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TRADITIONAL WISDOM TO TREAT THE MOST COMMON AILMENTS IN CHOPAL REGION OF SHIMLA DISTRICT, HIMACHAL PRADESH, INDIA

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Abstract

A total of hundred ethnomedicinal plants belonging to 56 plant families were recorded from the Chopal region of Shimla district which were used to treat the most common ailments viz. minor cuts, wounds, boils, fever, gastric, cough, piles and jaundice etc. The maximum numbers of sixteen plant species were used for treatment of minor cuts and wounds, followed by fifteen numbers of species for boils and pimples. While twelve species each was used for treatment of fever, gastric and constipation. The number of ethnomedicinal plants used for treatment of stomach-ache, bronchitis, piles, jaundice and sprain were 11, 10, 10, 8 and 8, respectively. Among growth forms, maximum were herbaceous plants (51 no.), followed by shrubs (21 no.), trees (20no.), climbers (6no.), fern and fungi (1 no.) each.

***Key words*:** Traditional wisdom, common ailments, treatment, Chopal and Himachal Pradesh.

Introduction

Medicinal plants are considered as health care resource and commonly used in traditional medicine by rural population for treating various diseases. The use of herbal medicine is an age-old tradition and the recent progress in modern therapeutics has stimulated the use of natural product worldwide for diverse ailments and diseases (Eddouks *et al*., 2012). The World Health Organization (WHO) has estimated that as many as 80% of the world population is dependent on traditional medicine for their primary health needs (Bannerman, 1982). Since ancient times, exploitation of plants continues till the day for the benefit of mankind (Jain, 1967). At present, about 65% of the Indian population is dependent on the traditional system of medicine for their health care needs (Alok, 1991). India is one of the leading countries in Asia in terms of the wealth of traditional knowledge systems related to herbal medicine and employs a large number of plant species which includes *Ayurveda* (2000 species), *Siddha* (1121 species), *Unani* (751 species) and *Tibetan* (337 species) (Kumar *et al*., 2011). Many hundreds of medicinal plant species worldwide are used in the traditional medicine as a treatment for various ailments caused by bacteria, fungi and viruses (Kumar and Vidyasagar, 2008). Considering the importance of ethnobotany, various workers have carried ethnobotanical studies on medicinal plants in Himachal Pradesh (Gupta, 1964; Uniyal, *et al*., 2006; Chauhan, 1984; Jain and Puri, 1994; Chauhan and Chauhan, 1998; Chauhan, 1999; Sharma and Rana, 1999; Singh, 1999; Meenakshi, 2006; Negi and Subramani, 2002; Chauhan, 2003; Sharma and Lal, 2005; Gautam and Bhadauria, 2008). However, there are very meager studies on ethnobotanical aspects of medicinal plant species, of Chopal forest division. Very few studies have been carried out in Kiran pargana, a small region of the Chopal sub-division on traditional ethnobotanical knowledge (Singh *et al*., 2008). Similarly, studies on medicinal plants covering only part of the Chopal were also carried covering mainly phyto-sociological aspect (Gupta, 2008). Therefore, the present study covers entire Chopal region and it is an attempt to investigate the various indigenous medicinal plants used to treat the most common ailments by people of the Chopal region of Shimla district.

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Materials and Methods

Study area

Study area lies in subtropical to temperate zone and has a rich treasure of medicinal plants wealth. It is a remote area of the district Shimla, located in south eastern part of Himachal Pradesh, has great archaeological, ecological, religious, spiritual and mythological significance. It is surrounded by Jubbal and Kotkhai to north, south-west by Sirmaur, east and south east by Uttarakhand and North West of Chopal lies Theog tehsil. It lies between 77°24' 30" to 77°49' 00'' East Longitudes and 30°46'30'' to 31°04'30'' North Latitudes with elevation ranging from 712m to 3647m. Chopal Forest division is divided into seven forest ranges (Bamta, Chopal, Deiya, Kanda-Kupvi, Nerwa, Sarhan and Tharoch) and having twenty two forest blocks and seventy three forest beats. The entire forest division is spread over the Himalayan mountainous region covering an area of 830 km^2 excluding 2.40 km^2 disputed area on the boundary with Rajgarh forest division (Somal, 2004). The average annual rainfall in the study region is 1200 mm.

Collection of ethnomedicinal information

Ethnomedicinal information were collected between July 2015 to September, 2017 from the villagers by conducting semi-structured interviews. A detailed questionnaire was prepared for collecting the ethnomedicinal information. Frequent visits to villages were conducted throughout the Chopal forest division covering all seven forest ranges to investigate the various medicinal plants used to treat the most common ailments in the study area. This involved reconnaissance survey and interactions with the village headman and the people in groups. After reconnaissance survey, villages were selected from all seven ranges representing whole study area. One village from each forest beat was randomly selected for collection of ethnomedicinal information. After selecting villages about ten per cent households including both genders of different age group were interviewed from each village from seventy three forest beats of seven forest ranges. Informants/households were first identified through informant referral by other informants as knowledgeable. Efforts were made to contact aged people and traditional healers. In order to verify the identity of plant species mentioned by the respondents, field visits were undertaken with the respondent. The plant specimens were collected and verified from the respondents who mentioned the species as medicinal. The information on local name of the medicinal plant, diseases treated, parts used, etc., were collected. The specimens medicinal plants were collected and identified with the help of various floras (Hooker, 1872; Collett, 1921; Nair, 1977; Chowdhery and Wadhwa, 1984; Polunin and Stainton, 1984; Dhaliwal and Sharma, 1999).

Results and Discussion

A total of hundred medicinal plants belonging to 56 plant families were recorded from the study area, which were used for treatment of most common ailments *viz*. minor cuts, wound, boils, fever, gastric, cough, piles and jaundice etc. The brief description of plants used to treat the most common ailments, traditionally along with local name, family, habit, part used and mode of uses is given in table 1. *Bergenia ciliata*, *Cythula capitata*, *Capparis spinosa*, *Kalanchoe integra, Origanum vulgare, Persicaria capitata, Urtica dioica* and *Urtica girardinia* etc., were used to treat boils and minor skin eruptions. Roots of *Salvia lanata* and *Thalictrum foliolosum* were used to treat snake and dog bite. *Berberis* spp and *Hedera helix* was used to treat jaundice. For treating piles and its wound species like *Clematis vitalba*, *Dalbergia sissoo*, *B. aristata*, *B. chitria*, *B. lycium*, *Cuscuta reflexa* were used by local people. *Delphinium vestitum* (Kali-katti), *Hedychium spp*. (Kachoor) and *Lactuca macrorhiza* (Dudhiya moru) were three most important species used by local people to treat stomach ailment, headache and dysentery. *Soymida febrifuga* (noon/rasnai) was used to treat bone fracture. Some plants have two or more uses and they appeared in different use categories as well. The perusal of fig. 1 revealed that maximum numbers of sixteen medicinal plant species were used for treating minor cuts and wounds. Medicinal plants species used for treating minor cuts and wounds included *Achyranthes* spp., *Ajuga parviflora*, *Artemisia vulgaris*, *A. vestita*, *Erigeron bellidioides*, *Cryptolepis buchanani*, *Trillium govanianum* and *Rheum austral*. Fifteen ethnomedicinal plant species were used to treat boils and pimples. While twelve species each was used for treating fever, gastric and constipation. The number of ethnomedicinal plants used for traditional treatment of stomach-ache, bronchitis, piles, jaundice and sprain were 11, 10, 10, 8 and 8, respectively. Six ethnomedicinal plants each were used locally to treat eyes infection and kidney stone treatment and five plants to treat minor burn ailments and four plants each were used to treat dog bite, ear-ache, herpes, snake-bite and mouth ulcers.

When growth form of documented ethno-medicinal plants was analyzed, it was found that out of total hundred ethnomedicinal plants, maximum were herbaceous plants

Table 1: Medicinal plants used by local people of Chopal, district Shimla for the treatment of most common ailments.

Ailments treated	Medicinal plant used	Family	Local name	Habit	Part used	Mode of use
Wounds and cut healing	*Achyranthes bidentata* Blume	Amaranthaceae	Bhutkanda	Herb	Leaves	Fresh leaves paste and fresh or dry root paste/ slurry is applied externally on wounds and cuts till it heals
	Achyranthes aspera Linn.	Amaranthaceae	Uang	Herb	Leaves	
	Ajuga parviflora Benth.	Lamiaceae	Neelkanthi	Herb	Leaves & roots	
	Artemisia vulgaris L.	Asteraceae	Chambar	Herb	Leaves	
	Artemisia vestita Wall. ex Besser	Asteraceae	Chambari	Herb	Leaves	
	Bergenia ciliata (Haw.) Sternb.	Saxifragaceae	Pathartod, Daklamu	Herb	Roots	
	Cryptolepis africana (Bullock) Venter & R.L. Verh.	Apocynaceae	Nirbhishi	Climber	Roots	
	Dactylorhiza hatagirea (D. Don) Soó.	Orchidaceae	Hath panja, Salam panja	Herb	Roots	
	Erigeron bellidioides (Buch.-Ham. ex D. Don) Benth. ex C.B.Clarke	Asteraceae	Kungti phool	Herb	Leaves	
	Origanum vulgare Linn.	Lamiaceae	Katia, Van Tulsi	Herb	Roots & leaves	
	Reinwardtia indica Dumort.	Linaceae	Pinguni	Shrub	Leaves	
	Rheum australe D. Don	Polygonaceae	Archa and Rewand Chiini	Herb	Roots	
	Rumex nepalensis Spreng.	Polygonaceae	Jangli palak	Herb	Roots & leaves	
	Solanum tuberosum L.	Solanaceae	Aloo	Herb	Tubers	
	Trillium govanianum Wall. ex D.Don	Melanthiaceae	Nagchattri	Herb	Roots	
	Valeriana jatamansi Jones	Valerianaceae	Pekhu and Nihani	Herb	Roots & leaves	
Boils & pimples	*Bergenia ciliata* (Haw.) Sternb.	Saxifragaceae	Dhaklamu/Patthartod	Herb	Leaves & roots	Fresh leaves paste is applied externally on affected part. Whereas paste/slurry of other useable parts is used fresh or dried.
	Bombax ceiba Linn.	Bombacaceae	Simbal	Tree	Bark	
	Capparis spinosa Linn.	Capparaceae	Ninai	Shrub	Leaves, stem & roots	
	Cyathula capitata Moq.	Amaranthaceae	Seerla, Seel	Shrub	Roots	
	Erigeron bellidiodes (Buch. Ham. Ex D. Don) Benth. ex C.B.Clarke	Asteraceae	Kungti phool	Herb	Leaves	
	Kalanchoe integra (Medik.) Kuntze	Crassulaceae	Auva, nunu	Herb	Leaves	
	Nicotiana tabacum Linn.	Solanaceae	Tambakhu	Herb	Leaves	

Table 1 continued...

Table 1 continued...

	Origanum vulgare Linn.	Lamiaceae	Katia, Van- tulsi	Herb	Roots & Leaves	
	Persicaria capitata (Buch.-Ham. ex D.Don) H.Gross	Polygonaceae	Ninai	Herb	Leaves	
	Prunus persica (L.) Batsch	Rosaceae	Adu	Tree	Seed/nut pericarp, Bark	
	Rubus niveus Thunb	Rosaceae	Akhe	Shrub	Roots	
	Rumex nepalensis Spreng.	Polygonaceae	Jangli palak	Herb	Roots & Leaves	
	Solanum aculeatissimum Jacq.	Solanaceae	Kantkari	Herb	Roots	
	Urtica dioica Linn.	Urticaceae	Kukua, Karla	Herb	Leaves & Roots	
	Urtica girardinia Linn.	Urticaceae	Bhabhar	Shrub	Roots	
Fever	*Acorus calamus* Linn.	Acoraceae	Shilboy/ Buch	Herb	Roots	Root paste applied on forehead and body
	Berberis aristata DC.	Berberidaceae	Kashmal	Shrub	Roots	Rasont taken internally
	Berberis chitria Buch.-Ham. ex Lindl.	Berberidaceae	Kashmal	Shrub	Roots	Rasont taken internally
	Berberis lycium Royle	Berberidaceae	Kashmal	Shrub	Roots	Rasont taken internally
	Dactylorhiza hatagirea (D.Don) Soó	Orchidaceae	Hath panja	Herb	Roots	Root paste applied on forehead and body
	Flacourtia indica (Burm.f.) Merr.	Salicaceae	Kangeyu	Tree	Bark	Decoction of bark taken
	Leucas lanata Benth	Lamiaceae	Fulchhidi	Shrub	Roots	Decoction
	Musa paradisiaca L.	Musaceae	Kela	Shrub	Roots/Rhizome	Juice of Rhizome taken
	Origanum vulgare Linn.	Lamiaceae	Katia,Vant-ulsi	Herb	Roots & leaves	Root powder
	Rhododendron arboreum Sm.	Ericaceae	Buraas	Tree	Flower & bark	Decoction
	Rumex hastatus D. Don	Polygonaceae	Almoda	Herb	Leaves	*Chutney* of leaves relieves fever
	Viola pilosa Blume	Violaceae	Vanaksha	Herb	Flowers leaves	Infusion taken with mint leaves powder
Gastric & constipation	*Aegle marmelos* (L.) Corrêa	Rutaceae	Bil patar	Tree	Leaves, roots & Fruits	Juice
	Angelica glauca Edgew.	Apiaceae	Chora, Choreyi	Herb	Roots	Root powder taken or used as spices

Table 1 continued...

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	Daphne papyracea Wall. ex G. Don.	Thymelaeaceae	Dapne	Shrub	Roots	Pinch of root powder is taken with buttermilk
	Mentha piperita L.	Lamiaceae	Pudina	Herb	Leaves	Infusion of leaves
	Murraya koenigii (L.) Spreng.	Rutaceae	Kadipatta	Shrub	Roots & leaves	Decoction/infusion
	Ocimum sanctum Linn.	Lamiaceae	Van Tulsi	Herb	Leaves	Juice/ infusion taken
	Plantago ovata Forssk	Plantaginaceae	Isabgoal	Herb	Seeds	Seed husk eaten
	Pleurospermum brunonis Benth. ex C.B. Clarke	Apiaceae	Losar	Herb	Whole Plant	Leaves as spices relives gastric
	Phyllanthus emblica Linn.	Phyllanthaceae	Ambla, Aaleyi	Tree	Fruit	Powder
	Terminalia bellirica (Gaertn.) Roxb.	Combretaceae	Bahera	Tree	Fruit	Powder
	Terminalia chebula Retz.	Combretaceae	Harad	Tree	Fruit	Powder
	Trigonella foenum-graecum Linn	Fabaceae	Methi	Herb	Seed	Powder
Stomachache	*Artemisia vestita* Wall. ex Besser	Asteraceae	Chamber	Herb	Roots	Small amount of powder of useable part is taken Internally. Decoction of Dudhiya-moru and kali katti is also used. Besides, Rhizome juice of banana relieves stomach ach
	Vernonia anthelmintica (L.) Willd.	Asteraceae	Kaliziri	Herb	Seeds and leaves	
	Lactuca macrorhiza (Royle) Hook.f.	Asteraceae	Dhudhia Mohru	Herb	Roots	
	Cocculus hirsutus (L.) W.Theob.	Menispermaceae	Naldhal Jari	Climber	Roots	
	Cyperus rotundus Linn.	Cyperaceae	Motha	Herb	Roots	
	Dactylorhiza hatagirea (D.Don) Soó.	Orchidaceae	Hath panja, Salam panja	Herb	Roots	
	Delphinium vestitum Wall. ex Royle	Ranunculaceae	Kale Gote, Kalikatti	Herb	Roots	
	Gentiana kurroo Royle	Gentianaceae	Karoo	Herb	Roots	
	Hedychium spp.	Zingiberaceae	Kachoor	Herb	Roots	
	Musa paradisiaca L.	Musaceae	Kela	Shrub	Roots/Rhizome	
	Roylea cinerea (D.Don) Baill.	Lamiaceae	Karuain	Shrub	Roots	
Cough and bronchitis	*Acacia catechu* (L.f.) Willd.	Fabaceae	Khair	Tree	Bark	Powder or katha taken
	Justicia adhatoda L.	Acanthaceae	Banseyi	Shrub	Leaves	Decoction or leaves with honey
	Vernonia anthelmintica (L.) Willd.	Asteraceae	Kaliziri	Herb	Seeds and leaves	Decoction or seeds chewed

Table 1 continued...

Table 1 continued...

	Lactuca macrorhiza (Royle) Hook.f.	Asteraceae	Dhudhia Mohru	Herb	Roots	Root powder/ decoction
	Delphinium vestitum Wall. ex Royle,	Ranunculaceae	Kale Gote, Kalikatti	Herb	Roots	
	Glycyrrhiza glabra Linn.	Fabaceae	Muhlatthi	Herb	Roots	
	Hedychium spp.	Zingiberaceae	Kachoor	Herb	Roots	
	Pistacia chinensis subsp. *integerrima* (J. L. Stewart ex Brandis) Rech. f.	Anacardiaceae	Kakdeyi, Kakad-singhi	Tree	Leaf galls	Pinch of galls powder taken with honey
	Viola pilosa Blume	Violaceae	Vanaksha	Herb	Whole plant	Decoction / or flower powders with honey
	Zanthoxylum armatum DC.	Rutaceae	Trimiri, Timur	Shrub	Leaves, stem & seeds	Decoction and chewing
Piles	*Aegle marmelos* (L.) Corrêa	Rutaceae	Bil patar	Tree	Leaves, roots & Fruits	Juice
	Ajuga parviflora Benth.	Lamiaceae	Neelkanthi	Herb	Leaves & root	Paste applied on wounds
	Berberis aristata DC.	Berberidaceae	Kashmal	Shrub	Roots	Rasont taken internally and warmth of root solution given to wounds
	Berberis chitria Buch.-Ham. ex. Lindl.	Berberidaceae	Kashmal	Shrub	Roots	
	Berberis lycium Royle	Berberidaceae	Kashmal	Shrub	Roots	
	Bergenia ciliata (Haw.) Sternb.	Saxifragaceae	Dhaklamu, Patthartod	Herb	Leaves & Roots	Paste applied on wounds
	Clematis vitalba Linn	Ranunculaceae	Bale (Old man Beard	Climber	Leaves	Paste applied on wounds
	Dalbergia sissoo Roxb.	Fabaceae	Shisham, Sissaun	Tree	Leaves & Pods	Decoction
	Plantago ovata Forssk	Plantaginaceae	Isabgoal	Herb	Seeds	Seed husk is taken
	Saccharum bengalense Retz.	Poaceae	Kaansh	Herb	Roots	Root powder, decoction
Jaundice	*Berberis aristata* DC.	Berberidaceae	Kashmal	Shrub	Roots	Rasont/ decoction taken
	Berberis chitria Buch.-Ham. ex. Lindl.	Berberidaceae	Kashmal	Shrub	Roots	
	Berberis lycium Royle	Berberidaceae	Kashmal	Shrub	Roots	
	Vernonia anthelmintica (L.) Willd.	Asteraceae	Kaliziri	Herbs	Seeds & leaves	Decoction
	Cuscuta reflexa Roxb.	Cuscutaceae	Akash Bel, Amarbel	Climber	Whole plant	Overnight immersed crushed plant juice taken
	Gentiana kurroo Royle	Gentianaceae	Karoo, Karvi	Herb	Roots	Root powder
	Hedera helix L.	Araliaceae	Kanauri (Bail)	Climber	Leaves	Overnight immersed

Table 1 continued...

Table 1 continued...

						crushed leaves juice taken
	Thalictrum foliolosum DC.	Ranunculaceae	Pili Jari	Herb	Roots	Decoction
Sprain & Joint fracture	*Acorus calamus* Linn.	Acoraceae	Shiboy, Buch, Shilbog	Herb	Roots	Root paste applied on affected part
	Curcuma longa Linn.	Zingiberaceae	Haldi	Herb	Roots/Rhizome	Paste applied on affected part and taken internally with milk
	Ficus palmata Forssk.	Moraceae	Fedu, Fegda	Tree	Leaves	Leaves paste with butter applied for shoulder pain/ dislocation
	Pinus roxburghii Sarg.	Pinaceae	Chir, Saral	Tree	Resin	Resin applied externally
	Prunus armeniaca Linn.	Rosaceae	Chuli	Tree	Seeds	Massage of seed oil
	Ricinus communis Linn.	Euphorbiaceae	Airand, Ardeyi	Shrub	Seeds	Seed paste applied or massage of seed oil
	Soyamida febrifuga Rox. (Juss.)	Meliaceae	Rasanayi, noon	Tree	Bark	Bark paste applied and also tied with cloth on sprained part
	Vitex negundo Linn	Lamiaceae	Shuwaleyi, Vana	Shrub	Leaves	Leaves boiled and bath of hot water taken
Eye-ache	*Berberis chitria* Buch.-Ham. ex Lindl.	Berberidaceae	Kashmal	Shrub	Roots	Root boiled and solution/ rasont usedin eye flue
	Berberis lycium Royle	Berberidaceae	Kashmal	Shrub	Roots	
	Berberis aristata DC.	Berberidaceae	Kashmal	Shrub	Roots	
	Cynodon dactylon (L.) Pers.	Poaceae	Doob ghaas	Herb	Roots	Leaves paste applied on eye lid
	Oxalis corniculata L.	Oxalidaceae	Khati mithi, Katiyari	Herb	Leaves	Leaves juice drops is put into eyes
	Phyllanthus emblica L.	Phyllanthaceae	Aambla, Aaleyi	Tree	Fruit	Powder taken to improve eye sight
Kidney-stone	*Amaranthus* spp.	Amaranthaceae	Apmari, cholai, Sakchalai	Herb	Roots	Vegetable and soup
	Bergenia ciliata (Haw.) Sternb.	Saxifragaceae	Dhaklamu and Patthar Toad	Herb	Roots	Root powder taken

Table 1 continued...

Table 1 continued...

	Hordeum vulgare L.	Poaceae	Joe	Herb	Seed	Seed boiled and soup taken
	Lathyrus sativus L.	Fabaceae	Jangli-matri	Herb	Leaves	Vegetable and soup
	Macrotyloma uniflorum (Lam.) Verdc.	Fabaceae	Kulath	Herb	Seed	Soup is taken
	Quercus semecarpifolia Sm.	Fagaceae	Kharshu	Tree	Bark	Decoction
Burns-minor	*Cannabis sativa* Linn.	Cannabaceae	Bhang	Herb	Leaves & Seeds	Burnt in mustard oil and applied on affected part
	Aesculus indica (Wall. Ex Cambess) Hook.	Sapindaceae	Khanor	Tree	Fruits/nut	Paste is applied externally on affected part
	Agave americana Linn.	Asparagaceae	Kawarpatha	Shrub	Leaves	
	Solanum tuberosum Linn.	Solanaceae	Alu	Herb	Root/Tuber	
	Rumex nepalensis Spreng.	Polygonaceae	Jangli palak	Herb	Roots & leaves	
Dog bite	*Geranium wallichianum* D.Don Ex.Sweet	Geraniaceae	Jadi, Ang Jadi	Herb	Roots	Paste of root is applied on bite
	Verbascum thapsus Linn.	Scrophulariaceae	Jangli tambakhoo	Herb	Roots	
	Salvia lanata Roxb.	Lamiaceae	Gaani	Herb	Roots	
	Cryptolepis africana (Bullock) Venter & R.L. Verh	Apocynaceae	Nirbhishi	Climber	Roots	
Ear ache	*Ocimum sanctum* Linn.	Lamiaceae	Tulsi, Van -tulsi	Herb	Leaves	Leaves juice drops put in ear
	Aesculus indica (Wall. ex Cambess.) Hook.	Sapindaceae	Khanor	Tree	Fruits/nut	Drops of slurry put in ears
	Rabdosia rugosus (Wall. ex Benth.)	Lamiaceae	Chichdi	Shrub	Leaves	Leaves juice drops put in ear
	Prunus armeniaca Linn.	Roasaceae	Chuli	Tree	Seeds	Oil drop put in ear
Herpes	*Phegopteris connectilis* (Michx.) Watt	Thelypteridaceae	Brahmsutri ki Zari	Fern	Leaves & roots	Useable part paste or slurry is applied on affected part till recovery.
	Solanum nigrum Linn.	Solanaceae	Banchulli, Jangli-tamater	Herb	Roots	
	Solanum aculeatissimum Jacq.	Solanaceae	Kantkari	Herb	Roots	
	Oxalis corniculata Linn.	Oxalidaceae	Khati mithi, Katiyari	Herb	Leaves & roots	
Tonic & vitality	*Morchella esculenta* Fr.	Morchellaceae	Chiyaun, Guchhi	Fungus	Fruiting bodies	Eaten as vegetable
	Polygonatum verticillatum (L.) All.	Asparagaceae	Salam misri	Herb	Roots	Root powder taken with milk
	Asparagus adscendens Roxb.	Liliaceae	Shatabar	Shurb	Roots	
Headache	*Gentiana kurroo* Royle	Gentianaceae	Karoo, Karvi	Herb	Roots	Root powder taken

Table 1 continued...

Table 1 continued...

	Valeriana jatamansi Jones	Valerianaceae	Pekhu, Nihani	Herb	Roots & leaves	Leaves are crushed and tied around forehead and on head
	Cynodon dactylon (Linn.) Pers.	Poaceae	Doob ghaas	Herb	Roots	
Mouth ulcer & sore throat	*Quercus floribunda* Lindl. ex A.Camus	Fagaceae	Mohru	Tree	Bark & Leaves	Bark infusion gargle
	Rubus ellipticus Sm.	Rosaceae	Hisar	Shrub	Leaves	Leaves chewed
	Bombax ceiba Linn.	Bombacaceae	Shaimal, Simbal	tree	Bark	Bark infusion gargle
	Bauhinia variegata L.	Fabaceae	Kachnar, Karyal	Tree	Bark	
Snake bite and paste of root is applied on sting. Nirbishi is not eaten	*Salvia lanata* Roxb.	Lamiaceae	Gaani	Herb	Roots	Small root powder is eaten
	Thalictrum foliolosum DC.	Ranunculaceae	Pili jari	Herb	Roots	
	Cryptolepis africana (Bullock) Venter & R.L. Verh	Apocynaceae	Nirbhishi	Climber	Roots	
	Cocculus hirsutus (Linn.) W. Theob	Menispermaceae	Naldhal Jari	Climber	Roots	
Toothache	*Zanthoxylum armatum* DC.	Rutaceae	Trimiri, Timur	Shurb	Leaves, stem & Seeds	Chewing
	Calotropis procera (Aiton) Dryand.	Capparaceae	Aak, Anok	Shrub	Leaves and branches latex	Latex applied with cotton swab on affected teeth
	Juglans regia Linn.	Juglandaceae	Akhrot	Tree	Leaves & bark	Chewing/brushing
Contraceptives	*Dioscorea deltoidea* Wall. ex Griseb.	Dioscoreaceae	Shingli Mingli	Climber	Tubers	Small amount of root powder taken

(51 no.'s), followed by shrubs (21 no.'s), trees (20no.'s), climbers (6no.'s) and fern and fungi (1 no.'s) each (fig. 2). Analysis of data also reveals that maximum numbers of plants (n=50) were used for its roots/tubers, followed by leaves (n=30), bark and seeds (n=10 each), fruits/pods (n=6) flowers, nuts and whole plants (n=2 each). Different parts such as fruiting body, leaf-gall, resin, latex of medicinal plant species were used for treating most common diseases (table 1). Usage of different parts of medicinal plants species for medicinal purposes have also been reported by various researchers from different parts of the country (Kandari *et al*., 2012; Pal *et al*., 2015).

According to WHO, 80% of the world population depends on herbal medicine for their health care especially in developing countries (Verma and Singh, 2008). Therefore, it is important to document the traditional uses of medicinal plants by people in the vicinity of forests. The documentation contributes primary data to the wealth of data stored on the indigenous knowledge on medicinal plants. It is also important to scientifically evaluate the specific uses of the medicinal plants reported in the current study using plant materials from the area through pharmacological, toxicological and clinical studies in order possible drug development. It has been observed that the traditional culture of people of the region including their knowledge about the use of medicinal plant species is rapidly changing due to westernization. Documentation and conservation of their traditional indigenous knowledge about the plants is of great significance in the light of inclination towards the

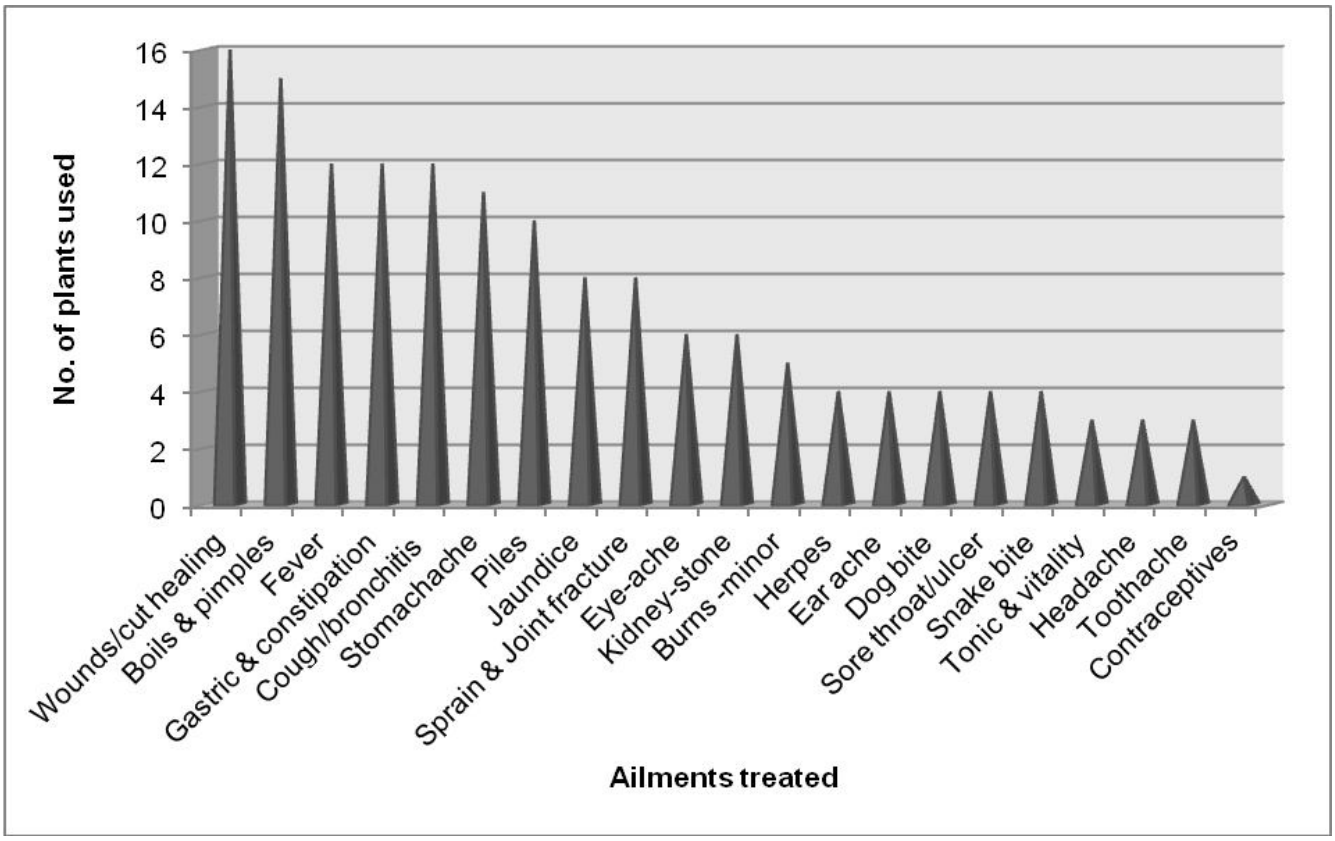

Fig. 1 : Number of ethno-medicinal plants of Chopal region used for treating various common ailments.

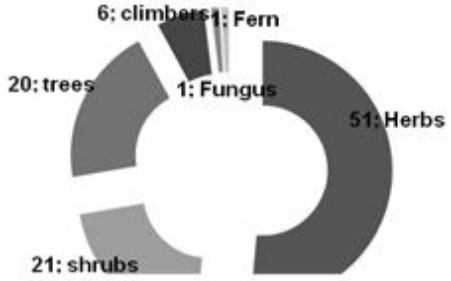

Fig. 2 : Growth form of ethnomedicinal plants used to treat different ailments.

herbal medicines as side effects of allopathic medicines are of big concern. The problem of side effects of allopathic medicine is likely to be increased in near future. This will compel human to use more herbal medicines thus need of conserving, protecting and developing herbal plants will be felt more. Such studies on documentation of traditional knowledge on use of medicinal plants will act as baseline data for further investigations. Erosion of traditional knowledge is taking at fast pace, due to lack of interest among the new generation as well as their curiosity toward urban areas for lucrative jobs. Hence documentation of tradition knowledge about use of ethnomedicinal plants is important. However, to establish the scientific authenticity of traditional uses of various ethnomedicinal plants, further investigation on biochemical and pharmaceutical aspects of these traditional systems of medicine need to be taken up.

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