Journal of Phytology 2011, 3(8): 62-67
ISSN: 2075-6240
www.scholarjournals.org

www.journal-phytology.com

Folk Uses of some Medicinal Plants of Dobhan VDC of Palpa District, Western Nepal

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Article Info

Article History

Received : 18-05-2011
Revised : 24-07-2011
Accepted : 27-07-2011

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Summary

The study has made an effort in order to explore and document indigenous knowledge and practice of Magar community of Dobhan VDC of Palpa district of western Nepal. Three study visits over a period of nine months from August 2010 to April 2011in the study area were made to collect primary information on the medicinal plants by field observation, transect work, interviews, focus group discussions, case study etc. Altogether 48 medicinal plants were recorded which are used to cure various human diseases like skin diseases, sinusitis, fever, toothache, eye infection, rheumatic pain, chest pain, backache, colic pain urinary problem, stomach troubles, gastric, fever, cold and cough, headache, liver disorders etc. For the treatment of different health problems, people of the study area come to Dhami, Jhankari, Guruwa, ojha from local level outside VDC, National and International level too. Especially elderly people and healers have knowledge about the medicinal plants and their uses in health care. With their long experiences and practices, they have acquired rich knowledge about the utilization of plant resources in various ways. It is found that medicinal plants are the first levels of health care providers to majority of the people in the study area. Medicinal plants of this area are highly threatened due to various human related activities like deforestation, habit destruction, unsustainable harvesting of forest products etc. Besides, due to various ecological, social and economic factors, the indigenous knowledge of the people is under great threat. Therefore, for the conservation and preservation of indigenous knowledge on medicinal plants, some recommendations have also been made based on the present study.

Key Words: Magar, Dhami, Jhankari, Guruwa, Ojha, Indigenous knowledge, Dobhan, Palpa

Introduction

Nepal has been regarded as the natural showroom of biodiversity because of its geotopography which is reflected in its dramatic contrast of climatic condition, which in turn is reflected in floral and faunal variation. Such biodiversity have supported the livelihood of people who live in remote areas of Nepal. These local people of different ethnic group traditionally acquired diversity of knowledge regarding the utilization of plant and animal resources, for various purposes like food, medicine, clothing construction, dyes, ritual performances, energy etc. Most importantly their health care system still makes extensive use of locally available plant species and their products under their own traditional knowledge system. About 80-90% people living in rural areas of Nepal depend directly or indirectly, on the formal and informal system of traditional medicines for health care (6). Traditional medicines are still the only defense for the poor people living in remote areas living far from modern health care facilities, and about 85% of traditional medicine involves the use of plants extracts. Ethnobotanical plants have a greater 'hit rate' or number of positive results than randomly selected plants (4, 5, 28 and 30). Ethnobotanical information from all over the world has led to the discovery of the approximately 120 plant derived drugs which account for about 25 percent of all prescription drugs consumed per year in North America (9).

Magars are the third most populated ethnic groups of Nepal comprising 7.1% of the total population (7). On the basis of language, customs and geographical distribution, the Magars are divided into Barha Magarant- Magar, Atha Magarant- Magar, High Mountain- Magar, Chhantyal and other Magars. Historically, Magar people inhabit the area near the forest, forest patches and forest boundary, and they are more concentrated on the rural hilly areas of Nepal. So they must have rich knowledge, skills and techniques on the traditional utilization of natural resources, especially the locally found plant species for traditional healing purposes, as the traditional medicine play a key role in the primary health care of rural people (15).

Palpa district is located in Lumbini zone in the western development region of Nepal. It is situated between 27^{0}34' to 27^{0}57' N latitudes and 83^{0}15' to 84^{0}22' E longitudes (Fig 1). The total land area of this district is about 1373 sq. km and the total population is about 268558 (7). The forest area is about 711 sq. km, which constitutes about 52.11% of the total land area. In th.is district, altitude ranges from 314m (tropical) to 1845m (subtropical region). The district enjoys a monsoon type of climate with wet summer and dry winter. The average maximum temperature is 32^0 C and minimum 4^0 C. The total annual rainfall is 1903.2 mm. The monsoon starts from June

and most of the precipitation occurs during June to September. The study area Dobhan VDC located in between 27^{0}44'.937"N latitudes and 83^{0}30'.179"E longitudes (Jhumsa Bridge of VDC) and the altitudes ranging in between 302- 1310m (Jhumsa and Odhar khola of VDC). The ethnomedicinal use of plant resources of Nepal have been documented by various researches (1-3, 6, 8, 10, 13, 14, 16-22, 24, 25, 27 and 29).

Fig 1: Map of study area

Methodology

Ethnomedicinal data

Ethnomedicinal data were collected by consulting the local healers and knowledgeable villagers. The study was conducted by covering different seasons between the August 2010 to April 2011 in Dobhan VDC of the Palpa district A standard questionnaire was used to collect data, which includes local name of plants, plant parts used, methods of preparation and approximate dosage of administration. The uses of the plant species were verified in other villages of Dobhan VDC by cross checking the information with other respondents showing plant species in natural habitat or a collected sample. The data were considered valid if at least five informants provided similar uses about the medicinal plants

Plant Collection and identification

The plant specimens were collected from different areas of Dobhan V.D.C. like Labdhuwa, Barhare, Jhumsa, Botegaun, Ganesh Tol, Patan, Odhar khola and of Palpa district, Nepal. Two sets of plant specimens for each species were collected from the natural habitats pressed and dried for voucher specimen. Identification of specimens was confirmed by consulting renowned taxonomical book of 11, 12 and 23. Ethnomedicinal data obtained in the field were documented and compared with published literature such as 6, 13, 17-21 and 26.

Results

Ethnomedicinal Information

In the present study ethnomedicinal uses of 48 selected plant species from Dobhan VDC of Palpa district, Nepal has been documented. These species were most commonly used in the treatment of stomach disorders, dermatological problems, Skeleto-muscular problems, urino-genital problems and other problems. These 48 plant species belonging to 38 families; Apiaceae, Asteraceae, Euphorbiaceae (3 species each) followed by Fabaceae, Lamiaceae Poaceae Amaryllidaceae (2 species each), Rutaceae, Lythraceae, Combretaceae, Solanaceae, Theaceae, Polygonaceae, Myrtaceae, Oxalidaceae, Myricaceae, Anacardiaceae, Lycopodiaceae, Brassicaceae, Acanthaceae, Moraceae, Equisetaceae, Zingiberaceae, Convolvulaceae, Cucurbitaceae, Verbenaceae, Lauraceae, Chenopodiaceae, Pteridaceae, Caesalpiniaceae, Nyctaginaceae, Berberidaceae, Liliaceae, Araceae, Amaranthaceae, Mimosaceae, Apocynaceae (1 species each). The parts of the plant most commonly used in the treatment of disease were leaves (19), stem, bark, rhizome, tender parts and bulb (15) root (11), seed (8), flower and fruit (3).

These were mainly used in fresh condition. Nomenclature of the plant species followed 11, 12and 23. Botanical names are given in bold letters and arranged alphabetically, followed by family name, local vernacular name and collection number. It also includes plant parts used and mode of use (Table 1). Graphic representation of plant parts and mode of plants parts used as medicines are given below in fig 1 & 2. Different ailment categories are given in Table 2.

Table 1:

Acacia nilotica (L.), Willd. Ex Del. Mimosaceae, 'Babool' AGS-180

Leaf decoction is used to cure toothache. Tender stem is used as tooth brush which cures toothache.

Achyranthus aspera L. Amaranthaceae, 'Datiwan' AGS-33

Twigs are used as toothbrush to cure toothache. Leaf juice is given orally for urinary tract irritation.

Acorus calamus L. Araceae, 'Bojho' AGS -71

Juice of rhizome is taken for the treatment of cough and cold. The raw rhizome can also be chewed to treat shore throat, cough and cold.

Ageratum conyzoides L. Asteraceae, 'Gandhe Jhar', AGS-49

Leaf juice is used to stop bleeding from cut or wounds.

Allium cepa L. Amaryllidaceae, 'Pyaz' AGS-4

Juice of bulb is used for curing of the eye boils. Raw use of bulb protects from sun stroke.

Allium sativum L. Amaryllidaceae, 'Lasun' AGS-7

The paste of bulb-lets is applied over affected parts to cure boils. Roasted bulblets are taken orally for curing of gastritis.

Alstonia scholaris (Linn.) R. Br. Apocynaceae, 'Chhatiwan', AGS- 132

Bark decoction is given to cure fever, diarrhea and dysentery and skin diseases.

Antheum sowa Kura Apiaceae, 'Soya'/ 'Saunf' AGS- 58

Decoction of fruits is taken along with common salt to cure stomachic.

Artemesia indica Willd. Asteraceae, 'Tite pati' AGS-52

Fresh juice of leaves is applied on cut and wound to stop bleeding. Leaf paste is applied on affected parts to cure scabies.

Asparagus racemosus Willd. Liliaceae, 'Kurilo', 'Santawar' AGS-28:

Juice of root is taken orally to increase lactation of lactating mother. Dry root powder is taken orally along with water to cure urinary problems.

Bauhinia variegata L. Fabaceae 'Koiralo' AGS- 68

Bark decoction is given to treat diarrhea, dysentery, piles and liver disorders.

.Berberis asiatica Roxb. ex DC. Berberidaceae, 'Chutro', 'Chautari'. AGS-135

Paste of root is applied externally on wounds and inflammations to cure them. Thick decoction of stem bark is taken orally to cure fever. Bark decoction is used in the eye to cure eye infection.

Boerhaavia diffusa L. Nyctaginaceae, 'Punarnavaa' AGS-91

Leaf paste is taken orally to check bleeding after delivery. Decoction of leaves is useful in gonorrhea.

Carum copticum C.B. Clarke Apiaceae,' Jwaano' AGS-141

2-3 gms of seed powder of Carum copticum, Zanthoxylum armatum (Timur) and black salt (Bire-noon) is taken with gentle warm water to cure gastritis.

Cassia occidentalis L. Caesalpiniaceae, 'Kasaudi'. AGS-134

Paste of leaves is applied over affected parts to treat skin diseases. Pounded seeds applied in headache.

Centella asiatica (L.) Urban, Apiaceae, 'Ghod Tapre' AGS-36

Leaf juice is taken orally in the morning for its alleged cooling property to body and stomach. Paste of the whole plant is applied over affected parts to cure skin diseases. Leaf juice is given orally in fever.

Cheilanthes tenuifolia (Burm. f.) Sw. Pteridaceae, 'Raani sinka' AGS-151

Juices of leaf are used orally as general tonic and also treat gastritis.

Chenopodium gandhium Buch-Ham. Chenopodiaceae, 'Kalo-bethe'. AGS- 131

A powdered seed boiled in milk and taken orally to cure fever Fresh juice of entire plant is taken orally along with common salt to treat stomach disorders.

Cinnamomum tamala (Buch.-Ham.) Nees & Eberm. (Lauraceae) 'Tejpaat, Dalchini'; AGS-161

Seed juice is taken orally in stomachic until cure. Seed juice is applied on affected parts to get relief from skin diseases. Leaf infusion is given twice a day for 5 days to control diarrhoea and colic pain.

Clerodendrum viscosum Vent. (Verbenaceae) 'Bhait'. AGS-148

5-10 ml of root paste is given orally twice a day for blood dysentery until cure. Leaf juice is used as wormicide.

Coccinia grandis (L.) Voigt Cucurbitaceae, 'Kundaru' AGS-109

Fresh fruit is eaten raw to cure toothache. Leaf juice is taken orally in liver disorders.

Cuscuta reflexa Roxb. Convolvulaceae, 'Akash beli' AGS-65.

The root juice is taken orally in liver disorders until cure.

Curcuma longa L. Zingiberaceae, 'Besar'. AGS-149

Decoction of rhizome is taken orally to get relief from the backache.

Euphorbia hirta L. Euphorbiaceae, 'Dudhe Jhar' AGS- 22

The fresh latex of plant is applied in cut and skin burn for its fast recovery.

Equisetum debile Roxb. Equisetaceae, 'Kurkure Jhar' AGS-163

One cup juice from fresh plant mixed with sugar cube and taken orally twice a day to cure liver disorders and constipation Root paste is applied over affected part to treat dislocation of bones.

Ficus semicordata Buch-Ham. Ex Sm. Moraceae 'Khanyu'; AGS-190

Juice of leaf is applied over affected parts to cure skin diseases.

Hordeum vulgare L. Poaceae, 'Jau'. AGS-2

Powder of dry seeds mixed with water and table sugar and taken orally thrice a day to treat liver disorders and gastritis

Justicia adhatoda L. Acanthaceae 'Asuro'; AGS- 14.

Warm decoction of the leaves is given orally twice a day for a month to treat asthma and sinusitis. Fresh leaf juice is taken with honey twice a day for a week as expectorant.

Lepidium sativum L. Brassicaceae, 'Chamsur' AGS-63

Seeds of Lepidium sativum boiled in milk and made decoction which is used twice a day for one week to cure backache.

Lycopodium clavatum L. Lycopodiaceae 'Naagbeli', AGS-197.

Juice of root is applied on cut and wounds for its fast healing power.

Mallotus philippensis (Lam.) Muell. Euphorbiaceae 'Rohini, Sindure'. AGS-193

10-25 ml.bark juice is taken 3 times a day for 7 days to treat diarrhoea and dysentery.

Mangifera indica L. Anacardiaceae, 'Aamp' AGS-201

Decoction of bark of Mangifera, Bauhinia variegata and few leaves of Psidium guajava is taken orally to cure flatulence and stomachic.

Mentha spicata L.Lamiaceae 'Pudina' AGS-18

Leaves decoction is taken twice a day for a week to cure throat infection and indigestion. Use of raw leaves or juice of leaves in an empty stomach increase the appetite

Myrica esculenta Buch.-Ham- ex D.Don Myricaceae 'Kaphal' AGS-180

Bark of Myrica boiled in water and make decoction which is given twice a day for 7 days to cure diarrhoea, dysentery and chronic bronchitis. Powdered bark of Myrica boiled in mustard oil for 20-25 minutes and then applied on the affected area with gentle massage to get relief from rheumatic pain.

Ocimum tenuiflorum L. Lamiaceae, 'Tulsi', AGS-24

Leaf decoction (20-30ml) is taken orally for one week to cure bronchitis.

Oxalis corniculata L. Oxalidaceae, 'Chari amilo' AGS-152

Juice of fresh plant is used for curing of sinusitis, anaemia and piles.

Phyllanthus niruri L. Euphorbiaceae, 'Bhuin amala' AGS-178

Decoction of fresh root used orally two times a day to treat jaundice and stomach disorders.

Psidium guajava L. Myrtaceae 'Ambaa' AGS-123

Leaves of Psidium guajava, bark of Bauhinia variegata and Mangifera indica is boiled 25-30 minutes and used twice a day in gastritis and flatulence until cure.

Rumex nepalensis Spreng Polygonaceae, 'Ban palungo' AGS-61

Fresh root is chewed to cure toothache. Fresh leaf juice is applied on cuts, wounds and swellings.

Schima wallichii (DC.) Korth. Theaceae 'Chilaune'. AGS-171

Two teaspoonfuls decoction of pounded stem bark are given twice a day for 3- 4 days to cure fever and stomach pain.

Solanum virginianum L. Solanaceae 'Kantkari' .AGS-125

Decoction of root is taken twice a day for seven days to cure cough, asthma and chest pain.

Terminalia alata Heyne ex Roth Combretaceae 'Saj' AGS-136

About 3-4 teaspoonfuls of fresh bark juice is taken 3 times a day for 6 days to cure diarrhoea and dysentery

Thysanolaena maxima (Roxb.) Kuntze Poaceae 'Amriso'AGS-147

Two teaspoonfuls root juice is given twice a day for 2-3 days as anthelmintic. Root paste is applied to cure boils.

Tridax procumbens L. Asteraceae 'Kurkure'.AGS-103

Fresh plant juice is applied twice a day for 3-4 days to cure cuts and wounds.

Trigonella foenum-graecum L. Fabaceae 'Methi' AGS-105

The infusion of dried seeds along with small amount of sugar cube used orally early in the morning in empty stomach to cure over heat. Leaf poultice are applied on boils.

Urtica dioca L. Urticaceae, 'Sisnu' AGS-108

Tender parts of the plant cooked and taken daily for the treatment of diabetes and rheumatism Root juice is used to cure toothache

Woodfordia fruticosa (L.) S. Kurz Lythraceae, 'Dhayro'. AGS-179

Decoction of fresh flower is taken orally twice a day for jaundice patient until cure. Powder of dried flower is taken orally with water to cure dysentery.

Zanthoxylum armatum DC. Rutaceae, 'Timur'. AGS-126

Decoction of seeds is taken orally to cure cold. Powdered seeds of Zanthoxylum armatum (Timur), Carum copticum (Jwaano) and black salt are taken orally with water to cure gastritis.

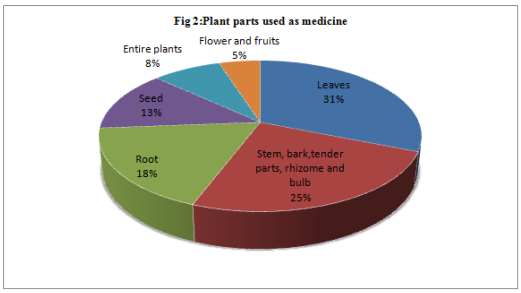

Fig 2:Plant parts used as medicine

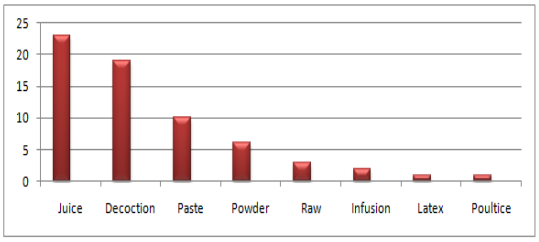

Fig 2: Mode of plant parts used as medicine

Table 2: Different ailment categories

Categories of ailments	Bio-med Terms
Dermatological disorders and cosmetics	cut, wounds, boils, scabies, skin burns, skin diseases, body inflammation, bleeding etc.
Stomach disorders	Diarrhea, Dysentery, Stomachic, Gastritis, Appetizers, Constipation, Piles, Anthelmintic, Flatulence, Over heat, Indigestion etc.
Respiratory diseases	Cold, Cough, Asthma, Bronchitis, Chest pain etc.
Nose and throat diseases	Throat infection, Throat shore, Sinusitis etc.

Oral & dental disorders	Toothache, Mouth sore etc
Skeleto-muscular pain and swelling	Body-ache, Rheumatic pain, Headache, Backache, Swelling, Dislocation of bones etc
Liver disorders	Jaundice, liver disorders, Diabetes etc
Urino-genital problems	Urinary tract irritation, Gonorrhea, Urinary problem etc.
Others	Eye boils, Lactation, Expectorant, General tonic, Anaemia, Eye infection, Fever etc.

- Many plants are used for more than one ailment categories

Acknowledgement

The author of this research article is thankful to the people of study area and secretary of that village development committee who kindly shared their indigenous knowledge throughout the field. Without their active participation this research article would not have been possible. The author of this paper is also grateful to the departmental colleagues, Mr. Mukhi Lal Chaudhary of Mathematics, Dr. D.N. Pathak of Chemistry Department of Butwal Multiple Campus, Tribhuvan University, Nepal. They encourage me for the preparation of manuscript and time to time field visit for the data collection and compilation during research.

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