

**A Brief Report on Academic Expert-Adjunct faculty Interaction series: Lecture IV**

(Enhancing professional skills)

Date: 07.04.2022

***Name of the presenter:***

Dr. Jimmy Jose  
Associate Professor, Dept. of Pharmacy Practice / Clinical Pharmacy  
School of Pharmacy  
University of Nizwa, Oman  
&  
Adjunct Faculty, JSSAHER, Mysuru

***Title of the presentation:***

Predisposing factors of Adverse Drug Reactions:  
Clinical Implications



***Program Organized by:***

Dept. of Pharmacy Practice & Pharmacy Education Unit  
JSS College of Pharmacy, Ooty JSS College of Pharmacy, Ooty

Academic interaction with distinguished faculty bring value to academic institutions by sharing their expertise with students. Students gain additional knowledge along with experiential learning by participating in projects and activities connecting the curriculum to practice. With an objective of enhancing professional skills Department of Pharmacy Practice in association with Pharmacy Education Unit, JSS College of Pharmacy, Ooty has planned to conduct Academic Expert Interaction series

Dr Jimmy Jose is presently working as Associate Professor, Dept. of Pharmacy Practice/ Clinical Pharmacy. School of Pharmacy, Univ. of Nizwa. UAE.

Dr Jimmy started his presentation with the importance of understanding and considering predisposing factors for ADRs. Many factors play a crucial role in the occurrence of ADRs, some of these are patient related, drug related or socially related factors. Age for instance has a very critical impact on the occurrence of ADRs, both very young and very old patients are more vulnerable to these reactions than other age groups. Alcohol intake also has a crucial impact on ADRs. Other factors are gender, race, pregnancy, breast feeding, kidney problems, liver function, drug dose and frequency and many other factors. The effect of these factors on ADRs is well documented in the medical literature. Taking these factors into consideration during medical evaluation enables medical practitioners to choose the best drug regimen.

**Types of predisposing factors:**

Pharmacological, immunological, and genetic factors are involved in the pathogenesis of ADRs. Factors that predispose to pharmacological ADRs include dose, drug formulation, pharmacokinetic or pharmacodynamic abnormalities, and drug interactions.

The metabolic conversion of drugs to metabolite is now established as a requirement for many idiosyncratic drug reactions. Increased levels of reactive drug metabolites, their impaired detoxification, or decreased cellular defence against reactive drug products appears to be an important initiating factor. Immunological and genetic factors may play a role in the reaction of the body toward the drugs given. Ethnic variations also play an important role in the development of ADRs. It is understood that some risk factors are consistent for all ADRs and across multiple therapeutic classes of drugs, while others are class specific. High-risk agents should be closely monitored based on patient characteristics (gender, age, weight, creatinine clearance, and number of comorbidities) and drug administration (dosage, administration route, number of concomitant drugs). Factors which might increase the possibility of the occurrence of ADRs include; extremes of age, gender, multiple drugs, disease state, past history of ADR or allergy, genetic factors, large doses and many other factors. Discontinuation of the drugs or changing doses may be an important factor in developing ADRs to certain drugs in certain populations especially the elderly.

Agency for Healthcare Research (2001) suggested another potential cause of ADRs can stem from the clinician's reluctance to treat with adequate doses of a drug for fear of causing drug toxicity. ADRs may be caused by errors in manufacturing, supplying, prescribing, giving, or taking drugs.

Factors affecting the occurrence of ADRs are subdivided into five groups; Patient related factors, Social factors, Drug related factors, Disease related factors and ADR related factors. The above affecting factors were discussed in detail by the presenter with specific examples.

There was a question-and-answer session where staff and students clarified their doubts related to pharmacovigilance. A total of 109 participants were present in the session.

Report submitted by: DR S Ponnusankar, Professor & Head, Dept. of Pharmacy Practice

University of Nizwa

# Predisposing factors for adverse drug reactions - Clinical Implications

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Types of predisposing factors

Age, Intercurrent disease, Pharmacogenetics, Ethnicity and Race, Polypharmacy, Physiological factors, Pharmacokinetic factors, Drug Interactions, Life style factors, Gender

ADR

People

- Sri NanthaKumar
- Srishti Rai
- Suguna K
- swasasree cpo
- Tarooob Runa
- Tenzin Tsering
- Vishwas HN

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