


Review Article
A CRITICAL REVIEW ON THE CONCEPT OF DRUG AS A WHOLE
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ABSTRACT

Drug is an independent variable and one among *Pada Chatustaya*. Successful treatment depends on the choice of appropriate dose and dosage form. Nowadays the advancement in science has led to the extensive use of extracts and isolated compounds. Principles of extraction are seen in the classical dosage forms where a suitable homogenous medium was used based on the type of the drug. Drugs having water-soluble fraction are used as *Kwatha*, those having fat-soluble fractions are used as *Ghrta/ Taila* and so on. Present day extracts are obtained by extracting herbal drug of certain particle size with suitable extraction medium. *Ayurveda* propounds the principles of *Rasa Panchaka* and attributes the actions of a drug to any one of the *Rasa-Vipaka-Guna-Veerya-Prabhava* where each component plays a specific role or a combined role. Hence a chemically isolated derivative may not serve the purpose and will produce adverse effects. Even-though drugs have got some active principles with which they work, they have some other fractions too, which counteract their bad effects, if any. Therefore *Ayurveda* advocates that drug should be used as a whole so that the desired effects may have without any side effects. Therefore, research works should be directed towards providing the use of whole drugs and find ways to potentiate the drugs as per principles of *Ayurveda*. This article highlights the importance of administration of drug as a whole rather than extracts or isolated phytochemicals.

KEYWORDS: Extracts, Whole drugs, *Ayurveda*, Dosage forms.

INTRODUCTION

Selection of an appropriate dose and dosage form are important aspects of clinical practice along with the accurate clinical diagnosis.^[1] *Ayurveda* believes in the treatment of the patient and not the ailment. The classical approach was to use medicaments uniquely designed to suit the requirements of the patient. The selection of the form depends on *Rogi bala*, *Roga bala* and the patient's lifestyle. With the recent advances, we see that the treatment modality is more disease oriented and mainly aims to achieve quick results and thus we see the extensive use of extracts and isolated compounds in therapeutics.

Ayurveda believes in the use of the drug as a whole. It means that a drug as a single entity composed of various components, is used in therapeutics. Herbal drugs are used after suitable pharmaceutical processing like *Churna*, *Kashaya* and soon. Various dosage forms were designed in an attempt to enhance the drug action, to increase the shelf life as well as to increase the absorption. Principles of extraction are seen in the classical dosage forms where a suitable homogenous medium was used based on the type of the drug. Ex.: Drugs having water soluble fractions are administered in the form of, those having fat soluble fractions are administered in the form of *Ghrta/Taila*, the drugs whose fractions can be extracted and preserved better in alcohol should be administered in the form of. The drugs having volatile principles are given in the form of *Hima/Phanta*. But here when we say extraction, we do not mean to identify, isolate, and synthesize the active principle of a drug unlike that done during chemical processing where a herbal drug is reduced to a particular size, dissolved in an appropriate solvent,

filtered, concentrated and dried. Drug extracts are defined as preparations obtained by extracting herbal drug of certain particle size with suitable extraction medium.

Drug Action in Ayurveda

Drug action in *Ayurveda* is explained based on *Rasa Panchaka* concept i.e., *Rasa, Guna, Virya, Vipaka and Prabhava*. Some actions of the drug can be attributed to *Rasa*, some to *Guna*, some to *Virya*, some to *Vipaka* and some to *Prabhava*. Example: *Madhu* (Honey) by its *Kashaya rasa* is *Pitta shamaka*, by *Ruksha Guna* is *Kapha Shamaka*, *Mahat Panchamoola* through *Kashaya Tikta* in *Rasa* is *Pitta Shamaka* though *Ushna* in *Virya* ^[5]. Therefore each component of a drug has a specific role in drug action. Any component isolated and used may not function in the same way as it does when used as a whole and hence the whole drug cannot be replaced by an isolated chemical derivative^[2].

In spite of the importance of each component, the whole drug is considered as superior because in therapeutics, it is the combined effect of all these components, which is seen to give the desired effect. Ex: *Guduchi* is *Kapha pittahara* due to *Tikta Rasa*, *Vatahara* due to *Ushna virya*, *Vrsya* due to its *Madhura vipaka*, and anti-leprotic due to *Prabhava*.

When a crude drug is administered, some fractions other than the chief constituents are responsible for balancing the unwanted bad effects where as extracts produce severe side effects. Ex:- Reserpine isolated from *Sarpagandha* and administered produces severe side effects like increased gastric acidity, mental depression, suicidal tendency, parkinsonism and soon which are seen

as an extension of its pharmacological action^[3]. This does not happen when is given as a whole.

Again in *Saptarangi*, when critically analysed was found to have one fraction possessing hypoglycaemic action and another fraction hyperglycaemic action, but when as a whole was administered to a patient of diabetes mellitus, it showed only a mild hypoglycaemic action. These points to the specific arrangement of fractions in a drug in such a manner that only the good actions are found and harmful actions are avoided. Therefore an isolated chemical derivative when administered acts in a focused manner to give quicker relief but may not serve the purpose of treatment, as *Ayurveda* believes that an ideal treatment is that which cures the disease and does not create another complication.

DISCUSSION

Ayurveda believes in a broad-spectrum approach, where all the major and minor ingredients present in the drug are expected to play a role in the drug action. The concept and description of *Virya* shows beyond doubt that had a clear idea about the mode of drug action. Again efforts have been made to preserve and fortify the *Virya* of drugs by certain pharmaceutical processes and techniques, but the classics have now here mentioned to isolate and use only the active principles.

Isolation of compounds and extracts are developed as a result of advancement in technology and research methods. Once proved such compounds are synthetically manufactured and sold in the global market under the name of western medicine which are not considered safe. The extracts and isolated compounds cannot be considered as *Ayurvedic* medicines as they are not made as per *Ayurvedic* pharmacology and principles.

Advantages of administering Drug as a whole

- 1) Even-though drugs have got some active principles with which they work, they have some other fractions too, which counteract their bad effects, if any. Therefore *Ayurveda* advocates that drug should be used as a whole so that the desired effects may be had without any side effects. *Ayurveda* propounds the principles of *Rasa Panchaka* and attributes the actions of a drug to any one of the *Rasa-Vipaka-Guna-Veerya-Prabhava*. The concept and description of *Veerya* shows beyond doubt that the ancient *Acharyas* has a very clear idea about the modus operandi of drugs. Efforts have been made to preserve and fortify the potency (*Veerya*) of drugs by certain pharmaceutical processes and techniques. But, evidently, the *Acharyas* refrained from isolating and using only the active principles of drugs, because by doing so complications and side effects also arise. *Ayurveda* believes in treatment, which gives relief but causes no iatrogenic disease or complications. Says *Vagbhatta*: 'That is the ideal treatment, which cures the disease, but does not create another diseases or complications'.^[4]
- 2) The second implication of 'Give the drug as a whole is that it is *Agni*, which is responsible for the health as well as disease and, therefore, drugs should be so selected and used as to improve the condition of *Agni* at all levels. Most of the *Ayurvedic* drugs have got

Deepana and *Pachana* properties. If the active fraction alone is administered, it may not improve the *Agni* and the promise of 'Treat the patient' may not be served'.^[5]

- 3) The third implication is that drugs possess not only the therapeutically active fractions but also some other fractions, which help the patient restore his health. By isolating the active principle and throwing out the rest of the drug, we throw out very essential and useful things, which may, otherwise, prove very useful for health. Therefore, use the drug as a whole.^[6]
- 4) In a very broad sense, the pharmacological study of a drug is carried to find out its pharmacodynamic action, pharmacotherapeutic action and chemotherapeutic action. *Ayurveda* believes in treatment without complication and, therefore, the *Ayurvedic* drugs, as they are administered, show no encouraging pharmacodynamic or chemotherapeutic actions; they show only the pharmacotherapeutic actions well. Let us illustrate this point-- *Shankhapuspi* reduces hypertension but does not cause hypotension in healthy volunteers. *Ayurvedic* antacids reduce HCl in cases of hyperchlorhydria but do not cause hypochlorhydria even after their prolonged use. *Punarnava*, *Gokshuru* and *Pashanbheda* cause diuresis in cases of *Shotha* and *Jalodara* but their diuretic action is not seen much in healthy volunteers.^[7]
- 5) *Kutaja* and *Jatiphala* stop diarrhoea but their prolonged use in healthy volunteers does not cause constipation. These are some of the examples to show that the *Ayurvedic* drugs have pharmacotherapeutic actions only. But when the active fractions of drugs are isolated and used, they show pharmacodynamic action as well as pharmacotherapeutic action. Such isolated fraction renders quicker relief but also cause side effects. To avoid the side effects, give the drug as a whole.
- 6) Majority of the *Ayurvedic* drugs show only the pharmacotherapeutic actions and never cause any complication. A few drugs, which show pharmacodynamic actions also, have been included in the category of poisons.^[8] For instance, *Jaipala* causes purging to a patient and also to a healthy volunteer. *Jaipala* is included in poisonous drugs.
- 7) Another interesting point is that most of the drugs have fractions in them, which balance their actions. For instance, *Saptarangi* was critically analyzed and it was found to have one fraction possessing hypoglycaemic action and another fraction possessing hyper-glycaemic action. But when *Saptarangi* as a whole was administered to the patients of Diabetes mellitus, it showed only a mild hypo-glycaemic action. This points to the specific arrangement of fractions in the drug in such a manner that only good actions are found and harmful actions are avoided. Recent experiments with *Bhallataka* in cases of malignancy showed that *Bhallataka* as a whole should be administered to achieve better results with no complications. Many such examples can be cited to prove it.
- 8) There is a genuine anxiety in the field of medical science that the bacteria is developing resistance to

the synthetic preparations, more concernedly the broad spectrum drugs (antibiotics). These drugs are very bad side effects; these drugs are very essential to check the infection effectively. But the tragedy is that the bacteria are developing resistance to these drugs and the body is losing the natural resistance power because of these drugs. Body never develops resistance against any Ayurvedic drug. This is why the Ayurvedic drugs can be used for a very long period effectively and safely.

- 9) Notwithstanding the scientific significance of 'Give the drug as a whole', the socio-economic implication demands quick relief, which some of our drugs fail to give. This is why there is more fascination to isolating the active principles and administering them to achieve quicker results even at the cost of complications. The intermediary way out is to increase the potency of the drug as a whole by changing the formulations, and this is the direction in which many researches are being carried out in the country.
- 10) The most of the modern drugs have toxic effects encountered by the clinicians in their practice. This is why it is said: "When a drug is given, a risk is taken." *Ayurvedic* medicines cause no toxic or side effects. There are some *Ayurvedic* drugs, which are poisons, but they are fully and perfectly purified before administration. Similar is the case with certain metallic preparations. The finished products of *Ayurvedic* formularies do not cause any toxic or side effects. In some of the formularies, antidotes are added to avoid any possibility of toxic effects. For example, in any *Ayurvedic Jwaraghna* medicine (antipyretic medicine), *Vatsanabha* is the main ingredient and *Tankana* is unfailingly added to it to nullify the toxic effects of *Vatsanabha*, if any. Similarly, *Bhallataka* is always administered with *Ghrta* to be used with, before and after it.^[9]
- 11) *Ayurveda* favors administration of crude drugs and their preparations. We don't have synthetics or antibiotics in *Ayurveda*. The question of tolerance, resistance or addiction to Ayurvedic drugs does not arise. But if certain *Asavas* or *Pakas* or any other preparation for rejuvenation or virility are taken for a long period, patients become attuned to them and they feel a sense of well being when they take them. But, then, it is not addiction as the drug can be easily withdrawn without any withdrawal symptoms. When a drug is given, a risk is taken has still finer implications. Disease is a danger-signal of the body; it indicates fight between the tissues and the bacteria; it shows that the body is trying to neutralize and nullify the ill effects of the pathological metabolites, which

require to be washed out of the body. Let us simply help the body in its struggle to overpower the disease.

CONCLUSION

To achieve quicker therapeutic action and fast relief is the need of the hour and in an attempt to achieve this; isolated chemical derivatives are replacing the classical dosage forms, even though it is causing severe complications.

Therefore, the present article emphasizes that what is needed is to increase the potency of the drug as a whole rather than to isolate and administer the active fractions of the drug. The wholeistic approach to man and medicine is gaining momentum and this is definitely for the good of humanity that such principles be adopted and worked out on certain sound foundations. Hence, in nutshell it can be said that "Treat the man as a whole and Give the drug as a whole". Because treating only disease and giving only extracts does not support to the fundamental principles of *Ayurveda*.

Ayurveda always advocates "*Shamanam Nah Tu Kopanam*". Let us try to understand the real essence of the *Ayurveda* with help of its own basic concepts. Research works should be carried out to find ways to potentiate the drug without chemical isolation. Drug as a whole is the safe and effective form of treatment to the mankind.

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