Introduction

The world health organization (WHO) has recently recognized the importance of traditional medicinal system in different parts of globe and around 4000 plant spp. have been identified which are used in traditional herbal medicinal system (Cotton, 1996). However, proper identification of these crude drugs in Botanical terms has not been carried out or still remains disputed as different authors ascribed different plants source to various crude drugs (Sanghi and Kumar, 2000). Moreover several difficult diseases have problem related with vitality, diabetes, memory loss, could be cured effectively by use of herbal medicine, which is generally not possible by the Allopathic medicines. However, there is no systematic documentation of this information. Medicinal plants are distributed across diverse habitats and landscape. Around 70 per cent of India’s medicinal plants are found in tropical areas. Mostly in the various forest types spread across the Western and Eastern ghats, the Vindyas, Chota Nagpur Plateau, Aravallis and Himalayas.

Although less than 30 per cent of the medicinal plants are found in the temperate and alpine areas and higher altitudes they include species of high medicinal value. Previous studies showed that a larger percentage of the known medicinal plants occur in the dry and moist deciduous
vegetation as compared to the evergreen or temperate habitats (Jhakar et al., 2004). One third is tree and an equal portion includes shrubs, and the remaining one third are herbs, grasses and climbers.

Traditional medicine is an important aspect of human health care. It comprises knowledge, practices and experiences that have been passed on through generations. Herbal remedies are becoming more popular for the treatment of minor ailments; they are also gaining popularity due to increasing cost of health care based on allopathic system of medicine. India has a rich plant diversity comprising 45,000 plant species and also has about 550 tribal communities, which are interwoven with each other. Such ethnic groups have been mentioned in the ‘Dictionary of Indian Folk Medicine and Ethno botany’ (Jain, 1991).

Medicinal plants provide an efficient local aid for disease free life. The importance of ethnomedicine has been realized by various sections of the society and the need to use herbal medicines in health care programmes is being stressed upon (Singh, 1998). Traditional ethnomedicinal studies have in recent years, received much attention due to their wide local acceptability and clues for new or lesser-known medicinal plants (Tripathi, 2000). Since pre-historic times man has used
plants to cure bodily disorders and hereby kept his health in perfect state of fitness and lived a long life. Due to after-effects of synthetic drugs, people are increasingly becoming inclined towards the traditional medicines. Ethnobotanical explorations play a vital role in bringing to light information about such plant species of our rich flora that can be sources of safer and cheaper potent drugs for the benefit of mankind. In a country like India, according to recent estimates, 70 percent of inhabitants still rely on herbs. Our Nation witnesses 2,500 species of plants from about 1000 genera which are used by traditional healers (Chandal, 1996).

Rajasthan has a large population of about 6,85,48,437 crore (Directorate of census operations Rajasthan, 2011). Around 80 percent live in villages which utilize local medicine. The state of Rajasthan is situated between 23°3’ and 30°12’ N latitude and 69°30’ and 78°17’ E longitude. The total land area of the state is about 3,24,239 km², out of which about 1,98,100 km² is arid and the rest semi arid. The physical features are characterized mainly by the Aravallis and to the some extent by the vindhyan formation, and the Deccan trap. A major portion of western Rajasthan has desert soils and sandy plain. Sand dunes occupy a greater part of western Rajasthan (1,20, 983 km²). The soils of the desert plains are loamy sand to loam and the eastern part has alluvial soil which
supports good forests and agricultural crop. Occurrence of saline soils with pH up to 9.0 is a common feature in the sandy areas of Rajasthan. The average annual rainfall in the state is 525-675 mm, and the annual precipitation in different tracts of Rajasthan varies from 13 mm to 1766 mm. Out of the total area, forests cover only about 37,638 km² and are rich in biodiversity. Rajasthan is rich in biodiversity which has a great economic value. Out of the total land area of Rajasthan, forest covers only about 37,638 km², i.e. 11 %. This forest includes roughly 7 % of depleted and denuded forests. Biodiversity of Rajasthan is related with the Aravalli hills. *Anogeissus pendula* Edgew. forests cover more than half of the total forest area in the state. These forests occur on a variety of rock formations. Conservation of medicinal plants is receiving increased attention in view of resurgence of interest in herbal medicines for healthcare all across the globe. Significant research has been done by several workers in Rajasthan. However, no work has been done in Jhalana Area. The present work records the plants of ethnomedicinal significance occurring in the Jaipur region of Rajasthan which may be used in future as plant resources for modern system of medicine.
METHODOLOGY

For the purpose of collection and documentation of ethno medicinal plants of Jhalana Hills (Jaipur), several field surveys were conducted. The method of collection of vouchers specimens, their preservation in Herbaria and technique for the collection of ethno medicinal information was followed as recommended by scientist (Rao, 1989). During field trips information’s were collected on the basis of personal interviews with traditional healers, village head, knowledgeable person and old women of society. The collected plant specimens were identified with the help of taxonomic literature and floras (Jain and Rao, 1977).

The collected information was cross-checked with Ayurvedic practitioners and available literature (Bhandari, 1978). The collected specimens were identified with the help of available literature (Shetty and Singh, 1993; Jain and Jain, 2012). The herbarium specimens were deposited in the Department of Botany, University of Rajasthan, Jaipur.

Result and Observation

The present research work is based on the indigenous knowledge of most commonly used medicinal plant of Jhalana Hills. Each medicinal plant species is provided with its scientific name, local name,
chromosome number (general information gathered from literature), parts (such as leaves, seeds, fruits, roots, etc.) mostly used and uses.

These plant species through different mode of preparation are used to heal external burns, abrasions and wounds, orally taken to cure respiratory diseases, diabetes, skin disorders, and also used as diuretic, antipyretics, anti-inflammatory, antiseptic.

In essence, the ethnomedicinal knowledge about the biodiversity reflects many generations of experience and problem solving by the indigenous communities. It represents an immensely valuable database that provides the baseline information for the commercial exploitation of bioresources. Also the information could be useful for the industry, pharmacologists, physicians, phytochemists, botanists, and alike interested in the development of alternative therapies (Gilani and Atta-Ur-Rahman, 2005; Mukherjee and Wahile, 2006).

The result obtained in the investigation need to be rigorously subjected to pharmachemical analysis in order to validate their authenticity and future prospects.
Enumeration

The plants are arranged binomial arranged alphabetically followed by name of the family and local names (Plate). The folk uses are described with details of part(s) used and duration of medication.

Ethnomedicinal uses of the plants by the tribals of Jhalana region, Jaipur:

1. *Abrus precatorius* L.

   Family: Papilionaceae

   Local Name: Chirmi

   Use: Seed powder is given to cattle in case of constipation

2. *Acacia catechu* Willd

   Family: Mimosaceae

   Local Name: Babool Katha

   Use: The paste of the bark is applied locally in stomatis. The exudates of the plant are given orally in case of difficult child birth.

3. *Acacia farnesiana* (Linn)

   Family: Mimosaceae

   Local Name: Guh baboool
Uses: The paste of the leaves is taken orally in case of inflammation and reddening of the eyes.

4. *Acacia nilotica* (L.) Willd.

Family: Mimosaceae

Local Name: Babool

Use: Bark paste is applied for healing wounds; leaf paste is applied on cuts and wounds

5. *Adansonia digitata*

Family: Bombaceae

Local Name: Kalpvraksh, Mansapuran, Kharsan

Use: Pulp of fruit is a very rich source of tartaric acid. so it is preferable in vegetables directly and acid alkali balance can be maintained in body.

6. *Adhatoda vasica*

Family: Acanthaceae;

Local Name: Ardu, Adusa

Use: The leaf sap contains very important alkaloid (vacanine). It is very efficient medicine in coughing by doing gargle with the solution made by boiling of leaves.
7. *Aegle Marmelos* Linn.

Family: Rutaceae

Local Name: Bel

Use: The reputed medicinal properties of ripe fruits for curing chronic dysentery, habitual constipation and dyspepsia are widely known to the tribal communities.


Family: Alangiaceae

Local Name: Ankol

Use: Root bark infusion administered orally in small doses causes transient fall in blood pressure, depresses heart

9. *Aloe vera* Mill

Family: Liliaceae

Local Name: Gawarpaltra

Use: The herbal extract of Aloe vera has remarkable healing effects on dead epithelial cells of human skins damaged by solar radiations.


Family: Meliaceae
Local Name: Neem

Use: Decoction of leaves is used to wash affected eyes thrice a day for treating conjunctivitis till cured and juvenile leaves sap 2-2 tbsp consumption directly is very effective for blood purification.

11. *Boerrhavia diffusa* Linn

Family: Nyctaginaceae

Local Name: Shothagni

Use: The leaves are consumed as vegetable in cases of kidney stones. The root paste is taken orally to cure jaundice.


Family: Asclepiadaceae

Local Name: Aak

Use: Fresh flowers are taken orally as anti-venom against snake bite. The leaf ash is used to cure cough and cold.

13. *Cassia fistula* Linn

Family: Caesalpiniaceae

Local Name: Amaltas

Use: It is used for the treatment of constipation and as anti-helminthes.
14. *Datura innoxia* Mill

Family: Solanaceae

Local Name: Safed dhatura

Use: Tribals smoke the seeds and leaves to cure asthma.

15. *Euphorbia hirta* L.

Family: Euphorbiaceae

Local Name: Dudhi

Uses: Root paste mixed with honey is given to nursing mothers for initiation or to increase lactation. Leaf decoction is given in asthma, cough, bronchitis, eczema and stomach pain.

16. *Ficus benghalensis* Linn

Local Name:

Family: Moraceae

Uses: Leaf extract is taken orally in Diarrhoea. Few drops of the latex taken orally are used to overcome sexual impotency.

17. *Ficus racemosa*

Family: Moraceae

Local Name: Gular
Ethnomedicinal Plants of Jhalana Hills

Use: The leaves are used as mouth wash to spongy gums and in glandular swelling.

18. *Jatropha curcas* Linn.

Family: Euphorbiaceae

Local Name: Ratanjot

Use: The seed oil and seeds as such are used as a purgative by the tribals.

19. *Leptadenia reticulata*

Family: Asclepiadaceae

Local Name: Jivanti

Use: The leaf, root as well as the whole plant are used in medicinal preparations. The bark of the plant is also used to stimulate heat levels in the body.

20. *Maytenus emarginata* (Willd.) Ding Hau

Family: Celastraceae

Local name: Kankero.

Uses: The leaves burnt and mixed with ghee form an ointment used to heal sores. Leaf juice is taken for treating jaundice and other liver disorders. Paste of leaves is anti-inflammatory. The fruits are sweet,
digestible, cooling and blood purifying. They are used to treat ulcers, piles and corneal opacities.

21. *Moringa oleifera* Lamk

Family: Moringaceae

Local Name: Sanjna, Hargua, Sargua

Use: The fresh roots and stem bark are crushed with little water and the paste is applied to the joints for relief in swellings, tumour and in rheumatic pain.

22. *Grewia tenax* (Forsk.) Fiori.

Family: Tiliaceae

Local name: Gangren.

Uses: Decoction of the wood is used as a remedy against cough and muscular pain. Decoction of the fruit is used to cure asthma, cough and urinary problems.

23. *Pedalium murex* L.

Family: Pedaliaceae

Local Name: Dhakhni-Gokhru
Use: Whole plant extract is used as a tonic for health and vigour. Laddus (a type of sweetmeat) prepared from the seeds are given to patients suffering from joint pain & backache and also given for better health.


Family: Portulacaceae

Local Name: Luni

Use: They rub the plant sap on the body during scorching heat of summers for relief in blisters and boils. The seeds are used as vermifuge. It has refrigerant properties and effective in scurvy and liver diseases.


Family: Lamiaceae

Local Name: Tulsi

Use: The inflorescence powder is taken orally with water as a medicine for diabetes.

26. *Rauwolfia serpentine*

Family: Apocynaceae

Local Name: Sarpgandha
Use: Leaves of the plant is used in treating high BP, lack of sleep (insomnia) etc.

27. *Solanum nigrum* Linn

Familly: Solanaceae

Local Name: Mokoi

Use: The leaf extract is taken orally to cure whooping cough.

28. *Tecomella undulate*

Family: Bignoniaceae

Local Name: Roheda

Uses: Root powder mixed with sugar is given to ladies in Leucorrhoea. Bark paste is applied to cure eczema and eruptions.

29. *Tridex procumbens* Linn

Family: Asteraceae

Local Name: Barahmasi

Use: The leaf juice is dropped locally on wounds and cuts to stop bleeding.

30. *Tylophora indica* Merrill (Burm.f.)

Family: Asclepiadaceae
Local Name: Antamul

Use: Leaves of the plant is used in asthma.


Family: Solanaceae

Local Name: Ashwagandha

Use: Roots are used in several ailments by the traditional folk healers

32. *Zizyphus numularia*

Family: Rhamnaceae

Local Name: Jhadbair

Use: The leaves are used in various skin diseases treatment.