Seminar: Adverse Drug Reactions (ADR)

Department of Pharmacy

1. Introduction to Adverse Drug Reactions

Adverse Drug Reaction (ADR) is a harmful or unintended response to a medicine used at normal doses. ADRs are an important cause of illness, hospital admission, and increased healthcare costs.

2. Definition of ADR

According to the World Health Organization (WHO), an ADR is any noxious and unintended response to a drug which occurs at doses normally used in humans.

3. Importance of Studying ADRs

Studying ADRs helps improve patient safety, reduce morbidity and mortality, and promote rational use of medicines.

4. Classification of ADRs

ADRs are commonly classified into Type A (Augmented), Type B (Bizarre), Type C (Chronic), Type D (Delayed), Type E (End of use), and Type F (Failure of therapy).

5. Type A (Augmented) Reactions

These reactions are dose-related and predictable. They are related to the pharmacological action of the drug. Example: Hypoglycemia caused by insulin.

6. Type B (Bizarre) Reactions

These reactions are not dose-related and are unpredictable. They include allergic and idiosyncratic reactions. Example: Penicillin allergy.

7. Risk Factors for ADRs

Risk factors include age (elderly and children), polypharmacy, genetic factors, liver and kidney disease, and improper drug use.

8. Common Drugs Causing ADRs

Antibiotics, NSAIDs, anticoagulants, antiepileptics, and chemotherapy drugs are commonly associated with ADRs.

9. Clinical Manifestations of ADRs

ADRs can affect different systems such as skin (rash), gastrointestinal system (nausea, vomiting), central nervous system (dizziness), and cardiovascular system.

10. Diagnosis of ADRs

Diagnosis is based on patient history, drug history, clinical examination, and exclusion of other causes. Causality assessment tools may be used.

11. Management of ADRs

Management includes stopping the suspected drug, providing supportive treatment, adjusting the dose, or switching to an alternative drug.

12. Prevention of ADRs

Prevention strategies include proper prescribing, monitoring patients, avoiding polypharmacy, and educating patients about drug use.

13. Pharmacovigilance

Pharmacovigilance is the science of detecting, assessing, understanding, and preventing ADRs. It plays a key role in drug safety.

14. Reporting of ADRs

Healthcare professionals should report ADRs to national pharmacovigilance centers. Reporting helps in identifying new and rare ADRs.

15. Conclusion

Adverse Drug Reactions are a major public health issue. Early detection, proper management, and effective reporting can improve patient safety.