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LASA a Tool to Avoid Medication Errors: Look a Like and Sound a Like Separation of Medicine in Hospital and Pharmacy is Essential

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ABSTRACT

The aim of every medicine prescription is to focuses on the safe and effective action on illness for which it is being prescribed but drugs that look similar or have a similar sounding name are at risk of being confused during the drug dispensing or administration process. This can lead to serious errors which, in some time the lead to critical case, might even be life-threatening for patients. When medications have names that look or sound alike, and/or have similar packaging, they may be confused, leading to medication errors. As medical prescription errors are not uncommon in India because till today large number of prescriptions are being handwritten. LASA in healthcare refer to Look-Alike, Sound-Alike in healthcare, a term used in healthcare for drugs that have similar names or appearances and can be easily confused with each other. **LA**: **Look A LIKE:** Similar Packaging: Medications from the same or different manufacturers that have similar packaging, labelling, colours, or sizes whereas **SA: SOUND A LIKE:** Similar Names: Names that look alike when written (orthographic similarity) or sound alike when spoken (phonetic similarity). In such a case LASA (Look Alike & Sound Alike) can be lifesaving tool for avoiding the medication errors.

Keywords: LASA, Look a Like, Sound a Like, Medication Error, Drug Safety, Drug Regulation, LASA Medical etc.

INTRODUCTION

Medication errors can be a serious cause of patient harm, especially when medications have names that look or sound alike, and/or have similar packaging, they may be confused, leading to medication errors.

Today the drug market is full of look-alike, sound-alike (LASA) drugs which have not yet caught the attention of the media or the medical community, LASA errors can occur at any point on the treatment pathway during prescribing, dispensing or administration of medicines. They may result in overdosing, under-dosing or inappropriate dosing, representing a significant threat to patient safety[1].

LASA MEDICATION ERROR

As in this article we have introduce the problem of look-alike, sound-alike (LASA) name errors, hereby we will outline the scope, importance and prevalence of LASA name errors.

Today there is no universally agreed definition of a LASA error, it vary from region to with different factors.

The errors can be divided into two categories: Category A and Category B. The differentiation between these categories underscores the complex nature of LASA errors[3].

CATEGORY A - LA: LOOK A LIKE

LA: **Look A LIKE:** Similar Packaging: medicines which looks similar falls in this segment, Medications from the same or different manufacturers that have similar packaging, labelling, colours, or sizes falls in this segment.

CATEGORY B - SA: SOUND A LIKE

SA: SOUND A LIKE: Similar Names: Names that look alike when written (orthographic similarity) or sound alike when spoken (phonetic similarity).

WHAT CAUSES LASA MEDICATION ERRORS?

LASA errors can happen at any point in the medicines use process, from prescribing, transcribing, dispensing, to administration, and monitoring[5].

With respect to the clinical impact of confusing medicine pairs, the potential consequences can vary in severity, depending on factors including: the specific medicine administered, dose, therapeutic index, and route of administration.

PRESCRIPTION ERROR

As medical prescription errors are not uncommon in India because till today large number of prescriptions are being handwritten because of this India faces major challenges such as mistakes in dispensing of drugs due to misreading of prescription.

FRESHERS/UNTRAINED STAFF

Freshers or poorly trained healthcare professionals/pharmacists may result in dispensing error.

SIMILAR BRAND NAMES

There are critical issues of similar brands for (i) the same drug and (ii) for different drugs causing confusion among doctors, pharmacists, and patients.

ENGLISH READING ABILITY OF PATIONTS

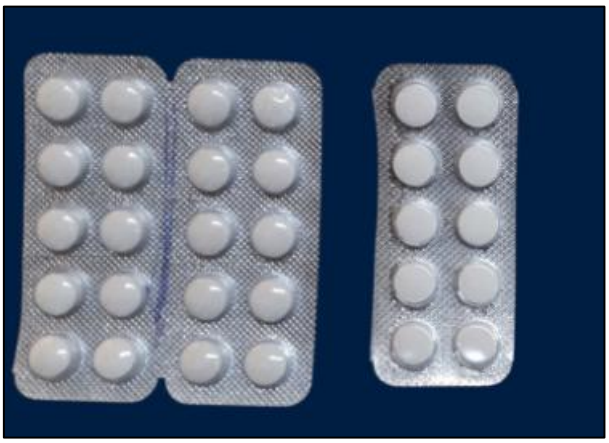
For a patient who cannot read English the chance of medication errors increases more severely because of same shape and colour of the drug/medicine.

Thus, similar-looking drugs in similar packaging make it nearly impossible for patients, especially who do not have an English reading ability.

STRIPS OF LOOK-ALIKE

Most of drugs in India are available in strips which are look-alike. Colour coding among strips or tablet is not regulated.

For Example – From Paracetamol to telmisartan and metoprolol all come in oval shape white tablets of nearly similar looking tablets.



BRAND NAMES OF SOUND-ALIKE

Over thousands of brands available in Indian market falling in LASA category for example some of them listed below.

LASA NAME	GENERIC NAME/CONTENT
Acnesol	Erythromycin
Acnesol-T	Erythromycin+Tretinoin
Celib	Celecoxib
Celin	Vitamin C
Dax	Cefadroxil
Dan	Diclofenac
Hemsi	Ferrous Fumarate
Hemsyl	Ethamsylate
PD-Rox	Roxithromycin
PD-Mox	Amoxycillin
Taxim	Cefotaxime
Taxim-O	Cefixime

CASES –

There are many examples of LASA errors in published reports and case reports. For example, propranolol has been given instead of prednisolone to patients with asthma, causing bronchoconstriction and reduced blood pressure. Carbimazole, an antithyroid medicine, has been dispensed to patients prescribed carbamazepine for epilepsy, resulting in hypothyroidism and loss of seizure control.

Case reports also illustrate that these errors can have very serious outcomes. One report described mercaptopurine, rather than mercaptamine, being given to an infant with nephropathic cystinosis. The child developed the serious blood disorder, pancytopenia, but, once the mistake was spotted and rectified, made a full recovery[6].

As per news a 32-year-old woman died after she consumed a sulphas tablet she got at a medical store where she went to purchase a painkiller for toothache in Madhya Pradesh state of India.

As per newspaper The New Indian Express dated 14 March 2025 an a eight-month-old baby boy fall severely ill after pharmacy staff provided medication in drop form instead of the prescribed syrup for fever. Unaware of the substitution, the parents administered the drops in the same dosage as the syrup, unintentionally giving the baby an excessive amount this incident happened in Kerala state of India.

Stage of medication use	Common causes of LASA errors
Prescribing	Hard to read handwritten prescriptions; verbal requests for a medicine; incorrect selection of a medicine in an e-prescribing system; use of abbreviations
Transcription	Incorrect transcription of a LASA medicine name; use of abbreviations; incorrect interpretation of similar names
Dispensing	Selecting products based on where they are stored or how the packaging looks, rather than their name and strength; storing LASA medicines close to each other; not using strength-based colour coding; dispensary check failure
Administration	Unclear administration instructions; choosing the wrong medicine due to lack of familiarity with the product, its packaging, and strengths
Monitoring	Not monitoring medication outcomes with relevant clinical observations or biochemistry

How to prevent LASA errors

Preventing LASA medication errors requires a 'whole system' approach. Need of building and sustaining a culture of patient safety should be considered as a top priority strategy which involved all the elements in the system[11].

Some of the easy ways to avoid LASA medication error listed below-

COLOUR COADING FOR HIGH RISK MEDICINES AT MANUFACTURING

Permitting unique colour packing for hi risk medication can really help in reducing the risk of medical errors.

COMPUTERISED /CLEARLY WRITTEN DRUG PRESCRIPTIONS

As till today large number of prescriptions are being handwritten and in running languages, It is advice to write prescriptions computerised way or in clear capital letters if written by hand.

COLOUR CODING AT STORAGE

Separately storing LASA drugs can really help in avoiding the medical errors at dispensing the drugs/medicines.

Colours coding can be done as per convenience and easy of pharmacy/hospital for better understanding such as GREEN colour for Sound-alike and YELLOW for Look-alike medicines.

EXPERIENCE AT PRACTICE

At an individual experience health professionals may familiarise themselves with common LASA medicines, and be mindful of the risks when prescribing, dispensing, and administering them.

Implementing a double-check system to match the drugs prescribed with those dispensed.

Enforcement action against the sale and dispensing of drugs without valid prescriptions.

LOCK AND KEY

Hi risk medicines to be kept in separate compartment with lock and key to avoid the medication error at dispensing.

DOUBLE CHECKING OF HIGH RISK MEDICINES

Double check parameter for hi risk medicines requirement to confirm that drug dispensed is appropriate for the indication mentioned in the prescription.

EDUCATE PATIENTS

It is also important to educate patients on the risks of LASA medicines. This can empower them to manage the medicines they are taking and to be more vigilant when taking them.

Improving patient health literacy by providing information on the purpose of the prescribed drugs, their alternatives, and possible side effects.

Why are LASA errors important?

LASA medication errors are not rare. The WHO has highlighted them as one of the most common and preventable causes of harm in healthcare

With thousands of medicines available, many with similar-sounding generic or brand names, there is a high likelihood of such errors, especially as new drugs enter the market.

Raising awareness of the risks of LASA medication errors, good education, preventive strategies and improved naming, packaging, labelling and prescribing practices are all essential steps in reducing errors.

CONCLUSION

Medicine with similar name or which look similar can create a complex problem, with the potential to cause fatal or devastating harm to patients.

LASA awareness and implementation of colour coding the LASA medicine storage can be very helpful to avoid a LASA medication error.

Raising awareness of the risks of LASA medication errors, good education, preventive strategies and improved naming, packaging, labelling and prescribing practices are all essential steps in reducing errors.

Health professionals should understand the importance of reporting these errors so that the learning from such events can prevent them happening again.

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