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Research Article

Audit of Prescription Documentation Practices in Pediatric Surgical Inpatients at a Tertiary Care Hospital, Multan, Punjab

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ABSTRACT

Background: Accurate and complete drug prescription charts are essential for safe and effective patient care, particularly in pediatric surgical practice where dosing errors can have serious consequences. Clinical audit is a key component of clinical governance aimed at identifying gaps between current practice and established standards.

Objective: To assess compliance of drug prescription charts with standard prescription protocols in a pediatric surgery ward and to identify deficiencies requiring corrective action.

Methods: A clinical audit was conducted in the pediatric surgery ward of a tertiary care children's hospital. Drug prescription charts of children admitted through the outpatient department on Mondays and Wednesdays during December 2024 were reviewed. A total of 90 charts were selected using simple random sampling. Prescriptions were evaluated against predefined standard criteria, including patient identifiers, drug details, dosage, duration, and prescriber authentication. Data were analyzed using descriptive statistics and presented as frequencies and percentages.

Results: Complete documentation of patient name, address, age, and weight was observed in 53% of charts. Drug name, form, and dose with frequency were correctly documented in 100% of cases. However, none of the charts documented drug strength or starting and stopping dates. Prescriber signature and stamp were present in only 23% of prescriptions. These deficiencies pose risks of dosing errors, prolonged medication use, and increased treatment costs.

Conclusion: Significant gaps were identified in prescription documentation, particularly regarding drug strength, treatment duration, and prescriber authentication. Targeted interventions, including senior resident oversight, daily chart review, and modification of prescription formats, are essential to improve compliance with standards. A re-audit has been planned to evaluate the effectiveness of implemented changes and to close the audit loop.

Keywords: Audit, Prescription Documentation, Pediatric surgery, Inpatients, prescription protocols, deficiencies, corrective action

INTRODUCTION

Safe and effective drug prescribing is a fundamental component of quality healthcare and an essential determinant of patient safety, particularly in pediatric surgical practice. Children are especially vulnerable to medication errors due to weight-based dosing,

narrow therapeutic windows, and limited physiological reserves. Inaccurate or incomplete prescription documentation can result in under-dosing, over-dosing, adverse drug events, drug interaction, prolonged hospital stay, increased healthcare costs, and avoidable morbidity.

Drug prescription charts serve not only as a primary communication tool among healthcare professionals but also as a medico-legal document that ensures accountability and continuity of care. Standard prescribing protocols recommend clear documentation of patient identifiers, drug name, formulation, strength, dose, frequency, duration of therapy, and prescriber identification. Failure to adhere to these standards has been consistently associated with medication errors and compromised patient safety, particularly in busy tertiary-care settings.

Clinical audit is a core element of clinical governance and provides a structured method for evaluating current practice against established standards with the explicit aim of improving patient care. Unlike clinical research, audit focuses on assessing compliance with existing best practice rather than generating new evidence. Regular auditing of prescription practices is therefore essential to identify deficiencies, implement corrective measures, and ensure sustained improvement in the quality of care delivered.
Despite the critical importance of accurate prescribing, prescription errors and documentation deficiencies remain common in hospital settings, including inpatient pediatric surgical unit. Factors such as heavy workload, lack of standardized prescription formats, and inadequate supervision may contribute to these lapses. However, local data assessing compliance with prescription standards in pediatric surgery units are limited.

This clinical audit was undertaken to evaluate the completeness and accuracy of drug prescription charts in a pediatric surgery unit by comparing current practice with standard prescribing protocols. The findings of this audit aim to identify areas of non-compliance, guide targeted interventions, and ultimately enhance medication safety and quality of patient care.

Aim

To evaluate the quality and completeness of drug prescription charts in the pediatric surgery ward by comparing current prescribing practices with standard prescription protocols, with the ultimate goal of improving medication safety and patient care.

Objectives

- To assess the level of compliance of drug prescription charts with standard prescribing criteria, including patient identifiers, drug details, dosing, duration, and prescriber authentication.
- To identify deficiencies and areas of non-compliance in prescription documentation that may contribute to medication errors.
- To highlight potential risks associated with incomplete or incorrect prescription practices in pediatric surgical patients.
- To provide evidence-based recommendations for improving prescription chart completion and prescribing practices.
- To establish a baseline for re-audit following implementation of corrective measures, thereby completing the audit cycle and promoting continuous quality improvement.

Standards and Criteria

The standards for this audit were based on routinely accepted prescribing practices used in hospital settings according to National Standard Medication Chart (NSMC) Audit Tool and MSDS protocols to ensure safe and effective drug administration in children. These standards define the minimum acceptable level of documentation required on a drug prescription chart to support accurate dispensing, administration, and monitoring of medications.
Each prescription chart was evaluated against predefined criteria considered essential for safe prescribing. As incomplete documentation can lead to medication errors, the expected level of compliance for each criterion was set at 100%.

Audit Criteria

The following elements were assessed on every drug prescription chart:

- **Patient identification:** Documentation of patient name, address, age, and weight
- **Drug name:** Clear and unambiguous naming of the prescribed medication
- **Drug formulation:** Specification of dosage form such as tablet, syrup, or injection
- **Drug strength:** Clear mention of the strength or concentration of the medication
- **Dose and frequency:** Accurate recording of dose and dosing interval
- **Duration of therapy:** Documentation of both start and stop dates of medication
- **Prescriber authentication:** Presence of prescriber's signature and official stamp

Rationale

Accurate completion of these components is necessary to reduce the risk of dosing errors, avoid unnecessary continuation of medications, and ensure accountability of prescribing clinicians. Compliance with these standards promotes effective communication among healthcare professionals and strengthens the quality of medico-legal documentation.

Assessment of current prescribing practice against these criteria can identify deficiencies and provided a structured basis for planning corrective actions.

METHODOLOGY

This clinical audit was conducted in the pediatric surgery unit of The Children's Hospital and Institute of Child Health, Multan. The audit followed a retrospective design and assessed the quality of drug prescription documentation in admitted pediatric patients.

Study Design and Setting

A retrospective review of drug prescription charts was carried out for children admitted through the outpatient department to the pediatric surgery ward. Admissions occurring on Mondays and Wednesdays during December 2024 were included in the audit to allow manageable data collection within the available timeframe.

Sample Selection

A total of 90 drug prescription charts were selected using simple random sampling from eligible admissions during the audit period. Prescription charts included which were pediatric surgical patients admitted through the outpatient department. Charts with missing records unrelated to drug prescriptions were excluded.

Data Collection

Data were collected using a structured proforma designed specifically for this audit. Each prescription chart was reviewed for the presence or absence of the specified criteria. No patient identifiers were recorded, and all data were anonymized to maintain confidentiality.

Data Analysis

Findings were recorded as frequencies and percentages for each criterion. Results were presented in tabular form to facilitate comparison with the predetermined standards and to highlight areas of compliance and non-compliance.

Ethical Considerations

As this project was a clinical audit aimed at improving local practice and did not involve any intervention or patient contact, formal ethical approval was not required. Confidentiality of patient information was strictly maintained throughout the audit process.

RESULTS

A total of 90 drug prescription charts from pediatric surgical admissions were reviewed during the audit period. Each chart was assessed against the predefined prescribing criteria.

Complete documentation of drug name, formulation, and dose with frequency was observed in all reviewed prescription charts, showing full compliance with these criteria. However, deficiencies were identified in several other essential components of prescription documentation.

Patient identification details, including name, address, age, and weight, were fully documented in 48 prescription charts (53%), while 42 charts (47%) lacked one or more of these details. None of the reviewed

prescriptions documented the strength of the prescribed drugs. Similarly, start and stop dates of medications were not recorded in any of the prescription charts.

Prescriber authentication was also suboptimal. Only 21 prescription charts (23%) contained both the prescriber's signature and stamp, whereas the remaining 69 charts (77%) lacked complete prescriber identification.

A summary of compliance with each audit criterion is presented in Table 1.

Table 1: Compliance with Prescription Documentation Standards (n = 90)

Criterion	Compliant n (%)	Non-compliant n (%)
Patient identifiers	48 (53%)	42 (47%)
Drug name	90 (100%)	0
Drug formulation	90 (100%)	0
Drug strength	0	90 (100%)
Dose and frequency	90 (100%)	0
Start and stop date	0	90 (100%)
Prescriber signature and stamp	21 (23%)	69 (77%)

Overall, while drug selection and dosing practices were satisfactory, significant gaps were identified in documentation related to drug strength, duration of therapy, and prescriber accountability.

DISCUSSION

This clinical audit highlights important strengths and weaknesses in drug prescribing practices within a pediatric surgery ward. Our hospital, a major tertiary care center in South Punjab, handles a high patient volume with an extensive clinical work load while compliance was excellent for drug selection, formulation, and dosing frequency, substantial deficiencies were identified in prescription documentation, particularly regarding drug strength, duration of therapy, patient identification, and prescriber authentication.

Complete documentation of drug name, formulation, and dose suggests that clinicians demonstrate adequate clinical knowledge and decision-making in prescribing medications. However, the absence of documented drug strength in all reviewed charts is concerning, especially in pediatric patients where dosing accuracy is critical. Lack of strength specification increases the risk of medication errors during dispensing and administration, particularly when drugs are available in multiple concentrations.

Similarly, failure to record start and stop dates for medications was universal in this audit. This omission may lead to unnecessary continuation of therapy, increased medication costs, and potential adverse drug effects. In surgical patients, where antimicrobial and analgesic use is common, clearly defined treatment duration is essential for preventing complications such as drug toxicity and antimicrobial resistance.

Incomplete patient identification was noted in nearly half of the prescription charts. Accurate recording of age and weight is especially important in pediatric practice, as most drug dosages are weight-based. Missing patient identifiers can therefore compromise dosing accuracy and patient safety.

Prescriber authentication was also suboptimal, with less than one-quarter of charts bearing a complete signature and stamp. This finding has important medico-legal implications and reflects gaps in accountability and traceability of prescribing decisions. Similar deficiencies have been reported in hospital-based audits, where heavy workload and time constraints are recognized contributing factors.

This audit suggest that the observed deficiencies are likely related to system-level issues rather than individual prescribing competence. Lack of structured prescription formats, inadequate supervision, and limited emphasis on documentation practices may all contribute to poor compliance with prescribing standards. Addressing these issues requires targeted interventions involving both medical and nursing staff.

The findings of this audit align with previous studies reporting frequent deficiencies in prescription documentation. In tertiary care

hospitals in Pakistan, up to 25% of prescriptions lacked patient names, 24% lacked age, and generic drug names and prescriber identifiers were often missing.[1] Similar audits in India identified incomplete allergy documentation and low rates of generic prescribing despite accurate demographic recording.[2] Additional studies have highlighted omissions of drug strength, duration, and prescriber signatures, which are critical for safe dispensing and administration.[3,4]

In the pediatric setting, structured audit–feedback cycles have improved documentation of patient identifiers, allergy status, and rational prescribing indicators, although sustained compliance requires continuous monitoring.[5] International guidelines, including those from the World Health Organization, emphasize the importance of standardized prescription charts and regular audits to prevent medication errors and enhance patient safety.[6]

This audit provides a baseline assessment of current practice and forms the foundation for implementing corrective measures. The planned interventions and subsequent re-audit will be essential to determine whether these changes result in sustained improvement in prescription documentation and overall patient safety.

CONCLUSIONS

This clinical audit identified significant gaps in prescription documentation despite correct drug selection and dosing practices. These deficiencies may result in:

- Increased treatment costs
- Under-dosage or over-dosage of medications
- Unnecessary prolongation of therapy

Targeted corrective actions are essential to improve patient safety and prescription quality.

Recommendations and Action Plan:

- Assignment of **two senior postgraduate residents** to monitor prescription charts
- **Senior Registrar on duty** to review drug charts daily during ward rounds
- **Head nurse** to ensure completion of prescription charts
- Modification of drug charts to include:

a. Start **time** along with start date
b. Dedicated column for **drug allergies**

Any change in medication to be documented as a **new prescription** with date and time

Re-Audit Plan

A re-audit will be conducted **after 6 months** to assess the effectiveness of implemented changes and complete the audit cycle.

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