REVIEW OF LITERATURE

India has vast ethnobotanical knowledge from ancient time. Rigveda, Charak Samhita, Sushrut Samhita and Ayurveda are the old Indian literature, having very much knowledge of plants as medicines.

The first individual to study the emic perspective of the plant world was a German physician working in Sarajevo at the end of 19th century: Leopold Glueck. His published work on traditional medical uses of plants done by rural people in Bosnia (1986) has to be considered the first modern ethnobotanical work (Choudhary et al. 2008).

Organised field work and other studies on ethnobotany were initiated in the BSI (Botanical Survey of India) by Dr. E.K. Janaki Aromal. She worked on some food plants of certain tribals of South India. Dr. S.K. Jain, known as father of Indian Ethnobotany started intensive field work among the tribals of Central India. He devised methodology for ethnobotany particularly in the Indian context.

Workers from all over India have contributed their work in the field of medicinal plant conservation and indigenous knowledge.

Nath et al. (1968) describes role of important herbs mentioned in Ayurveda and used by the ethnic tribes of Madhya Pradesh. Study of medicinal plants of Ghatigaon Forest in Gwalior division was carried out by Bhatnagar et al. (1973).

Shrivastava (1985) reported the ethnomedicines of Bhils of Madhya Pradesh. Oommachan et al. (1989 & 1990) has contributed their work in the documentation of ethnomedical flora of Pachmarhi and few forests in Madhya Pradesh.

Pandey et al. (1991) reported the indigenous knowledge of Baiga tribes of Mandla district (M.P.) Sharma et al. (1992) reported folklore medicinal plants of Mewat (Gurgaon district, Haryana). Traditional phytotherapy among the tribe Baiga of Shahdol district (M.P.) has been reported by Verma et al. (1995). The folk medicines of Gond tribe of Seoni District (M.P.) has been studied by Rai and Pandey (1997). Samvatsar and Diwanji (2000) have reported the medicinal plants and their uses in the Western Madhya Pradesh.
Yadav et al. (2003) reported Folk medicinal uses of some indigenous plants among the people of Mahendergarh district, Haryana. Acharya (2004) reported medicinal plants for curing common ailments in India. Floristic and Ethnobotanical study of Angiosperms of Keshod, Mendarda and Vanthly talukas of Junagadh district, Gujarat has been studied by Chavda (2006). Ethnobotany, alternative medicine and conservation of Indian medicinal plants has been studied by Acharya and Shrivastava (2007). Use of medicinal plants among tribes in Satpuda region of Dhule and Jalgaon districts of Maharashtra – An ethnobotanical survey has been studied by Jain et al. (2010). They concluded that the role of herbal medicine for the treatment of various diseases and disorders among the tribes is crucial. Tribes used many different forest plant, weeds, flowers, seeds and bark in their traditional treatment.

Zibbu and Batra (2010) studied Chemistry and Pharmacological activity of *Nerium Oleander*. According to him the pharmacological activities of this species are anti-inflammatory, antibacterial, anticancer, analgesic and CNS depressant activity. The leaves and the flowers of this species has cardiotonic, diaphoretic, diuretic, anticancer, antibacterial, antifungal and expectorant properties. A decoction of the leaves has been used in the treatment of scabies and to reduce swelling. The flowers, leaves, leaf juice or latex, bark and roots have been used against corns, warts, cancerous ulcers, carcinoma or hard tumors.

Kumar et al. (2010) reported *Allium cepa*: A traditional medicinal herb and its health benefits. According to him the bulb is anthelmintic, anti-inflammatory, antiseptic, antispasmodic, carminative, diuretic, febrifuge, expectorant, hypoglycaemic and tonic. When used regularly in the diet it offsets tendencies towards angina, arteriosclerosis and heart attack.

Miguel et al. (2010) wrote a short review article on Pomegranate (*Punica granatum*): A medicinal plant with myriad biological properties. They reported antimicrobial, antioxidant, anticancer, anti-inflammatory properties of extracts obtained from several parts of this plant. A Phytopharmacological review article on *Lawsonia inermis* has been written by Chaudhary et al. (2010). They reported that this plant have analgesic, hypoglycemic, hepatoprotective, immunostimulant, antiinflammatory,
antibacterial, antimicrobial, antifungal, antiviral, antiparasitic, antioxidant and anticancer properties.

A review article on *Cyperus rotundus* – A potential herb has been written by Meena et al. (2010). They reported that rhizomes of this plant are used as traditional folk medicines for the treatment of stomach, bowel disorders and inflammatory diseases. This plant contains essential oils, terpenes, flavonoids and ascorbic acid.

Ethnobotanical and pharmaceutical evaluation of *Capparis spinosa*, Validity of local folk and Unani system of medicine studied by Sher and Alyemeni (2010). They reported that this species is a multipurpose plant and used for the curing of various human ailments including gastrointestinal problems, inflammation, anemia, rheumatism, antispasmodic, analgesic, anthelmintic, diuretic, expectorant and general body tonic in indigenous, Ayurvedic, Chinese and Unani system of medicines.

An account of Kair (*Capparis decidua*) was given by Singh and Singh (2011). They reported that this plant is a potential ethnobotanical weather predictor and livelihood security shrub of the arid zone of Rajasthan and Gujarat. This plant is used to treat in cardiac and gastric troubles. The immature fruits are used to cure stomach problems, especially constipation. Fruits possess antidiabetic activity. The alcoholic extract of fruit pulp and root bark have anthelmintic activity. The fruits and the seeds are used to cure cholera, dysentery and urinary purulent discharge.

A review article on *Withania somnifera* (Ashwagandha) was written by Verma and Kumar (2011). The leaves, stem, flower, root, seeds and bark of this plant have been used for the treatment of aphrodisiac, liver tonic, anti-inflammatory agent, astringent, bronchitis, asthma, ulcers and insomnia.

Tomar et al. (2011) wrote a review article on Neem (*Azadirachta indica*). They reported that neem is the one solution of thousand problems like antiallergenic, antidermatic, antifeedent, antifungal, antiinflammatory, antiscabic, cardiac, diuretic and insecticidal activities.
Devi et al. (2011) gave a detailed account of Acacia catechu. The heartwood of this plant is used in melancholia, conjunctivitis, haemoptysis, cough, pruritus, leprosy, leucoderma, skin diseases, diarrhoea, dysentery, foul ulcers and wounds, haemorrhages, fever, anemia and diabetes. Ayurvedic uses and pharmacological activities of Calotropis procera described by Meena et al. (2011). Traditionally the powdered root of this plant is used to treat bronchitis, asthma, leprosy, eczema, while the latex is used to treat vertigo, baldness, hair loss, toothache, intermittent fevers, joint swelling and paralysis, The leaves are used to cure joint pain and reduce swelling.

An account of Ficus bengalessis was given by Joseph and Raj. (2011) through a review article. The active compounds isolated from this plant are considered to be very effective in various treatments such as dysentery, diarrhoea, diabetes, leucorrhoea, menorrhagia, nervous disorder, tonic and astringent.

Pharmacognostical aspects of Calotropis procera was given by Sharma et al. (2011). This is small erect and compact shrub, which is used in several traditional medicines to cure various diseases. This plant have possess various properties like analgesic, antitumor, antihelmintic, antioxidant, antidiarrhoeal, oestrogenic and antimalarial.

A review paper on withania somnifera has been written by Uddin et al. (2012). The drug obtained from root. The pharmacological activity of the root is attributed to the presence of several alkaloids. It have antiarthritic, antiinflammatory, antitumor, antistress, musculotropic, antioxidant, antiageing, antihyperglycaemic and hepatoprotective activities.

Jain et al. (2012) gave a detailed account of Tecomella undulata through a review article on this plant. This is commonly known as marwar teak and used in treatment of liver and spleen diseases, tumors, conjunctivitis, syphilis, gonorrhoea, hepatitis, as a blood purifier and in wound healing.

An ethnobotanical survey of medicinal plants used in Terai forest of Western Nepal was carried out by Singh et al. (2012). They have been documented 66 medicinal plant species belonging to 37 families and 60 genera. They concluded that the local
traditional healers of Rupandehi district, Western Nepal are rich in ethnomedicinal knowledge and majority of people rely on plant based remedies for common health problems like headache, body ache, constipation, indigestion, cold, fever, diarrhoea, dysentery, boils, wounds, skin diseases, urinary troubles, fractures, round worms etc. The survey also revealed that all the traditional healers have strong faith on ethnomedicines although they were less conscious about the documentation and preservation of ethnomedicinal folklore and medicinal plants.

A review article on *Aeacia arabica* has been written by Rajvaidhya et al. (2012). They reported that fresh plant parts is considered as astringent, demulcent, aphrodisiac, anthelmintic, antimicrobial, antidiarrhoeal, with good nutritional value in Indian traditional medicine system. The bark of this plant is useful in the treatment of eczema. The leaves are effective in the treatment of conjunctivitis. The fresh pods are effective in treatment of sexual disorders like spermatorrhoea, loss of viscosity of semen, frequent night discharges and premature ejaculation.

Jena and Gupta (2012) gave a detailed account of *Ricinus communis* through a review article. According to him traditionally this plant is used as laxative, purgative and fungicide. The plant possess beneficial effects such as antioxidant, antiasthmatic, antiulcer, antidiabetic, hepatoprotective, antifertility, antiinflammatory, CNS stimulant, wound healing and antimicrobial properties.

A review article on *Hibiscus rosa sinensis* has been written by Kumar and Singh (2012). According to him in traditional medicine, the leaves of this plant are used in fatigue and skin disease. Fresh root juice of this plant is used in gonorrhoea. Flowers are used in epilepsy, leprosy and diabetes.

Banjare et al. (2012) wrote a review article on *Boerhaavia diffusa*. According to him this is one of the most famous medicinal plant in the treatment of a large number of human ailments is mentioned in Ayurveda, Charaka Samhita and Sushruta Samhita. The root juice of this plant is used in treatment of asthma, urinary disorders, leucorrhoea, rheumatism and encephalitis. The root and aerial parts of this plant were
used in Ayurveda for the treatment of diabetes. It is very useful for curing kidney diseases.

Traditional and medicinal uses of *Withania somnifera* has been described by Umadevi et al. (2012). They reported that this plant has long been considered as an excellent rejuvenator, a general health tonic and a cure for a number of health complaints. It is taken for treating cold and coughs, ulcers, diabetes, conjunctivitis, epilepsy, insomnia, leprosy, Parkinson’s disease, nervous disorders, rheumatism, arthritis, bronchitis, asthma, and a suppressant in HIV/AIDS patients.

Shrivastava et al. (2013) studied phytochemical investigation of different plant parts of *Calotropis procera*. The parts of the plant used in Ayurvedic medicine are leaves, roots, root bark and flowers. The powder of leaves is used for the fast healing of wounds, as a purgative and to treat indigestion.

Health and medicinal properties of Lemon has been described by Mohanapriya (2013). Lime juice is used for treatment of scurvy, skin care, constipation, peptic ulcer, respiratory disorder, gout, piles, urinary disorders, and weight loss.

Medicinal property of *Murraya koenigii* has been described by Kumar et al. (2013). It can be used as medicines to cure various ailments. It can be used as antihelmintic, and also acts as febrifuge, food purifier, depressant, antiinflammatory, body aches, kidney pain and vomiting.

Patel and Patel (2013) studied ethnobotanical plants used by the tribes of R.D.F. Poshina forest range of Sabarkantha district North Gujarat. They observed about 35 plant species belonging to 24 families. Herbaceous medicinal and therapeutic plants of district Samba of Jammu Province, Jammu and Kashmir was reported by Pandita et al. (2013). They recorded 105 herbaceous species representing 93 genera belonging to 36 families. They observed that the maximum plant species (73%) were found to be used as various parts such as leaves (23%), seeds (19%), roots (13%), flowers (10%), fruits (8%) followed by stem (5%), tuber and rhizome (2% each) and bark and bulb (1% each) to cure various medical disorders.
Ethnobotanical studies of *citrullus colocynthis* was carried out by Meena et al. (2014). The plant was used for curing of many diseases such as abdominal pain, boils, constipation, deafness dyspepsia, flatulence, infertility, leucoderma, rheumatism, syphilis, vaginal pain, pimples, dropsy, cough, stomachache, jaundice, piles, diabetes, healing of wounds and gastric problem. An ethnobotanical, phytochemical and pharmacological review of *Murraya koenigii* was described by Gahlawat et al. (2014). The leaves and roots of this plant is used for the treatment of night blindness, dysentery, diarrhoea, vomiting and bites of poisonous animals. Gangwar and Ghosh (2014) reported medicinal uses and pharmacological activity of *Adhatoda vasica*. The fresh leaves of vasica are chewed, sometimes with ginger, by yogis or sadhus, because of their stimulant effect on the respiratory system. It is an antispasmodic and expectorant and has been used for centuries with much success to treat asthma and chronic bronchitis.

The folk and modern used of *Allium sativum* was described by Shah (2014). This plant have possess various properties such as antihypertensive, anticoagulant, anticholocsterolic, antiinflammatory and antidiabetic.

An account of *Tamarindus indica* and its health related effects was given by Kuru (2014). According to him it is used for abdominal pain, diarrhoea, and dysentery, wound healing, constipation and inflammation. Preeti and Tripathi (2014) gave an account of *Ziziphus jujuba*. They reported that it is used traditionally as tonic and aphrodisiac and sometimes as hypnotic-sedative, anticancer, antiulcer, antiinflammatory, antifertility, cardiotonic, antioxidant, and wound healing properties.

Agarwal et al. (2014) reported phytochemical and biological activities of *Chenopodium album*. According to them this plant is used as laxative, anthelmintic, spleen enlargement, intestinal ulcers and burns. Borborah et al. (2014) described traditional uses of *Allium* species from North East India with special reference to their pharmacological activities. They concluded that this genus possess antifungal, haemolytic, analgesic, cardioprotective, antiinflammatory, antioxidant, anthelmintic and antidiabetic activities.
In Rajasthan King (1869, 1870) was the first worker who reported the plants used as food and vegetable during famine in the desertic area. Then, after a long gap, a number of workers have recorded valuable ethnobotanical information on different aspects. The important workers in this regards are those of Nathawat and Deshpande (1960), Bhandari (1974), Singh & Shetty (1977), and Singh and Singh (2006).

During recent years several workers have documented their traditional knowledge. Singh and Pandey (1980), Sebastain and Bhandari (1988), Joshi (1990), Das (1997), Sharma (1997), Meena et al. (2003), Jain et al. (2007) done a notable work on ethnobotany.

An update of Ethnobotanical survey of Rajasthan was reported by Choudhary et al. (2008). In a floristic survey, 61 ethnomedicinal plant species belonging to 38 families were recorded from Aravalli hills of Mewar region of Rajasthan. (Katewa, 2009). Ethnobotanical survey of Sariska and Siliserh regions from Alwar district was reported by Jain et al. (2009). According to Menghani et al. (2010) over 50 plants are present in arid region of Rajasthan having antidiabetic properties. Meena and Yadav (2010) carried out an extensive survey of southern part of Rajasthan includng Chittorgarh, Udaipur, Banswara and Dungarpur districts. They documented the traditional knowledge of medicinal plants used by tribal communities.

Study of some important medicinal plants in urban area of Kota, Rajasthan was carried out by Dadhich et al. (2010). They observed that even a single plant (Cyperus rotundus) is used to cure several ailments.

Ethnobotanical studies on medicinal plants of Rajasthan was carried out by Sharma and Kumar (2011). They gave useful ethnobotanical information about the uses of plants by the tribals of Rajasthan in his review article.

Tewari et al. (2013) gave a detailed account of Prosopis juliflora. They reported that this is a miracle species of hot arid and semi arid region of India. The wood of this plant is reported to have medicinal value for treatment of rheumatism and against miscarriage.
Studies on ethnomedicinal plants of Shekhawati region, Rajasthan, having hypoglycemic properties was carried out by Mishra et al. (2014). They reported 31 plants belonging to 23 families, used by indigenous people of the Shekhawati region of Rajasthan to cure their common ailments.