

## A Comprehensive Review on Trends in Herbal Drugs

Vishvambar Raut\*, Samadhan Agarkar\*\*, Somanath Wadghane \*\*\*,  
AsifShaikh\*\*\*\*, Venkatesh Raut\*\*\*\*\*

Department Of Pharmacognocny, Abasaheb Kakade College Of Pharmacy, Bodhegoan.

### ABSTRACT :-

Herbal medicine is the use of medicinal plants for prevention and treatment of diseases: it Ranges from traditional and popular medicines of every country to the use of standardized and Tritated herbal extracts. herbal medicine can help in planning interventions aimed at increasing Awareness regarding herbal use. This article provides a general idea of herbal Medicines and intended to explain the therapeutic effectiveness of various herbal medicines, Adverse drug Reactions, drug interactions, standardization and stability testing of herbal medicines, Pharmacovigilance and regulatory status of herbal medicines.

**Keywords:** Herbal drugs, Standardization, Stability testing, Pharmacovigilance

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### I. INTRODUCTION :-

The word medicine is derived from the Latin *arsmedicina*, meaning The art of healing. Today medicine is usually defined as the science And art of healing involving a variety of healthcare practices Evolved to restore health by the prevention and treatment of illness In human beings. Herbal medicines are substances one can eat or drink And may be vitamins, minerals, or herbs or parts of these Substances. They can be defined as 'plants or plant parts Used for their scent, flavour, or therapeutic properties'.

Herbal medicines are naturally occurring, plant-derived substances that are used to treat illnesses within local or regional healing practices. These products are complex mixtures of organic chemicals that may come from any raw or processed part of a plant. Herbal medicine has its roots in every culture around the world. Herbal medicine has become a popular form of healthcare. Several specific herbal extracts have been demonstrated to be efficacious for specific conditions.

Herbal drugs are use of therapeutic herbs to prevent and treat diseases and ailments or to support health and healing. These are drugs or preparations made from a plant or plants and used for any of such Purposes. Herbal drugs are the oldest form of health Care known to mankind.

World Health Organization (WHO) has distinct herbal drugs as complete, labeled medicinal

products that have vigorous ingredients, aerial or secretive parts of the plant or other plant material or combinations. World Health Organization has set precise guidelines for the evaluation of the safety, Efficacy, and quality of herbal medicines. Herbal drug is a chief constituent in traditional medicine and a common constituent in ayurvedic, homeopathic, naturopathic and other medicine systems. Herbs are usually considered as safe since they belong to natural sources. The use of herbal drugs due to toxicity and side effects of Allopathic medicines, has led to rapid increase in the number of herbal drug manufacturers. For the Past few decades, herbal drugs have been more and People more consumed by the people with no prescription.

As the global use of herbal medicinal products continues to Grow and many more new products are introduced into the market, public health issues, and concerns surrounding their safety are also increasingly recognized. Although some herbal medicines have promising potential and are widely used, many of them remain untested and their use also not monitored. Although some herbal medicines Have promising potential and are widely used, many of them Remain untested and their use also not monitored. This makes Knowledge of their potential adverse effects very limited and identification of the safest and most effective therapies as well as the Promotion of their rational use more difficult.

### Advantages of Herbal Drug

- Less Side effects
- Complete accessibility
- More protective
- Improve the overall health
- Minimum cost
- Potency and efficiency
- enhanced tolerance • reusable or recyclable

### Disadvantages Of Herbal Drug

- Inappropriate for many conditions
- Lack of dosage instructions
- Medication interactions
- Lack of regulation
- Risk with self dosing.
- Complexity in standardizations.

### Usage and Preparation of Herbal Drugs

Herbal drugs are use of therapeutic herbs to prevent and treat Diseases and ailments or to support health and Healing. These are drugs or preparations made From a plant or plants and used for any of such Purposes. The strength of The herbal drugs varies based on the genetic Distinction, growing conditions, timing and method Of harvesting, revelation of the herbs to air, light And dampness, and type of conservation of the Herbs.

Herbal drugs are accessible in several forms and often require preparation before their use. They can be Normally purchased in mass form as dried plants, Plant parts or insecurely packed for herbal teas and Decoctions. Decoctions are made by boiling the Herb in water, then straining out of the plant Material. More intense forms of herbal drugs are Available in the form of hydro alcoholic tinctures And fluid extracts. Methods of preparation may Differ because of the nature of the plants active Chemical constituents .

### Pharmacological action of herbal drug Anti-inflammatory activity

The extracts of Achillea millefolium, Artemisia Vulgaris, Bauhinia tarapotensis, Curcuma longa, Forsythia suspense, Houttuynia cordata, Glycyrrhiza uralensis, Lonicera japonica, Ruta Graveolens, Securidaca longipedunculata and Valeriana wallichii have shown anti-inflammatory Activity .

### Analgesic activity

The extracts of Bougainvillaspectabilis, Chelidonium majus, Ficusglomerata, Dalbergia Lanceolaria, Glauciumgrandiflorum, Glaucium Paucilobum, Nepeta italic, Polyalthialongifolia, Sida acuta, Stylosanthesfruticosa, Toona ciliate, Zataria multiflora and Zingiber zerumbet are used As analgesic agents

### Anticancer activity

Medicinal plant products exhibiting anticancer Activity continue to be the subject of extensive research aimed at the development of drugs for the Treatment of different human tumors. The medicinal Plants used for the treatment of cancer are

Acalypha fruticosa, Alanguiumlamarki, Catharanthus roseus, Celastruspaniculatus, Embeliaribes, Ficusglomerata, Ficusracemosa, Ocimumbasilicum, Plumbagozeylanica, Terminalia chebula, Tylophoraindica, WrightiaTinctoria. The extracts used for the treatment of Breast cancer is Buthusmartensi, Collacornu, Herbaepimedii, Fructuslycii, Radix angelicae, Radix bupleuri, Rhizoma corydalis, Rhizoma Curculiginis, Radix paeoniae , Radix glycyrrhizae, Scolopendrasubspinipes, Squama manitis, Tuber Curcumae. The herbal drugs used for treatment of Pancreatic cancer are Emblicaofficinalis, Nigella Sativa and Terminalia belleric.

### Antipsoriasis activity

A variety of natural proprietary formulas and Preparations containing plant materials have been used to provide symptomatic relief in psoriasis. The Different herbal remedies for psoriasis are, turmeric, Curcumin, shark cartilage extract, oregano oil, milk Thistle. Various antimicrobial agents AzadirachtaIndica, Calendula officinalis, Cassia tora, WrightiaTinctoria have been used in the management of Psoriasis .

### Antidepressive activity

A number of nutritional and herbal supplements have shown promise as alternative treatments for depression. A large number of plants have potential functions to treat depression which are described as, Bacopamonniera, Panaxquinquefolius, Piper methysticum, Rhodiolarosea, Valeriana officinalis and Hypericum perforatum .

### Antivitaligo Activity

Antivitaligo oil is a herbal remedy manufactured With potent herbs and is produced with traditional Methods and is also a complete traditional herbal Formulation. The plants which can be used in the Treatment of vitiligo are Acoruscalamus, AdiantumCapillus, Boswelliaserrata, Cassia angustifolia, Cassia tora, Cinnamomum cassia, FumariaOfficinalis, Glycyhzhizaglabra, LavandulaStoechas, Psoraleacordyfolia, PterocarpusSantalinus, Rosa damascene, Sphaethanthusindicus, Tephrosiapurpuria, Vitisvinifera, ZingiberOfficinale and Zizyphus sativa .

### Adverse Drug Reactions

Herbal drugs may cause adverse drug reaction due to effects of known constituent(s), substitution with other herbal ingredients, or contamination or adulteration with additional substances. Some of them Typically used herbs are, impulsive bleeding by Gingobiloba, gastrointestinal disturbances, allergic Reactions, fatigue, dizziness, photosensitivity, Confusion Hypericum perforatum, hypertension, Cardiac arrhythmias, myocardial infarction, anxiety By ephedrine, headache by Paprika, diarrhea by Chast tree fruit and liver toxicity by Piper Methysticum .

### Herbal Drug Interactions

Patients enchanting drugs with a narrow therapeutic index like cyclosporine, digoxin, phenytoin, Procainamide, theophylline, warfarin etc. should be Dispirited from using herbal products. All drugs With narrow therapeutic index may either have Increased adverse effects or be less effective when Used in combination with herbal drugs. Kava is used as anxiolytic and shows Synergism with benzodiazepines. St. Use of heavy Metals is permitted in traditional medicines but in Specific concentrations, which were mentioned by Ancient physicians. There are now many examples Of the toxicity caused by the use of heavy metals in The preparations of traditional drugs. Patients should not use herbal Drugs arbitrarily with modern medicines, as there Are potential of drug interactions and increased risk of adverse drug reactions .

### Stability testing of Herbal Drugs

Stability testing of herbal drugs is a challengingRisk, because the entire herb or herbal product is Regarded as the active matter, regardless of whether Constituents with defined therapeutic activity are Known . The purpose of a stability testing is to Provide proof on how the quality of the herbal Products varies with the time under the influence of Environmental factors such as temperature, light,

Oxygen, moisture, other ingredient or excipients in The dosage form, particle size of drug, microbial Contamination, trace metal contamination, leaching From the container and to establish a recommended Storage condition and shelf-life. stability data can also be generated under accelerated atmospheric conditions of temperature, humidity and light, which is referred to as short term stability and the data so obtained is used for predicting shelf-life of the product. Stability testing should be conducted on the dosage form packaged in the container closure system proposed for marketing. With the help of modern analytical techniques like spectrophotometry, HPLC, HPTLC and by employing proper guidelines it is possible to generate a sound stability data of herbal products and predict their shelf-life, which will help in improving global acceptability of herbal products.

### Regulatory Status of Herbal Drugs

The lawful situation of herbal drugs varies from Country to country. Developing countries have folk Knowledge of herbs and their use in traditional Medicine is wide spread. But, these countries do not Have any lawmaking criteria to include these Traditionally used herbal drugs in drug legislation.. Endorsement of herbal drugs in most countries is Based on traditional herbal references, provided They are not known to be unsafe when used to treat Slight illnesses. But, now-a-days claims are being Made to treat more serious illnesses with herbal Drugs for which no traditional knowledge is Present. Therefore, narrow requirements for Herbal drugs are necessary to ensure the safety, Efficacy and quality and to support specific Indications; scientific and clinical evidence must be Acquired. Depending upon the nature of herbs and Market availability, different requirements exist for Submission of clinical trial data and toxicity data. The regulatory requirements of herbal drugs is Varies from one country to other country. Some Countries accept traditional, experience based Evidence while some consider herbal remedies as Dangerous or of questionable value .

### Standardization of Herbal Drugs

Herbal drugs imply knowledge and practice of Herbal healing for the prevention, diagnosis, and Elimination of physical, mental, or social Imbalance.The costs for health care are rising at An alarming rate throughout the world. At the same Time, the world market for phytopharmaceuticals is Growing progressively. The World Bank estimates That trade in medicinal plants, botanical drug Products, and raw materials are growing at an Annual rate of between 5 and 15 % .

Standardized herbal products of Consistent quality and containing well-defined Constituents are required for reliable clinical trials And to provide consistent beneficial therapeutic Effects. Pharmacological properties of an herbal Formulation depend on phytochemical constituents Present therein. Development of authentic Analytical methods which can reliably profile the Phytochemical composition, including quantitative Analyses of marker/bioactive compounds and other Major constituents, is a major challenge to Scientists. Without consistent quality of a Phytochemical mixture, a consistent Pharmacological effect is not expected. Resurgence Of interest and the growing market of herbal Medicinal products necessitate strong commitment by the stakeholders to safeguard the consumer and the industry. The EMEA defines marker compounds As chemically defined constituents of a herbal drug Which are of interest for control purposes, Independent of whether they have

any therapeutic Activity or not. Examples of markers are the Valerianic acids in *Valeriana officinalis* L., Ginkgolides and flavonoids in *Ginkgo biloba* L. and

Hypericin and hyperforin in *Hypericum petrolatum* L.

### Pharmacovigilance of Herbal Drugs

Pharmacovigilance is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects of drugs or any other possible drug-related problems. Recently, its concerns have been widened to include: herbals, traditional and complementary medicines, blood products, biological, medical devices and vaccines. The aims of pharmacovigilance is to protect patients from unnecessary harm by identifying previously unrecognized drug hazards, elucidating predisposing factors and quantifying risk in relation to benefits. The purpose of pharmacovigilance is to detect, assess and understand to prevent the adverse effects or any other possible drug-related problems, related to herbal, traditionally and complementary medicines. WHO has increased its efforts to promote herbal safety monitoring within the background of the WHO International Drug Monitoring Programme. The WHO guidelines aim to propose the member states of a framework for facilitating the regulation of herbal medicines used in traditional medicine covering issues like classification, assessment of safety, assessment of the efficacy, quality assurance, pharmacovigilance and control of advertisements of herbal drug products.

The importance of genetic factors in determining an individual vulnerability to adverse drug reactions is well documented and this implies to herbal medicines as well as to conventional drugs. Pharmacovigilance is therefore one of the important post-marketing safety tools in ensuring the safety of pharmaceutical and related health products.

## II. CONCLUSION

A general idea of herbal medicines and intended to explain the therapeutic effectiveness of various herbal medicines, adverse drug reactions, drug interactions, standardization and stability testing of herbal medicines, pharmacovigilance and regulatory status of herbal medicines are studied. Medicinal herbs as potential source of therapeutics aids has attained a significant role in health care system all over the world for human beings not only

in the diseased condition but also as potential material for maintaining proper health.

Standardization of methods and quality control data on safety and efficacy are required for understanding of the use of herbal drugs. A major factor impeding the development of the medicinal plant based industries in developing countries has been the lack of information on the social and economic benefits that could be derived from the industrial utilization of medicinal plants. Further research is required to exploit the compounds responsible for the observed biological activity.

## REFERENCES

- [1]. Mamtani R, Cheema S, MacRae B, Alrouh H, Lopez T, ElHajj M, Mahfoud Z. Herbal and nutritional supplement use among college students in Qatar/Consumption de compléments nutritionnels à base de plantes par des étudiants de l'enseignement supérieur au Qatar. *East Mediterr Health J.* 2015;21:39.
- [2]. Tilburt JC, Kaptchuk TJ, Herbal medicine research and global health: an ethical analysis, *Bulletin of the World Health Organization*, 2008; 86 (8): 594-599.
- [3]. Anjoo Kamboj. Analytical evaluation of herbal drugs. In: Prof. Omboon Vallisuta, editor. *Drug discovery research in Pharmacognosy*. 1<sup>st</sup> edition. Rijeka, Croatia: In Tech Publication; 2012.
- [4]. Gossell, M; Simon, OR; West, ME (2006), "The past and the present use of plants for medicines", *West Indian Medical Journal*, 55, 217.
- [5]. De-Smet, PGAM (1997), "The role of plant derived drugs and herbal medicines in healthcare drugs", 54, 801-840.
- [6]. Abhishek, K; Ashutosh, M and Sinha, BN (2006), "Herbal drugs- present status and efforts to promote and regulate cultivation", *The Pharma Review*, 6, 73-77.
- [7]. Harish, P (2001), "Herbal drugs", *Current Science*, 81(1), 15.
- [8]. WHO. (2002b). *Traditional Medicine Strategy (2002-2005)*. WHO/EDM/TRM/2002.1. Geneva, Switzerland: World Health Organization.
- [9]. Catherine, C; Crone, MD; Thomas, N and Wise, MD (1998), "Use of herbal medicines among consultation-liaison populations", *The Academy of Psychosomatic Medicine*, 39(1), 3-13.

- [10]. The Indian Pharmacopoeia (1996), Govt. Of India, Ministry of Health and Family Welfare, The Controller of Publication, A-53, 54, 89
- [11]. Sehgal, A (2003), "Herbal medicines- Harmless or harmful", *Anesthesia*; 57,947948.
- [12]. Feng, Y; Wang, N; Zhu, M; Feng, Y; Li H And Tsao, S (2011), "Recent Progress on Anticancer Candidates in Patents of Herbal Medicinal Products; Recent Patents on Food", *Nutrition & Agriculture*, 3 30-48.
- [13]. Rodeiro, I; Magarino, Y; Ocejo, O; Garrido, G and Delgado, R (2008), "Use of natural Products in anti-cancer alternative therapy: Risk of interactions with conventional antiCancer drugs; Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromáticas, 7 (6), 332-344.
- [14]. Lalla, JK (2005), "Herbal medicines Revisited", *The Pharma Review*, 12, 101-105
- [15]. Raman, D., Sabitha, JS and Shivanand, BG (2005), "Anti-microbial activity of herbs Used in psoriasis" *The Pharma Review*, 8,71-72.
- [16]. Ben, E; Ziv, M and Frenkel, M (2004), "Complementary medicine and psoriasis: Linking the patient's outlook with evidence Based medicine", *Int J Dermatol*, 43(7)552.
- [17]. Jeyaprakash, K (2007), "Herbal therapy for depression", *Herbal Tech Industry*, 3(7), 1925.
- [18]. Ansari, FZ; Alam, S; Jain, P; Akhter, S and Ansari, MZH (2008), "Vitiligo and its Herbal treatment", *The Pharma Review*, 12,137-13.
- [19]. Chauhan, VS (2006), "Standardizing herbs And intermediates-newer approaches", *The Pharma Review*, 2, 37-44.
- [20]. Raina, MK (2003), "Quality control of Herbal and herbo-mineral formulations", *Indian Journal of Natural Products*, 19,11-15. [21]. Hussin, AH (2001), "Adverse effects of Herbs and drug herbal interactions", *Malaysian Journal of Pharmacy*, 1, 39-44. [22]. Kuhn, MA (2002), "Herbal remedies: drugHerb interactions", *Critical Care Nurse*", 22, 22-32.
- [23]. Thakur, AK; Prasad, NAV and Ladha, KS (2008), "Stability testing of herbal products", *The Pharma Review*, 4, 109-112.
- [24]. Kathrin, K; Eike, R and Anne, B (2003), "Validation of standardized high performance thin layer chromatographic methods for quality and stability testing of medicines", *Journal of AOAC International*, 86(5), 909-915.
- [25]. Sukhdev, S; Arun, N and Kalia, AN (2008), "Patentability of herbal products: A review", *The Pharma Review*, 4,118-124.
- [26]. Calixto, JB (2000), "Efficacy, safety, quality control, marketing, and regulatory guidelines for herbal medicines", *Brazilian Journal of Medical and Biological Research*, 33,179-189
- [27]. Benedum, J (1998), "In *Phytopharmaka IV*", Rietbrock, 3.
- [28]. Patwardhan, B; Warude, D; Pushpangadan, Xmp and Bhatt, N (2005), "Evidence-Based Complem. Altern. Med, 2, 465.
- [29]. EMEA (2000), "Position paper on the risks Associated with the use of herbal products containing *Aristolochia* species", EMEA/HMPWP, 23.
- [30]. Ernst, E (2000), "Evidence-Based Herbal Medicine", *Eur. J. Clin. Pharmacol*, 56,523
- [31]. Manoj, S et al. (2006), "Pharmacovigilance Of herbal medicines", *The Pharma Review*, 12, 119-124.
- [32]. Kshirsagar, N (2005), "The Pharmacovigilance system in India", *Drug Safety*, 28,647-650.
- [33]. Routledge, P (1998), "150 Years of pharmacovigilance", *The Lancet*, 351,12001201.
- [34]. Chan, TYK (1997), "Monitoring the safety Of herbal medicines", *Drug Safety*, 17, 209-215
- [35]. Verma, S and Singh, SP (2008), "Current and future status of herbal medicines", *Veterinary World*, 1(11), 347-350.
- [36]. Alam, S et al. (2007), "Role of herbals in drug delivery system", *The Pharm*

