

Assessment of beneficial herb drug interaction in diabetes mellitus- A pharmacokinetic approach

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Due to the growing use of herbal and other dietary supplements to treat Diabetes mellitus healthcare providers and consumers need to know whether problems might arise from using these preparations in combination with Anti Diabetic Drugs. Many herbal medications are used to treat Diabetes mellitus but while they are often efficacious, their safety is rarely considered by physicians or users. One particular Safety concern is the risk of interactions with drugs, which often lead to toxicity or loss of therapeutic effect.

The main aim of the present research work is to assess the beneficial outcomes when herbal drugs are taken along with Anti Diabetic Drugs by a detailed study in Pharmacodynamic area and Pharmacokinetic areas by optimizing the dose of conventional drug and where we achieve the desired effect of the conventional dose and the Concentration levels does not exceed the therapeutically window when used in combination.

Objectives - Statement of the purpose

There are two problems which travels simultaneously one being the lack of safety information on herbal or dietary supplements when taken along with Anti diabetic drugs to cause potential herb drug interactions and another being the long term use or cumulative dose of Anti diabetic to cause the side effects. Now because of these problems health care providers are left with a option of avoiding the herb or dietary supplements which causes potential herb drug interactions and withdrawing the Anti diabetic drug or go for the replacement of next generation drugs due to adverse effect caused. The Importance of this study lies in focusing these two problems simultaneously by studying the potential herb drug interaction thereby reduces the Anti diabetic drug concentration so that the combined therapy will lead to effective therapeutical levels which will be proved through Pharmacokinetic Model.

The main objective of the present work is to

1. Initiate the Positive Approach towards the herbal drug interactions by optimizing the effective levels of herbal and conventional drug concentration when taken together using a Pharmacodynamic Model
2. To Establish a Pharmacokinetic Profile for the by optimized effective levels of herbal and conventional drug concentration

Project Impact - Expected outcome

The present study will define a new approach towards the Treatment of Diabetes mellitus and Herbal Drug interaction by assessing the beneficial view when both are taken simultaneously. Often the healthcare provider are left with a option of withdrawing the conventional drugs and go for the next generation drugs when found to be less effective or side effects due to higher dose or cumulative dose. Thus using the potential herb drug interaction the dose level of conventional drug may be reduced to produce the same therapeutic effect.

Thus present study will serve as the lead for all potential herb drug interaction thereby investment in newer generation drugs and withdrawal of newer generation of drugs from market due to side effects will be reduced.

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