

Drug-Related Hospitalisations Due to Adverse Drug Reactions in Different Hospitals in the Rayalaseema Region of Andhra Pradesh: An Observational Study

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ABSTRACT:

The study is carried out to evaluate the prevalence of hospitalisations due to ADRs. An observational study is conducted for six months using the medical records and case sheets of the patients available in different hospitals in the Rayalaseema region of Andhra Pradesh to determine the number of hospitalisations due to adverse drug reactions.

Study participants: The subjects hospitalised due to adverse drug reactions in the inpatient medical wards are involved in this study. The subjects with other causes of hospitalisation are not included in the study. In this study, all age groups are taken into consideration along with the required ADRs related to admissions.

Results: There were a total of 1013 hospitalisations associated with certain acute illnesses. Among them, 46 subjects were found to have been admitted with illnesses due to ADRs.

The prevalence of ADR hospitalisations accounts for 4.5% of the overall admissions observed.

Conclusion: Drug-related problems account for more than 10 to 20% of hospital admissions. The higher risk of admission was mostly observed in the patients in the very young and very old age groups, and the other cause observed was polypharmacy.

I. INTRODUCTION:

Adverse drug reactions are any responses to a drug that are noxious and unintended and that occur when the drug is normally used in humans for the prophylaxis, diagnosis, or therapy of disease or for the modification of physiological function.

The field of pharmacovigilance is concerned with the investigation of ADRs. An adverse event refers to any unexpected and inappropriate occurrence at the time a drug is used, whether or not associated with the administration of the drug.

Types of ADRs include: type A dose-related (augmented), type B non-dose-related

(bizarre), type C dose-related and time-related (chronic), type D time-related (delayed), type E withdrawal (end of use), and type F failure of therapy (failure).

The major outcomes of ADRs are:

- Death
- Life-threatening
- Hospitalization (initial or prolonged)
- Disability
- Congenital abnormality

Incidence and severity of ADRs differ by patient characteristics like age, sex, coexisting disorders, genetic factors, and certain drug factors such as type of drug, route of administration, treatment duration, and dosage bioavailability. The risk is greater in cases of polypharmacy and advanced age.

Adverse drug reactions are estimated to account for nearly 5 to 7% of all hospital admissions. ADRs are responsible for the deaths of nearly 50 out of every 1000 subjects admitted to hospitals. More than 150 drugs have been withdrawn due to adverse drug reactions from past 50 years. From the former researches, the infants and the older age people are proved to be more susceptible for developing adverse drug reactions.

II. METHODS:

Study design:

An observational study is conducted using the medical records and case sheets of the patients to determine the prevalence of the total number of hospitalisations due to ADRs among those hospitalised in a tertiary care hospital.

Inclusion and Exclusion criteria:

All the subjects (of all age groups) who were admitted to the inpatient medical wards of the

hospital due to adverse drug reactions are included in the study.

The subjects who were hospitalised for various other reasons, such as surgeries, post-surgical infections, and several other critical disease outcomes are excluded from the study.

Data collection and screening:

The data is collected by observing the medical records and case sheets of the patients involved in the study. Information about the patient such as age, gender, and family history is screened. All the required hospitalisations were collected to obtain the prevalence.

Statistical analysis:

The analysis is done by using the prevalence formula of statistics.

Prevalence = a/b

Where, a= number of hospitalisations due to ADRs at the given time

b= total number of hospitalisations at the given time

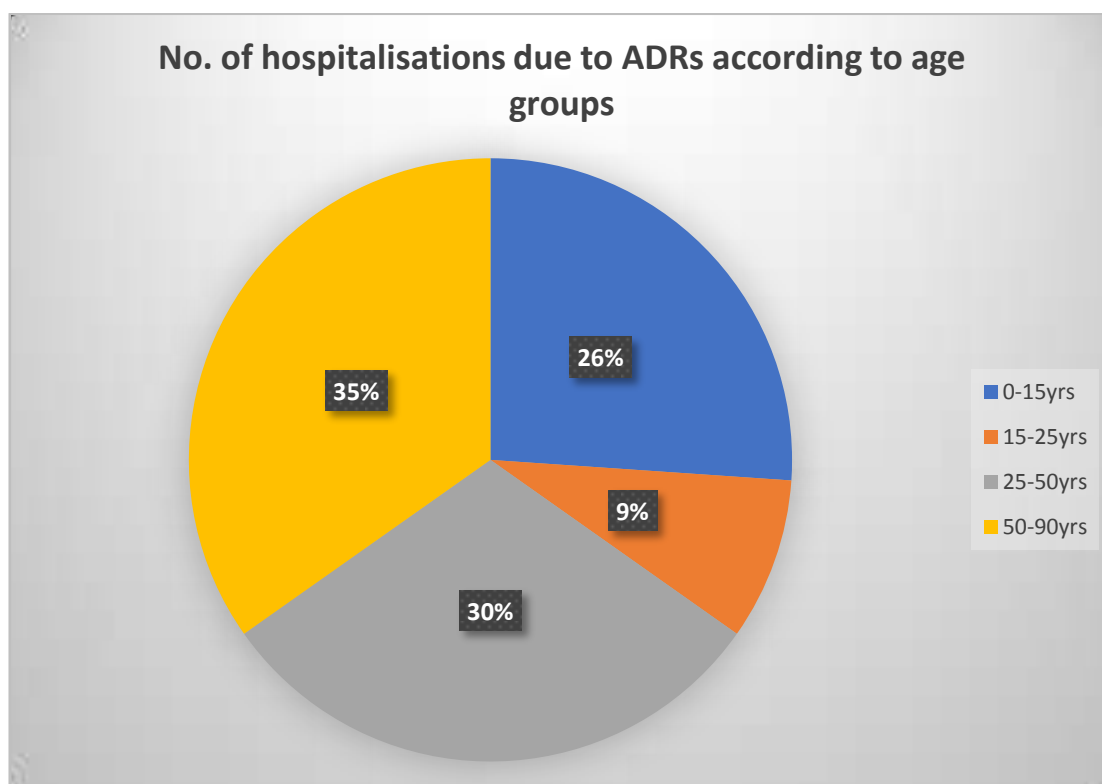
Here, the total number of hospitalisations is recorded, and the number of hospitalisations due to ADRs are evaluated retrospectively by using clinical data about the patient and their condition.

III. RESULTS:

There were total 1013 hospitalisations accounted with certain acute illnesses. Among them 46 subjects were found to be admitted with illnesses due to ADRs.

The prevalence accounted for ADR hospitalisations is 4.5% of the overall admissions observed.

The major ADR affected age groups are reported to be the paediatrics with mean age of 7yrs (1-15yrs) and the older age group of mean age 75yrs (60-90yrs).



In our study, out of 1013 subjects, 46 subjects (19 males and 27 females) accounted for ADR's hospitalisation. The drug categories which resulted in ADR related hospitalisations are mostly found to be-

CATEGORIES	HOSPITALISATIONS CAUSED BY ADRs
Cardiovascular drugs:	12
Diuretics	6
Calcium channel blockers	2
Digoxin	1
Others	3
Anti-thrombotic agents:	9
Anti- platelets	5
Anti- coagulants	4
Psychotropic agents:	6
Benzodiazepines	3
Anti- psychotics	2
Hypnotics	1
NSAIDS	6
Hypoglycaemic agents:	3
Insulin	1
Sulfonylureas	1
Others	1
Antimicrobial agents	4
Others	6

IV. CONCLUSION:

Drug related problems account for more than 10-20% of hospital admissions. The higher risk of these admissions were mostly observed in the patients of very young and very old age groups and the other cause observed was due to polypharmacy. Many of the drug related problems were preventable and can be cured by taking the required strategies to overcome them. Proper measures should be taken to reduce the severe effects of the adverse drug reactions, since they are a significant cause of mortality and morbidity. The harmful ADR causing drug should be withdrawn from the market to reduce the impact of those drugs in the healthcare system.

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