



Research Article

AN OVERVIEW ON ETHNOMEDICINAL PROPERTIES OF SOME ABORIGINAL FOODS OF ASSAM

Sujata Deka and *Daisy Sharma

Department of Food, Nutrition and Dietitics, College of Allied Health Sciences Assam down Town University

ARTICLE INFO

Article History:

Received 15th April 2016
Received in revised form
24th May 2016
Accepted 19th June 2016
Published online 31st July 2016

Keywords:

Overview, Ethnic,
Medicinal, Aboriginal, Foods

ABSTRACT

The present study on “An overview on ethno-medicinal properties of some aboriginal foods of Assam” was undertaken with the objectives of documentation of the ethno-botanical foods with therapeutic benefits. For the documentation of ethno-medicinal information, a secondary survey was conducted to collect the information on medicinal plants of Assam. A household survey was also conducted using a standard questionnaire. From the survey, information on 50 numbers of medicinal plants was collected. Out of these 50 medicinal plants, ten medicinal plants were selected for documentation and studied for their therapeutic benefits and nutritive content.

Copyright © 2016, Sujata Deka and Daisy Sharma. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Foods as medicine have been used for health and medical purposes for several thousands of years. The practice of ethno medicine is an important vehicle for understanding indigenous societies and their relationship with nature. Ethno medicinal knowledge is also important from humanitarian point of view as this will help to identify important medicinal uses which can help improving health and diseases care. Traditional medicine has been used from great Vedic Age and its knowledge covers traditional culture, folklore, literary evidence and artistic work. This knowledge with antiquated technology is widely used among the primitive communities living in the interior who have acquired immense information about the use of wild flora and fauna. This herbal knowledge along with geo-bio product preventing their ailment and has helped people all over the globe to prevent various ailments. The use and selection are based on local needs, customs, preference, habits and that varies from tribes to tribes. These traditional medicines are always been the part of day to day life and are mostly comprised of edible plants and herbs, parts of different plants and other by-products and daily used as food. Since such knowledge are pre-existing in nature and also connected with some kind of food taboos or restrictions, and its use vary from community to community in isolated geographical locations.

*Corresponding author: Daisy Sharma,
Department of Food, Nutrition and Dietitics, College of Allied Health
Sciences Assam down Town University.

Few tribal communities consider certain food items fit and others unfit for human consumption. Dietary rules and regulations have governed different phases of the human life cycle and may be associated with special events such as menstrual period, pregnancy, childbirth, lactation, and in traditional societies, preparation for the hunt, battle, wedding, funeral and other situations. It has been noticed that archaic medicinal knowledge are widely practised among all the tribal communities who still dwell in their undisturbed woodlands and are far much away from the modern civilisation. Although they lack behind modern day medical support but are successfully surviving on the basis of their rich traditional medicine. These medicines co-evolved between human and environment. It is broadly divided into two groups on basis of consumption as food regularly or according to the seasonal availability to overcome seasonal calamities like fever, fungal and viral infection mostly seen during rainy summers than in cold winters and the other group are geo-products like extraction from roots, leaves, stems, barks and flowers which might be edible or non edible and are only used for therapeutic application. Assam, a well-known territory of biodiversity covers an area of 2.4% of the total geographical area of India. It's a land of *Tantricism*, and the great *pith* of *Ma Kamakshya* is situated on the Nilachal Hills and gives a significant importance to this whole region. Enchanting recital of *hymns* and *mantras* has great relevance in the life of the people and particularly in the treatment of diseases and ailments. It is believed that most of these holy recitals have originated in Bhutan and has a Mongoloid origin or influence.

Table 1. Nutritive and Medicinal values of some commonly used herbal plants

Sl no	Assamese term	Scientific term	Part used	Nutritive value	Medicinal value
1	Ada	<i>Zingiber officinale</i>	Root(rhizome)	100g=80 calories ,gingerols is a phytochemical	Antioxidant ,Anti- inflammation, protects from colorectal cancer.
2	Amita	<i>Carica papaya</i>	Fruit	100g=43 calories Vitamin C ,Folate,carotene ,flavonoids Pantothenic acid ,minerals potassium ,copper,magnesium and fiber and enzymes papain and chymopapain .	Corrects digestive disorders,prevents from colon cancer,age related Muscular degeneration (ARMD), protects from Rheumatoid Arthritis .
3	Amlokhi	<i>Emblica officinalis gaertn</i>	Fruit and seed	100=58 calories ,rich in fiber,essential amino acids, Vitamin C,Calcium ,iron,copper,phosphorus ,manganese and potassium, Vitamin A ,pantothenic acid ,folate and thiamine.	Anti cancer ,aging ,inflammation and neurological disorder ,oxygen radical absorbance capacity
4	Bael	<i>Aegle marmelos (Linn)</i>	Fruit, leave	100gm=134calories Rich in carbohydrates ,protein ,beta-carotene ,vitamin A ,oxalic,malic and citric acid,iron ,fiber,calcium and phosphorus.	hypoglycemic, anti-inflammatory, antimicrobial,anticancer, radioprotective, chemo preventive and anti-oxidative activity
5	Doron phul	<i>Leucas cephalotes spreng</i>	Whole plant	Oleanolic acid,7-oxositosterol,7-oxostigmasterol,7alpha -hydroxy stigmasterol,luteolin	Antioxidant,antifugal,cytotoxic activities ,reduces fever,sinusitis ,headache
6	Manimuni	<i>Centella asiatica</i>	whole plant	Protein ,calcium ,iron ,fiber ,VitaminC,Carbohydrate ,Beta-carotene,phosphorus.	vascular diseases ,dermal disorder, inflammatory and microangiopathy,anti gastric
7	Nefhapoo	<i>Coleodendron colebrokianum</i>	Leaves	Saponins,flavonoids, tannin reducing sugars,glycerine.	Antidiabetic , prevents hypertension, Cought and reumatism
8	Ou-tenga	<i>Dilenia indica</i>	fruit	100g=59cal Protein fat,fiber,calcium, phosphorus ,ascorbic acid,malic acid	Anti oxidant ,anti inflammatory,anti diabetic effect ,amoebic dysentery ,cancer.
9	Tulsi	<i>Ocimum sanctum</i>	Whole plant	Energy,carbohydrate protein, dietary fiber,folate,Vitamin C Vitamin E,Vitamin K,Copper,magnesium ,iron	Antibacterial,nerve tonic,analgesic effect,prevent cough, fever ,kidney stone removal,combating cardiac disease,anti carcinogenic.
10	kol	<i>Musa paradisiaca</i>	Whole plant	100g=89calories Sodium, carbohydrate,magnesium, Vitamin A,Potassium,dietary,sugar	Reduce risk of high blood pressure,reduce risk of stroke,restore normal bowl activity,protects ulcer and hurtburn, reduce neuro degenerative disorder,cholesterol lowering effect and good for kidney health.

Assam is the home of various ethnic tribes & castes like Bodo, Mishing, Karbi, Dimasha, Rabha, Garo, Santhals, Rajbongshi, Deuri, Tiwa, Sonowal, Manipuri, Kuki, Hmar etc. However there appears a wide variation of cultural scenario together with pattern of livelihood, the use of the traditional knowledge and practice widely vary amongst all the communities. This knowledge not only benefited the individual community but also has been exchanged with each other. All the medicines are purely natural in origin and have minimal side effects in human body if taken in correcting a disease with appropriate amount. Although modern medical support is becoming popular in the society, people still prefer the traditional ways and means for the therapeutic purpose. Different herbs and shrubs along with different parts of birds and animals are used. Each and every community has a village medicine man or a quack that has a very rich knowledge of this medicine and people go to him for assistance in the treatment of their disease and ailments. A medicine man has inherits knowledge of these herbs and plants growing in appropriately suitable places and is acquainted with the correct utilities of a kind of medicinal plant in the treatment of a particular ailment. Along with this traditional medicine people including the tribal communities in rural areas use talisman or amulet. Roots of different parts, parts of different birds and animals including tiny parts of precious metal like gold, silver and copper are put inside a talisman. An amulet is tied by a cord to an arm or to the waist or around the neck of a person who is suffering from some disease or possessed by an evil spirit. According to the report from Govt, of India, food deficiency usually prevails in under developed tribal areas. Still such tribal groups

sustain successfully under adverse condition as they stick on the alternative source of foods in absence of wheat and rice and other kinds of conventional staple plant foods. There are about 9500 wild plants which are utilized for various purposes including medicinal, fodder, fibre, fuel, edible, essence and perfumes in cultural and religious occasions. Over 155 edible plants were reported to be used by the tribes of Assam as supplementary foods and for healing purposes.

Although the concept of this traditional medicine is very ancient and do not have much literary and scientific evidence but it is widely believed and practised by both the tribal and non-tribal communities. This concept has beneficial effects on health and well-being, and has insignificant side effects. It can highly benefit the modern society if proper scientific reasoning and quantification of the use in the accurate amount is determined with accuracy and used accordingly. The knowledge is still in a developing stage, which requires exploration and documentation before it comes to a total extinction because it is passed on from generation in oral fashion. Hence the paper is based on the overview of some conventionally used herbal plants which is used in day to day life and having enormous nutritional and medicinal properties. It also has aim to give a bird view to different nutrient composition which have huge health and disease preventive benefits 10 widely used herbal plants and there fruits have been selected.

MATERIALS AND METHODS

The approach of this study is exploratory in nature. To serve the purpose of the topic, a household survey was conducted to screen out the commonly used medicinal foods. The household survey was conducted in urban and semi urban areas of Guwahati, Assam namely in Beltola, Jayanagar, Sixmile and Panjabari to screen out the most commonly consumed foods with therapeutic benefits. Secondary data from books, journals and research papers have also been used to give a overview of uses, medicinal properties and nutritional values of the commonly used medicinal plants.

DISCUSSION

Ten herbal plants were selected for their nutritional and curative value in human health. Each of this plant has its own multirole utility and is known to most of tribal and non tribal group of the societies of this area. This herbal plants extraction from roots, tubers, fruits and even leaves are traditionally used as home remedial measures for treatment of disease and physical disorders. This herbal plant has acclaimed to have effective value on account of being nutritional density, non-toxic, easily available, cheap and cost effective. This plants are not only used for the healing purpose from time immemorial but are denser with nutrient which have effectively help the human to survive from era without any modern medical support. These plant species are generally used by almost every section of population. It was also found that women are found to be more familiar with the use of various medicinal plants. It is apparent that the nearly all communities of this region are rich in ethno medicinal knowledge and the knowledge being transmitted from generation to generation. Though urbanisation has brought in reform in the society has highly impacted on its use and consumption but it's still vitally used and inseparable from their daily food pattern. In village scenario it has been found that some individuals have become specialized to prepare the medicines from this plants owing to prolong practical experience. As the economy of the village is not well enough, so they prefer herbal treatment in comparison to allopathic treatment. Their medicinal use is preventive in nature and most of these plants are said to improve immunity to the diseases and capacity to convalesce. The following are some of herbal plants which are daily used in the society and there nutritive and curative aspects:

The use of traditional medicine has increased significantly over the past few years. Different herbal plants have huge curative and nutritional values which have helped man from ancient times. This plants and thereby products are mostly wild which has been domesticated according to the need and demand. Thought modernisation has great impact on our life but this traditional medicine has vital importance both in urban and rural sphere as well. The eastern region of the country of India especially Assam, recognized as a high potential area. The region, having rich natural resources but utilization of these resources is not proper. Major pharmaceutical companies are currently conducting extensive research on plant materials gathered from the rain forests and other places for their potential medicinal value. In all the countries of South Asia, medicinal and aromatic plants play a significant role in the subsistence economy of the people, especially those living in the rural interiors. The collection, simple processing and trading

of medicinal plants contribute significantly to the cash income of the poor and women in these regions. The healing properties of many drugs have been recognised already and their use is well established in different countries. Herbal industrialisation gives the opportunity to the nation for developing and producing lots of employments. Selection of medicinal plant species for cultivation is an initial important step for the development of the medicinal plants sector. Economic feasibility is the major rationale for a decision to bring medicinal plant species into cultivation. Proper plantation, cultivation and industrialisation of the anti diabetic plants which are found in Assam, have tremendous possibility to increase the economy of the country like India.

Conclusion

In this overview of the nutritional value of conventionally used herbal plant, it was seen that man always have been supported by nature without fail of however or whatever type of habitation he dwells in. Plants are used by different communities on the basis of availability of those plants and the proper knowledge about efficacy of those plants against the particular disease. This studies and oral knowledge about the traditional medicine and the ratio of curative measurement applied to different patients on the use of those plants must have proper documentation so that it benefits the future generation. Moreover for safe uses of different medicinal plants, 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 role of Government for the existence of this system of medicine should be to delineate the specific scope, limit and role of traditional healers in public health promotion and to undertake research and development activities related to traditional healing and to provide orientation and support to folk-healers.

REFERENCES

- Achaya, K.T. 1999. *A Historical Dictionary of Indian Food*, Oxford University Press, New Delhi.
- Barpujari, H. K. 1994. (ed), *The Comprehensive History of Assam*, vol-III, Publication Board Assam, Gauhati.
- Barua, B.K. 1986. 1986. *A Cultural History of Assam: Early Period*, Bina Library, Gauhati.
- Baruah, S. L. 1985. *A Comprehensive History of Assam*, Munshiram Manoharlal Publishers Pvt. Ltd, New Delhi.
- Food Composition Tables for International Use, 1954. FAO Nutritional Studies No.11, FAO, Rome.
- Gallagher, A.M., Flatt, P.R., Duffy, G. and Abdel-Wahab, Y.H.A. 2003. The effects of traditional antidiabetic plants on *in vitro* glucose diffusion, *Nutrition Research*, 23: 413-424.
- Kalita, Pallab et al. 2014. An Overview and future scope on traditionally used herbal plants of Assam having antidiabetic activity, *International Journal of Advances in Pharmacy, Biology and Chemistry*, Vol 3(2), April-June.
- Prabu, K., Kumarappan, C.T. and Sunil Christudas, Kalaichelvan V.K. 2012. Effect of Biophytum sensitivum on streptozotocin and nicotinamide induced diabetic rats, *Asian Pacific Journal of Tropical Biomedicine*, 31-35.
- Saikia, Arani 2013. Food-Habits in Pre Colonial Assam, *International Journal of Humanities and Social Science Invention*, Vol 2, Issue 61, June, p 3.

- Sakthi Priyadarsini, S., Vadivu, R. and Jayshree, N. 2010. *In vitro* and *In vivo* antidiabetic activity of the leaves of *Ravenala madagascariensis* Sonn., on alloxan induced diabetic rats, *Journal of Pharmaceutical Science and Technology*, 2 (9):312-317.
- Sonowal, Ripunjoy and Indira Barua 2011. Ethnomedicinal Practices among the Tai-Khamyangs of Assam, India, *Ethno Med* Vol 5(1).
- Swaminathan, M. 1985. *Essential of Food and Nutrition*, Volume I and II, 2nd ed. Ganesh Madras, India.
