

Use Of Herbal Pharmaceuticals - Issues, Challenges And Future Prospectives In Botany.

Dr. Ved Parkash, Associate Professor of Botany

Government College of Education, Bhiwani, Haryana (India)

ABSTRACT:

Demand for herbal pharmaceuticals has increased many folds during last three decades. Ayurveda is popularized by government efforts and large number of herbal practitioners, ethnobotanists and researchers. Researches are promoted for developing and processing of quality herbal preparations and dose standardization. Huge quantity of ethnobotanical knowledge exist in India and is in use since ancient times. Any knowledge can perpetuate over such a long time only if it is effective and proved. Also a large number of herbal preparations are available in the market claiming permanent cure and other benefits.

Traditional system of Herbal medicines are used on the basis of experiences, religious thoughts, beliefs and culture established during long time. Now a days herbal medicines are available in the market in the form of tablets, capsules and syrup in contrary to use of crude extracts and preparations used by local practitioners and by self at home. It is misleading to believe that all herbal medicines are safe and not associated with any risk. Traditional medicine is the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO).

In order to handle herbal medicines, in particular, to analyse the causes of adverse events, national pharmacovigilance centres (or equivalent institutions) will need to acquire specific technical expertise. This will include trained personnel in relevant technical areas and facilities to analyse the products concerned, for which there is often insufficient information and lack of access to reliable information support. Many countries currently lack this expertise, in particular, access to suitable analytical laboratories. Member States have therefore recommended the establishment of regional laboratories specializing in the analysis of herbal products. WHO encourages Member States to explore the feasibility of this proposal. (WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance system). If the traditional herbs, herbal preparations and practices are used properly with dose and duration characterizations these can be highly beneficial.

The present paper is aimed to discuss safety concerns, challenges and future perspectives. How the people get cured using crude herbal preparations at home. What are the drawbacks and advantages of using herbal pharmaceuticals.

Keywords: Pharmaceuticals, ethnobotany, efficacy, phytotherapy, herbs.

INTRODUCTION:

Demand for herbal pharmaceuticals has increased many folds during last three decades. Ayurveda is popularised by government efforts and large number of herbal practitioners, ethnobotanists and researchers. Researches are promoted for developing and processing of quality herbal preparations and dose standardization. Huge quantity of ethnobotanical knowledge exist in India and is in use since ancient times. Any knowledge can perpetuate over such a long time only if it is effective and proved. Also a large number of herbal preparations are available in the market claiming permanent cure and other benefits.

Herbal medicines are known as botanical medicines and the therapy is called phytotherapy. It includes plant parts, extracts or preparations for medicinal purpose. Herbs and herbal medicines are commonly used for common disorders like digestive problems, hair and skin problems, inflammation, pain, stress and anxiety etc. Traditional system of Herbal medicines are used on the basis of experiences, religious thoughts, beliefs and culture established during long time. Now a days herbal medicines are available in the market in the form of tablets, capsules and syrup in contrary to use of crude extracts and preparations used by local practitioners and by self at home. It is misleading to believe that all herbal medicines are safe and not associated with any risk. Traditional medicine is the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO).

India has a rich history of use of herbs for common health problems since generations. Further, India is a rich biodiversity region due to diverse climatic and geographic conditions. India is a centre of origin of various wild herbs endemic species of some herbs. In India more than 70% of the population use herbal drugs for their health care. There is a vast experience-based evidence for efficacy of many of these drugs. There are also a number of Institutes/ Universities in India carrying out research on herbal drugs (Ashok D.B. Vaidya and medicinal plants).

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OBJECTIVES OF THE STUDY

1. To find out possible reasons for popularity of herbs, herbal preparations and finished herbal products.
2. To discuss the quality concerns associated with the use of traditional system of herbal medicines, herbs and herbal products.
3. To understand dose and duration standardization of herbal pharmaceuticals.
4. To make the common man vigilant about the guiding principles framed by WHO regarding use of herbs and herbal preparations.
5. To assess the challenges associated and future concerns.

REASONS FOR ADOPTING HERBAL MEDICINES

During last two to three decades, there is growing interest in use of Ayurvedic system of medicines which is mainly based on herbs and herbal preparations. There are many reasons for using herbal remedies instead of other therapies. Some of the reasons are:

1. Nature of Origin: Herbs and herbal products are of natural origin in comparison to allopathic medicines which are synthetic in origin.
2. Side Effects: Herbal pharmaceuticals are supposed to have minimum side effects in comparison to allopathic medicines. However, many evidences have shown that some herbal preparations can exert a long term effect on vital organs.
3. Crude Preparations: Common man generally use crude preparations like boiled extract, decoction or directly without any expertization or known procedure. This practice is a part of daily life.
4. Traditional Knowledge: Herbal system of medicines is perpetuating among generations with some proven effects. This traditional knowledge is transmitted generation after generation. For example Asafoetida is commonly used as anti-spasmodic and turmeric powder is used as anti-inflammatory, analgesic and antiseptic agent.
5. Easy availability: Herbs are easily available in a cost effective manner or free of cost. Many of the herbs and their products are available in local markets with pansaris and local herbal practitioners.
6. Cultural and Spiritual Benefits: Herbal medicines have deep roots in cultures.

DRAWBACKS OF USING HERBS AND HERBAL PREPARATIONS

There are many drawbacks, if the herbal preparations are used without any recommendations by expert herbal practitioner. Some of the drawbacks are:

1. Lack of knowledge about the active principle present in the herbal preparation.
2. Safety of the herbs are not studied on specific models.
3. No any dose and duration standardization is ensured. Higher dose for longer period of time may damage the vital organs like liver and kidneys.
4. The correct species or variety of the herb is not properly identified. A closely related species may contain highly toxic compounds.
5. Limited scientific support regarding the specific effect of majority of herbs or the active principle present in the herb.

6. Unwanted Chemical components are generally present as natural ingredient in the herbs along with the active principle which may be very harmful to the body. It may be some organic substance, heavy metal or pathogenic microbe.

7. Overuse and Misuse: Some herbs like Tulsi, Trifla, Haldi, Aloe vera etc are consumed on day to day basis considering no side effect.. However, overuse for longer duration or use without the need of body may cause mild to severe incurable and irreversible side effects. They may disturb normal gut microflora.

8. SAFETY CONCERNS

1. Unknown Side Effects:

No data regarding the safety of herbs is available. It can cause unknown side effects which may not appear immediately but cause long term side effects.

2. Dosages Standardization:

Proper dose of any drug is very very important to establish its efficacy. The content of active principle in any herbal preparations vary from species to species, climate to climate and method of processing. The doses are to be standardized according to condition of ailment and age. No such large scale studies are made.

3. Contaminants:

Herbs and herbal products may contain many undesirable chemicals like pesticides, heavy metals and pathogens.

4. Lack of Regulations: Regulation mechanism is not sufficient as it should be for pharmaceutical products.

5. Quality Control :Quality of herbal pharmaceuticals is very important to ensure safety and efficacy. Verification of correct plant species, chemical analysis, microbial contamination, consistency etc are very important.

6. Use in Pregnancy and during lactation are to be verified before consumption of herbal pharmaceuticals.

CHALLENGES

For the safety of those using herbal medicines, four complementary actions are needed: ♦ clear identification of the nature of adverse events ♦ management of the risks ♦ institution of measure to prevent adverse events ♦ good communication of the risks and benefits of herbal medicines. (WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems). Some of the challenges faced while using herbal pharmaceuticals are as below:

1. Regulatory Challenges:

It is observed that same herb may be used for different purposes like digestive disorders, pain relief, anti-inflammatory, as supplement etc in different regions of the world. So, categorization of herbal medicines is a major challenge to establish regulatory status to a specific herb at national or global level by regulatory bodies.

2. Challenge related to Safety and Efficacy:

No specific protocol is available to ensure the safety and efficacy of the herb or its product. A herbal preparation may contain hundreds of chemical constituents other than the active principle and it is very

difficult to isolate such an active compound from hundreds. So, it is very difficult to find out which substance in the herb is causing benefit or adverse effect on the body.

3. Challenge related to Quality of The Herbal Preparation:

Herbal pharmaceuticals present in various herbs have complex composition. Quality of the herbal product depends upon the method of extraction and processing, shelf life of the active ingredient present in the herb and quantity of the active principle present in processed product. It may also contain heavy metals, pesticides and adulterant. So, quality control regulations is another major challenge.

4. Challenge related to Processing of the Herb:

Processing of the herbal drug is long and technical process. It involve garbing (Sorting), washing, leaching, drying etc. It help in taking appropriate part of the plant at appropriate time, to remove impurities, to prevent degradation of active compound, its stability and to prevent microbial growth.

All these process require scientific tools and expertization.

5. Clinical Research related Challenges:

Research and development is backbone of any industry. Herbal drugs are consumed by people at their own without knowing its quality, dose standardization, duration of consumption, side effects if any. It require extensive research and experimentation by selecting suitable control models.

6. Challenge related to Standardization of Dose and Duration:

Any drug is useful when it is taken for specific purpose, in specific doses and for specific period of time. Unfortunately, these herbal products are traditionally used without any expert prescription, unknown doses and for prolonged period. This is another challenge and need proper counseling.

7. Challenge related to Maintenance of Ecosystem Sustainability:

Source of the herbal medicine should be ethical to protect the rights of Endemic people and their endogenous knowledge. It also emphasize on sustainability of the ecosystem to ensure availability of these herbs for future generations.

FUTURE PERSPECTIVES

Herbal pharmaceuticals are becoming very popular perhaps due to serious side effects and costly allopathic medicines. In contrast herbal pharmaceuticals are of natural origin with little side effects and easily availability. There is tremendous potential in growth of herbal pharmaceuticals. Future perspectives involve research and development, biodiversity conservation, safety analysis, improvement in processing techniques, sustainable harvesting, proper regulation process etc. It is going to play prominent role in health care practices. Traditional knowledge is to be explored in more scientific way.

DISCUSSIONS AND CONCLUSIONS

Demand for herbal pharmaceuticals has increased many folds during last three decades. Ayurveda is popularized by government efforts and large number of herbal practitioners, ethnobotanists and researchers. Researches are promoted for developing and processing of quality herbal preparations and dose standardization. Huge quantity of ethnobotanical knowledge exist in India and is in use since ancient times. There is a vast experience-based evidence for efficacy of many of these drugs. There are also a

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When addressing various issues and challenges, it appears to involve scientific research and development, quality control standards and regulatory protocols to ensure safety and efficacy of herbal pharmaceuticals.

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