

# ETHNOMEDICINAL USE OF *DIASCOREA BULBIFERA* EXTRACT IN BONE FRACTURE FROM SATANA TALUKA, DISTRICT NASHIK, MAHARASHTRA.

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## ABSTRACT:

Medicinal and aromatic plants are local heritage of global importance. Total 60% of the population of world and 80% of the population in developing countries rely on traditional medicine mostly plant drugs, for their primary health care needs. An account of 70% of the population of India are dependent on traditional plant based medicines. Medicinal and aromatic plants help in alleviating human suffering and are widely used as additives, beverages, cosmetics, sweeteners, bitters, spices, dyeing agents and insecticides.

Ethnomedicine is a study or comparison of the traditional medicine practiced by various ethnic groups and especially by indigenous people.

This study documented ethnomedical knowledge of remedy used for the treatment and recovery of Bone fracture.

**Keywords:** Aromatic, ethnomedicine, bone-fracture.

## INTRODUCTION:

### 1.1 Historical background:

India is one of the 12 mega biodiversity countries of the world having rich vegetation with a wide variety of plants with medicinal value. The use of plant and plant products as medicine can be traced far back as the beginning of human civilization. The earliest record of medicinal plant use in the Himalays is found in the Rigveda, is supposed to be the oldest repository of human knowledge and describes 67 plants. After the Rigveda, Ayurveda describes the medicinal importance of 1200 plants. The Charak Samhita (900 BC) and Susruta Samhita (500BC) enumerate the art of surgery, therapeutics and medicines in details on the basis of Atharvaveda. In addition to the Ayurvedic system, a large no. of plants are also used in other traditional health systems including homeopathic, Amchi (practice of Tibetan traditional medicine), Chinese and folklore. The use of locally available medicinal plants is often an economically inevitable alternative to expensive western medicines.

Plants have been an integral part of life in many indigenous communities. Apart from providing building material, fodder, weapons and other commodities, plants are especially important as traditional medicines. Many tribes and cultures in India have an elaborated plant knowledgebase. Most of this knowledge is still entirely transferred orally within the family unit or community. Western influences however led to an accelerating decline of this tradition. For eg western style healthcare supplied by some governments has been expanded in the last decades, but it is still often not readily available and many regions remain

completely underserved. Subsequently, most rural communities still use herbal remedies as readily and cheaply available alternatives. This knowledge is however, rapidly dwindling due to desired changes towards a more western lifestyle and the influence of modern tourism and other agents of globalization.

Traditional plant knowledge has clearly declined in a large part of the research area. The most traditional groups still retain the highest knowledge of plant use for human purposes. Although acultured societies are shown to retain a much higher plant usage in order to treat common modern diseases such as sexually transmitted disease, as well as veterinary problems that are either stigmatized, for which western treatment does not prove effective or for which cheap treatment cannot be found. Western style health care services as provided by governments and NGO's in particular in rural areas, seem to have contributed to a decline in traditional knowledge in part because the local population simply regards western medicine as more effective and safer.

### 1.2 *Dioscorea bulbifera*:

One of the most common and widespread yams of the tropics is *Dioscorea bulbifera* L., the air potato yam, so called because it is grown chiefly for its edible aerial tubers. *D. bulbifera* is the only edible yam species native to both Asia and Africa.: *D. bulbifera* is a glabrous vine that climbs by twining to heights of 12 mts or more. The stems range from thin ( 1 mm diameter to thick 8 mm diameter ) and twist to the left in twining. *D. bulbifera* produces both underground and aerial tubers. The underground tuber, produced at an early stage in the seedling arises from a swelling of the young stem and enlarges rapidly as a storage organ. It is quiet distinct in external morphology from the root. Neither the true nor adventitious roots ever give rise to tubers; rather, all tubers, aerial or underground, arise from stem tissues. When the tuber is cut, mucilaginous gum or glycoprotein exude from the cut surfaces. The surface oxidizes and turns brown within a short time after being cut. In this species of yam, cuts and wounds heals naturally. After initial drying of the uppermost layers, the intact layers of cells below are impregnated with suberin, which effectively seals the wound and prevents further moisture loss and infection

### 1.3 **Composition:**

water, starch, cellulose, sugars, chlorophyll, fats, brown resin(phenolics), yellow resin(carotenoids), Albumins(proteins), Glutinous substances, tannins, soluble substances, mucilage, pectins, dextrines.

### 1.4 **Folk medicine:**

The aerial and underground tubers have been used many ways in folk medicine. In india the bulbils have been used externally for sores and internally for haemorrhoids.among the sandals of Central India a paste from the tuber is used for swellings and as a cure for snakebite. In Burma, tubers are used as galactagogue. In Jamaica, the tuber is used for the treatment of scorpion stings and ulcers. In Africa extracts are used in toddy to stimulate excessive drinking.

**1.5 Ethnomedical knowledge is far too important to ignore:** It is vitally important in the traditional cultures of the indigenous and rural societies of the world, and these sections do not want to lose it. In many areas, indigenous people have now taken a leading role in recorging, saving and using this knowledge. Traditional knowledge is emerging as important even necessary for managing key resources and ecosystems. Ethnobiology continues to be a source for knowledge about medicines, crops, agricultural techniques, conservation and management and much more.

Much of the knowledge is traditional, that is, learned long ago and passed on with varying degrees of faithfulness for at least two or three generations. However, ethnobiological knowledge can change rapidly. Every tradition had a beginning (cf. Hobsbawn and Ranger 1983) and was itself a new creation in its time. Ecosystem change, new plants and animal arrive and people learn new ways of thinking; ethnobiological systems change accordingly and are typically, flexible and dynamic. Field workers have observed new knowledge being incorporated into systems around the world.

Ethnobiologists, from the beginning have dealt with traditional ecological knowledge as one package – ideally recording, myths, religious practices, spiritual beliefs, economic activities, kinship associations and other related material along with strictly cognitive or scientific knowledge of plants and animals.

Ethnobiology has been something of a western hemisphere field, but rapidly increasing numbers of studies in the eastern hemisphere are making it more international.

**1.6 Obstacles in Ethnomedicinal Knowledge:** One of the problems Nadasdy identifies is that traditional people often have trouble discussing their knowledge in analytical language.

We know that children learn what their parents and peer find important. Children attend to their elders ideas of salience. We also find that traditional knowledge everywhere is taught through stories, songs, physical participation in activities and other methods that engage the emotional, aesthetic and physical as well as the cognitive portions of experience. This is total person learning. It is part of a rich, full engagement with the world, rather than being isolated as rote memorization in a classroom. The desperate need of the modern world to educate children about nature and to use these ways of doing it now well known (Louv 2005). Once again we can learn from traditional cultures. A major need of ethnobiology is to point out the different ways of knowing (Goulet 1998) and to teach people to learn each others ways.

Many ethnobiologists know excellent remedies that would help the world but their lips are now sealed. The toll in human suffering increases everyday that has impasse remains unresolved.

Certain notorious and well publicized cases of appropriating traditional wisdom for individual gain lead to coining the term biopiracy. The most noted cases involved attempts to monopolize traditional south asian ethnobotanical knowledge through patenting. United states patent rules in the 1980's and 1990's had around to favour corporations and patenters against public access, "prior art" and claims of common knowledge.

There is also a desperate need to record knowledge that is being forgotten and far more importantly to save the cultures, languages and ecosystems whose death is causing the forgetting. many of the finest creations of the human spirit are dying out. Often the destruction is genocidal; few nation are not stained with the blood of their indigenous people.

### **1.7 Indigenous remedy with biomedical application:**

Current study is an important addition to the field of ethnomedicine. The study reports important medicinal plant *Dioscorea bulbifera* from satana area, which has not been investigated previously. Traditional knowledge is restricted to health practitioners and elder community members. This knowledge is at the verge of extinction because younger generation is not taking interest in its learning and preservation process. hence, there is a dire need to phytochemically and pharmacologically test the investigated taxa for the validation of traditional knowledge.



## METHODOLOGY:

**2.1 Sampling :** General Sampling: Selection of the interviewees. Elderly people were preferred as interviewees. The oldest person in the residence was interviewed based on his/her availability. Preliminary data showed that older people were more likely to be aware of the uses of herbal medicine. Specific Sampling: Participants with greater knowledge of medicinal plants were interviewed.

**2.2 Identification:** The Specific plant *Dioscorea bulbifera* was chosen after identification for study.



Fig: Ground tuber of *Dioscorea bulbifera*.

**2.3 Procedure:** The ground tuber of the plant *Dioscorea bulbifera* was collected after digging cautiously. The uprooted tuber was washed thoroughly with fresh water and was ground to paste with the help of clean stone. No utensil was used. Fresh paste is required. On the fractured body part first egg white is applied. On top of that orange sindoor paste is applied and it is then finally covered with paste of *Dioscorea bulbifera*. Bandage is applied at the end. It takes about a week to heal depending on the degree of fracture.

## OBSERVATIONS:

In bone fracture, oxygen free radicals are produced by the activation of polymorphonuclear neutrophils in the inflammatory phase of bone fracture healing, as well as by the impairment of blood supply to the bone ends. These free radicals have been shown to inhibit bone fracture healing by initiating a chain reaction that will cause lipid peroxidation that leads to cell membrane damage and eventually cell lysis.

Both natural products and their derivatives have been foundational concerning the production of the majority of current pharmaceutical drugs (Li & Vederas 2009). Towards the end of the 1980s, approximately 80% of drugs were either natural products or analogs of natural products inspired by them. Antibiotics (e.g., penicillin, tetracycline, erythromycin), antiparasites (e.g., avermectin), antimalarials (e.g., quinine, artemisinin), lipid control agents (e.g., lovastatin and analogs), immunosuppressants for organ

transplants (e.g., cyclosporine, rapamycins) and anticancer drugs (e.g., taxol, doxorubicin) revolutionized medicine (Li & Vederas 2009).

It is through a historical continuity of resource use practices that indigenous people often possess a broad knowledge base of the behavior of complex ecological systems in their own localities that they are able to pass on from generation to generation (Gadgil, Berkes, & Folke 1993).

## CONCLUSION:

Indigenous populations have much to offer modern society, including their traditional medicinal knowledge for biomedical advancement as well as their culture for enriching the diverse tapestry of society. Satana region is co related to cultural diversity with current rates of deforestation and other destructive processes such as intensive agriculture, both biodiversity and cultural diversity are being destroyed.

To maximize any future efforts with indigenous peoples concerning biomedical and pharmacology, a system needs to be set in place that will keep track of, monitor and governing body should have indigenous individuals, both educated and non-educated, which both represent a dare avoice for their respective peoples. Finally research can and should continue to be conducted to demonstrate the value of indigenous traditions in other areas of knowledge. Such work may help in the continued efforts to sustain indigenous cultures and educate non-indigenous people, both lay and academic, about the fundamental importance of continued cultural diversity.

The necessary research does not seem to be in progress anywhere. Thus their potential is still undiscovered.

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