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Ethnobotanical Studies on Dental Hygiene in District Hamirpur, Himachal Pradesh (H.P.), India

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Abstract

The present study was carried out to assess and document ethnobotanical knowledge of plants of District Hamirpur (H.P.) used for dental care, as the area has diverse flora and high ethnobotanical potential. It was found that 32 different plant species belonging to 24 families are used for dental hygiene. The studies reveal the use of 18 trees, 9 shrubs, 2 under-shrubs and 5 herbs for dental hygiene.

Key words: Dental hygiene, ethnobotanical explorations, dental caries, gum inflammation, toothache.

Introduction

Hamirpur district is situated between 76°18'-76°44' East longitudes and 31°52'30" North latitudes. The track is hilly covered by Shivalik range and the elevation varies from 450-1,100 metres (3). This region is rich in diverse flora and suitable for ethnobotanical explorations. Various plants are used for many diseases and for dental hygiene.

The mouth is a mirror that can reflect the health of the rest of your body *i.e.* there is a connection between oral health and general health. A survey conducted by Synovate India, sponsored by Colgate-Palmolive (India) limited revealed that dental problems in India are due to low awareness levels and poor oral hygiene habits in people (EHM News Bureau, Mumbai (2009). According to the survey over 50% were unconcerned about curing dental problems. Due to the increasing demand for herbal remedies as these have no side effects and are eco-friendly, the present study has been undertaken in relation to dental hygiene. So far little and scattered information is available on plants used for dental hygiene (1-2), (4-7) and (9); so an attempt has been made to compile these plants in one format.

Materials and Methods

Ethnobotanical explorations were carried out in the study area several times to ensure correct information about plants used in dental problems. For a better understanding of local beliefs, habits and uses of plant, different categories of people like family heads, healers, old experienced and knowledgeable informants

were repeatedly interviewed. Specific questions based upon Proforma designed by Jain and Goel (1995) were asked and the resultant informations were recorded in the ethnobotanical field notebook (8). The plants were collected, pressed and later on identified.

Results

The ethnobotanical investigations revealed the use of 32 species of plants for dental hygiene.

Botanical Name: *Achyranthes aspera* Linn.
Family: Amaranthaceae
Local Name: Puthkanda
Habit: Herb
Part Used: Root
Folk use: Root used as a toothbrush, good for dental caries.

Botanical Name: *Argemone mexicana* Linn.
Family: Papaveraceae
Local Name: Kandayi
Habit: Herb
Part Used: Seeds
Folk use: Pulverized seeds good for gum troubles.

Botanical Name: *Azadirachta indica* A. Juss.
Family: Meliaceae
Local Name: Neem
Habit: Tree
Part Used: Stem
Folk use: Twigs used to clean teeth; considered good for dental caries and gum infection.

Botanical Name: *Berberis lycium* Royle
Family: Berberidaceae
Local Name: Kashmal
Habit: Shrub
Part Used: Stem
Folk use: Peeled stem considered good for scouring teeth.

Botanical Name: *Boehmeria platyphylla* Don
Family: Urticaceae
Local Name: Handa
Habit: Shrub
Part Used: Leaves
Folk use: Leaves used for scouring teeth.

Botanical Name: *Calotropis procera* R. Br.
Family: Asclepiadaceae
Local Name: Ak
Habit: Shrub
Part Used: Latex
Folk use: Latex used for toothache due to dental caries.

Botanical Name: *Capsicum annum* Linn.
Family: Solanaceae
Local Name: Mirch

Habit: Shrub
Part Used: Fruits
Folk use: Fruits boiled in 'sarson' oil and oil is poured in ear; good for toothache.

Botanical Name: *Cassia occidentalis* Linn.
Family: Fabaceae
Local Name: Relu
Habit: Under-shrub
Part Used: Leaves
Folk use: Leaves used for scouring teeth

Botanical Name: *Cinnamomum tamala* Nees & Eberm
Family: Lauraceae
Local Name: Tej-patta
Habit: Tree
Part Used: Leaves
Folk use: Leaves used for scouring teeth; good for gum inflammation.

Botanical Name: *Citrus limon* (L.) Burm. f.
Family: Rutaceae
Local Name: Galgal
Habit: Tree
Part Used: Leaves
Folk use: Leaves used for scouring teeth and good as a mouth freshener.

Botanical Name: *Citrus medica* Linn.
Family: Rutaceae
Local Name: Nimbu
Habit: A small tree
Part Used: Leaves, fruits
Folk use: Leaves and rind of fruits recommended for scouring teeth along with a pinch of rock salt.

Botanical Name: *Curcuma angustifolia* Roxb.
Family: Zingiberaceae
Local Name: Haldi
Habit: Herb
Part Used: Rhizome
Folk use: Powdered rhizome mixed with potash alum and mustard oil is applied on gums for pyorrhea.

Botanical Name: *Engelhardtia colebrookiana* Lindl.
Family: Juglandaceae
Local Name: Samma
Habit: Tree
Part Used: Leaves
Folk use: Scouring teeth with leaves considered good for dental caries.

Botanical Name: *Ficus hispida* Linn.
Family: Moraceae
Local Name: Daagrein
Habit: Tree
Part Used: Latex
Folk use: Latex used for toothache.

- Botanical Name: *Ipomoea carnea* Facq.
Family: Convolvulaceae
Local Name: Ghodan
Habit: Shrub
Part Used: Leaves
Folk use: Leaf juice recommended for toothache.
- Botanical Name: *Jatropha curcas* Linn.
Family: Euphorbiaceae
Local Name: Japhrota
Habit: A small tree
Part Used: Stem
Folk use: Twigs used as a toothbrush; good against dental caries.
- Botanical Name: *Juglans regia* Linn.
Family: Juglandaceae
Local Name: Khod
Habit: Tree
Part Used: Bark, leaves
Folk use: Bark and leaves used for scouring teeth.
- Botanical Name: *Mangifera indica* Linn.
Family: Anacardiaceae
Local Name: Aam
Habit: Tree
Part Used: Leaves
Folk use: Leaves used for scouring teeth.
- Botanical Name: *Murraya koenigii* Spreng.
Family: Rutaceae
Local Name: Gandhela
Habit: Shrub
Part Used: Stem
Folk use: Stem used for scouring teeth and for healthy gums.
- Botanical Name: *Murraya paniculata* (Linn.) Jack.
Family: Rutaceae
Local Name: Gandhela
Habit: Shrub
Part Used: Stem
Folk use: Stem used for scouring teeth and for healthy gums.
- Botanical Name: *Carya illinoensis* (Wang.) Koch.
Family: Juglandaceae
Local Name: Kagji-khod
Habit: Tree
Part Used: Leaves
Folk use: Leaves used for scouring teeth; good for gums.
- Botanical Name: *Pistacia integrifolia* J. L. Stewart ex Brand.
Family: Anacardiaceae
Local Name: Kakarsingi

Habit: Tree
Part Used: Leaves
Folk use: Leaves chewed to check toothache

Botanical Name: *Plumbago zeylanica* Linn.
Family: Plumbaginaceae
Local Name: Chitra
Habit: Under-shrub
Part Used: Stem, root
Folk use: Stem recommended for scouring teeth and root paste to check toothache.

Botanical Name: *Prunus cerasoides* D. Don
Family: Rosaceae
Local Name: Paza
Habit: Tree
Part Used: Stem
Folk use: Twigs used for scouring teeth.

Botanical Name: *Psidium guajava* Linn.
Family: Myrtaceae
Local Name: Amrood
Habit: Tree
Part Used: Leaves, stem
Folk use: Leaves and stem used for scouring teeth

Botanical Name: *Robinia pseudo-acacia* Linn.
Family: Fabaceae
Local Name: Rasinia
Habit: Tree
Part Used: Bark
Folk use: Powdered bark recommended for toothache

Botanical Name: *Salix oxycarpa* Anderss
Family: Salicaceae
Local Name: Beunce
Habit: Tree
Part Used: Root
Folk use: Root bark chewed for toothache; good for pyorrhea and dental caries.

Botanical Name: *Spilanthes oleracea* Linn.
Family: Asteraceae
Local Name: Karkara
Habit: Herb
Part Used: Inflorescence
Folk use: Inflorescence used for gum inflammation

Botanical Name: *Thalictrum reniforme* Wall.
Family: Ranunculaceae
Local Name: Garvin
Habit: Herb
Part Used: Root
Folk use: Root chewed to check gum inflammation.

Botanical Name: *Vitex negundo* Linn.
 Family: Verbenaceae
 Local Name: Bana
 Habit: A small tree
 Part Used: Stem
 Folk use: Twigs recommended to clean teeth; considered good for pyorrhea, gum inflammation, dental caries and other problems.

Botanical Name: *Wendlandia heynei* Sant. & Merch.
 Family: Rubiaceae
 Local Name: Panseera
 Habit: A small tree
 Part Used: Stem
 Folk use: Twigs used as a tooth-brush.

Botanical Name: *Zanthoxylum armatum* DC
 Family: Rutaceae
 Local Name: Tirmir
 Habit: A small tree
 Part Used: Stem
 Folk use: Twigs considered as a best source for scouring teeth and considered good for any dental problem.

The different parts used for dental hygiene are represented by the histogram (Fig. 1):

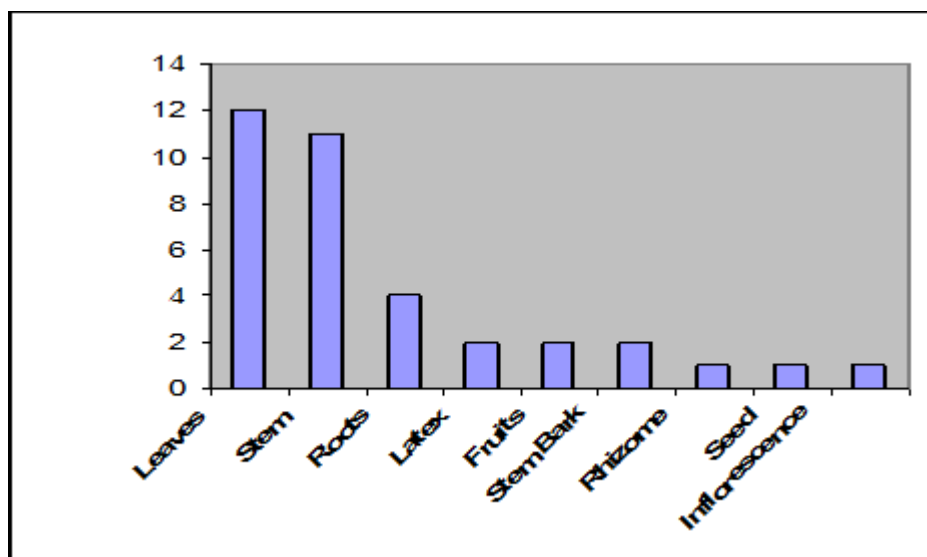


FIGURE 1: The number of different parts used for dental hygiene.

Discussion

The present study revealed information of plants used for dental hygiene. These plants are arranged in alphabetical order; with their family, local name, habit, part / parts used and folk use.

Present study includes 32 plants (Table 1) used for dental hygiene belonging to 24 families. The predominant families are Rutaceae with 5 plant spp, Juglandaceae with 3 plants spp, Anacardiaceae and Fabaceae with 2 plant spp each. Among various plants, 18 trees, 9 shrubs, 2 under-shrubs and 5 herbs are used for dental hygiene. Out of 32 plant spp leaves of 12, stem of 11, root of 4 are predominantly used for the purpose while latex, fruits, and stem bark of 2 plant spp each are used (Figure 1). Rhizome, seeds and inflorescence of 1

plant each are used for dental hygiene.

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