%	100%

DISCUSSION

A prescription analysis is a necessary function of every healthcare facility. Prescription audits are often conducted by the Pharmacology department to evaluate the standard of care that patients receive from the hospital.

The WHO core prescribing indicators are crucial benchmarks for evaluating the appropriateness of drug usage in healthcare settings. In comparison to similar studies, the average number of medicines per prescription was 3.5, which was a little higher than usual. The high frequency of vitamin, tonic, and enzyme prescriptions could be the cause.

In comparison to previous studies, a greater proportion of medications were prescribed under their generic names

and from the National List of Essential Medicines. We want to get closer to the WHO-recommended objective of 100% in these areas with our ongoing efforts.

In comparison to other studies of a comparable nature, ours had a rather high proportion of encounters with at least one prescription antibiotic. However, the majority of them fell well within accepted therapeutic protocols. Thus, the different diagnoses of the patients may account for this.

Although it was within WHO guidelines, the proportion of injections among prescriptions in our sample was higher than in comparable studies. A comparison of WHO indicators with other similar studies have been depicted in Table 3.

Table 3: Comparison of WHO Core Prescribing Indicators

WHO Core Indicators	Our Findings	Bandyopadhyay et al 2014 ⁶	Ahsan et al 2016 ⁷	Saha et al 2018 ⁸	Atal Et al 2021 ⁹	Prasad et al 2022 ¹⁰
Mean No of drugs	3.5	4.4	4.02	2.64	2.53	2.7
Generic names	69%	20.9%	0%	19.07%	15.96%	42.9%
Antibiotics	37%	28.9%	39.0%	15.05%	19.82%	9.6%
Injections	13%	28.9%	7.54%	1.19%	1.98%	1.6%
NLEM	84%	60.9%	79.2%	52.86%	37.37%	95.6%

Table 4: Comparison of other parameters

Parameter	Our findings	Atal Et al 2021 ⁹	Rai et al 2018 ¹¹	Panayappan et al 2017 ¹²
Duration	42%	20.93%	64%	87%
Schedule	77%	11.63%	81.3%	85%
Diagnosis/history	53%	3.89%	56.6%	56%

61% of the prescriptions in our study were legible. In comparison to studies of a similar nature by Ahsan et al. (25.3%), Saha et al. (54.5%) and Atal et al. (37%), the number is larger.

Comparison of parameters such as duration of drug therapy, dosing schedule and complete diagnosis in the prescription are shown in Table 4.

CONCLUSION

We were able to learn from this study how important it is to provide generic medications and to stay current on antibiotic policy and standard treatment guidelines. The Drug and Therapeutics Committee was notified of the low-scoring characteristics, which included the duration of medication therapy, the date of the subsequent appointment, and the presence of allergies in prescriptions, for improvement and implementation. In



order to raise the standard of patient care, we strongly advise carrying out similar research to educate medical faculty on prudent prescribing and regular data sharing with the management committee.

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Annexure – 1

A. Patient and Prescriber Information

1. OPD Registration Number Mentioned?
2. Complete name of the patient mentioned?
3. Age in years (months if <5 years) mentioned?
4. Weight in kg (in pediatric age group) mentioned?
5. Gender of patient mentioned?
6. Date of Consultation mentioned?
7. Brief History Written?
8. Salient features of Clinical Examination recorded?
9. Allergy Status recorded?
10. Presumptive/definitive diagnosis written?
11. Investigations advised?
12. Follow-up advice and precautions recorded?
13. In case of referral, the relevant clinical details and reason for referral given?
14. Date of next visit given?
15. Prescription duly signed?

B. Drug Info

1. Medicines prescribed by generic name?
2. Antibiotics prescribed?
3. Injections Prescribed?
4. Medicines prescribed from National List of Essential Medicines (NLEM)?
5. Medicine schedule/doses clearly written?
6. Duration of treatment written?
7. Antibiotics prescribed as per facility's Antibiotic policy?
8. Vitamins, tonics or enzymes prescribed?
9. Medicines prescribed are in line with Standard Treatment Guidelines (STG)?
10. Medicines prescribed are available in the dispensary?

C. Legibility

1. Handwriting is legible and Drugs in Capital letters

D. WHO Core prescribing indicators

1. Average number of drugs per prescription
2. Percentage of drugs prescribed by Generic name
3. Percentage of encounters with an antibiotic prescribed
4. Percentage of encounters with an injection prescribed
5. Percentage of drugs prescribed from Essential Drugs list

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