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Traditional practice for dental hygiene and hazard by common people: A case study in Majuli, Assam

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ABSTRACT

Herbal medicine has been widely practiced throughout the world since ancient times. These medicines are safe and eco-friendly. An ethno-medico-botanical survey was carried out among the local people of Majuli, Jorhat for the exploration of dental care and health hygiene. During the survey a total no. of 23 plant species belongs to15 family are recorded and use of plant parts are different to different localities. During the study the use of stem parts was highly recorded which is followed by leaf and the family possesses maximum uses.

Key Words- Ethnic Groups, Dental care, Majuli.

INTRODUCTION

India has had a rich, vibrant and diverse cultural history. An important component of this culture and tradition is that of health and healing. Thus there is a large health and healing related knowledge base present in all ethnic communities across the diverse ecosystem. The value of medicinal plants to the mankind is very well proven. It is estimated that 70 to 80% of the people worldwide rely chiefly on traditional health care system and largely on herbal medicines (Farnsworth *et al*., 1985; Farnsworth and Soejarto, 1991; Pei Shengji, 2002; Shanley and Luz, 2003). Higher plants as source of medicinal compounds have continued to play a dominant role in the maintenance of human health since ancient times (Farombi, 2003).

The World Health Organization (WHO) has defined traditional medicine as "the sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing" (WHO, 1978). Traditional medicine is, therefore, used mainly to distinguish the ancient and culture-bound health care practices, which existed before the application of science to health matters in official modern scientific medicine or allopathy. WHO has listed 20,000 medicinal plants used in different parts of the world. Other estimates indicate the number to range between 35,000 and 70,000 worldwide (Lewington, 1993; Bhattarai and Karki, 2004).

MATERIALS AND METHODS

a. The study area

Majuli or **Majoli** is a large river island in the Brahmaputra River in the Indian state of Assam. Majuli is the largest river island in the world. It is in the Jorhat district covering an area in between 26^0 40/N - 27^0 10/ N Latitude and $93^0$37/ E - $94^0$50/E Longitude. Majuli had a total area of 1,250 square kilometres (483 sq mi), but having lost significantly to erosion it has an area of only 421.65 square kilometres (163 sq mi) in 2001(Figure 1).

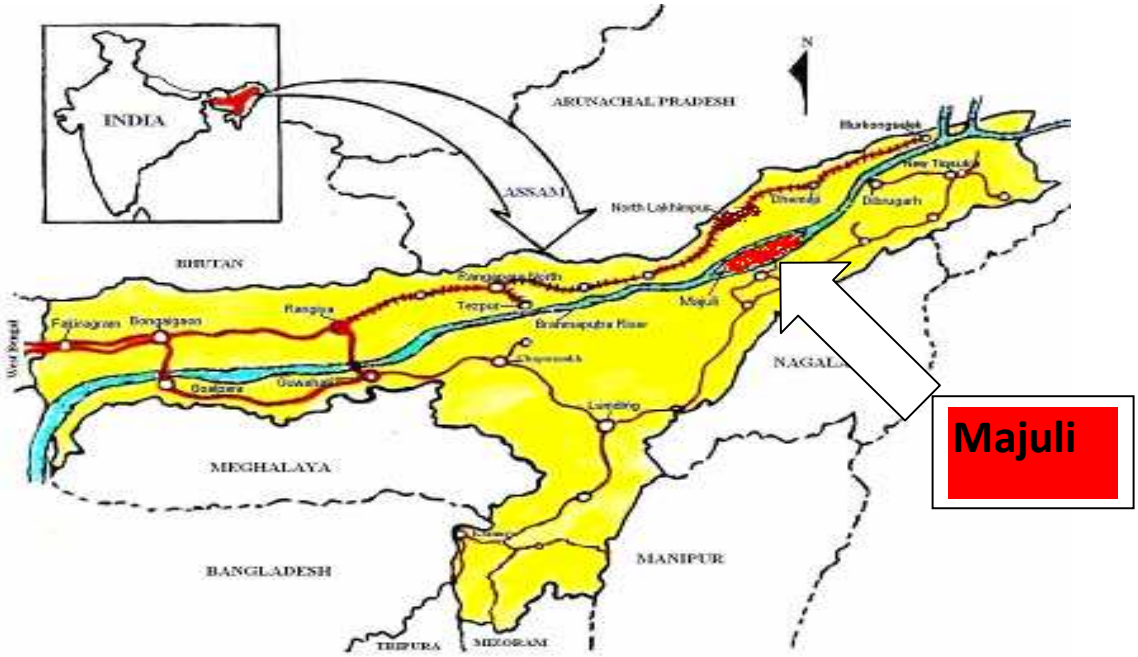


Figure 1, The Majuli island

The island is formed by the Brahmaputra river in the south and the Kherkutia Xuti, an anabranch of the Brahmaputra, joined by the Subansiri River in the north. It is absolutely isolated from the rest of the world and is one of the country's bio-diversity and cultural hot spots. It is perhaps the largest populated river island, with a population of 2.15 lakhs.

b. Methodology

Intensive ethno-botanical exploration were undertaken in selected places of Majuli to find out various medicinal plants used for dental care either in flowering or fruiting stage. The freshly collected samples of plants were arranged properly. To know the uses plants, different categories of people like family heads, healers, old experienced and knowledgeable informants were repeatedly interviewed. Specific questions based upon Performa designed by Jain (1976) were asked and the resultant information's were recorded in the ethno-botanical field notebook.

Frequent field trips were made to the different villages, as shown against the numerical of Figure 2, situated in the remote areas of Majuli during the year 2010. The oral folklore of health care information were collected as suggested by Schultes (1963) Jain (1963, 1964, 1967), Borthakur (1976) on the basis of interviews and cross examination of the inhabitants and village medicine men commonly known as BEZ during these field trips. Voucher specimens were collected, identified and preserved as herbarium specimens in the Department of Botany, North Lakhimpur College. Identification of the plants were done by following the reference books of, Dutta (1975), Hooker (1872-97) and Kanjilal *et al.*(1934-40).

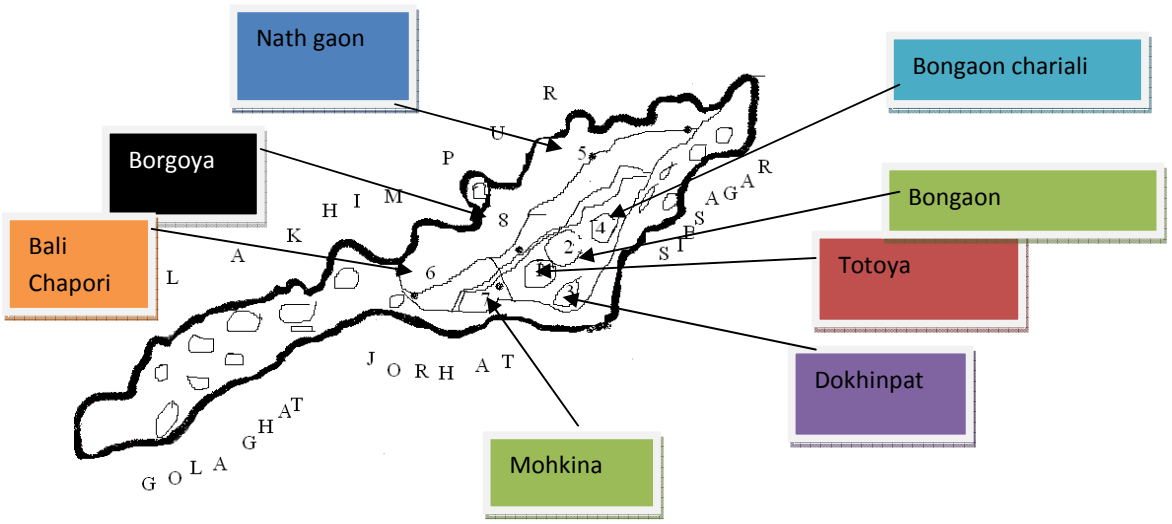


Figure 2. The numerical 1, 2, 3, 4, 5,6,7,8 are the areas of field work in Majuli.

Table-1: Dental care plants of Majuli

	Botanical Name	Family	Local name	Parts used	Traditional Uses
1	*Acacia farnesiana* L Willd	Fabaceae	Torua kadom	Twig.	Twig is used as Tooth brush, which is said to cure pyorrhea
2	*Achyranthes aspera* L	Amaranthaceae	Bonsodh	Stem, whole plants	Stem is used as Tooth brush, The ash of the whole plant is used as tooth powder; It is said to cure pyorrhoea and toothache
3	*Azadirachta indica* A. Juss	Meliaceae	Neem	Stem	Twigs used to clean teeth and also consider as good for dental caries and gum infection.
4	*Bambosa tulda* L.	Poaceae	Jati-banh	Stem	Tender stem is use as tothbrush
5	*Bambosa balcooa* L	Poaceae	Bholuka-banh	Stem	Tender stem is use as tothbrush
6	*Borreria articularies* Will	Rubiaceae	Gahoriban	Stem	Vapour of the plant is inhaled to kill tooth worms
7	*Calotropis gigantea* R. Br.	Asclepiadiaceae	Akon gosh	Leaf, Stem	Paste of the young leaf and stem mixed with ginger is applied locally to relieve toothache.
8	*Curcuma angustifolia* Roxb.	Zingiberaceae	Haladhi	Rhizome	Powdered rhizome mixed with mustard oil is applied on gums for pyorrhea
9	*Curcuma aromaticaSalisb*	Zingiberaceae	Keturi Haladhi	Rhizome	Small piece of rhizome is eaten on the day of gorubihu festival of assam for dental care and used to cure toothache
10	*Capsicum annum* Linn	Solanaceae	: Jalakia	Fruits	Fruit is good for toothache
11	*Cinnamomum tamala* Nees & Eberm	Lauraceae	Tejpat	Leaves	Leaves used for scouring teeth; good for gum inflammation
12	*Citrus limon* (L.) Burm. f.	Rutaceae	Kajinemu	Leaves	Leaves used for scouring teeth and good as a mouth freshener.
13	*Glycosmis pentaphylla* Corr	Rutaceae	Tolothapoka	Stem and bark	Young twigs are used as tooth brush for healthy teeth and gum. Paste of bark is applied to treat swelling and bleeding from the gum.
14	*Grewa sapida* Roxb.	Tiliaceae	Saura	Stem	Stem is used as Tooth brush
15	*Jatropha curcas* Linn.	Euphorbiaceae	Bongali ara	Stem	Twigs used as a toothbrush; good against dental caries.
16	*Mimosa pudica* L.	Fabaceae	Nilagibon	Rhizome	Paste of Rhizome is applied locally to treat toothache.
17	*Nicotiana tabacum* L.	Solanaceae,	Dhopat.	Leaf	Leaf power is burned and applied against tooth-ache
18	*Psidium guajava* Linn	Myrtaceae	Modhuriam.	Leaves, stem	Leaves and stem used for scouring teeth
19	*Ricinus communis* L.	Euphorbiaceae.	Aragash.	Seeds	Seeds are smoked like a cigaretes to treat worms in the teeth.
20	*Smilax perfoliata* Bl	Smilaceae	Tikani barua	Root	Paste of root is applied locally in toothache .
21	*Solanum khasianum* Clarke	Solanaceae	Khasia Bengena	Seed	Paste of seed is applied locally to relieve toothache.
22	*Spilanthes clava* DC.	Asteraceae	Suhuniban	Inflorescence	Flower head is chewed for about 10-15 minute to relieve dental caries
23	*Zantohxylum nitidium* DC.	Rutaceae	Tezmuri	Root	Paste of root is applied locally in toothache

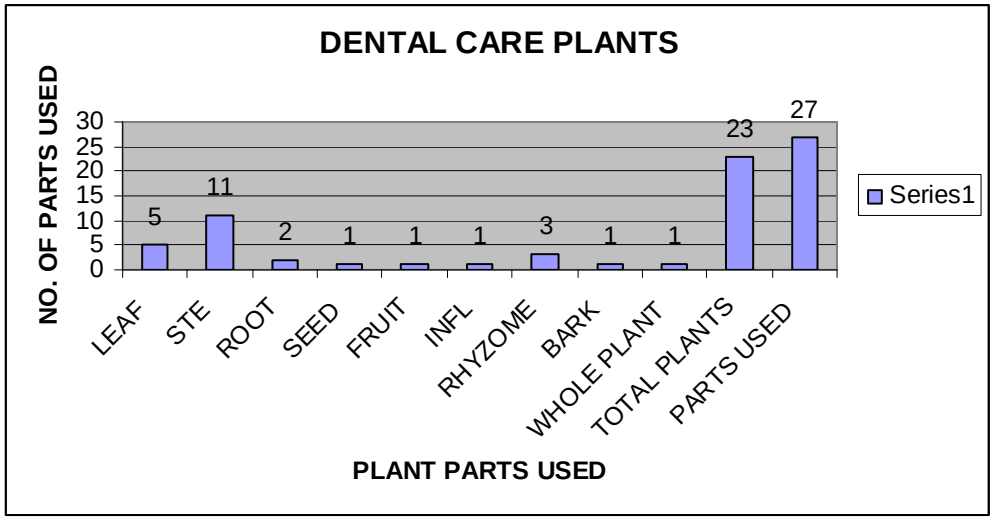
RESULTS AND DISCUSSION

The plants have been described with their botanical name, family, local name and uses (Table 1). Twenty two plant species were collected and recorded for its dental care values. The traditional method of treatments and cares are still prevalent within different tribes of Majuli, Assam. But due to social changes, the tradition has faced serious threat which may leads to loss of traditional practices in near future. As the people of Majuli are still most backward and the sar- chapori area are not well furnished, but likely to be going modernized. The present trend of urbanization of the study areas also indicate that in spite of establishment of small health centers in the area, uses of plants and traditional practices will continue to play a significant role in the socio-cultural life of these village communities. Prior to loss of these potential species and erosion of indigenous knowledge, efforts should be made to document useful species and the vast stores of indigenous ethnobotanical knowledge and practices. A statistical analysis of parts used was carried out (Table- II) in which stem posses maximum uses next to leaf and the data will be represent with histogram (Table- III).

Table-2: Statistical analysis of parts used

Sl.No	Leaf	Stem	Root	Seeds	Fruits	Inflorescence	Rhizome	Bark	Whole plant
1	5	11	2	1	1	1	3	1	1

Graphical representation of data



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