CHAPTER- V
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Medicinal plants are known for decades as essential resources to human health and well being. The traditional cultural use of plant prescriptions and their protective and therapeutic importance is most likely related to low cost, easy access, limited side effects and the folk relationship with it. Limited number of studies in this field in India and to the fact that published data does not reflect actual status of the traditional use of these plants. Thus the present study was planned to evaluate the traditional use of medicinal plants in Bilaspur, Jashpur and Kanker district of Chhattisgarh state emphasizing ethno-botanic studies status of traditional herbal medicine in the tribal communities of these areas.

The tribals have a great faith in herbal medicine. They believe in plants to cure many illnesses of organism. The “Baigas” or traditional healers have very close interaction with these medicinal plants and they are experts in identifying the plants. They usually collect, prepare and prescribe the medicine. They do not prepare and keep the medicine earlier but only go in search of medicinal plants from dawn to dusk from place to place and prepare fresh medicine as per diagnosis of the disease. Most of the time, they know where the plants can be found. The people especially the tribals cover distant miles on foot to consult a medicine men / women. The practicing medicine men have proved that many illnesses which allopathy medicine couldn’t cure can be cured by herbal medicines. Hawver it is time consuming and the duration is longer with very strict diet. Many non-tribals also approach medicine men to treat their ailments of course the herbal medicines are not restricted to tribals alone.
Among the respondents, 83.2% were male and 16.8% were female. Schedule tribes were dominant ethnic groups of the sites and they represented about 62.4% of the sample respondents. Of the rest, about 37.6% were from other ethnic groups and schedule castes. A total of 38.4% of the traditional healers were in young aged group, whereas 49.6% of the traditional healers were in middle-aged group and 12% of the traditional healers were in old aged group, respectively. The respondents’ age group ranged from 20-80 but most of the respondents were from 40-59 age groups it indicated that relatively aged traditional healers were involved with the Vaidhyas profession.

The result show that 110 plants species were still in use in traditional herbal medicine in studied area (Bilaspur, Jashpur and Kanker District). Out of them, 82 plants were selected for further analysis on the basis of three or more informants. A total of 82 plant species were distributed over 75 genera and 44 families were reported by the 125 informants. All the reported species grew naturally in the area, reflecting the social importance of the local floristic resources. Most of the identified plants were herbs (34 spp.), trees (20 spp.), shrubs (16 spp) and climbers (12 spp). The best represented families were: Liliaceae (7 genera, 7 species), Fabaceae (6 genera, 6 species), Caesalpiniaceae (3 genera, 5 species).

Different parts of medicinal plants were used as medicine by the local traditional healers. Among the different plant parts, the root and rhizome were most frequently used for the treatment of diseases followed by leaves, whole plant parts, barks, seeds, fruits, flowers, latex and stems. For the purposes to treat the diseases, various forms of preparation are used. The most popular medicinal preparations are in powder (28%), juice (26%), paste (24%), decoction (18%), and other methods (Burnt
Smoked /Chewed) (4%). The remedies were administered orally or used externally according to the disease and preparation method.

It was observed that most of the remedies consist of single plant part and more than one method of preparation. However, many of the remedies consist of different parts of the same plant species to treat single or more diseases. For example, *Andrographis paniculata* – leaf paste is used to treat poison bites and whole plants juice is used to treat malaria (Panghal *et al*., 2010); *Gymnema sylvestre* – root paste is used to treat poison bites, root juice is used to milk secretion, leaf powder is used to treat diabetes and leaf juice is used to piles and fever; *Azadirachta indica* – leaf paste is used to treat chicken pox and skin diseases, powdered leaf is used against tuberculosis and and young twigs and bark are used as toothache, cough and cold, fever and malaria (Chellaiah *et al*., 2006; Rahman *et al*., 2008; Ahmed, 2007); *Achyranthes aspera* – The root part are multipurpose uses to treat different diseases like itching, fever, cough and cold, abscess, pyorrhea, mouth-blisters, toothache and indigestion, root paste is applied on the wound and leaves are used to treat asthma and poisonous bites (Chellaiah *et al*., 2006); *Ficus benghalensis* – stem latex is used to treat heel cracks, pain and weakness and young twigs and bark are used to cure toothache and diabetes (Gayathri and Kannabiran, 2009; Patil and Patil, 2010; Shukla *et al*., 2004; Taur *et al*., 2007); *Mimusops elengi* – seeds powder is used to reduce weakness and to treat diarrhea and leaves are used to cool eyes wound, constipation and toothache; *Mucuna pruriens* – powdered seed are used to get relief from body weakness, fever, worm infection and decoction of the leaves is used to treat diabetes; *Ocimum americanum* – juice extracted from the leaf is used to reduce body heat (malaria), skin diseases and unripened fruits are used to treat piles and cough-cold and flower parts are used against dog bites (Ayyanar and Ignacimuthu, 2005); *Syzygium
**Cumini** – seeds are ground to make powder. The powder is taken 3 times daily to treat diabetes (Hussain et al., 2008; Brito et al., 2007). The leaves paste is applied to wounds caused due to burning and the bark part is used to were diarrhea and asthma; **Terminalia bellerica** – The decoction of barks used to treat abdominal pain, vomiting, ulcer and diarrhea and extract two tsp juice from leaves are used to treat fever and fruits part used are treat to heart ailments (Grover et al. 2002); **Tinospora cordifolia** – The root part are used to treat tuberculosis and anemia, leaf paste is applied topically to treat wounds and leaf powder is used to treat stomach trouble (Kumar and Prathapasenan, 2003); **Withania somnifera** – leaves are boiled in mustard oil, oil is then filtered and used as an ear drop, leaf part are used to rheumatism and ulcer, powder of young root along with milk are used to restore fertility and weakness (Singh et al., 2003).

Moreover a single plant is used for more than one disease. For example, **Achyranthes aspera** (easy delivery, pneumonia, tuberculosis, itching, fever, cough & cold, abscess, pyorrhea, mouth-blisters, toothache, indigestion, cut & wound, asthma, scorpion bite, snake bite)(Binita and Gupta, 2004); **Aegle marmelos** (sunstroke, ulcer, fever, jaundice, intestinal worms, diabetes, wounds, eye diseases, diarrhea); **Abrus precatorius** (fever, menstrual disorders, diabetes, asthma, skin diseases, snake bite, scorpion bite); **Acorus calamus** (cough & cold, children for clarity of speech, asthma, menstrual disorders, throat problem, epilepsy, weakness) (Parinitha et al., 2004); **Azadirachta indica** (cough & cold, toothache, malaria, fever, tuberculosis, chicken-pox, skin diseases); **Boerhaavia diffusa** (dog bite, jaundice, stomach disorder, swelling, headache, cough, jaundice) (Lami et al., 1991; Misra and Tewari, 1971); **Gymnema sylvestre** (piles, fever, diabetes, milk secretion, snake-bite, scorpion stings); **Ocimum americanum** (piles, dog bite, cough and cold, skin disease, malaria,
burns/cuts/ wounds); *Solanum nigrum* (cough, weakness, swelling-, skin disease, asthma, arthritis); *Terminalia bellirica* (abdominal pain / vomiting, ulcer, diarrhea, heart ailments, cough & cold, fever); *Withania somniferan* (ear pain, ulcer, rheumatism, weakness, restore fertility, skin disease); *Zingiber officinale* (jaundice, cold, indigestion, diarrhea, skin diseases, blood pressure) (Tag and Das, 2004; Lalla *et al.*, 2004; Samvatsar and Diwanji, 2004).

*Asparagus racemosus* (weakness, menstrual disorder, tuberculosis, easy delivery, stomach-ache) *Butea monosperma* (contraception, leucorrhoea, indigestion, gonorrhoea, fracture); *Cassia occidentalis* (snake bites, rheumatism, eczema, fractures, piles) (Ramasankar, 2005); *Cassia tora* (diabetes, ring worm, easy delivery, malaria, blood pressure); *Curcuma caesia* (cough & cold, fever, skin diseases, ring worms, jaundice); *Cuscuta reflexa* (diabetes, fracture, ring worms, malaria, anti fertility); *Datura metel* (leprosy, menstrual disorder, earache, asthma, arthritis) (Acharya and Rokaya, 2005); *Ficus bengalensis* (pain, fracture, weakness, diabetes, toothache); *Hemidesmus indicus* (scabies/ring worm, dog bite, snake bite, urinary disorders, milk secretion); *Mimusops elengi* (weakness, diarrhea, wound, constipation, toothache); *Terminalia chebula* (indigestion, scabies, throat infection, cough, bleeding gums); *Tinospora cordifolia* (indigestion, scabies, throat infection, cough, bleeding gums); *Zanthoxylum alatum* (ulcers, diarrhea, intestinal worms, wound, indigestion); *Abutilon indicum* (diarrhea, piles, dental problems, fever) (Vandana *et al.*, 1997); *Aloe vera* (arthritis, diabetes, easy delivery-, burns & wounds). Similar findings have been reported in Ethiopia (Flatie *et al.*, 2009). Pharmacological studies supported this believe (Chow *et al.*, 2005). However, the same study reported that combining some drugs could have antagonistic effects. *Andrographis paniculata* (malaria, snake bite, scorpion. bite, diabetes); *Celastrus Paniculatus* (rheumatism, diarrhea, leprosy, piles);
Crinum latifolium (boils, blood pressure, rheumatism, weakness); Curcuma aromatica (cancer, wound, indigestion, cough & cold.); Ficus racemosa (weakness, piles, jaundice, diarrhea) (Chetty et al. 2006); Mucuna pruriens (weakness, worm infection, fever, diabetes); Rauwolfia serpentina (snake bite, menstrual disorder, blood pressure, epilepsy); Sphaeranthus indicus (skin diseases, piles, weakness, jaundice); Syzygium cumini (diabetes, wounds, diarrhea, asthma) (Shukla et al., 2008), Terminalia arjuna (diabetes, wounds, headache, malaria.); Vitex negundo (menstrual disorders, headache, cough & cold, fever); Acacia catechu (cancer, cough and cold, diarrhea); Adhaatosa vasika (Tuberculosis, Fever, Asthma); Anacyclus pyrethrum (toothache, diarrhea, weakness)(Indayan et al., 2009); Argemone mexicana (sunstroke, regulating fertility, cough & cold.); Bauhinia variegata (diarrhea, cough, tuberculosis); Bixa orellana (burn treatment, diarrhea, epilepsy); Cassia fistula (constipation, gonorrhoea, rheumatism); Chenopodium album (constipation, piles, skin disorder) (Rizvi et al., 2009; Ahmed, 2007); Citrullus lanatus (jaundice, sunstroke, tuberculosis); Clerodendrum serratum (stomach disorder, rheumatism, asthma.); Commiphora mukul (asthma, epilepsy, diabetes.); Curculigo orchioides (weakness, nose bleeding, diarrhea); Cyperus rotundus (arthritis, scorpion bite, milk secretion); Emblica officinalis (diabetes, indigestion, cough and cold); Emilia sonchifolia (indigestion, respiratory troubles, stomach complaints); Jatropha curcas (rheumatism, menstrual disorder, toothache) (Vijendra and Kumar, 2010); Madhuca indica (indigestion, skin disease, diabetes); Piper nigrum (throat problem, cough & cold, asthma.); Plumbago zeylanica (arthritis, skin diseases, anemia); Pongamia pinnata (weakness, indigestion, piles); Xanthium strumarium (tooth ache, indigestion, memory) (Marwat et al. 2011).
Bacopa monnieri (constipation, fever); Barleria prionitis (toothache, wounds); Catharanthus roseus (diabetes, high blood pressure); Centella asiatica (fever, snake-bite) (Shukla and Chakravarty, 2010); Chlorophytum tuberosum (weakness, diabetes); Cissus quadrangularis (fracture, indigestion); Cleome viscosa (tuberculosis, wound); Clitoria ternatea (indigestion, headache); Coleus ambionicus (stones, indigestion); Costus speciosus (headache, weakness); Euphorbia hirta (milk secretion, wounds); Ficus religiosa (weakness, body pain); Gloriosa superba (leprosy, small-pox) (Sankaranarayanan et al., 2010); Murraya koenigii (scorpion bite, diabetes) (Dahare and Jain, 2010); Pueraria tuberose (snake bite, weakness); Basella alba (mouth blisters); Bryophyllum pinnatum (fracture); Lawsonia inermis (bleeding gums); Mentha arvensis (indigestion); Saraca asoca (menstrual disorder); Smilax Zeylanica (blood pressure); Strychnos potatorum (constipation); Swertia angustifolia (diabetes) (Das et al., 2010; Ahirwar, 2010; Ribeiro et al., 2010).

Several studies have enumerated that plants are used for wound healing and skin diseases in various parts of the world (Saikia et al., 2006; Chah et al., 2006; Harsha et al., 2003). About 24 remedies were used to alleviate problems of the respiratory system such as cold, cough and asthma. Most of the plants of Lamiaceae were used to treat cold, cough, fever, headache and asthma (Ghorbani, 2005). The tribal people of western Madhya Pradesh of India use 13 plants for the treatment of jaundice (Samvatsar and Diwanji, 2000). Various studies have reported on indigenous use of medicinal plants in treatment of oral diseases (Hebbar et al., 2004; Tapsoba and Deschamps, 2006). Andrographis paniculata, Catharanthus roseus and Gymnema sylvestre were used to treat diabetes by the local traditional healers. (Chherti et al., 2005) reported that the tribal people of Sikkim and Darjeeling
Himalayan region in India utilized 37 species of plants belonging to 28 different families as antidiabetic agents.

The use of medicinal plants across cultures and wider geographic regions has been discussed as prove validating their medicinal properties (Lelukal et al., 2008). The chemical composition of some of the plants reported in this study has been scientifically studied.

The number of medicinal plants and their potential applications reflect the rich ethnomedicinal knowledge in the tribal community. Similar potentialities were found in other states of India like Haryana (Panghal et al., 2009), Tamil Nadu (Duraipandiyan et al., 2006), West Bengal (Chakraborty and Bhattacharjee, 2005), Sikkim (Maity et al., 2004), Orissa (Sahu et al., 2010), Gujarat (Gavali and Sharma, 2010), Madhya Pradesh (Dahare and Jain, 2010; Dwiedi, 1999; Dwivedi, 2008), Uttar Pradesh, (Ahmad et al., 2010), Himanchal Pradesh (Kumar and Paul, 2010), Jharkhand (Vidhyarthi and Gupta, 2004), other countries in like and as well as Cameroon (Simbo et al., 2010), Ethiopia (Mesfin et al., 2009; Bekalo et al., 2009; Giday et al., 2010), Nepal (DPR, 2001.; Edwards, 1996; Ara and Williams, 1979; Ghimire et al. ), Pakistan (Shinwari and Khan, 2000; Elisabetsky, 1990), and Bangladesh (Uniyal et al., 2006; Yusuf et al., 1994; Mukul et al., 2007), Certainly, there is a lot more knowledge to exploit on the topic in Mozambique.

In every ethnic group, there exists a traditional health care system, which is culturally patterned. In rural communities health care seems to be the first and foremost line of defense. The WHO has already recognized the contribution of traditional health care in tribal communities. I had collected 82 plant species from different sites of Bilaspur, Jashpur and Kanker district. All the species contain
valuable bio-chemical substances and are useful to cure various human ailments (Sharma and Tiwari, 2009). The use of some of the plants reported here and also mention for similar purpose by other works of the country (Mishra and Broker, 2009). Earlier worker were carried out studies on ethno botanical and medicinal aspects of plants by (Sinha, 1998; Dwiedi, 1999; Vidhyarthy and Gupta; 2004; Chakrabarty and Bhattacharjee, 2005; Dwivedi, 2008; Sharma, 2009; Shukla and Chakravarty, 2010) but detailed phytochemical screenings of medicinal herbs are required. It is very essential to have a proper documentation of medicinal plants and to know their potential for the improvement of health and hygiene through an eco friendly system. Thus, importance should be given to the potentiality of ethno medicinal studies as these can provide a very effective strategy for the discovery of useful medicinally active identity. A detailed and systemic study is required for identification cataloging and documentation of plants, which may provide a meaningful way for the promotion of the traditional knowledge of herbal medicinal plants. The present study revealed that Jashpur, Kanker and some sites of Bilaspur district is rich in herbal medicine with diversified ethnobotanical values. The data and information presented in table 4.6, clearly showed that there is a wide variety of plants for common ailments and diseases. However, different types of strategies are required to adopt such as in-situ conservation, ex-situ conservation and traditional conservation to conserve the plants which are vulnerable and endangered (Dwivedi et al., 2000).

The folk uses identified moderate affinity with Ayurvedic traditions with 50% of species surveyed sharing at least one common use. This illustrates that the home herbal remedies are an independent health care system of Nepal Himalaya, which are indigenous but influenced by the Ayurvedic system. However, the folk uses of the
plant species in study area are being changed through perception and social transformation.

There are forty-seven medicinal plants found as ethno anti diabetic drugs worldwide (Marles & Farnsworth, 1995). Among them, *Syzygium cumini* is used in six countries, *Phyllanthus emblica* in four countries and *Juglans regia* in three countries (Peter et al., 1996).

As a matter of fact, many medicinal plants having other uses may lead to their over exploitation, threatening their continuous survival in the area. Not many medicinal plants were cultivated solely for their medicinal values. This is because most people prefer to cultivate food or cash crops rather than medicinal plants since most medicinal plants are either not sold or sold at very low prices and therefore not profitable, providing very little incentives for their cultivation.

Some exotic species do not have names in the local language and were called by their English names. This is because these are recently introduced species in the area. In some cases, the names of plants in the local language were descriptive of some character of the plant; *S. filicaulis* called *nyantanyui* literally translating to God’s pepper because of its pepper-like taste of flowers.

Most young people are not interested in traditional medical practice because it is less profitable as compared to growing cash crops. The influence of western culture, rural-urban migration in search for better education and job opportunities and the commonly held view by young people that traditional medicine is superstitious and something for the poor and uneducated may result to a loss of this rich and useful knowledge which has accumulated over several generations.
In rural communities, health care seems to be the first and foremost line of defense. The WHO has already recognized the contribution of traditional health care in tribal communities. In the present investigation author has collected 82 plant species from different study sites. These species contain valuable chemical substances and are useful to cure various human ailments. During the course of present investigation attempt had been made to flourish the status and conservation strategies of the plant species. Among 82 plant species, it was found that 19 species are endangered, 03 species are vulnerable, 03 species are near threatened, 01 species are low risk least concern, and rest are rare and common in occurrence in the study area and the method are mentioned by the ethnic group to conserve these plant species. Moreover, the detailed phytochemical screenings of medicinal herbs are required. It is very essential to have a proper documentation of medicinal plants and to know their potential for the improvement of health and hygiene through an eco friendly system. Thus, importance should be given to the potentiality of ethno medicinal studies as these can provide a very effective strategy for the discovery of useful medicinally active identity. A detailed and systematic study is required for identification, cataloguing and documentation of plants, which may provide a meaningful way for the promotion of the traditional knowledge of the herbal medicinal plants.

According to the World Health organization (WHO), more than 80% of the worlds population relies on traditional medicines for their primary health care needs. The medicinal value of plants lies in some chemical substances that produce a definite physiologic action on the human body. The most important of these bioactive compounds of plants are alkaloids, flavonoids, tannins and phenolic compounds. The phytochemical research based on ethno-pharmacological information is generally
considered an effective approach in the discovery of new anti-infective agents from higher plants (Duraipandiyan et al., 2006).

Knowledge of the chemical constituents of plants is desirable, for discovery of therapeutic agent, because such information may be of value in disclosing new sources of economic materials such as tannins, oils, gums, precursors for the synthesis of complex chemical substances. In addition, the knowledge of the chemical constituents of plants would further be valuable in discovering the actual value of folkloric remedies (Mojab et al., 2003). Chemical constituents may be therapeutically active or inactive. The one is active is called active constituents and the inactive one is called inert chemical constituents (Iyengar, 1995).