Drug –Herbal Interactions

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Introduction

Definition of Drug-Herbal interaction

- Plants have always provided an important source of medicines.
- They may be used by natives in folk medicine and later adopted by conventional western medicine as their efficacy was confirmed.
- Any pharmacological modification caused by herbal substances to another prescription medication (diagnostic, therapeutic or other action of a drug) in or on the body.
- Herb might increases or decreases the effects of co-administered drugs. Consequences can be beneficial, undesirable or harmful effects.

Definition of Drug-Herbal interaction

- Herb–drug interaction can occur through the synergistic or additive actions of herbal products with conventional medications as a result of affinities for common receptor sites

Reason for Herb-Drug Interaction

1. Clinician lack of adequate knowledge about Drug-herb Interaction
2. No quality control and assurance for the purity and safety.
3. No advance research in this field.
4. Blind believe or over believe in Ayurverdic medicine
5. Avoidance of patient history about drug sensitivity
6. Adulteration in herbal drug

Less Knowledge

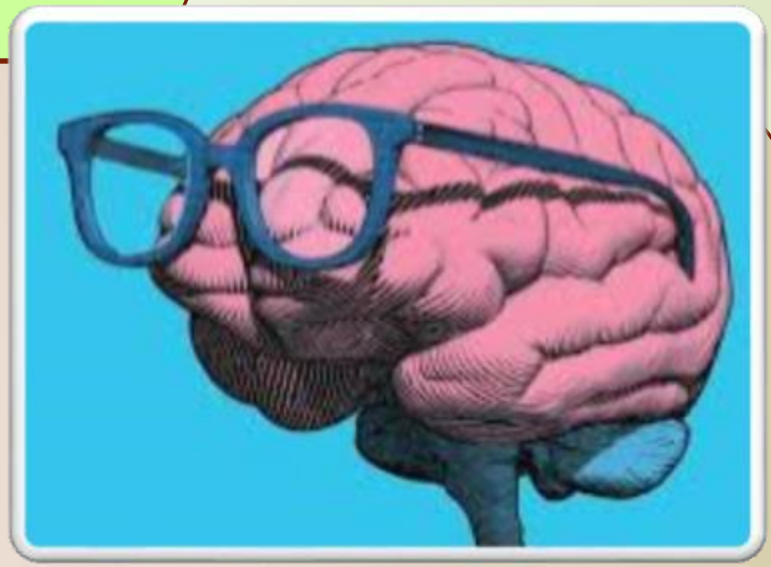
No Documentation

No Quality Control

Mythological Believe

Herbal-Drug Interaction

Facts about Drug-Herbal interaction



1.Drug interaction 4th -6th of death.

2. More than 70-80 herbs increase risk of bleeding.

3. More than 30-40 herbs cause hepatic failure.

4. Ephedra ……..54 deaths and 1600 side effects.

5. Aloe vera as injection …….4 death.

Drug-Herbal Interaction

- Pharmacokinetic
- Pharmacodynamic

Drug-Herbal Interaction

Pharmacokinetic

Chang the:
Absorption
Distribution
Metabolism
Excretion
Of the drug thus lead to change the drug blood level

Pharmacodynamic

Herbs may cause:
Synergestic
Additive
Antagonist
Activity in relation to herbal and drug

Drug-Herbal Interaction

Parameter	Increases	Decreases
Absorption	Ginger	Fibers
	Green tea	Mucilage containing herb
	Black pepper	Mucilage containing herb
Metabolism	Guggul	Grape juice
Elimination	Laxative (Aloe)	Liquorices
	Diuretics herbs	

Drug-Herbal Interaction

Herbal drugs which shows Interaction related to Absorption

Ginger	Enhance the absorption of sulfaguanidine and decrease blood sugar
Aloe vera	Interferes with drug absorption through Laxative action
	Decrease transit time
	Decrease intestesial fluids
Gingo Biloba	Decrease effectiveness of alprazolam by decreasing its absorption.

Drug-Herbal Interaction

Herbal Interaction related to Metabolism

INTERACTION

Additive Effects

Anticoagulant with *Ginkgo Biloba*

Synergistic Effects

Antidiabetic medication with *Gymnema sylvestris.*

Antagonistic Effects

Fluphenzine – Antipsychotic
Flupentixol- Antipsychotic
Procyclidine- Anti cholinergic drug used in parkinsonism

Drug-Herbal Interaction

- The global use of complementary and alternative medicine (CAM) for the management of diseases such as diabetes has rapidly increased over the last decade.

- It is reported that up to 72.8% of people with diabetes used herbal medicine, dietary supplements and other CAM therapies .
- Furthermore, research indicates that most people who use CAM therapies do so in addition to, rather than in place of, conventional medicine

Aloe vera : (*Aloe barbadensis)*

Several studies report potential interactions between **aloe vera and antidiabetic drugs**.

Of note is its interaction with glibenclamide, a sulphonylurea which exerts its antidiabetic potential by inhibiting ATP sensitive potassium channels in pancreatic β cells, resulting in cell membrane depolarization and subsequent insulin release.

The combination of aloe vera and antidiabetics has generally been shown to have an additive effect.

Ginseng: *Panax ginseng and Panax quinquefolium*

- Although the precise active components responsible for this anti-diabetic action are unknown, **studies with compound K (CK), a final metabolite of protopanaxadiol ginsenosides** demonstrate that CK exhibits anti-hyperglycaemic effects through an **insulin secreting action similar to metformin.**
- Significant improvements were observed in plasma glucose and insulin levels.

Sesame oil

- **fatty acids: linoleic acid (41% of total), oleic acid (39%), palmitic acid (8%), stearic acid (5%).**
- **The study** showed a greater anti-hyperglycaemic effect with **a 43% reduction of glycosylated haemoglobin and 36% reduction of blood glucose level** when compared to those receiving sesame oil and glibenclamide monotherapy.
- Improvements were also **observed in enzymatic and non-enzymatic antioxidant levels** in patients treated with sesame oil alone or in combination with glibenclamide, suggesting that sesame oil has **an additive/synergistic effect** when co-administered with glibenclamide

To Minimizing the risk of Drug-Herbalinteractions Interaction

- Know why you are taking each medication. ...
- Know how to take the drug. ...
- Fill all your prescriptions at the same pharmacy. ...
- Be suspicious of supplements. ...
- Go easy on grapefruit juice. ...
- Talk to your pharmacist.


THANKS FOR
listening