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INDIGENOUS KNOWLEDGE ON MEDICINAL PLANTS USED BY THE PEOPLE OF KRISTI VILLAGE, POKHARA, NEPAL

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ABSTRACT

The medicinal knowledge of plants is very common among the tribal people but much of the information is not yet documented. The purpose of the present study was to document information on medicinal plants used by the people of Kristi village, Pokhara, Nepal. A total of 42 medicinal plant species belonging to 39 genera and 29 families were documented each with local name, uses and mode of administration. The study indicated that the indigenous people widely accepted the traditional knowledge on the utilization of medicinally important plants.

Key words: Families, genera, indigenous people, Kristi, medicinal plants

INTRODUCTION

The plants and plant products have been used as medicine worldwide. Traditional medicine practices and ethnobotanical information play a vital role in scientific research. However, these traditional medicine practices are in the danger of being lost due to urbanization and habitat destruction as the knowledge about plants generally get passed from one generation to another verbally.

Nepal is a small country but rich in biological diversity. The study on medicinal plants in Nepal started only after the first floristic exploration made by Francis Buchanan- Hamilton in 1802-1803 whose collection was noted by David Don in "Prodromus Florae Nepalensis" (Don,1825). There are over 10669 species of flora in Nepal ranging from fungi to angiosperms (Chaudhary, 1998). The history of the utilization of plant resources in Nepal was first made by Banerji documenting various edible and medicinal plants of eastern Nepal (Banerji, 1955). Later elaborated by various authors such as Dobremez (1976), Manandhar (1994), Siwakoti and Verma (1996), Siwakoti and Siwakoti (1998), Parajuli (2000), Shrestha *et al.* (2000), Joshi and Joshi (2001), Acharya and Pokhrel (2006), Dangol (2008), Malla and Chetri (2009), Joshi and Joshi (2011).Although several previous studies have been conducted on the use of local plants for traditional healing practice at different parts of Nepal by Manandhar (1994), Siwakoti and Siwakoti (1998), Parajuli (2000), Acharya and Pokhrel (2006), Dangol(2008), Malla and Chetri (2009) and Joshi and Joshi (2011) the indigenous knowledge on the use of medicinal plants of several rural areas has not yet been documented. The present study aimed to investigate and document the ethnomedicinal knowledge of Kristi village, a rural area within Pokhara metropolitan, Kaski district, Nepal.

MATERIALS AND METHODS

Study Area

The study was conducted at Kristi village, one of the rural areas of Pokhara Metropolitan, Kaski district, Nepal. It lies at the southern part of Pokhara. The village is surrounded by Nirmal Pokhari in the east, Pumdi-Bhumdi in the west, Syangja district in the south while the northern part is a part of Pokhara metropolitan. The elevation of the site ranges from 700 to 1465

m a.s.l. The study area covers an area of 17.98 km^2 with rich vegetation. The climate is humid sub-tropical marked by the seasonal variation in rainfall and temperature.

Data collection

The present study was conducted from January 2017 to June 2018 covering different villages within Kristi (the then different wards within the then Kristi village development committee) at the interval of every month. The primary data on ethnomedicinal information was gathered through direct field observation, oral interviews and discussions with traditional healers and elders during the field visits. After noting all the necessary information on a plant species that is used traditionally for medicinal purpose, a sample was collected for an herbarium preparation following the method of Lawrence (1974). The plant specimens were identified based on the identification and nomenclature key of previous authors such as Hara *et al*., (1978, 1979, 1982); Malla *et al*., (2009); Shrestha *et al.,* (2000). The final verification of the specimens was confirmed by comparing with the Herbarium specimens at the department of Botany, Prithvi Narayan Campus, Pokhara.

RESULTS AND DISCUSSION

A total of 42 species of medicinal plants belonging to 39 genera and 29 families were collected. Botanical names are enumerated alphabetically followed by family name, local name, uses and mode of administration in Table 1. In terms of number, Moraceae appeared as the largest family with four species followed by Asteraceae with three species; Amaranthaceae, Lauraceae, Anacardiaceae, Euphorbiaceae, Rutaceae, Lamiaceae, Zingiberaceae, Poaceae with two species each and the remaining 19 families were represented by a single species.

Different parts of the plants like rhizomes, roots, leaves, barks, fruits are being used to cure different diseases by the local inhabitants. Altogether 19 species were used for their roots and rhizomes followed by 14 species for leaves, 10 species each for bark and fruits/seeds for the treatment of different ailments which is shown in figure 1. Nine plant species are used for treating skin diseases, seven species each for diarrhea and dysentery, 6 species for fever and 5 species for cuts and wounds which is expressed in figure 2. Out of a total of 42 plant species, 37 species are administered for more than one disease while four species are being used for the treatment of one ailment only.

The current finding reveals that although elder people are familiar with the traditional use of local plants for medicinal purpose, the younger people of the study area do not know the names of the plants and their medicinal values. A few elder people still follow the medicinal practices and traditional knowledge for their livelihood. Due to recent advances in medicinal system, most of the people are attracted towards it and the indigenous knowledge of medicine is in decline and eroding. Likewise, many plant species are on the verge of extinction due to destructive harvesting practices. Considering the above facts, steps should be taken for the documentation of medicinally important plants and also their mass scale cultivation and conservation by the respective stakeholders.

Table 1: list of medicinal plants used by the people of Kristi Village, Kaski, Nepal

Botanical Name	Family	Local Name	Uses	Mode of administration
Achyranthes bidentata Blume	Amaranthaceae	Dattiwan	i) Common Cold ii) Stomatitis	i) Root paste is given ii) The root powder is given
Adhatoda vasica L.	Acanthaceae	Asuro	i) Catarrh ii) Skin disease	i) Leaf paste applied on the nose ii) Root paste massaged and washed
Allium sativum L.	Amaryllidaceae	Lasun	i) Fever, Cough ii) Blood pressure	i) taking leaves and bulb juice ii) Chewing raw bulb
Amaranthus spinosus L.	Amaranthaceae	Ludo	i) Menorrhagia ii) Eczema	i) Plant decoction drunken ii) Applied crushed leaves and roots
Artemisia dubia Wallich ex Besser	Asteraceae	Tite pati	i) Cuts, wounds ii) Nervous disease	i) Leaf paste applied ii) Taking an infusion of leaves
Artocarpus heterophyllus Lam.	Moraceae	Rukh kathar	i) Skin disease ii) Diarrhoea/ Dysentery	i) Leaf paste applied ii) Taking a decoction of roots
Artocarpus lakoocha Roxb.	Moraceae	Badahar	i) Purgative	i) Seeds administered
Berberis aristata Dc.	Berberidaceae	Chutro	i) Anthelminthic ii) Jaundice	i) Taking root decoction ii) Bark and root paste taken
Bidens pilosa L.	Asteraceae	Kalo kuro	i) Cuts and wounds	i) Plant juice applied
Bombax ceiba L.	Bombacaceae	Simal	i) Burns ii) Paralysis	i) Root paste applied ii) Bark decoction applied as a hot compress
Castanopsis indica Roxb.ex Lind.	Fagaceae	Dhale kartush	i) Chest pain	i) Bark paste applied
Centella asiatica L.	Apiaceae	Ghod tapre	i) Cuts and wounds ii) Fever iii) Memory	i) Leaf paste applied ii) Leaf paste given iii) Leaves chewed
Cinnamomum tamala (Buch. -Ham.) Ness & Eberm.	Lauraceae	Tejpat	i) Fever ii) Bad odour of mouth	i) Bark given ii) Bark chewed
Citrus aurantifolia (Christ.) Swingle	Rutaceae	Kagati	i) Dysentery and Diarrhoea	i) Administration of fruit and juice
Citrus aurantium L.	Rutaceae	Suntala	i) Skin ointment	i) Fruit and bark paste applied

Colebrookea oppositifolia Sm.	Lamiaceae	Dhurseli	i) Epilepsy ii) Wounds	i) Root juice given ii) Leaf juice used
Cucurbita maxima Duchesne	Cucurbitaceae	Pharsi	i) Cooling internal inflammation	i) Fruits eaten
Curcuma domestica Valeton	Zingiberaceae	Besar	i) Fever ii) Skin disease	i) Rhizome taken ii) Rhizome paste applied
Cynodon dactylon L.	Poaceae	Duboo	i) Epistaxis ii) Paralysis	i) Plant juice applied ii)Fruit applies as hot compress
Dioscorea bulbifera L.	Dioscoreaceae	Ban tarul	I) Diarrhoea and Dysentery	i) Consuming tubers after boiling
Eupatorium adenophorum Spreng	Asteraceae	Banmara	i) Cuts and wounds ii) Fever	a) Juice of plant ii) Juice of root
Euphorbia pulcherrima Willd.ex Klotzsch	Euphorbiaceae	Lalupate	i) Boils ii) Skin disease	i) Latex of plant applied ii) paste of the leaf
Ficus benghalensis L.	Moraceae	Bar	i) Diarrhoea and Dysentery ii) Pains and bruises	i) Decoction of bark ii) Milky latex applied
Ficus religiosa L.	Moraceae	Peepal	i) Skin disease ii) Stomach pain	i) latex applied ii) chewing of bark
Jatropha curcas L	Euphorbiaceae	Sajiwan	i) Swollen gums ii) Lactogogue	i) Twigs used ii) Leaf decoction used
Lablab purpureus L.	Fabaceae	Hiude simi	i) skin disease	i) Leaf juice applied
Litsea monopetala (Roxb.) Pers	Lauraceae	Kutmero	i) Astringent and diarrhoea ii) Pains	i) Bark juice administered ii) Barks and roots powder applied externally
Mangifera indica L.	Anacardiaceae	Amp	i) Rheumatism ii) Scabies and skin disease	i) Bark decoction used ii) Latex used
Melia azedarach L.	Meliaceae	Bakaino	i) Laxative ii) Headache	i) Oil from seed administered ii) Bark paste applied
Menthe arvensis L.	Lamiaceae	Pudina	i) Antispasmodic ii) Vomiting	i) Dried plant taken ii) Leaf juice given
Musa paradisiacal L.	Musaceae	Kera	i) Diarrhoea and dysentery ii) Diabetes	i) Unripe fruit taken ii) Ripe fruit taken
Oxalis corniculata L.	Oxalidaceae	Chariamilo	i) Dysentery ii) Eye cataract iii) Redness of eye	i) Aerial parts administered ii) Infusion of leaf used iii) Plant juice applied
Psidium guajava L.	Myrtaceae	Amba	i) Dysentery	i) Bark juice administered

Rhus javanica Miller	Anacardiaceae	Bhakimlo	i) Colic ii) Stomachic	i) Grounded fruit taken ii) Fruits chewed
Rubus ellipticus Sm.	Rosaceae	Aiselu	i) Gastritis ii) Fever	i) Roots juice taken ii) Roots chewed
Saccharum officinarum L.	Poaceae	Ukhu	i) Jaundice	i) Stem juice taken
Solanum melongena L.	Solanaceae	Bhanta	i) Heart problem ii) Cough and cold	i) A decoction of root used ii) Green fruit roasted and eaten
Terminalia chebula Retz.	Combretaceae	Harro	i) Cuts and burns i) Asthma	i) Fruit paste applied ii) Fruit powder taken
Tinospora cordifolia (Willd.) Miers	Menispermaceae	Gurjo	i) Diuretic ii) Aphrodisiac	i) Fresh juice taken ii) Infusion of powdered stem taken
Urtica dioica L.	Urticaceae	Sishnu	i) Malaria ii) Diabetes	i) A decoction of root taken ii) Cooked leaves taken
Zingiber officinale Rosc.	Zingiberaceae	Aduwa	i) Sinusitis ii) Dyspepsia	i) Rhizome juice put inside the nose ii) Dried rhizome powder eaten with rock salt
Ziziphus zuzuba Mill.	Rhamnaceae	Bayer	i) Blood purifier ii) Vomiting	i) Fruits eaten ii) Root paste taken

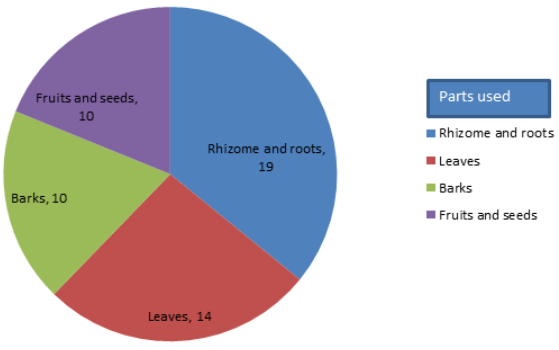

Fig. 1: Number of plant species with parts used for the treatment of different ailments

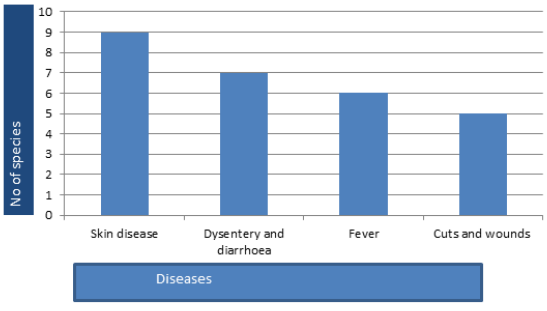

Fig. 2: Number of Plant species for the treatment of common diseases

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