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Case Report

Medication error: An unfortunate reality

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Introduction

Although a substantial body of literature exists describing medication errors and preventable adverse drug events, medication safety has not been a topic that has generated much attention. The release of Institute of medicine (IOM) report “To Err is Human” brought the scope of medical errors and patient safety in front of the world.¹ With estimates of 44,000 to 98,000 deaths annually due to medical errors, out of which 7000 deaths per year can be traced to medication errors have generated substantial interest and debate on the subject in recent years.

The first IOM report defined an error as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Medication errors by nature are largely preventable, do not always cause harm and can be caused by errors in planning (prescribing) and execution (dispensing and administering medications). We report a case of medication error reported in a service hospital, with a series

of errors precipitating an adverse event requiring hospitalization and in – patient management.

Case report

A 43 year old male patient was admitted to a Zonal hospital in the Northern sector with atypical chest pain, associated with acute anxiety in a back ground of occupational stress of being posted in a remote field area locality. Patient was initially evaluated for his cardiac health and was managed with antihypertensives, antianginals and antiplatelet drugs. He was transferred to a tertiary centre where his cardiac evaluation including coronary angiography was done which was normal. The individual was placed on cardiac drugs and referred back to the zonal hospital. Psychiatric evaluation was also carried out. The patient was prescribed Selective Serotonin Reuptake Inhibitor with cognitive psychotherapy and was sent on sick leave. The patient was discharged from that hospital as a case of Adjustment Disorder with Chronic Stable angina and was prescribed follow-up medications including Tab Nicorandil 5 mg twice daily. The patient received 60 days of prescribed medicines and was then posted to our Area Of Responsibility. He took a fresh prescription of medicines on 02 Aug 2014 and then presented to this hospital on 03 Aug 2014 with complaints of abnormal dystonic movements of neck and back for last six hours.

The patient did not have any history of headache, seizure, chest pain or palpitation. He was conscious, oriented with a Blood Pressure recording of 160/90 mm Hg, tachycardia with SPO2 of 96%. CNS examination revealed dystonic movements of the neck, other systemic parameters being all within normal limits. Routine investigations were normal and the patient was diagnosed as a case of Extra pyramidal syndrome

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and was managed with Injection Phenargan 25 mg IM, to be repeated 8 hourly.

The patient was further evaluated for Acute Coronary Syndrome but all investigations including Troponin –T was normal. The dystonic movements of the patient resolved spontaneously within 24 h of admission. On closer examination of the medication history, a series of medication errors were detected, that started with the written opinion of the Psychiatrist. In the written opinion of the Psychiatrist, the dosage of Tab Ramipril was endorsed as 20.5 mg (in place of assumed 2.5 mg) due to shifting of the decimal towards the left. However, no apparent harm occurred to the patient, probably because of recognition of the wrong dose by the dispensing pharmacist. However, Tab Haloperidol have been dispensed in place of Tab Nicorandil, both the drugs sounding alike and precipitating a dispensing error with adverse consequences.

Discussion

The hospital environment is highly complex and presents new challenges every day. The goal of drug therapy is to enhance quality of life of the patient and at the same time reduce patient harm.² There are inherent risks associated with therapeutic use of drugs, adverse events occurring as a result of such incidents including both medication error and adverse drug reaction.³ Medication administration is a complex process that encompasses prescribing, transcribing, dispensing, administering drug and monitoring the patients' response. Common causes of medication error include incorrect diagnosis, dose miscalculation, prescribing errors, incorrect drug dispensing and administration.

Medication error is defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient or consumer. Such events may be related to professional practice, health care products, procedures and systems.⁴ Majority of medication errors are not always adverse drug events, one study observing only 0.9% of medication errors leading to adverse drug event (ADE).⁵

The term dispensing error refers to errors linked to the dispensary or where medication is issued. The common errors in the dispensary include incorrect medication given to the patient, dosage strength or dosage form. In our case both the errors took place, the physician in his discharge note incorrectly writing the wrong strength of a drug and the individual given the drug Haloperidol instead of Nicorandil, as both the drugs sounded alike leading to dystonic reactions of the patient.

An informal investigation revealed multiple errors leading to the final event, such errors being incorrect use of decimals while writing the dose of a drug, lack of focus on "Look Alike or Sound Alike (LASA) drugs" and environmental stress in the form of substantial rush at the Dispensary on busy OPD days which are manned by one Pharmacist and one Nursing Assistant only. The hospital has subsequently brought in system changes in the form of better and appropriate staffing of the Dispensary on OPD days, prominently displayed and colour coded labelled LASA drug policy and future planning for

a Dispensary management software with built in alerts for identifying wrong drugs or wrong dispensing of LASA drugs.

Bates et al used a four phase medication use model to categorise potential and preventable ADEs that was detected using an intensive surveillance process. In this study, 56% of preventable ADEs leading to patient harm occurred during the ordering phase while 34% occurred during administration.⁶

Historically, medical and medication errors have been viewed as individual human failure, whereas rarely it is so. Medication error is usually the end result of a chain of events that has been influenced by a faulty system design. Several strategies exist to maximize the safety of the medication use system, starting from simplifying and standardizing processes, building checks and redundancies to detect human error, increasing feedback and using sensible protocols. Automation has also contributed substantially to reduce medication errors in the form of Computerized Prescriber Order Entry (CPOE), bar coding of medications, automated single-dose dispensing devices and robotic technology for medication dispensation.

However, it need to be appreciated that mistakes will occur, given the situation of human beings forming a key component of the medication use process. Thus, spontaneous reporting of medication error in a non-punitive environment will help in ascertaining what system factors contributed to the error and develop future strategies to address such factors. Identification of Look Alike, Sound Alike drugs (LASA), high alert medication policy and safe order writing practice will also contribute significantly towards reducing incidence of medication errors in hospitals. Simple actions like identification of LASA drugs, separate storage of such drugs and appropriate labeling by different colour codes or TALLMAN lettering can easily address the issue of look alike, sound alike medications in healthcare organizations.

Staff awareness, sustained efforts, creativity and ingenuity will be necessary to address and remove the risk of medication error from our hospital floors, so as to enhance the concept of patient safety in service hospitals.

Conflicts of interest

The authors have none to declare.

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