Accuracy and Documentation of Drug Allergies on Ward in a Cardiology Tertiary Care Unit (A Clinical Audit and Re-Audit)

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ABSTRACT

Objective: To assess whether status of allergies is accurately documented in clinical notes and drug prescription charts in two medical wards in Armed Forces Institute of Cardiology (AFIC) as compared to NICE guidelines.

Study Design: We designed a classic audit of measuring current practice against guidelines.

Place and Duration of Study: Armed Force Institute of Cardiology/National Institute of Heart Disease (AFIC/NIHD), Rawalpindi Pakistan, from May to Oct 2020.

Methodology: Each cycle contained of a two weeks’ period in which all new patients admitted in coronary care ward 3 and ward 10 were assessed. A total of 110 patients were assessed in each cycle. Repeat audit cycle was performed after 6 months similarly.

Results: In first audit cycle, we assessed 110 patients. The status of allergies for most patients was recorded in clerking proforma (n=103, 93%) but there were deficiencies found in recording of allergies on drug kardex (n=25, 22%). After education and awareness, the second cycle showed that the status of allergies for all patients was recorded in clerking proforma (n=110, 100%) and documentation on drug kardex also improved from 22% to 78%.

Conclusion: Repeat audit cycle showed significant improvement in documentation of allergies in clerking proforma and on drug kardex.

Keywords: Allergy, Clerking proforma, Drug kardex.


INTRODUCTION

Drug allergies can often result in fatal allergic reactions. The exact incidence of drug allergies is under determined but it is estimated to be 4.2 per 1000 hospitalizations.¹ According to National Patient Safety Agency (NPSA) there have been 3.2% incidents in 2007 where medication was prescribed or dispensed to individuals with known allergies to these medications.¹,² NICE also recommends guidance for medicine reconciliation.¹ Nursing staff is encouraged to check allergy status of every patient before administering each and every medication.¹ Allergic reactions vary from simple rash to life threatening anaphylaxis. These are exaggerated inflammatory or immunologic response to medication. European network of drug allergies has issued guidance on drug allergy passport and documentation of drug allergies.¹ This emphasis warrants an assessment into local practice of documentation of allergies as compared to NICE guidelines.

METHODOLOGY

We designed an audit of assessing current practice against guidelines. The guidelines that were used were:

- Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes. NICE guideline [NG5] Published: 04 March 2015.
- Drug Allergy: diagnosis and management. Clinical guideline [CG183] Published: 03 September 2014.
- Drug allergy Quality standard [QS97] Published: 30 July 2015.

Inclusion Criteria: All new patients being admitted in CCU3 & Ward 10 in AFIC.

Exclusion Criteria: There was no exclusion criterion.

Two audits cycles were designed 6 months apart. Each cycle contained of a two weeks’ period in which all new patients admitted in coronary care ward 3 and ward 10 were assessed. Cycle contained 110 patients each. Data was collected by reviewing clerking sheets and drug kardex. This was then verified by patients using a questionnaire. Repeat audit cycle was performed after 6 months similarly.

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Drug Allergies on Ward in a Cardiology

Audit Standards
- All patients admitted in CCU3 & Ward 10 should have documentation of status of allergies in clinical notes.
- All patients admitted in CCU3 & Ward 10 should have documentation of status of allergies on drug kardex.
- Patients were interviewed by the audit team to ascertain the allergies and types of allergic reactions encountered.
- Patients with these presentations were included in true allergies;
- Anaphylaxis (Difficulty in breathing, swelling of lips- angioedema)
- Urticaria, extensive rash
- Hypotension, cardiac arrest

RESULTS

First Audit Cycle: (May 2020): Out of 110 patients’ data, 103 (93%) clinical notes and 25 (22%) drug kardexes were assessed in two medical wards in AFIC. There was a good balance of both genders with (n=58; 53%) males and (n=52; 47%) females. Out of n=110 clinical notes documented for allergy status, 33 patients (30%) had allergies, out of which 29 (26%) reported to have drug allergies, 4 (3%) reported serious muco-cutaneous reactions including urticaria to latex. Patients reported wide ranges of drugs from which they were allergic to. Amongst others, of note were penicillin (n=13) and paracetamol allergies (n=5) (Table-I).

The status of allergies for most patients was recorded in clerking performa (n=103, 93%) but there were deficiencies found in recording of allergies on drug kardex (n=25, 22%). Factors identified for suboptimal performance were:
- Lack of awareness and importance of documentation of allergies
- Increased paperwork
- Unreliable information from people unaware of name of drug

Power point presentations were arranged for junior doctors and pharmacists post cath conference. Mini flyers were made and distributed throughout the hospital, especially Accident and Emergency from where all patients were clerked. Education of staff including doctors, pharmacists and paramedical staff was ensured.

Second Audit cycle (October 2020): Second audit cycle was performed similarly by collecting data of 110 patients after 6 months of first audit cycle. There were (n=53; 48%) males and (n=57; 52%) females in this data set. Patients in both cycles were demographically similar. The status of allergies for all patients was recorded in clerking proforma (n=110, 100%). Although the documentation on kardex still lacked to meet the standards of guidelines, a marked improvement was seen from n=25 (22%) to n=78 (71%) (Figure).

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<th>Table-I: First Audit Cycle (n=110)</th>
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<tr>
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<td>Drug Kardex</td>
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<th>Table-II: Second Audit Cycle (n=110)</th>
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Figure: Improvement in drug allergies (Cycle I and Cycle II)

DISCUSSION

Drug hypersensitivity reactions include allergic reactions to drugs which are a consequence of enhanced inflammatory or immunologic response.1 Most common signs and symptoms are due to basophilic and mast cell vasoactive mediators causing rash, urticaria, pruritis, angioedema, wheezing, stridor, hypotension, GI symptoms and anaphylaxis.1

We performed the first audit cycle with results showing that the documentation for allergies in clinical notes was 93% and those on drug kardex was 22%. This was well below the 100% standard from NICE and NPSA. However there has been similar audit by Graham et al. and other studies which show similar decrease in results of first cycle of audit due to various reasons.1-3 In second cycle it can be observed that the results markedly improved. Second cycle showed
100% compliance of documentation of allergy status in clinical notes, however, documentation on drug kardex improved from 22% to 77% which was also an improvement.

After speaking to doctors and pharmacists in the hospital, the unreliable information from patients from rural areas was identified as the biggest factor in sub-optimal performance in audit. Patients lack clear documentation of exact drug and exact type of reaction they had from basic health units. This proved to be a hindrance in patients having correct knowledge to begin with. Other factor was awareness amongst doctors and pharmacists to highlight allergies on admission.

LIMITATIONS OF STUDY
No clinical pharmacist was included as part of audit team.

CONCLUSION
Our most positive finding was that with some education encouragement and performance in documentation of allergies can be greatly improved.

RECOMMENDATIONS
1. A designated front page should be provided on drug kardex for allergies and VTE assessment.
2. Education of doctors and paramedical staff regarding importance of documentation of allergies.
4. Regular repeat audit cycles should be carried out to make sure adherence to guidelines improves and continues.

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Conflict Of Interest: None.

Author Contribution
Following authors have made substantial contributions to the manuscript as under:

MS: Intellectual contribution, concept and final approval
FR: Audit design, concept and manuscript writing
MBS: Intellectual contribution, concept & final approval
ORR: Formatting, critical review and data collection/entry
SAK: Analysis, manuscript writing and proof reading
SIS: Data collection, data analysis and review of article
SSU: Data management, data collection and manuscript writing
AK: Data collection, data analysis and review of article
DAK: Review of article, formatting and critical review

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES