Audit of documentation of allergies in a psychiatric inpatient unit

Oliaku Eneh, Sabina Fahy

Ir J Psych Med 2011; 28(4): 213-216

Abstract

Objectives: **This audit aimed to: identify the level of allergy documentation in admission notes, case notes and medication charts in the Department of Psychiatry, Portlaoise; establish the degree of compliance to the gold standard guidelines; highlight areas requiring further improvement and make realistic recommendations to ensure better compliance with the stipulated guidelines on allergy documentation; and re-audit after six months.**

Methods: **Gold standard guidelines on allergy documentation were obtained from various sources. Audit was performed over three days during which data was collected from the allergy section of medication charts, current case notes and original admission notes in both acute and long-stay wards. Recommendations were made and some were adopted, changes to practice were implemented for six months; at which time re-audit was performed.**

Results: **The initial audit revealed that: the allergy section was completed in 25% of medication charts; only 12% of current case notes had any documentation of allergy status; an for the original admission notes, the allergy section was documented in 65% of notes. Based on these results, a formal initial assessment proforma with a designated allergy section was introduced and a renewed awareness of the importance of the documentation of allergy status was actively promoted amongst non consultant hospital doctors (NCHDs). Six months later, re-audit showed that: in the medication charts there was a significant improvement in the level of compliance with documentation of allergy status (allergy or NKDA) in the allergy section up from 25% to 58.1%; in the current case notes, there was only marginal improvement in the level of compliance on the front of case notes from 12-19.1%; and in the original admission notes, there was also considerable improvement in the level of compliance with documentation of allergy status up from 65% to 80.9%.**

Conclusion: **This audit improved the level of documentation of allergy sections in the relevant areas and therefore helped in preventing avoidable and potentially fatal allergic reactions. It will also help save money for the Health Service Executive by reducing compensation costs filed by patients.**

Oliaku Eneh, Registrar, Department of Psychiatry, Midland Regional Hospital, Portlaoise, Co. Laois, Ireland.
***Sabina Fahy**, Consultant in Psychiatry of Later Life, St Brigid's Hospital, Ballinasloe, Co Galway, Ireland.
Email: sabina.fahy@gmail.com
**Correspondence*

SUBMITTED: NOVEMBER 25, 2009. ACCEPTED: OCTOBER 4, 2010.

Key words: Audit; Allergy; Allergy status; Documentation; Inpatient; Medication chart; Case notes; Admission notes.

Introduction

Allergy is a form of exaggerated sensitivity (hypersensitivity) to a substance which is either inhaled, injected, swallowed, or comes into contact with the skin, eye or mucosa.[1]

Allergy is a disorder of the immune system which is characterised by excessive activation of mast cells, basophils, and IgE antibodies and results in an extreme inflammatory response.[2] The symptoms of an allergic reaction can range from a mild rash (hives, wheals, flares) to anaphylactic shock, which can be fatal.[3]

A drug allergy is different from a side effect, which is an unintended and undesirable consequence of any kind of medical treatment[4] (there is usually no sensitisation of the immune system).

Documentation of allergies is an ongoing problem in the healthcare system. Spontaneous reporting of adverse drug reactions (ADRs), particularly allergy/anaphylaxis, by the yellow card system may be as low as 10% of cases.[1] The yellow card system is an online scheme that enables people to report a suspected drug allergy or adverse drug reaction, but it is dependent on the willingness of people to make this report.

True allergies are rare but there have been reports of patients suffering serious harm following the administration of medicines that they were previously identified as being allergic to.[5]

A significant percentage of allergic reactions should be avoidable; however some medication incidents have occurred in patients with allergies because of the following reasons:[6]

- Incomplete documentation of allergy status.
- Inconsistent location of documentation of allergy status.
- Documentation of the drug allergen using brand name instead of generic drug
- Information on allergy status not being available to relevant healthcare professionals
- Patients being mislabelled as allergic as a result of both staff and patient misinterpretation of allergy, eg. some patients have a misconception that a side effect is an allergic reaction
- Lack of therapeutic knowledge, eg. patients with a documented penicillin allergy receiving penicillin-based antibiotics
- Non drug allergens such as latex being overlooked.

Between 1998 and 2005 serious adverse drug reactions in the UK increased 2.6-7 fold. Similarly, about 30% of all ADRs occurring in hospitalised patients are either allergic or clinically mimic an allergic reaction.[7]

ADRs account for up to 5% of all hospital admissions in

https://doi.org/10.1017/S079096670001168X Published online by Cambridge University Press

the UK, and this excludes the majority of drug allergies which occur in primary care and remain undiagnosed and unrecorded.[7] Statistics also show that 15% of inpatients have a hospital stay prolonged as a result of ADR.[7]

Women have a 35% higher incidence of adverse cutaneous reactions and a two-fold higher incidence of anaphylactic reaction following radio contrast media.[7] Up to 98,000 deaths from 'clinical' error (ADRs) occur in the US each year.[8] The Irish Medicines Board received a total of 1,751 and 2,742 ADR reports in 2007 and 2008 respectively.[9] The Medical Protection Society has paid compensation in 97 cases of adverse drug reactions in the last 10 years up to the end of 2009.[10] To give an idea of the total costs, the most expensive 10 claims together cost approximately £354,000 including compensation and claimant and defence costs.[10]

The prescribing of medicines is the commonest healthcare intervention in developed countries.[11] The Mental Health Commission has recommended that the use of the card index system of prescribing on wards should be discontinued as it is associated with poorer quality of prescriptions.[12]

This audit is based in the psychiatric inpatient unit at Portlaoise, Co Laois, Ireland and aimed to identify the level of allergy documentation in original admission notes (the sheets used to conduct initial and subsequent assessments when a patient presents in the acute unit – essentially the patient's hospital records and an integration of medical and nursing notes), current case notes(the brown folders which cover the patient's hospital records, the front of which has a designated section for the documentation of allergy status), and medication charts in the inpatient setting; to compare the identified level of documentation with the gold standard guidelines in order to establish the degree of compliance; to highlight areas requiring further improvement and make realistic recommendations to ensure better compliance with the stipulated guidelines on allergy documentation; and to re-audit after six months.

Methodology

Preparing for the audit

The inpatient unit that forms the focus of this audit provides a psychiatric service to the people living in the Laois/Offaly area of the Midland region of Ireland made up of a population of more than 135,000 people. This comprises of three general adult sectors and also includes specialty services of psychiatry of later life (POLL), rehabilitation psychiatry and intellectual disability psychiatry.

A total of six wards (two acute inpatient units and four long-stay units) were selected for the re-audit as against seven wards which were used for the initial audit. These include the general adult male and female wards (DOP male and female) into which the previous psychiatry of later life (POLL) ward was incorporated, the rehabilitation psychiatry ward, ward 6 (a psycho geriatric long-stay facility), the male and female wards of the St Brigid's hospital Shaen (POLL continuing care facilities).

Gold standard guidelines

The standards used for this audit were based on the following principles:

- Prescription writing guidelines of the Health Service Executive Ireland recommended that the allergy box in a drug chart should contain either NKDA (no known drug allergy) or a positive allergy history/sensitivity. Symptoms of the allergy history should also be described in the space provided[13]
- The information sourced from the Royal College of Psychiatrists regarding patient's notes states that "All patients should have drug allergies noted on the drug charts as and when they are first written"
- Department of health NHS UK states that: "The allergy status of a patient should be documented on all hospital charts used for prescribing medicines so that it is visible at the point of prescribing, dispensing and administration".[5]

In this audit, the standard was set at 100% documentation of allergies in the appropriate sections in original admission notes, current case notes, and medication charts, because failure to document allergies in patients could lead to fatal consequences.

An audit tool was developed to obtain data. Only inpatients in the acute unit (three wards) and long-stay units (four wards) were selected for this audit. This was a cross sectional study, the allergy section on the medication charts and case notes were closely examined for documentation, the admission notes were also meticulously perused for the documentation of any allergies and the information was gathered and collated using the audit tool.

Based on the findings of the audit, relevant changes to practice were to be agreed and implemented for six months; the specific recommendations that were implemented are outlined in the results.

Results

Initial audit

Over the three day period of the audit, a total 109 individuals were inpatients in the six wards used for this audit, 48 (44%) were female and 61 (56%) were male.

In the medication charts, there was only 25% compliance in documentation (allergy or NKDA) in the allergy section. In the current case notes there was only 12% compliance in documentation (allergy/NKDA) in front of the notes. In the original admission notes, there was 65% compliance in documentation (allergy/NKDA) at the time of admission, this figure was accounted for mainly by the admission notes in the long-stay wards which had almost 100% documentation, the acute inpatient unit had only less than 10% compliance.

The level of compliance in the individual wards varied greatly, most especially between the acute inpatient units and the long-stay units in the initial audit.

Intervention

The results of the initial audit were presented and discussed in the weekly clinical meeting conducted by the consultants and NCHDs. Specific findings that were discussed included:

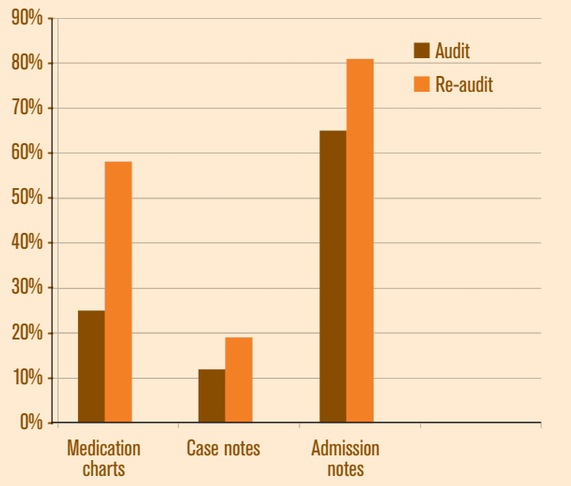
- Less than 10% documentation of allergy status in the original admission notes in the acute unit. This is particularly of grave concern because the initial assessment note is the port of entry for most acute inpatients and if this vital information is missing at the time of initial assessment, then it is very unlikely that this information will be recorded at any other time
- Lack of documentation of allergy status in the designated allergy sections of 75% of medication charts and 88% of current case notes.

https://doi.org/10.1017/S079096670001168X Published online by Cambridge University Press

Table 1: Comparing the level of compliance with documentation of allergy status in all units pre and post intervention

Groups	Audit (pre-intervention) n (%)	Re-audit (post-intervention) n (%)
Medication charts		
Allergy section documented (allergy/NKDA)	28 (25)	61 (58.1)
Allergy section not documented (nothing at all)	81 (75)	44 (41.9)
Current case notes		
Allergy section documented (allergy/NKDA)	13 (12)	20 (19.1)
Allergy section not documented (nothing at all)	96 (88)	85 (80.9)
Original admission notes		
Allergy section documented (allergy/NKDA)	71 (65)	85 (80.9)
Allergy section not documented (nothing at all)	38 (35)	20 (19.1)

Figure 1: Comparing the level of compliance with documentation in all three relevant areas between the initial audit and re-audit



Based on these findings and concerns, several recommendations were made and some were adopted and implemented. For instance, a formal assessment proforma with a clearly designated allergy section was soon introduced; this ensured that the omission of the allergy history by the NCHDs ceased to occur. Also renewed awareness of the importance of documentation of allergy status was created amongst doctors and nurses; this sensitised all parties involved and there was notable improvement in the documentation of allergy status. After six months, a further audit was performed.

Re-audit (post-intervention)

Over the three day period of the re-audit, a total of 105 individuals were inpatients in the six wards used for this audit, 49(46.7%) were female and 56(53.3%) were male.

In the medication charts there was 58.1% compliance in documentation (allergy or NKDA) in allergy section. In the current case notes, there was 19.1% compliance in documentation (allergy/NKDA) in front of the notes. In the original admission notes, there was 80.9% compliance in documentation (allergy/NKDA) at the time of admission. Regrettably, the degree of compliance in the acute unit showed only a modest improvement.

Discussion

This result showed an overall improvement in the level of documentation in medication charts, current case notes and original admission notes after the introduction of a formal initial assessment proforma and the promotion of awareness of this practice among NCHDs.

In the medication charts, the initial audit showed 25% compliance while the re-audit showed 58.1% compliance. The improvement observed in the documentation in medication charts was mainly due to the increased awareness of this practice among NCHDs. However in a significant number of medication charts, the allergy section remains undocumented because the space meant for it is located in the lower one third of the chart and this is quite obscure. The majority of doctors often write up the medications before realising that the allergy section has not been filled out and most of the time even fail to see that section altogether.

In the current case notes, the initial audit demonstrated only 12% compliance while the re-audit showed 19.1% compliance, an improvement of only 7%. It seemed that all staff were not inclined to document an allergy status at all if the patient had no positive allergy history. The absence of a positive allergy history should be documented in front of the case notes as 'NKDA', as this is a significant finding in itself *(see Table 1 and Figure 1)*.

In original admission notes, the initial audit revealed 65% compliance while the re-audit showed 80.9% compliance, only a 15% increase. This was solely due to the introduction of a formal assessment proforma with a clearly designated allergy section (a recommendation which was adopted after the initial audit). This ensured that NCHDs did not inadvertently omit to obtain an allergy history.

When compared to a similar audit done by Abuelroos et al,[14] there was only 27% compliance in medication charts and 12% compliance in case notes. This result is similar to that obtained in the initial audit. However, another similar audit conducted by Crimmin et al,[15] showed 94% compliance in medication charts and 86% compliance in case notes. This result was far better but was still deemed unsatisfactory when 100% compliance is the outcome desired.

The other recommendations that are yet to be adopted and are expected to facilitate further improvement are:

- The adoption of a new medication chart with a view to highlighting the allergy section by bringing it to the top and flagging it up in red, so that when writing a prescription the doctor sees this section first
- Re-establishment of the Drugs and Therapeutic Committee. This monitors the complete pathway of medications from prescription to administration.

The major reason for not adopting these measures is mainly

https://doi.org/10.1017/S079096670001168X Published online by Cambridge University Press

due to lack of funding and constraints in the release of staff to re-establish the Drugs and Therapeutics Committee.

However, these changes need to take place to ensure that this improvement is not only sustained but progresses steadily towards the achievement of absolute compliance, which is indeed a very realisable objective.

NCHDs have a very important role in documenting allergies (either a positive allergy history or NKDA) since they are involved in the initial history taking. It is necessary to highlight the importance of documenting allergy status during the induction programme of new NCHDs and nursing staff.

Nurses and pharmacists have an important role in checking this information and if it was omitted they should ensure that it is documented in the appropriate places by calling it to the attention of the doctor.

From the result of this audit, the level of allergy documentation in the Department of Psychiatry and long-stay wards in the service under study remains unsatisfactory. Thus, the following additional recommendations are deemed necessary;

- There is a need for renewed awareness of the importance of allergy documentation and the provision of resources to help in implementing it
- An allergy history must be obtained in the course of any assessment, not just the first, but also in subsequent ones, because an allergy can develop at any stage
- No doctor should write a prescription without first obtaining an allergy history
- When obtaining an allergy history from a patient, apart from drug allergy, other forms of allergy, eg. food, chemicals, etc. should be obtained. The nature of the reaction and the date of occurrence should also be documented
- To add a new section in the medication chart to include 'other' allergies.

Conclusion

This audit has served to facilitate the introduction of a formal well structured assessment proforma with a designated allergy section; this is the first time that such a vital resource is being used in the service under study to assess every patient that presents.

It also helped to bring a fundamental area of good medical practice (allergy documentation) that is being neglected to the attention of healthcare professionals. It should therefore improve service delivery and prevent potentially fatal consequences from occurring with potential savings to the HSE by reduction in possible compensation costs. One of the key aims of clinical governance is the protection of the patient and these changes in documentation of allergy status should achieve that aim.

Acknowledgement

We are most grateful for the contributions made by all the staff of the Department of Psychiatry, Midland Regional Hospital at Portlaoise.

References

1. Allergy the unmet need. A blue print for better patient care. A report of the Royal College of Physicians working party on the provision of allergy services in the UK 2003.
2. Kay AB. Overview of allergy and allergic diseases: with a view to the future. Br Med Bul 2000; 56(4): 843-64. doi:10.1258/0007142001903481+. PMID 11359624.
3. Cantrill JA, Cottrell WN. Accuracy of drug allergy documentation. Am J Health – Syspharm 1997; 54: 1627-1629
4. Stedman T L. Medical Dictionary. 25th Ed. William and Wilkins: Baltimore, USA, 1990.
5. Department of Health. Building a safer NHS for patient, improving medication safety. London: The Department; 2004.
6. Department of Health and Social Services Northern Ireland. Use and control of Medicines. Guidelines for the safe handling, administration, storage and custody of medicinal products in the health and personal Social Services. 2004.
7. Mirakian R et al. British Society for Allergy and Clinical Immunology Guidelines for the management of drug allergy. 2008.
8. Lazarou J, Pomeranz BH, Corey PN. Incidence of adverse drug reactions in hospitalised patients: a meta-analysis of prospective studies. JAMA 1998; 279: 1200-5.
9. Irish Medicines Board. Protecting public and animal health. Annual Report 2008.
10. Medical Protection Society, Private Correspondence, 2001.
11. Freemantle N. Does the UK National Health Service need a fourth hurdle pharmaceutical re-imbursement to encourage the more efficient prescribing of pharmaceutical products. Health Policy 1999; 46: 255-65.
12. Mental Health Commission. Annual Report, Book 1, Appendix 6: Medication Prescriptions in Approved Centres. 2008: 85-88.
13. Prescription Writing. Compiled by Oisin OhAlmahain. Pharmacy Department, Midlands Regional Hospital Tullamore Co. Offaly, 2005.
14. Abuelroos et al. Audit Report on the Documentation of allergies on Drug Charts and Case Notes. South Tipperary Mental Health Service, Ireland 2006.
15. Crimmin et al. Audit on Drug Allergy Documentation and Compliance with New Requirements for Allergy Name Bands at University Hospital Lewisham, South London, UK, 2005.