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ROLE OF MEDICINAL PLANTS IN TRADITIONAL MEDICINE SYSTEM IN BIHAR – A REVIEW

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ABSTRACT

In present era the demand of medicinal plants has grown rapidly because of accelerated local, national and international interest. Traditional medicine system always played an imperative role in global healthcare system. Traditional medicine can be explained as the diverse health practices related to the beliefs, spiritual remedies, ancient indigenous experience, and manual practice that used to maintain health as well as to cure, diagnose and treat disease. Bihar lies in the river plains of the basin of the river Ganga. It is endowed with fertile alluvial soil with abundant water resources. This makes the rich and diverse cultivation of medicinal plant. The present review enumerates a detailed account of medicinal utility of different medicinal plants for the treatment of various human ailments. Medicinal plant have been reported to exhibit anti-inflammatory, analgesic, antitumor, antihelmintic, hepatoprotective, antidiarrhoeal, anticonvulsant, antimicrobial, oestrogenic, antinociceptive, antimalarial, antioxidant properties and has been traditionally used for diarrhoea, stomatic, sinus fistula, skin diseas, jaundice, digestive, emetic, expectorant, sedative, blood purifier, an antidote for snake poisoning and many other diseases. Medicinal herbs contain various phytoconstituents such as alkaloids, flavonoids, sterol, saponins, triterpinoids, tannins, resins, anthocyanins, proteolytic enzymes, cardenolide, cardiac glycosides etc which are responsible for different pharmacological activities.

KEYWORDS: Alkaloids, flavonoids, sterol, saponins, triterpinoids,

INTRODUCTION

India is known for its traditional medicinal systems—Ayurveda, Siddha, and Unani. Medical systems are found mentioned even in the ancient Vedas and other scriptures. The Ayurvedic

concept appeared and developed between 2500 and 500 BC in India (V. Subhose, *et al*, 2005.) Ayurveda is known as "science of life," because ancient Indian system of health care focused on views of man and his illness. It has been pointed out that the positive health means metabolically well-balanced human beings. Ayurveda is also called the "science of longevity" because it offers a complete system to live a long healthy life. It offers programs to rejuvenate the body through diet and nutrition. It offers treatment methods to cure many common diseases such as food allergies, which have few modern treatments. However, one should be aware that Ayurvedic nutrition is not a "magic bullet" system but requires the full participation of the patient to succeed. It is an interactive system that is user-friendly and educational. It teaches the patient to become responsible and self-empowered. Ayurveda is not a nutritional system for those seeking an escape or excuse to further abuse their body or mind. It is a system for empowerment, a system of freedom, and long life.

Medicinal plant is defined as any plant with one or more of its organs containing substance that can be used for therapeutic purpose or which can be used as precursors for the synthesis of antimicrobial drugs (Bouayed J, *et al*, 2007). Plants are presently the sources of medicines for many people of different age in many country of the world, where diseases are treated primarily with traditional medicines obtained from plants. The modern pharmaceutical industry itself still relies largely on the diversity of secondary metabolites in plants and secondary metabolites of which at least 12,000 have been isolated; a number estimated to be less than 10% of the total (Mallikarjun PB, *et al*, 2007). In plants, the synthesized aromatic substances (metabolites) are used as defensive weapons against predation by microorganisms, insects and herbivores. Alternative medicines are being used by about 60 percent of the world's population. These medicines are not only used by the rural masses for their primary health care in developing countries but are also used in developed countries where modern medicines dominate (B. Ballabh, *et al*, 2007). The Indian subcontinent is a vast repository of medicinal plants that are used in traditional medical treatments. The alternative medicines in the traditional systems are derived from herbs, minerals, and organic matter, while for the preparation of herbal drugs only medicinal plants are used (Bisset, 1994; Tyler, 1997; Singh *et al*., 2016). Use of plants as a source of medicine has been an ancient practice and is an important component of the health care system in India.

In Bihar, about 70 percent of rural population depends on the Traditional Medicine System. Most healers/practitioners of the traditional systems of medicine prepare formulations by

their own recipes and dispense to the patients. In the Western countries, approximately 40 per cent of people are using the herbal medicine for the treatment of various diseases. This interest in traditional medicines is growing rapidly due to the attention being given to it by the governmental agencies and different NGO comprises of general public and researchers as well as the increased side effects, adverse drug reactions, and cost factor of the modern medicines.

Medicinal Plants: Formulation of herbal drugs

India is the largest producer of medicinal plants. Around 3,000 medicinal plants have been recorded in India. However, traditional medical practitioners use medicinal plants for curing different diseases. There are currently about 250,000 registered medical practitioners of the Ayurvedic system, as compared to about 700,000 of the modern medicine. In India, around 2,500 effective plant-based drugs are used in traditional medicine system. More than 1 million practitioners are using the traditional medicinal system for health care in India. It is estimated that more than 7800 manufacturing units are involved in the production of natural health products and traditional plant-based formulations in India, which requires more than 2000 tons of medicinal plant raw material annually (M. M. Pandey, *et al*, 2008). More than 1000 herbals are sold as dietary supplements or ethnic traditional medicines (B. Patwardhan, *et al*, 2005). According to Ayurveda, action of a drug depends upon seven factors viz. Dravya, Rasa, Guna, Veerya, Vipaka, Prabhav and Karma while active ingredient present in body is solely responsible for its effect and side effect according to modern science, this is the basic difference in the pharmacological principle of both the sciences. Indian traditional medicinal system is a one of the oldest traditional medicinal systems in the world.. The classical transcripts of Indian traditional medicine system Ayurveda include Rigveda, Atharvaveda, Charaka Samhita, and Sushruta Samhita (Joy, *et al*, 1998; World Health Organization 2002; Ravishankar and Shukla 2007).

Bihar: A Great Flora of Medicinal Plants

Bihar is located in the eastern region of India between latitude 24°-20'-10" N ~ 27°-31'-15" N and longitude 83°-19'-50" E ~ 88°-17'-40" E. It is an entirely land–locked state, in a subtropical region of the temperate zone. Bihar lies between the humid West Bengal in the east and the sub humid Uttar Pradesh in the west, which provides it with a transitional position in respect of climate, economy and culture. These also consist of scrub, grass and reeds. Here the rainfall is above 1,600 millimetres (63 in) and thus promotes luxuriant Sal

forests in the area. Medicinal plants are extremely potential production sector in Bihar state due to availability of suitable climate, fertile soil, water and other inputs and latest technology for cultivation. Large Scale cultivation will also attract setting of pharmaceutical industries in the state. Among the available options, the need is to develop a sustainable agro-economy growth strategy with a viable technology development. Medicinal plants are high potential area in this regard (Singh, *et al*, 1996), (Paranjape, 2001), (Arvind Singh, *et al*, 2013).

In present paper a comprehensive list of medicinal plants is presented in view of their medicinal demand and their availability in Bihar state of India. On the basis of traditional medicine practiniors, medicinal plants and their role in traditional medicine system were recorded and tabulated in Table 1.

Table 1: List of Medicinal Plants Used in Traditional Medicine System.

S. No.	Botanical Name	Common Hindi Name	Family	Life Cycle	Plant Part Used	Medicinal Values in Traditional Medicine System
1	*Ocimum sanctum*	Tulsi or Holy basil	Lamiaceae	Perennial	Leaves, Seed	Digestion aid, stress relief, immune support
2	*Azadirachta indica*	Neem or Indian lilac	Meliaceae	Perennial	Leaves, Flower, Bark, Fruit, Seed	Anthelmintic, antifungal, antidiabetic, antibacterial,antiviral, contraceptive sedative., healthy hair, to improve liver function,detoxify the blood, balance blood sugar levels, eczema, psoriasis, intestinal worm, cough, asthma, piles,ulcer
3	*Saraca indica*	Ashoka	Fabaceae	Perennial	Leaves,Flower, Fruits, Bark	Antioxidant, antihyperglycemic activity, cardioprotective effect
4	*Glycyrrhiza glabra*	Mithilakdi or Mulathee or Jethi-madh	Leguminosa	Perennial	Leaves, Flower, Roots	Rejuvenation, jaundice, antioxidant activity, antiulcer activity
5	*Terminalia arjuna*	Arjuna	Combretaceae	Perennial	Leaves, Bark	Antidysentric, purgative, leucoderma, anaemia, hyperhidrosis, asthama, tumors, cardiovascular,anticancer, and antimicrobial activities
6	*Kaempferia rotunda*	Bhumi-Champa or Bhuu-Champaka	Zingiberaceae	Perennial	Leaves, Root	stomachic, anti-inflammatory, antitumour, antiulcer, wound healing stomachic, anti-inflammatory, antitumour, antiulcer, wound healing stomachic, anti-inflammatory, antitumour, antiulcer, wound healing stomachic, anti-inflammatory, antitumour, antiulcer, wound healing, emetic stomachic, anti-inflammatory, antitumour, antiulcer, wound healing, emetic stomachic, anti-inflammatory, antitumour, antiulcer, wound healing, emetic Stomachic, antiinflammatory,antitumour, antiulcer

						and wound healing
7	*Quercus infectoria*	stomachic, anti-inflammatory, antitumour, antiulcer, wound healing Majufal	Fabaceae	Perennial	Leaves, Bark, Seed	Astringent, antibacterial, antifungal, larvicidal, antidiabetic, local anaesthetic, antiviral and anti-inflammatory
8	*Salvodara persica*	Meswak or Brush tree	Salvadoraceae	Perennial	Stem, Bark, Root	Abrasives, antiseptics, astringent, detergents, enzyme inhibitors, and fluoride, dental diseases
9	*Aloe vera Mill.*	Gwar patta or Rambans	Liliaceae	Perennial	Leaves pulp	Headache, wounds, cuts, burn,Indigestion, spleen enlargement, epilepsy, penile wart, dysuria, inflammation in penis, abscess, jaundice, gulma, mastitis, headache and amenorrhoea.
10	*Solanum nigrum*	Mokoi	Solanaceae	Annual	Whole plant	Skin diseases, rheumatism, and gout. Juice of the herb is given in chronic enlargement of the liver. It can cure ear, and eye diseases, remove the effect of old age, Joints pain
11	*Sida cordifolia*	Kharinta or Barail	Malvaceae	Annual	Leaves	Ulcer, dysentery
12	*Curcuma longa*	Haldi	Zingiberaceae	Perennial	Root	Swelling in body, dysentery, skin disease and pain reliever
13	*Cyperus rotundus*	Motha or Mutha	Cyperaceae	Perennial	Leaves Root	Headache, skin disease
14	*Datura stramonium*	Dhatura	Solanaceae	Annual	Leaves Seeds, Flower	Rheumatism, arthritis and wounds
15	*Lageneria vulgaries*	Lauki or Kaddu	Cucurbitaceae	Annual	Fruit	Headache and obesity
16	*Jatropha gossypifolia*	Sibidigua	Euphorbiaceae	Annual	Leaves, Roots, Reed	Leprosy, eczema, joints pain and skin disease
17	*Lawsonia inermis*	Henna or Mehandi	Lythraceae	Perennail	Leaves	Burning sensation, cooling
18	*Hemidesmus indicus*	Anant Vel	Asclepiadaceae	Perenial	Leaves	Gout, cough and skin disease
19	*Madhuca*	Mahua	Sapotaceae	Annual	Flower	Loss of appetite

	indica					
20	*Moringa oleifera*	Sahjan	Moringaceae	Perennial	Leaves, Fruits, Seed	Pains and health tonic
21	*Solanum surattense*	Kantakari or Regani	Solanaceae	Annual	Roots Flower	Dysentery and Cough
22	*Ageratum conyzoides*	Jangali pudina	Asteraceae	Annual	Whole plant	Wounds and chronic dysentery
23	*Boerhavia diffusa*	Punarnava	Nyctaginaceae	Annual	Root	Urinary disorders
24	*Cassia fistula*	Amaltas	Caesalpiniaceae	Perennial	Leaves, Bark, Fruit	Constipation, cough, insect bite and repellent
25	*Dalbergia sissoo*	Shisham	Papilionaceae	Perennial	Leaves	Jaundice, liver disorder, dysentery and headache
26	*Adhathoda vasica*	Adusa or Arusha	Acanthaceae	Annual	Leaves	Bronchial asthma, chronic cough
27	*Bambusa arundinacea*	Baas	Poaceae	Perennial	Leaves Stems	Stem and leaves Skin allergy
28	*Andrographis paniculata*	Kalamegha	Acanthaceae	Annual	Whole plant	Malarial fever, gastric disorder
29	*Catharanthus Roseus*	Sadabahar	Apocynaceae	Annual	Leaves, Flowers	Anti-cancer, memory loss, toothache, circulatory disorders, chest complaints, throat infections, etc. Treating gastritis, cystitis, enteritis, diarrhea, diabetes
30	*Mamordica indica*	Ban karela	Cucurbitaceae	Annual	Leaves,Fruit	Diabetes, joints pain, jaundice
31	*Mucana pruriens*	Kevanch	Papilionaceae	Annual	Seed, Root	Early ejaculation
32	*Feronia limonia*	Kaith	Rutaceae	Perennial	Leaves	Leucorrhoea, menorrhage
33	*Euphorbia hirta*	Mothi dudhi	Euphorbiaceae	Annual	Whole plant, Leaves	Bleeding, piles, dysentery, ulcer, Scorpion sting
34	*Eclipta alba*	Brigraj	Asteraceae	Annual	Whole plant	Eczema, dermatitis, hair loss
35	*Bombax ceiba*	Semal	Bombacaceae	Perennial	Latex, Leaves,	Gynaecological disorder, Constipation, Diarrhoea,

					Bark	Piles
36	*Holarrhena antidysenterica*	Indrajo	Apocynaceae	Perennial	Leaves, Bark, Seed	Fever, Malaria, Dysentery, Kidney stone, Bodyache pain and swelling on poisonous bite, diarrhoea, dysentery, colitis and bleeding problems
37	*Leucas aspera*	Guma	Lamiaceae	Perennial	Whole plant, Flower, Leaves, Root	Fever Eczema, Piles Anorexia, Sinusitis, Jaundice
38	*Butea monosperma*	Palas	Fabaceae	Perennial	Leave, Root, Gum	Tuberculosis, diarrhea, dysentery,
39	*Aegle marmalose*	Bel	Rutaceae	Perennial	Leaves, Fruit, Root	Diarrhoea, asthma, jaundice.
40	*Calotropis gigantean*	Safed madar or Aak	Asclepiadaceae	Perennial	Whole plant, Leave,Flower, Bark, Root, Latex	Constipation, stomach ulcers, toothache, cramps, join t pain, parasitic infections, elephantiasis, worms, syphilis,inflammation, epilepsy, hysteria, fever, muscular spasm, warts, leprosy, gout, snakebites, and cancer.
41	*Calotropis procera*	Lal Madar or Akwan	Asclepiadaceae	Perennial	Whole plant, Leave,Flower, Bark, Root, Latex	Elephantiasis, worms, syphilis,inflammation, epilepsy, hysteria, fever, muscular spasm,warts, leprosy, gout, snakebites, and cancer.Cough, asthma, diarrhoea, dysentery, skin diseases
42	*Oxalis corniculata*	Amrul	Oxalidaceae	Perennial	Whole plant	Mental stress, headache, fever
43	*Hemidesmus indicus*	Anantamul	Asclepiadaceae	Perennial	Roots	Gout, cough and skin disease
44	*Rauvolfia serpentine*	Sarpgandha	Apocynaceae	Annual	Root, Leaves	Diabetes, high blood pressure, hypertension, dipperession, snakebite, diarrhoea and dysentery
45	*Withania somnifera*	Aswagandha	Solanaceae	Annual	Root	Nervous exhaustion, debility, insomnia, wasting diseases, failure to thrive in children, impotence, infertility, multiple sclerosis Joints pain, boils and dysentery, sex inhancing property
46	*Desmodium*	Phool pantjari	Fabaceae	Annual	Root	Vomiting, dysentery, cholera

	motorium					
47	*Vicoa indica*	Jangali sargyoiya	Asteraceae	Annual	Root	Induce sterility in women
48	*Cynodon dactylon*	Dhobi ghass.	Poaceae	Annual	Whole plant, Root	Malaria
49	*Desmodium motorium*	Phool pantjari	Fabaceae	Annual	Root	Vomiting, dysentery, cholera
50	*Catunaregam spinosa*	Muna	Rubiaceae	Annual	Leaves,Fruit	Antifertility agent, headache
51	*Abrus precatorius*	Ratti	Papilionaceae	Perennial	Leaves Root	Snake bite, memory enhancer
52	*Allium cepa.*	Pyaz	Alliaceae	Biennial	Bulb	Cholera
53	*Nyctanthes arbot- tristis*	Harshingar	Oleaceae	Perennial	Leaves, Seed	Cough/cold, diabetes, wound relief, piles intestinal worms, skin diseases
54	*Vitex negundo*	Nirgundi	Lamiaceae	Annual	Leaves, Flowers	Stomach ache, muscular pain, wound, ear pain, ulcer, skin disease
55	*Achyranthes aspera*	Apamarg	Amaranthaceae	Annual	Whole plant, Root	Asthma, liver disease, scorpion sting Toothache, itching, fever, hemorrhoids, asthma, poisonous bites
56	*Boerhaavia diffusa*	Punarnava	Nyctaginaceae	Annual	Leaves, Root	Jaundice, kidney stone, stomach disorder, conjunctivitis
57	*Sida acuta*	Mahabal	Malvaceae	Annual	Leaf	Dandruff, eczema, panaris
58	*Peristrophae bicalyculata*	Masi	Acanthaceae	Annual	Root	Gout and rheumatism
59	*Croton tiglium*	Jamalgota	Euphorbiaceae	Annual	Leave	Ascites,cold, cough, asthma, dropsy, fever and skin diseases, swellings, alopacia.
60	*Ficus religiosa*	Pippal	Moraceae	Perennial	Leaves Bark, Latex, Fruits	Gonorrhoea, diarrhoea, dysentery, haemorrhoids haemorrhages, burns,
61	*Bombax ceiba*	Semal	Bambacaceae	Perennial	Bark, Flower	Labour pain and uterine disorder
62	*Cassia tora*	Chakwad	Caesalpiniaceae	Perennial	Laeves, Flower,	Skin ailments, hemorrhoids,

					Fruits, Seeds	paralysis, constipation, indigestion, worm infestation poisoning heart ailments asthma and respiratory disease
63	*Phyllanthus niruri*	Bhuiamla	Euphorbiaceae	Annual	Whole plant	Jaundice, liver disorders
64	*Terminalia chebula*	Harad or Harre	Combretaceae	Perennial	Furits, Seeds	Stomach ache and cough
65	*Adina cordifolia*	Haldu	Rubiaceae	Perennial	Stem, Bark, Buds	Rheumatism and body pain
66	*Caesalpinia bonduc*	Kantkarej or Sagar Gota	Caesalpiniaceae	Annual	Seeds	Cough and cold and skin disease
67	*Mucana pruriens*	Kiwach	Papilionaceae	Annual	LeavesRoots Seeds	Less sperm count (spermatorrhoea), early ejaculation, parkinson's disease. Snakebites
68	*Tamarindus indica*	Imli	Caesalpiniaceae	Perennial	Leaves, Flower, Bark, Fruits	Constipation, acne, sore throat, heat stroke, menorrhage, laxative
69	*Evolvulus alsinoides*	Shankhapushpi	Convolvulaceae	Annual	Whole plant	Nervous debility, insomnia, irritability, promotes deep and revitalising sleep, antiaging, cooling medicine, cuts and wounds
70	*Annona squamosa*	Sitafal	Annonaceae	Perennial	Leave, Seed, Fruit, Root	Removing lice from scalp, abortifacient, blood dysentery. invigorating, sedative to heart, antibilious, antiemetic, expectorant, ulcers,tumour to hasten suppuration. strongly astringent diarrhoea,

						dysentery. antihypertensive, antispasmodic, antihistaminic bronchodilatory properties human breast carcinoma, reduce uric acid levels.
71	*Benincasa hispida*	Kuushmaanda	Cucurbitaceae	Perennail	Leaves, Seed, Fruit	Haemorrhages, diseases of the respiratory tract, epilepsy, insanity, nervous diseases, theanthelmintic.
72	*Tinospora cordifolia*,	Guduchi or Giloy	Menispermaceae	Annual	Whole plat, Leaves, Stem	Boosts immunity, treats chronic fever, dengue, boosts digestion, diabetes, gouty arthritis, reduces aging
73	*Asparagus racemosus*	Satavar or Shatavari	Asparagaceae	Annual	Leaves, Flower, Fruits	Gastric ulcers and dyspepsia, galactogogue, nervous disorders
74	*Swertia chirata*	Chirayita	Gentianaceae	Annual	Whole plant, Laeves	Blood purify, fever, constipation, upset stomach, loss of appetite, intestinal worms, skin diseases, and cancer.
75	*Achyranthes aspera*	Chirchri	Amaranthaceae	Annual or Perennial	Whole plant, Laeves,Root, Seed	Hydrophobia, anti-inflammatory agent,Hemorrhoids, indigestion, cough, asthma, anemia, jaundice and snake bite.
76	*Butea monosperma*	Palash	Fabaceae	Perennial	Flower Seeds Leaves Stem Roots	Arthritis, dysentery, ringworm, snakebite, urine retention, blood purification, Sexual dysfunction, intestinal infection, ulcer, diabetes, discharge
77	*Caesalpinia bonduc*	Putikaranj or Kuberaksi or Kantakikarnjah	Caesalpiniaceae	Perennial	Leaves, Flowers Fruits, Bark, Seeds	Skin diseases, ulcers and leprosyCough/ cold, dysentery, diarrhea, haemorrhoids, antipyretic properties
78	*Murraya koenigii*	Kari patta	Rutaceae	Perennial	Leaves, Bark, Seed, Root	Anti-diabetic, antioxidant, antimicrobial, anti-inflammatory, anti-carcinogenic, and hepatoprotective properties, body aches. nake bite, vomiting, dysentery, gum and teeth care

79	*Macardonia procumbens*	Barmari	Scrophulariaceae	Annual	Whole plant	Dysentery and malaria
80	*Sphaerunthus indicus*	Suraj mukhi	Asteraceae	Annual	Leaves, Flower Seed	Eye pains, night blindness and asthma, Jaundice
81	*Phyllanthus niruri*	Bhuiamla	Euphorbiaceae	Annual	Whole plant	Stomach, genitourinary system, Jaundice, liver disorders
82	*Calendula officinalis*	Genda	Compositae	Annual	Leaves, Flower	Analgesic, anti-inflammatory, antispasmodic, astringent, bactericide, carminative, depurative, diuretic, emmenagogue, stomachic, styptic, and tonic, eyewash.
83	*Acorous calamus*	Bach	Acoraceae	Perennial	Root	Neuroprotective, sedative, muscle relaxantm,analgesic, anti-hypertensive, cardiac stimulant, anticonvulsan,antidepressant,detoxifier,antispasmodic,cholagogue,digestive Stimulant, anti-arthritic, anti-inflammator, antitussive, antibacterial
84	*Chlorophytum Borivilianum*	Safed musli	Asparagacea	Perennial	Root, Seed	Strengthens immunity, adaptogenic,,aphrodisiac erectogenic,antacid,anti-arthritic,anticancer,anti-inflammatory,antioxidant,anti-stress,cardioprotectiparturition. Obesity, diabetes, leucorrhea
85	*Mentha piperita*	Pudina	Lamiaceae	Perennial / Annual	Whole plant. Leaves	Allergies, common cold, indigestion and gas, irritable bowel syndrome, gastric ulcers, pain relief

Phytochemicals Found in Medicinal Plants

Phytochemicals, also known as Secondary metabolites, are natural non-essential chemical compounds found in plants. Phytochemicals are compounds that give plants their colour, flavour, and smell. These compounds are thought to be largely responsible for the medicinal properties and health benefits of medicinal herbs. These natural compounds are classified according to their chemical structure and to some extent functional properties. There are thousands of known Phytochemicals and more are discovered every year. Secondary metabolites are naturally derived metabolites and/or by-products from microorganisms, plants, or animals (Baker, *et al*, 2000). These metabolites have been explored and exploited for human use for thousands of years, and plants have been investigated as a source of compounds used for medicine. As evident, the Chinese use more than 5,000 plants and their products in their traditional medicine (Bensky, *et al*, 1993). There are several Number of Secondary Metabolites are reported in higher plants in table no.2.

Table no. 2: Secondary Metabolites and their approximate numbers is reported in higher plants.

Secondary Metabolite	Numbers
Alkaloids	21000
Amines	100
Non-protein amino acids (NPAAS)	700
Cyanogenic glycoside	60
Glycosylates	100
Alkamides	150
Lectins,peptides,polypeptide	2000
Monoterpenes including iridoids	2500
Sesquiterpenes	5000
Diterpenes	2500
Triterpenes, steroids, saponins	5000
Tetraterpenes	500
Flavonoids, tannins	5000
Phenylpropanoids, lignin, coumarins, lignans	2000
Polyacetylenes, fatty acid, waxes	1500
Anthraquinones and othes polyketides	750
Carbohydrates, organic acids	200

CONCLUSION

Bihar has rich diversity of medicinal plants. The supply base of 90% herbal raw drugs is used in traditional medicine system. Conservation and sustainable use of medicinal plants is a need of today life. As estimated by the WHO (2002) on primary health care of over 80% of the

world's population still depends on plant based traditional medicines (Farnsworth, *et al*, 1991),(Pei,2002).

Nowadays, herbal remedies and their safer products are being preferred by society for the treatment, due to rare chances of side effects. Therefore, demand of medicinal plants is increasing day by day. Traditional medicine is playing a vital role, especially in rural areas though the demand of traditional medicines is increasing worldwide and shall play a major role in the future as well.

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