

Review on Adverse Drug Reactions

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Abstract

Adverse drug reactions are also known as side effects. Adverse drugs reactions (Adrs), are toxic, unintended, and undesirable impacts which occur as result of drug treatment. These reactions occur due to self-medication or due to intake of over dose of medicines without prescription. The prescribed drugs may produce undesirable effects along with main effect which leads to adverse drug reactions. Most of the adverse drug reactions are preventable. Hence, in order to avoid adverse drug reactions one should take only properly prescribed drugs.

Keywords Adverse drug reactions; self-medication; Prescribed drugs; Bizzare effects; Chronic effects; Delayed effects

Introduction

Adverse drug reaction (ADR) is occurred when combination of two or more drugs. When injury affected and taking a drug, it causes in single dose or continued dose of a drug. It results to cause the side effects. Adverse drug reactions in children square measure a crucial public unhealthiness. Pharmacists in organized health care systems have to develop comprehensive, in progress programs for observance and coverage adverse drug reactions. adverse drug reactions (ADRs) to spontaneous reporting systems and to investigate whether there are differences between different types of ADRs [1,2].

An adverse reaction to a drug has been defined as any unintended reaction to a drug that's administered in customary doses by the right route for diagnosis and treatment. Some drug reactions could occur in everybody, whereas others occur solely in inclined patients. A drug allergic reaction is associate degree immunologically mediate reaction that exhibits specificity and return on re-exposure to the offensive drug [3,4].

ADR most common in Women, Elderly (>60 y old), Very young (1-4 y), Patients taking more than one drug (Figure 1)

Classification

Type A: Augmented pharmacologic effects

Type B: Bizarre effects

Type C: chronic Reactions

Type D: delayed Reactions

Type A: Maximum it is the dose dependent and predictable, Related to pharmacological action of drug. Extensions of the principal pharmacological action of the drug. Toxic reactions linked to excess dose or impaired excretion, or to both. These are three types Predictable, Common, Dose-dependent. Predictable is relatively easily predicted by preclinical and clinical pharmacological studies.

Common Type A reactions is not serious and it is usually dose dependent. The toxicity of Drug overdose caused by excessive dosing.



Figure 1: Adverse drug reaction

Type B: It is dose independent and unpredictable and Drug Intolerance, Lower threshold to normal pharmacological action of a drug, Undesirable pharmacological effect at recommended doses and single average dose of aspirin. Immune mediated response to a drug agent in sensitized patient eg. Anaphylaxis with penicillin. Idiosyncratic drug reactions are uncommon response to drug.

Type C: it is biological characteristics can be rationalized from chemical structure and associated with long-term drug therapy. It is well known and can be anticipated

Type D: it is the delayed effects and Carcinogenic, teratogenic effects. Carcinogenic leads to cancer.

Side Effects

Seriousness and severity: Adverse drug reactions cause Death, Life-threatening, Hospitalization, Disability - significant, persistent, or

permanent change, impairment, damage or disruption in the patient's body function/structure, physical activities or quality of life. Requires intervention to prevent permanent impairment or damage [5,6]

Nearly unavoidable secondary drug effect produced by therapeutic doses intensity is dose dependent. Occur immediately after initially taking drug or may not appear until weeks after initiation of drug use

Secondary pharmacological effect, development of diarrhea with antibiotic therapy due to altered GIT bacterial flora, orthostatic hypotension with a phenothiazine

Drug Interactions

When two drugs taken together and they affect each other's response pharmacologically or kinetically. Action of a drug on the effectiveness or toxicity of another drug

Importance of adverse drug reactions

Adverse drug reactions are a major clinical problem, accounting for 2-6% of all hospital admissions (box).3-6 Recent surveys

References

1. Smyth RM, Gargon E, Kirkham J, Cresswell L, Golder S, et al. (2012) Adverse Drug Reactions in Children—A Systematic Review. DOI: 10.1371/journal.pone.0024061.
2. ASHP Guidelines on Adverse Drug Reaction Monitoring and Reporting. Medication Misadventures—Guidelines
3. Hazell L, Shakir SA (2006) Under-reporting of adverse drug reactions : a systematic review. Drug Saf 29: 385-396.
4. Vervloet D, Durham S (1998) Adverse reactions to drugs. ABC of allergies BMJ 316: 1511.
5. Devi S (2014) Use of Informatics in Identification of Adverse Drug Reactions. J Bioequiv Availab 6: e54.
6. Elkalmi RM, Al-lela OQ, Jamshed SQ (2014) Motivations and Obstacles for Adverse Drug Reactions Reporting among Healthcare Professionals from the Perspective of Lewin's Force Field Analysis Theory: Analytic Approach. J Pharmacovigilance 2:130.