

# **A Note on the Use of Ethnomedicine in Treatment of Diabetes by Mishing Communities**

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## **Abstract**

Ethnomedicinal field survey was conducted in few places of Sonitpur district and near by areas of Lakhimpur district of Assam, where diverse ethnic groups are living since time immemorial. The ethnic groups have very rich tradition of herbal medicines used in the treatment of various ailments. Among the tribal communities, *Mishings* constitute the largest group along with *Bodos*. The ethnomedicinal information was collected on the basis of interview and field studies with local healers among those communities. The identification of medicinal plants collected with help of indigenous healers was done. Such medicines have been shown to have significant healing power, either in their natural state or as the source of new products processed by them. Generally these formulations of crude products are considered moderate in efficacy and thus less toxic than most pharmaceutical agents. Our study is mainly concentrated with plants used in relation to cure of diabetes. In our report detail note on the method of preparation of precise dose, the part/parts of plants used and method of application is given. Scientific name, vernacular names and family names of collected plants are also given in the report.

**Key words:** Ethno-medicines, ethnic groups, herbal practitioners, diabetes.

## **Introduction**

Assam, with diverse ethnic communities and socio-cultural complexities, has maintained one of the oldest and most diverse traditions associated with the use of ethno-medicinal plants. The herbal medicines occupy a distinct place in our life that provides information on the use of plants or plant parts as traditional medicine. The existence and dependency on a large number of traditional practices provide us a way to think the alternative medicine where the cost and side effects are negligible.

The present study pertains to traditional practice related to the treatment of one of the most common diseases in North-east India i.e. Diabetes. This is not a new disease and has been a medical problem since

antiquity.

Diabetes is a disease in which the body is unable to produce or unable to properly use and store glucose (a form of sugar). Glucose backs up in the bloodstream - causing one's blood glucose or "sugar" to rise too high. As ethnic communities switch over from their native diets to more commercial foods, the rate of diabetes increases, eventually reaching the same proportions seen in western societies.

## Materials & methods

In ethnobotanical or ethnomedicinal studies, the most reliable method is one involving field study as suggested by Jain et al (1969). It involves meeting with the herbalists and experts in the field for getting first hand information. Practitioner of herbal medicines who are experts in treating in general different ailments and who are also expert in treatment of diabetes were consulted for getting some first hand data. In the present study the work is restricted to some herbal-medical practitioners among the *Mishing*, *Bodo* tribes and other ethnic group like *Deuris* etc. inhabiting Gohpur area in Sonitpur Districts of Assam as well as its nearby area of Lakhimpur District. The herbalists consulted were convinced about the importance of documentation of ethnic knowledge about the medicinal plants used in various curative purposes. It requires tactful handling and persuasion to bring out the information from the herbal practitioners. The detail information about the plants and part used in the treatment of diabetes was collected. Plant specimens were collected for identification and herbarium preparation. While most of the plants are commonly occurring plants known to most of the people, some of the plants were identified consulting the herbarium specimen in the department of botany, Rajiv Gandhi Central University, Itanagar. The detail method of the preparation of the precise dose was also collected. The herbarium specimens are preserved in the department of botany, Chaiduar College, Gohpur for authentication and future reference.

## Results

The ethnomedicinal information regarding treatment of diabetes and related diseases collected in course of field study is presented here in tabular form for easy reference. The first hand information of plants used in Diabetes are corroborated consulting some available literatures like those of Kanjilal & Das (1939-40), Kirtikar & Basu (1933) etc.

The following account gives the information of some plants used in diabetes.

1. 100g of washed wheat grains are soaked in 250ml of water for 12 hour and filtrate should be taken in empty stomach twice daily for seven days. It has the property to reduce general debility for diabetes.
2. Night jasmine (*Nyctanthes Arbortristis*) stem bark extract 100ml should be taken in empty stomach for seven days in the morning. But this extract should not be given to diabetic patient having heart problem.
3. *Garcinia xanthochymus* (Tapor Tenga) leaves are also used to cure diabetes. Here the leaf extract should be taken in empty stomach for several days. Grinded leaves in three number dipped overnight should be taken with water and taken in empty stomach two times daily for seven days. One to three numbers

of leaves should be taken in the low level to high level of diabetes. Some chronic diabetic patients who develop high blood pressure are also cured by this treatment.

4. **Mixture for Diabetes:** a mixture is used to prepare tablet by using a small amount of raw asafoetida (*Ferula assafoetida*, Linn) purchased from the traditional market and few plants in estimated amount as shown in table (Ethno medicinal Plants Mixture for Diabetes). The plants and parts of plants named as *Mikania micrantha* Kunth, *Centela asiatica*, Linn, Urban, *Axon opus corymbosus* Schult, *Streblus asper* Lour, *Scoparia dulcis* Linn, *Commelina bengalensis*, Linn, *Polygonum strigosum* R.Br and a part of *Musa sapientu*. Linn according to the table used to prepare the mixture (Table 1.).

The above plants along with raw asafoetida and covered with leaf of banana and half backed with light wooden fire, removed from fire and then covered by a pot till cool to save the vapour. After cooling the mixture is kept open under sunlight and then thoroughly mixed. If mixture is in loose form then it is again dried in the sunlight. This mixture is used to prepare tablet and kept in tight covered battle. The tablets are given to patient two times daily in empty stomach for seven days.

**Table 1:** Ethno medicinal Plants Mixture for Diabetes.

	Local name	Botanical name	Family	Used parts	Uses amount
1	Hing	<i>Ferula assafoetida</i> , L	Apiaceae	Raw type	1 gm
2	Gaharilota	<i>Mikania micrantha</i> <u>Kunth</u>	Asteraceae	Whole part	300 gm
3	Bor manimuni	<i>Centela asiatica</i> ,(L) Urban	Thelypteridaceae	„	300gm
4	Dabasaban	<i>Axonopus corymbosus</i> Schult	Poaceae	leaf	300gm
5	Soura	<i>Streblus asper</i> Lour	Moraceae	Small twig	three numbers
6	Dudhban	<i>Scoparia dulcis</i> , L	Scrophulariaceae	Whole plant	7 numbers
7	Kanasimalu	<i>Commelina bengalensis</i> , Linn.	Commelinaceae	„	7 numbers
8	Mousarali	<i>Polygonum strigosum</i> R.Br	Polygonaceae	„	3 in number
9	Bhinkol	<i>Musa sapientum</i> ,L	Musaceae	leaf	A part

## Conclusion

The description of all above mentioned plants are on the basis of ethno medicinal knowledge. Plants are used by different communities in different places on the basis of availability of those plants and the proper knowledge about efficacy of those plants against the disease. But we had faced with a problem that the tribal communities lack much knowledge about diabetes as such as there are very few people suffering from the problem. Although this medicine has less side effect but an overdose may cause of hypoglycaemia type

condition. For safe uses of different medicinal plants, we need randomised clinical trials for some of the manual therapies and further research is need to ascertain the efficacy and safety of several other practices and medicinal plants. The plants uses in mixture all may not contain the properties to relief from diabetes but some might be reduced side effect on treatment. Therefore, we have to develop a proper study about the traditional medicine and the ratio of curative measurement applied to different patients suffering from diabetes on the use of those plants.

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### **References**

1. Andrade-Cetto A.; Heinrich M, 2005, Mexican plants with hypoglycaemic effect used in the treatment of diabetes. *Journal of Ethnopharmacology* v. 99(3): 325-348.
2. Chandrasekhara, N.K., 2005, Herbal therapy for treating diabetes, *International Conference on Modern Trends in Plant Sciences with Special Reference to the Role of Biodiversity in Conservation, Amravati, Maharashtra*, p. 154, 17-20 February,
3. Jain, S. K. & S. Rao, 1969, Field and Herbarium Techniques, Jodhpur.
4. Kanjila, U.N., P.C. Kanjila et al., 1934-40, Flora of Assam, Vol 1-5, Shillong.
5. Kirtikar, K.R. and Basu, B.D., 1933, Indian Medicinal Plants, Vol. 1-4, Delhi
6. Li W.L.; Zheng H.C.; Bukuru J; De Kimpe N, 2004, Natural medicines used in the traditional Chinese medical system for therapy of diabetes mellitus. *Journal of Ethnopharmacology*, v. 92(1): 1-21.
7. Moshi M.J.; Mbwambo Z.H., 2002, Experience of Tanzanian traditional healers in the management of noninsulin dependent diabetes mellitus. *Pharmaceutical Biology*, 40(7): 552-560.
8. Pieroni A., 2000, Medicinal plants and food medicines in the folk tradition of the upper Lucca Province, Italy, *Journal of Ethnopharmacology* v. 70(3): 235-273.
9. Cetto A.A., and Heinrich, 2005, M Mexican plants with hypoglycaemic effect used in the treatment of diabetes, *Journal of Ethnopharmacology* v. (99): 325-348.