



## Interaction between Drug and Food in Pharmacodynamic Properties

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### INTRODUCTION

The effect of drug on a person may be different than expected because that drug interacts with another drug the person is taking (drug-drug interaction), food, beverages, dietary supplements the person is consuming (drug nutrient/food interaction) or another disease the person has (drug disease interaction). A drug interaction is a situation in which a substance affects the activity of a drug, i.e. the effects are increased or decreased, or they produce a new effect that neither produces on its own. These interactions may occur out of accidental misuse or due to lack of knowledge about the active ingredients involved in the relevant substances.

### DESCRIPTION

Regarding food drug interactions physicians and pharmacists recognize that some foods and drugs, when taken simultaneously, can alter the body's ability to utilize a particular food or drug, or cause serious side effects. Clinically significant drug interactions, which pose potential harm to the patient, may result from changes in pharmaceutical, pharmacokinetic, or pharmacodynamic properties [1]. Some may be taken advantage of, to the benefit of patients, but more commonly drug interactions result in adverse drug events. Therefore it is advisable for patients to follow the physician and doctors instructions to obtain maximum benefits with least food drug interactions. The literature survey was conducted by extracting data from different review and original articles on general or specific drug interactions with food [2]. This review gives information about various interactions between different foods and drugs and will help physicians and pharmacists prescribe drugs cautiously with only suitable food supplement to get maximum benefit for the patient. Medicines can treat and cure many health problems. However, they must be taken properly to ensure that they are safe and effective. Medications should be extremely specific in their effects, have the same predictable effect for all patients, never be affected by concomitant food or other medications,

exhibit linear potency, be totally non-toxic in any dosage and require only a single dose to affect a permanent cure. However, this ideal drug is still to be discovered. Many medicines have powerful ingredients that interact with the human body in different ways [3]. Diet and lifestyle can sometimes have a significant impact on drugs. A drug interaction is a situation in which a substance affects the activity of a drug, i.e. the effects are increased or decreased, or they produce a new effect that neither produces on its own. Typically, interactions between drugs come to mind (drug drug interaction). However, interactions may also exist between drugs and foods (drug food interactions), as well as drugs and herbs (drug herb interactions). These may occur out of accidental misuse or due to lack of knowledge about the active ingredients involved in the relevant substances. Interactions between food and drugs may inadvertently reduce or increase the drug effect [4].

### CONCLUSION

Some commonly used herbs; fruits as well as alcohol may cause failure of the therapy up a point of to serious alterations of the patient's health. The majority of clinically relevant food drug interactions are caused by food induced changes in the bioavailability of the drug. The most important interactions are those associated with a high risk of treatment failure arising from a significantly reduced bioavailability in the fed state. Such interactions are frequently caused by chelation with components in food. In addition, the physiological response to food intake, in particular, gastric acid secretion, may reduce or increase the bioavailability of certain drugs.

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