**Assets and Liabilities of Commodification of Herbal (Ayurvedic) Medicine**

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**Abstract**

Herbs have been used since many decades as medicines for the treatment of various ailments. Ayurvedic system of medicine often recommends complex Ayurvedic formulations and multi-compound extracts. This traditional pharmacological approach is beneficial to the treatment of many diseases related to multifactorial causes such as chronic and degenerative ailments. In Classics various methods of preparation of *Ayurvedic* formulation have been described and these formulations are given to patients according to disease (*vyaadhi),* their constitution (*Prakiti*), pathology (*Dushya*) and aetiology *(Dosha).1* These formulations are very much authentic and efficient if these are made under proper supervision of experts, by following standard textual procedures, but in today’s era due to technological advancement *Ayurvedic* formulations have been prepared in pharmacological laboratory and method of preparation has changed. Currently the major pharmaceutical companies have demonstrated renewed interest in investigating higher plants as sources for new lead structures along with development of standardized Phyto therapeutic agents with proven efficacy, safety and quality. Herbal medicinal preparations are normally very popular in developing countries because of natural origin backed with a long history of traditional use. The use of traditional medicinal products has increased tremendously over the past three decades with approximately 80 percent of people worldwide relying on them. That generates the need of commodification of herbal medicine. There are many pros and cons of commodification of Herbal medicine verses medicine prepared manually by Ayurvedic professionals. Pharmacological preparations made by professional manually as per standard protocol mentioned in Ayurvedic classics are more efficient, reliable and able to give promising results in many ailments but with these benefits these preparations are very much time consuming, needs much labour thus, not cost effective. Although, Medicines manufactured in pharmacological Laboratory are very much cost effective, less time consuming and can be stored for longer duration and easily accessible . Thus, commodification of herbal medicine ensures constant supply, attractive packaging, wider publicity but with lack of that traditional touch which keeps on healing ailing human beings since long.

*Key Words-* Traditional, herbal, commodification, pharmaceuticals

**Introduction-**

Medicinal plants are commercially exploited since millennia but since last decade its significance has risen remarkably due to growing popularity of herbal drugs, herbal cosmetics and nutraceuticals. The recent trend has created a hefty pressure on medicinal plant resources of country due to increased unsustainable exploitation of the same. The trend of globalization further enhances the over exploitation of country’s already meagre herbal resources. Though commodification of herbal medicine is snatching the traditional essence from herbal formulations yet foreign pharmaceutical companies are encashing recent inclination of masses to use herbal cosmetics, nutrient supplements and medicines. The behemoth pharmaceutical companies are exploiting the India’s natural herbal treasure in the name of globalization and this exported raw herbal material is given the shape of fancy formulation and again launched into Indian market with wide publicity. The Indians are losing the both ends by this practice. Moreover, foreign companies are rigorously engaged in bio-piracy. Biopiracy simply means the practice of commercially exploiting naturally occurring biochemical or genetic material, especially by procuring patents which limit its subsequent use, while failing to pay upright compensation to the community from which it emerges. The developed countries are successful in developing certain drugs from our natural products like Neem and Haldi and claimed patent rights over them without acknowledging our contribution to their research. They have deprived us from our share of intellectual property rights over the same. Ayurvedic community is well aware of benefits of use of herbal preparations by strictly following textual methods of drug manufacturing. Nevertheless, this practice cannot compete the big foreign pharmaceutical companies which are capturing Indian Herbal medicine market with rapid pace. That is why commodification of Herbal products seems to be need of hour in our very own country, so that Indian population may become the major benefactor of country’s own herbal treasure. Lots of assets and liabilities are associated with use of traditional methods of drug manufacturing verses commercialization of herbal medicine.

**Discussion**

Is commodification of herbal products being asset to country or not? This is highly debatable question. The Ayurvedic fraternity which majorly involved in medicinal use of herbal formulations is divided over commodification of herbal medicine.

**Assets of traditionally manufactured Drugs-**

An herbal medicine prepared manually ensures the quality of the drug. In Ayurvedic classics it has been mentioned by Acharyas that various parts of drug should be collected in different seasons. The part used should be collected as per mentioned protocol. After that various SOP has been mentioned for selection of herbal medicine. Part to be used should be free from contamination, free from impurities, should be pure, should be potent. In Classics the potency of different preparations has been mentioned as Fresh juice (*Svarasa)* should be consumed same day, or decoction should be consumed same day. An Ayurvedic medicine consists of portions of plants or impurified plant extracts containing several phytoconstituents which are generally act synergistically. The herbs are used for healing since ages, these are integral part of life. Even in our Kitchen remedies of most of the minor ailments are available. If we use traditional medicine in the same form as mentioned in literature then definitely, we will get better results. Most of time fresh decoctions, freshly prepared pastes etc are used for therapeutic purposes that are more potent than manufactured drugs in pharmaceutical companies.

**Liabilities of use of Herbal medicine in traditional way-**

1. Non availability of fresh herbs in urban setting, rural population may get herbs in near vicinity to prepare fresh drug for therapeutic purpose as mentioned in texts.
2. Lack of knowledge about identification of herbs sometimes becomes a constraint about its proper use.
3. If the process of drug manufacturing is adhered to textual references, then it is usually manual and time consuming that leads to productivity issues which cannot meet the growing demand of herbal medicine in the market.
4. We cannot approach the large number of benefactors by following traditional ways.
5. Most of the time the drugs manufactured is not palatable to general masses in the same form as mentioned in texts that decreases the popularity of traditional medicine.

**Assets of Commodification of Herbal Medicine-** The recent resurgence of public interest in Ayurvedic traditional medicines has been attributed to many factors some of which include (i.) Various claims on effectiveness of herbal preparations. ii.) Preference of patients for natural remedies and various therapies and a greater interest in Alternative Ayurvedic medicines. iii.) Popular belief that herbal cosmetics are superior to chemical products. IV.) No satisfaction with the results from orthodox pharmaceuticals and the belief that herbal medicines will be highly effective in the certain diseases as compared to conventional medicine. V.) High cost and side effects of conventional medicines. V.) Advancement in the quality, efficacy and safety of herbal medicines with the development of science and technology.

Due to abovementioned factors commodification of herbal medicine is need of hour. Commodification can lead to better availability and publicity of herbal medicine among masses. Drug manufacturer ensure proper identification, collection, processing and storage of raw material for drug preparation. Marketing, distribution, quality control is affirmed by pharmaceutical company. Raw material can be procured from all over the world and processed drug can reach to a person in every nook and corner of the world.

In Ayurvedic therapeutics, drug therapy is given main importance. There is well developed sub-discipline entirely devoted to drug formulations known as Bhaisajya Kalpna. The Ayurvedic drug preparation is based upon Panchvidha Kashaya Kalpna. According to this concept there are five basic forms of Ayurvedic drug formulations or preparations i.e. a.) Swarasa means expressed juice. B.) Kalka means a fine paste obtained by grinding fresh or wet dried plant material. C.) Kwatha: the decoction. D.) Sheeta or Hima Kapna means the cold-water infusion E.) Fanta means hot water infusion. Different aspects of these preparations were described by Acharyas. Further from the above basic forms, a number of formulations are derived.2

A vast scope exists for undertaking well planned multi-disciplinary studies in this field in which utmost importance should be given to the concepts behind formulation. This endeavour along with rigorous standardization of all aspects of drug manufacturing would be a great help in ensuring availability of standardized, efficacy and safety proven ayurvedic formulation in the market.

As described by *Acharya Charka* every substance in the Universe possesses a potential to become a drug.3 But not all the parts of the substance are always therapeutically useful in view of the every diseased. In such a situation the therapeutically useful part of the substance needs to be separated out and to be used for particular drug preparation. The therapeutically useful part is termed as ‘*Saara Bhaaga*’ in the terminology of Ayurveda. This can be achieved through specific processing. Many times, the particular herb may have multiple therapeutically useful constituents. Different procedures may be required to separate out desired constituent. The components soluble in water are extracted in water whereas solvents like fat, oil or alcohol are required to extract ingredients soluble in these solvents. A combined solvent system is also used sometimes. Depending on the requirement, different procedures are adopted to extract therapeutically useful ingredients. Water being universal solvent is used for almost most of extractions. Since the plant material used for drug preparation is close to food material the cooking practices such as heating, boiling, frying etc. are used in pharmaceutical procedures as well.

Fresh as well as dried plant material is used for processing- depending upon availability and necessity. Different procedures are used to prepare a proper dosage form, which is stable for a longer period. Thus, the type of pharmaceutical processing depends on following factors:

1. Nature of the crude drug: fresh or dry
2. Desired concentration of the dosage form
3. Solubility of therapeutically needed component of the plant
4. Heat stability of therapeutically needed component of the plant
5. Route of administration as per disease
6. Shelf life of prepared dosage formulations

By considering all these factors and using modern technological advancements in the field of drug manufacturing highly palatable, customer friendly, eye- catching products can be dispensed in to the market. Though slightly deviating from classical methods of drug manufacturing yet these drugs have ability to capture the huge market.

**Liabilities of Commodification of Herbal Medicines**- Although the commodification of herbal formulations has many benefits all over the globe but there are many defections associated with these readymade formulations. Most of times the pharmacological industries are using active ingredient of herbal drug, so the properties associated with use of herbal drugs as a whole as mentioned in classics could not be achieved.

*Ignoring patient specific need during drug manufacturing*-The basic principle behind all the preparations of these ‘*Kasayas’* is that the plant as a whole or all part of the plant as a whole may not be useful for the expected therapeutic action. Not all but few of the plant ingredients are therapeutically active. These ingredients have to be extracted from the appropriate plant and put for therapeutic use. They are put to use depending upon the condition of the patient according to his digestive capability e.g. ‘*Swarasa’ sh*ould only be used when the general condition of the patient is stable, otherwise the drug is likely to be harmful. Children and elderly may not be suitable for receiving the ‘*Swarasa’,* whereas for a robust individual-*‘Faantaa’*, the hot water preparation may fall short of yielding the expected effect. The disease status also plays an important role in deciding the preparation of the drug. Severity of the disease decides use of concentrated drug forms. During commodification disease-oriented approach is used, a standard preparation is manufactured to act on certain disease without considering *deh bala* (physical strength), *vyadhi bala* (severity of disease), *agni bala* (digestive fire) and *prakruti* (phenotypic constitution) etc.

*Deviation from classical methods of drug formulations-*Though, it is generally considered among the Ayurvedic fraternity that the method of drug formulation is important for ensuring therapeutic efficacy of the drug, but not much importance has been given to assess the impact of deviation from textual methods of drug preparation on the effect of pharmacological activity. The classical formulation methods and preparatory methods exhibit great degree of sophistication. However, unfortunately many improvisations and changes are being affected on the name of modernization without assessing the impact of such modifications. This may create great adverse impact on their therapeutic efficacy. Thus, proper research and developmental efforts are required to optimize the formulation aspects to keep constant availability of standardized products with constancy of composition and their efficacy. Different varieties of factors related to raw drug selection, processing, formulations, preparations, use of purification processes and use of adjuvant have been observed to have great impact on the expression of pharmacological activity and therapeutic efficacy that are sometimes not adhered.

*Quality related issues:* Misidentification of plant, use of representative drugs in case of non-availability of particular herb, faulty collection and faulty preparation, incorrect formulation processes are the main problems that decrease the efficacy of herbal drug formulations. All these factors can be considered as main factors affecting purity, efficacy and quality of herbal drugs.

*Processing and harvesting issues:* Poor agriculture and propagation method, indiscriminate harvesting, inadequate bulk drug farms, defaulter pre and post harvesting practices, lack of processing techniques lead to reduced efficacy and standard of herbal drugs.

*Administrative issues:* Lack of regulation and controlling herbal drug authority in Ayurveda, lack of proper controlling and monitoring are contributing factors for poor quality of manufactured herbal drug formulations.

*Irrational use:* Due to commodification of herbal formulations irrational use of drugs is another havoc world-wide. It is generally believed that herbal drugs don’t have any side-effects but it is not true, if expert opinion is not sorted before its use. Irrational use of herbal specifically herbo- mineral products can cause severe health issues.4

*Patent issues:* The access to 2.5 lakh medicinal formulations different to patent offices under TKDL access agreement is considered as unique process to protect traditional knowledge of India from Biopiracy which has risen up previously due to increase demand and globalisation of Indian traditional medicine.

**Conclusion:** It was estimated that >2000 tons of medicinal plant raw material is required annually and nearly 960 species of medicinal plants are in trade, among them 178 species have annual consumption levels more than 100 metric tonnes. Domestic trade of Ayush industry is approximately INR. 80-90 billion and export value of medicinal plants and related products from India is approximately 110 billion. The global market for herbal drug is increasing in steady manner, but the resources of herbal drugs are limited, so various industries are using adulteration at different levels. Due to limited resources, adulteration is lowering the quality, efficacy and standard of herbal drugs. Commodification of herbal medicine is liable for over exploitation of herbal treasure of country. The personalized medicine cannot be planned if we don’t follow strict traditional ways of herbal therapeutics. To counter the efforts of foreign pharmaceutical companies in exploiting country’s traditional knowledge, commodification of herbal products is required at home level. To meet the growing demand of herbs, the cultivation of different species should be done at home turf.

Suggestions: To stop the adulteration and improve the quality of traditional drugs, API has set up various standard protocols for selection of drugs and herbal drugs formulations. These should be strictly followed by pharmacological industries. Government has taken up many steps like AYUSH GRAM YOJNA5 and development of bulk drug farms6 in country for propagation of herbal medicine and making India self-reliant in cultivation and manufacturing herbal products. There is need of speedy execution and enhancement of these schemes. The more emphasis should be laid on drug cultivation, standardization of drug manufacturing practices. Herbal drugs should be sold under the authorized prescription of Ayurvedic practitioner.

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