Adverse Drug Events in Hospital Settings: Reporting & Fate at a Tertiary Academic Hospital: Cross-Sectional Study

Mohammed Alqasem[1], Tariq Alhadlaq[1], Faisal Alreshedi[1], Ali Aljumayd[1], Dr. Wael Mansy[2], Dr. Tariq Alhawassi[2,3], Dr. Nasser Alqahtani[4], Dr. Ghadah Alhuwyail[5], Dr. Mansour Almetwazi[2,3]

[1] PharmD Interns, College of Pharmacy, King Saud University. [2] Clinical Pharmacy Department, College of Pharmacy, King Saud University.
[3] Medication Safety Research Chair, College of Pharmacy, King Saud University. [4] Drug Sector, Saudi Food And Drug Authority.
[5] Pharmacy Department, King Saud University Medical City.

برنامج دعم أبحاث طلبة البكالوريوس URSP

جامعة الملك سعود King Saud University 1957

Deanship of Scientific Research

INTRODUCTION

Adverse drug events (ADEs) are deemed global dilemma as they are linked to increased morbidity and mortality. ADEs reporting has shown to be a key player to mitigate their consequences, especially when followed by appropriate actions to prevent further occurrences. Based on meta-analyses and systematic reviews the percentage rate of hospital admissions was 5%. (1)

We found two studies were done in Saudi Arabia, the prevalence of ADEs was found to be ranging from 6.1 - 8.5 per 100 admissions, while the ADRs ranging from 4 - 6 per 100 admissions. (2,3)

OBJECTIVES

The aim of this study is to investigate the actions that have been taken by various healthcare providers (HCPs) after each incident of an ADE including medication errors (MEs) or adverse drug reactions (ADRs).

Secondary Objectives:

To determine the most frequent type of errors, as well as departments and classes of medications involved in ADEs.

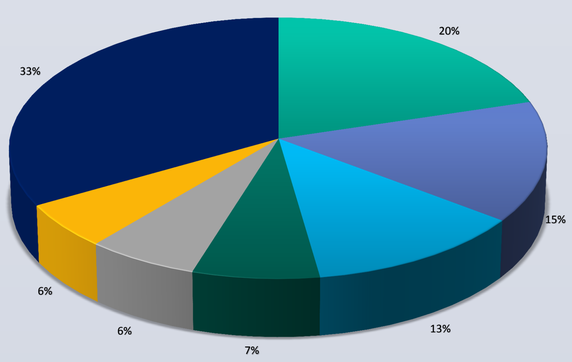
METHODS

A cross-sectional study was launched based on 5,452 ADEs reports retrospectively retrieved for nine-month time frame between January and September 2017 at a tertiary academic hospital. Descriptive analyses were used to determine the prevalence of ADRs and medication errors. The most frequent medications that were linked to in reported ADEs were figured out.

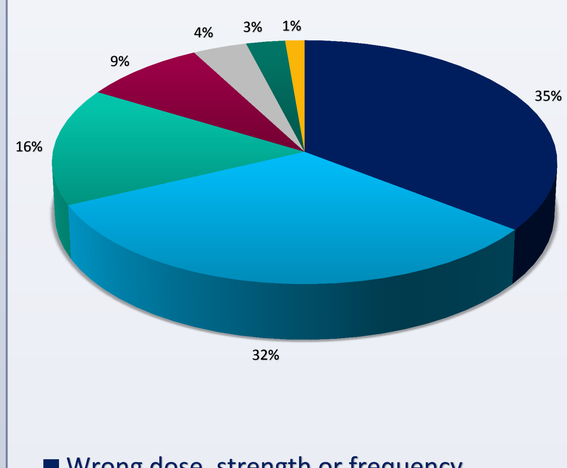
RESULTS

Of 5453 ADEs reports, 99% represented medication errors cases and as few as 38 cases (1%) were found treating one kind or more of ADRs. It has been found that 68% of the medication errors were classified as prescribing errors, and nearly one-third (35%) of prescribing error cases were reported as dose and frequency related. Antibiotics and gastrointestinals were the most classes of drugs involved in ADEs (33% and 13.6%, respectively). Regarding the actions that have been taken after the ADEs, we found that dose adjustment (30%), medication restriction (15.6%) and medication discontinuation (11.7%) were the most frequent types of actions to either quit or alleviate ADE cases. Only 4.5% of the included ADE reports were not clearly described.

Speciality



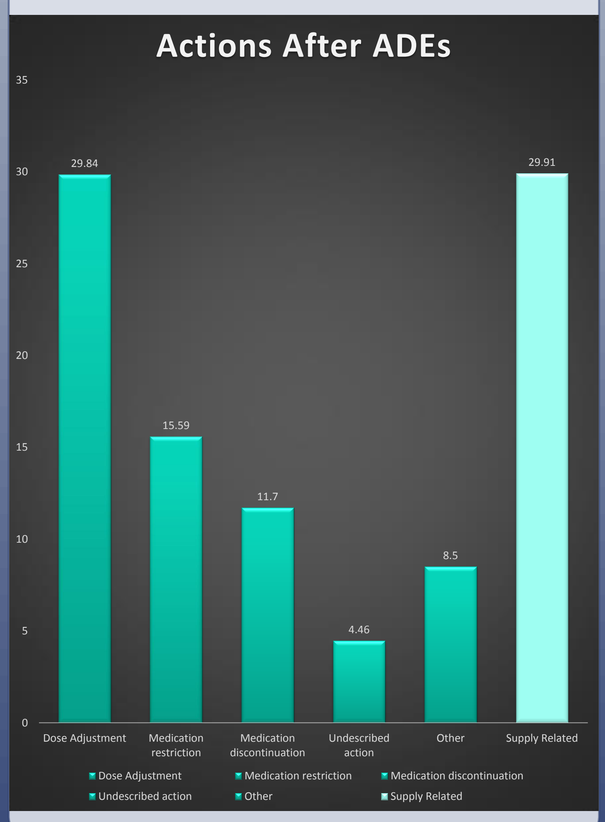
Types of Medication Errors



Classes of Medications

Classification	Frequency	Percentage
Antibiotics	1797	32.95
Gastrointestinals	518	9.5
Anticoagulants	330	6.05
Antihypertensives	277	5.08
Vitamins & Supplements	272	4.99
Anti-inflammatories	237	4.35
Hypoglycemic	219	4.02
Others	1803	33.06

Actions After ADEs



CONCLUSIONS

The study findings indicate that all ADE reports were analyzed and verified by medication safety officers and effective risk-mitigation actions were carried out in the vast majority of ADEs cases. As the reporting rate of ADRs are relatively low compared to MEs cases, a necessity for more intensified training and educational sessions to raise the awareness and knowledge toward the importance of ADR reporting is the key element to enhance reporting culture among concerned HCPs.

REFERENCES

1. Beard K, Lee A (2006) Introduction. In: Lee A(ed). Adverse drug reactions. (2ndedn), London, Pharmaceutical Press: 4 : 1-22.
2. Aljadhey, Hisham, et al. "Incidence of adverse drug events in an academic hospital: a prospective cohort study." International journal for quality in health care 25.6 (2013): 648-655.
3. Aljadhey, Hisham et al. “Incidence of Adverse Drug Events in Public and Private Hospitals in Riyadh, Saudi Arabia: The (ADESA) Prospective Cohort Study.” BMJ Open 6.7 (2016): e010831. PMC. Web. 11 June 2017.

ACKNOWLEDGEMENTS

“The authors extend their appreciation to the Deanship of Scientific Research at King Saud University for funding this work through the Undergraduate Research Support Program, Project no. (URSP – 3 – 17 – 16).”