


CASE SERIES

Duplication errors due to brand name confusion; It is not always the name—Short case series

N. Mamunuwa¹  | S. Jayamanne² | N. Wijekoon³ | J. Coombes⁴ | D. Perera⁵ | T. Shanika⁶ | F. Mohamed^{7,8} | C. Lynch⁹ | A. De Silva¹⁰ | A. Dawson⁸

¹Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Jaffna, Sri Lanka

²Department of Medicine, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka

³Department of Pharmacology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka

⁴School of Pharmacy, University of Queensland, Brisbane, Australia

⁵Department of Pharmacy, Austin Health, Melbourne, Australia

⁶Department of Allied Health Science, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka

⁷Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka

⁸Faculty of Medicine, University of Sydney, Sydney, Australia

⁹Collaboration of Australian Sri Lankan Pharmacy Practice Education Research (CASPPER), Brisbane, Australia

¹⁰Department of Pharmacology, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka

Correspondence

N. Mamunuwa, Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Jaffna, Sri Lanka.

Email: ammam@ou.ac.lk

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Key Clinical Message

Confusion of drug names has been identified as a leading cause of medication errors and potential iatrogenic harm. Most of these errors occur because of look-alike or sound-alike drugs. This case series gives examples of duplication errors due to brand confusion, where there are no similarities in the names.

KEYWORDS

brand confusion, duplication errors, medication errors

1 | INTRODUCTION

Confusion of drug names has been identified as a leading cause of medication errors. The majority of these errors occur as a result of similarities of drug names either orthographic (look-alike) or phonological (sound-alike).¹⁻³ However, brand confusion may occur without similarities in names.⁴ This report aims to provide examples of duplication errors due to brand confusion where there are no similarities in the names.

2 | METHOD

The information for this case series was extracted from a database prospectively collected from Colombo North teaching hospital as part of a study conducted to evaluate the impact of the addition of a clinical pharmacist to the standard inpatient care. This study provided clinical pharmacy services to the intervention group while the control group received usual care.

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3 | RESULTS

Of 800 patients reviewed during the study period of 7 months in 2013, clinical pharmacists identified eight cases of duplication errors due to prescribing both generic and brand names of the same drug, but with no similarities in names. Three of those are presented here.

4 | CASE DESCRIPTIONS

4.1 | Case 1

A 52-year-old male patient with a history of alcoholic cirrhosis was admitted to the hospital with progressive abdominal distention and bilateral ankle swelling. He complained of painful breast swelling. The patient had been on spironolactone 100 mg twice daily and frusemide 40 mg twice daily before admission. Gynecomastia, was suspected, a well-known adverse drug reaction to spironolactone. A senior doctor on the ward ceased spironolactone and frusemide and commenced “Amifru” (a combination of 40 mg frusemide and 5 mg amiloride). The discharge prescription included frusemide 40 mg twice daily, spironolactone 100 mg twice daily plus “Amifru” one tablet twice daily. The intern doctor had written this prescription unaware that “Amifru” contains frusemide. It is possible that the treating doctor did not know it was a diuretic at all because they prescribed the patient three diuretics.

These issues were identified by the clinical pharmacist and were communicated to the prescriber before discharge. Duplicating diuretics could have resulted in patient harm due to over diuresis.⁵ Continuing spironolactone could have resulted in worsening gynecomastia and/or hyperkalemia in the context of adding amiloride.⁶

4.2 | Case 2

A 71-year-old male patient with a history of type II diabetes mellitus and asthma was admitted with hematemesis. The esophago-gastro-duodenoscopy (OGD) showed evidence of gastric ulcers and *Helicobacter pylori* was suspected. The gastroenterologist recommended “H Pylori kit” twice daily for 2 weeks followed by omeprazole 20 mg twice daily. This “kit” included amoxicillin, metronidazole, and omeprazole. At discharge the patient was given a prescription which included “H Pylori kit” twice daily plus the three drugs prescribed generically; amoxicillin, metronidazole, and omeprazole. During the follow-up phone call conducted, 6 days after discharge, as part of the clinical pharmacy study, it was found that the patient was taking the “Kit contents” plus the three individual drugs

concurrently, from Day 1 of discharge. No pharmacist intervention was made at discharge because this patient was in the control arm and was not reviewed by the clinical pharmacist. The patient had obtained the “Kit” from a private pharmacy and the individual drugs from the hospital pharmacy. This was an unnecessary cost to the patient and could have worsened the side effects, particularly gastrointestinal effects.

4.3 | Case 3

An 85-year-old male patient with a history of Parkinson's disease for nearly 20 years was admitted with decreased level of consciousness and speech. While obtaining the medication history from the carer, the clinical pharmacist identified that the patient had been taking two brands of levodopa 250 mg/carbidopa 25 mg (“Tidomet” and “Syndopa”). The carer was not aware that the two were equivalent. This misadventure resulted in a doubling of the prescribed dose.

5 | DISCUSSION

We identified the causes contributing to brand confusion. Brand names sometimes tend to be unrelated to the generic name or therapeutic group. It is confusing when the same drug is available under different names from different manufacturers. For example, “Jupitor” is a brand of atorvastatin registered in Sri Lanka. The approach of combined drug products is confusing too. This can lead to errors as in Case 1, due to lack of awareness of the generics included in the combination medicine. Workload of the hospital medical officers and lack of access to drug references are barriers to safe prescribing. Dispensing without proper labeling with both generic and brand names can also cause errors as in Cases 2 and 3. Cases 1 and 2 had the potential to cause iatrogenic harm, Case 3 was admitted to hospital with probable iatrogenic harm.

Most previously published studies highlight the similarities of drug names (look-like, sound alike/LASA) as the dominant causes for brand confusion. Hence the current discussion to prevent the errors of drug name confusion directs towards addressing this issue.^{1–3,7,8} Our case presentation provides data out of this convention. Very limited publications in literature report about medication errors not linked to similarities in names.⁴

Prescribing in generics is the best system factor solution to overcome brand name confusion. Given that the drug market is complex with a number of combination products, providing medical officers with updated information regarding brands is of significant value. Bramley

in a study explains the importance of improving access to pharmaceutical references through the internet and on-line versions of references.⁹ Another study by Hemminike et al. revealed that the knowledge of combination drugs is poor among the physicians.¹⁰ Patients should be provided with labeled drugs including both generic and brand name by the dispensing pharmacist to prevent any confusion. Cases presented in this report were identified by the clinical pharmacist employed for research purposes. Thus, employing clinical pharmacists in the wards provides another evidence-based approach to address this issue.

6 | CONCLUSION

Brand confusion does not necessarily arise from look-alike or sound-alike drug names. It can be due to numerous brands of generic ingredients, lack of awareness of drug names among the patients and lack of awareness of content of combined drugs. Employing trained clinical pharmacists in the wards, educating patients on discharge drugs, and appropriate labeling of medicines may prevent these errors.

AUTHOR CONTRIBUTIONS

N. Mamunuwa: Data curation; formal analysis; investigation; writing – original draft. **S. Jayamanne:** Conceptualization; project administration; supervision; writing – review and editing. **N. Wijekoon:** Conceptualization; project administration; supervision; writing – review and editing. **J. Coombes:** Conceptualization; project administration; supervision; writing – review and editing. **D. Perera:** Conceptualization; funding acquisition; methodology; writing – review and editing. **T. Shanika:** Data curation; investigation; methodology; writing – review and editing. **F. Mohammed:** Project administration; supervision; writing – review and editing. **C. Lynch:** Conceptualization; supervision; writing – review and editing. **A. De Silva:** Conceptualization; supervision; writing – review and editing. **A. Dawson:** Conceptualization; funding acquisition; supervision; visualization; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

None declared.

DATA AVAILABILITY STATEMENT

Data available on request from the authors

ETHICS STATEMENT

Ethical approval for the study was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Kelaniya, Sri Lanka (Ref. No. P 12/01/2012). The trial was registered in the Sri Lanka Clinical Trials Registry (Reg No: SLCTR/2013/029).

CONSENT

Written informed consent was obtained from each participant before recruitment to the study.

ORCID

N. Mamunuwa  <https://orcid.org/0000-0002-8133-9916>

REFERENCES

1. Rataboli PV, Garg A. Confusing brand names: nightmare of medical profession. *J Postgrad Med.* 2005;51(1):13-16.
2. Joshi MC, Joshi HS, Tariq K. A prospective study of medication errors arising out of look-alike and sound-alike brand names confusion. *Int J Risk and Safety in Med.* 2007;19:195-201.
3. Ciociano N, Bagnasco L. Look alike/sound alike drugs: a literature review on causes and solutions. *Int J Clin Pharm.* 2014;36(2):233-242.
4. Grissinger M. Multiple brand names for the same generic drug can cause confusion. *P T.* 2013;38(6):305.
5. Coggins MD. Evaluating potential diuretic overuse. *Today's Geriatric Medicine.* 2013;6(6):5. <http://www.todaysgeriatricmedicine.com/archive/110113p5.shtml>
6. Perazella MA. Drug-induced hyperkalemia: old culprits and new offenders. *Am J Med.* 2000;109:307-314.
7. Lambert BL, Lin SJ, Tan H. Designing safe drug names. *Drug Saf.* 2005;28(6):495-512.
8. McCoy LK. Look-alike, sound-alike drugs review: include look-alike packaging as an additional safety check. *Jt Comm J Qual Patient Saf.* 2005;31(1):47-53.
9. Bramely DEP. The ability of anaesthetists to identify generic medications from trade names. *Anaesth Intensive Care.* 2009;37(4):624-629.
10. Hemminki E, Enlund H, Hellevuo K, Laurila R, Turakka H. Trade names and generic names. Problems for prescribing physicians. *Scand J Prim Health Care.* 1984;2(2):84-87.

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