



Research Article

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Integrations and Interactions of Ayurveda Drugs: Review W.S.R. to Merits and Demerits

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Abstract

Ayurveda the classical science of Indian health management mentioned different ways of disease management and utilization of natural drugs is one such way of disease management. These natural drugs offer therapeutic benefits when used alone or in combination. The Ayurveda drugs most of the times gives synergistic effects when used in combination but sometimes gives undesired biological responses therefore it is essential to take consideration of correct combination of herbal medicines to avoid chances of any adverse events. The integration of Ayurveda therapy with *Yoga* gives better result than any one of them used alone. Similarly, the integration of Ayurveda with modern approaches is prerequisite so that scientific concepts of classical and modern science bring together for managing incurable diseases. The interactions of drugs and integration of therapies can result better therapeutic response but safety concern of such combination is prime issue for medical philosopher.

Keywords: Ayurveda, Integration, Drug-Drug Interaction, Contradiction.

INTRODUCTION

Ayurveda the oldest science of global civilization presented many approaches of health restoration and in this regard, Ayurveda utilizes various drugs for treatment of different diseases. These natural drugs offer therapeutic benefits and give more potent response if used in correct combinations, but sometimes inappropriate combination of herbal drugs can result adverse effects. The adverse effects of drug interactions most of the time arises due to the incidences of self-medication. Drug interaction may result desired or undesired results when drugs combined intentionally or unintentionally with others drugs, foods & biological products [1]. The medicinal physician must be aware about the possible chances of drug interactions while prescribing any drug combinations for treatment purpose. The common interactions associated with herbal medicines depicted in Figure 1.

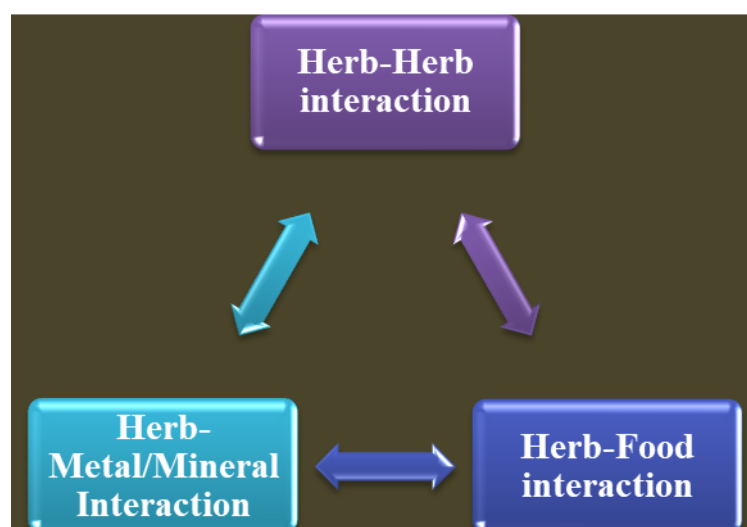


Figure 1: Common interactions associated with herbal medicines

The drug interaction offers synergistic values when they potentiate effects of each other by similar or different mechanism of action. While adverse drug interaction observed when interacting drugs inhibits biological cascade of each other either by interfering in mechanism of action or by producing substances of opposite properties [4]. As per ayurveda *Atimatravyaprayoga*, *Vaidhyakruti*, *Ahitatamadravyas*, *Viruddadravyaprayoga*, *Panchakarmavyapad* and *Avastanasaradravyaprayoga* can leads adverse drug effects [2,6]. As mentioned here adverse drug interactions (*Viruddadravyaprayoga*) can cause harmful effects inside the body therefore drug interactions need to be considered while designing multi drug therapies. Sometimes Ayurveda drugs may interact with allopathic medicines leading to the harmful effects like; poisoning, bleeding, gastric trouble and blood pressure, etc [6].

Benefits of Drug Interactions/Therapeutic Advantages of Drug Combination

The use of combinations therapy in medical science recommended to increases potency of the first drug, to produce quick action and effective therapeutic response. The combination therapy useful in chronic condition when single herb fail to give desired effects, sometimes combinational drugs improves pharmacokinetic profile of each other's like; absorption, distribution and solubility [3]. Useful in differential diagnosis or unidentified pathogenesis, combination of drugs advantageous when more than one *Doshas* get aggravated along with *Dushya Dhatus* and sometimes for prolong biological response for longer duration of time.

Some examples of common herbs & their possible interactions with biological products mentioned in **Table 1**, similarly possible interactions of herbal drugs with modern medicines mentioned in **Table 2** [8,9].

Table 1: Drugs & their possible interactions with biological products and food stuffs

S. No.	Herbal Drugs	Possible interaction with biological products and food stuffs
1	<i>Ashwagandha</i>	may interfere with biological compounds like thyroid hormone
2	Ephedrine	may interact with steroids
3	<i>Aloe Vera</i>	affects absorption of vitamins
4	<i>Boswellia</i>	may interact with foods
5	<i>Mantha</i>	may interact with Milk
6	<i>Kakmachi</i>	may interact with honey
7	Leaves of <i>Asofoetida</i>	may interact with honey
8	<i>Kampillaka</i>	may interact with buttermilk

Table 2: Herbal drugs and their possible interactions with modern medicines

S. No.	Herbal Drugs	Possible interaction with modern medicines
1	<i>Garlic</i>	may interact with drug like; lisinopril & warfarin
2	<i>Guggulu</i>	reduce absorption of diltiazem
3	<i>Yashti Madhu</i>	reduces absorption of warfarin
4	<i>Pepper</i>	interacts with barbiturates and NSAIDs
5	<i>Shatavari</i>	affect absorption of digoxin and ketoprofen

The adverse drug reactions may also observe if drug prescribed at inappropriate conditions or improper interactions arises when drug used in contradicted conditions as mentioned in Table 3.

Table 3: Drug interactions specific to conditions

S. No.	Herbal Drugs	Contradicted Conditions
1	<i>Guggulu</i>	to be avoided with <i>Krodha</i> and <i>Maitihuna</i>
2	<i>Terminalia Chebula</i>	to be avoided in pregnancy
3	<i>Rasayana</i>	contraindicated in <i>Pramadi</i> , <i>Vyasani</i> and <i>Alasi</i>
4	<i>Amalki</i>	contraindicated in bedtime
5	<i>Pippali</i>	to be avoided in peptic ulcer
6	<i>Semicarpus anacardium</i>	contraindicated in <i>Pitta</i> constitution
7	<i>Datura metel</i>	to be avoided in <i>Vata</i> predominance

Synergistic combination of natural drugs:

The combinations of herbal drugs in ayurveda therapeutics used to acquire potent biological response in quick period of time. The classical ayurveda formulations also used in combinations for specific therapeutic purposes however the merits and demerits of such combinations to be taken in consideration while prescribing for disease management. In such cases primary herbs used to induce essential therapeutic response which acts on target system, supporting herbs helps to potentiates action of primary herbs, the assimilation herbs used to increase pharmacokinetic of primary herbs; to increase bioavailability and assimilation of primary herbs. Sometimes detoxifying herbs used as post therapy measure to eliminate accumulated toxins along with inert metabolite of primary herbs [7]. Sometimes therapeutic herbs cause side effects which can't be avoided so in such cases balancing herbs are used to pacify side effects of primary herbs [5]. The utilization of herbal combination in proper manner offers advantages of high efficacy, quick action and low dosing frequency.

CONCLUSION

As per ayurveda the physician must consider factors like; *Prakriti*, *Vikruti*, *Satmya*, *Vaya*, *Saara*, *Bala* and *Samhanana*, etc. before prescribing drugs for therapeutic purposes. The *Aushadasevanakaala* (drug administration) and *Pathya-apathyasevana* (diet regimen) also play major role towards the biological effects of drugs [2]. Similarly, interactions of *Anupaana* (vehicle) with drugs may alter biological response of medicine therefore selection of vehicle should be appropriate so to avoid any drug-vehicle adverse interactions. Similarly, the adjuvant therapy imparts potentiating or synergistic effects but sometimes improper combinations may lead adverse drug interactions which resulting harmful effects or loss of therapeutic response of primary medicines. Therefore, physician must be aware about possible drug interactions when using herbal drugs in combination. The synergistic effects of drugs in combination may offers potent therapeutic response in quick time period while antagonistic or contradicted combination induces harmful effects.

Conflict of interest

Authors declare no conflict of interest.

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