Research & Reviews: Drug Delivery

Negative Effects on Drug-Induced in Food and Nutrition

Tanja Poulain*

Department of Pharmaceutics, Uru Gobind Singh College of Pharmacy, Yamuna Nagar, Haryana, India

Perspective

Received: 01-Mar-2023, Manuscript No. DD- 23-94150;
Editor assigned: 03-Mar-2023, Pre QC No. DD- 23-94150(PQ);
Reviewed: 17-Mar-2023, QC No. DD-23-94150;
Revised: 24-Mar-2023, Manuscript No. DD- 23-94150(R);
Published: 31-Mar-2023, DOI:10.4172/resrevdrugdeliv.7.1.008
***For Correspondence:**
Tanja Poulain, Department of Pharmaceutics, Uru Gobind Singh College of Pharmacy, Yamuna Nagar, Haryana, India
E-mail: tanpoulain156@gmail.com
Citation: Poulain T. Negative Effects on Drug-Induced in Food and Nutrition. RRJ drugdeliv.2023.7.008.

An adverse drug reaction known as a drug-food interaction can result in the drug's delayed, decreased, or increased absorption. The bioavailability, metabolism, and excretion of some medicines may also be impacted by food. Drugs may also negatively impact diet and nutrients. The patient may not fully profit from the therapeutic effects of the drug or may experience negative drug side effects or drug toxicity. Because they frequently take more medications for their chronic medical conditions, elderly people may be more susceptible to drug-food interactions. The number of medications a resident took and the number of drug-nutrient interactions for which a resident was at risk were found to be significantly correlated in a study of drug-nutrient interactions in long-term care institutions. Food may modify gastric pH, secretion, gastrointestinal motility, and transit time, which may all impact medication absorption in the GI system. The extent or rate of drug absorption, or both, may alter as a consequence of this. For instance, when azithromycin is taken with high-fat foods, theophylline products like Theo-24 and Uniphyl may induce a sudden release of the drug (dose dumping), leading to higher theophylline concentrations and potential toxicity. Children are more likely than adults to engage in this exchange. Alendronate sodium (Fosamax), a bisphosphonate indicated for the treatment of osteoporosis and Paget's disease and now also for the prevention of osteoporosis and osteoporotic fractures in postmenopausal women, is significantly affected by the absorption of food and beverages other than plain tap water. The oral bioavailability of the 10 mg tablet when taken after an overnight fast and two hours prior to breakfast is 0.59% for males and 0.78% for women.

Food ingredients and some medications may come together to create complexes. The gastrointestinal system does not effectively absorb these inactive structures. For instance, tetracycline and the calcium in milk, dairy products, and antacids create chelates. When iron and ciprofloxacin bind, complexation processes take place. In the presence of iron, ciprofloxacin's absorption is decreased by 52%. Some medicines should be taken with food to prevent gastrointestinal distress and potential motion sickness. Potassium supplements, ferrous sulfate, nonsteroidal anti-inflammatory pharmaceuticals, estrogen, prednisone, tacrine, terfenadine, and nitrofurantoin are a few examples of these medicines. Lovastatin (Mevacor), one of the drugs used to reduce cholesterol, should be given with food to improve gastrointestinal absorption and bioavailability. You can take fluvastatin (Lescol), pravastatin (Pravachol), and simvastatin (Zocor) with or without meals.

While it is well known that drugs can interact with foods and nutrients, it is less well known that drugs can negatively impact nutrition by affecting nutrient ingestion, absorption, storage, excretion, or metabolism in the body. These negative effects are most prevalent and significant with chronic medications and polypharmacy, with the noteworthy exceptions of antibiotics and chemotherapy. Malnutrition lengthens hospital stays and hinders recuperation, immunity, and wound healing.

Informatics applications that handle clinically significant food-drug and drug-food interactions are still needed in computerised order entry systems.

Drugs: Changing one's eating habits and nutrition

Drugs can change a person's diet and nutritional status, Changes in appetite or decreases in it, odd dietary cravings, An rise or decrease in metabolic rate, a changed taste or odour, Oral adverse effects, such as mouth discomfort and dry mouth, Trouble eating , Vomiting, diarrhea, and sickness that reduces consumption, increases losses, due to their ingredients, drugs may boost mineral intake (e.g. large amounts of sodium in some antacids, this is declared on over-the-counter medications but not on prescription drugs). Drugs may hasten gastrointestinal transit, which lowers the amount of nutrients taken in from food, Drugs may induce constipation, which increases the need for fibre and fluids, and slow down gut transit, which increases nutrient intake, Some medications, such as H_2 receptor blockers and proton pump inhibitors, can cause the stomach's pH to rise, which reduces the bioavailability of a number of nutrients, including iron and vitamin B_{12}, and changes the composition of the usual gut flora. Drugs (such as antibiotics) can affect the natural gut flora equilibrium that is required for the absorption of short chain fatty acids, vitamin K, and B vitamins (B_1, B_2, B_6, and B_{12}). Warfarin's drug impact could change if vitamin K nutrition is changed.