Ethnobotanical Leaflets 13: 989-1002. 2009.

Assessment of Some Therapeutic Plants of the Abbi People in Ndokwa West L.G. A of Delta State, Nigeria

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Issued August 1, 2009

Abstract

Ethnomedicinal investigations were conducted in Abbi Village in Ndokwa local government area of Delta state to identify some medicinal plants used in the traditional pharmacopoeia for the treatment of diseases affecting the human body. Most of the ailments treated or managed by these medicinal plants include malaria, diabetes, high blood pressure and dysentery to mention a few. Twenty-six (26) plant species belonging to eighteen families (18) were recorded. Ethnomedicinal information was collected through questionnaires and personal interviews. The modes of herbal drugs preparation were mainly decoctions while others were macerations and infusions. The most frequently used plant parts were the leaves. The administration routes are through oral and external routes. These medicinal plants are used based on ethnobotanical evidence as being safer, acceptable, affordable, culturally compatible and suitable for chronic treatment. Some of these medicinal plants have some unpleasant side effects which may be related to over doses or other factors leading to mild or acute toxicity in the body. Aside this, if these problems are carefully addressed, it will help to harness the therapeutic potentials of medicinal plant species for further drug development both now and in the nearest future. Public and private involvement in management and utilization of medicinal plants in a sustainable way is essential to combat human pressures on these valuable natural resources.

Key words: Assessment, therapeutic plants, ethnomedicinal, Abbi people, Ndokwa west, Delta state.

Introduction

Plants are the basis for the development of modern drugs and medicinal plants have been used for many years in daily life to treat diseases all over the world (Ates and Erzdogrul, 2003). According to Okoli *et al.*, (2007), traditional medical practices on the African continent date as far back as 4000 years and were the sole medical system for health care before the advent of orthodox or modern medicine. Even today, traditional medicine is still

the predominant means of health care in developing countries where about 80% of their total population depends on it for their well being (WHO, 1978). Traditional medicinal plants are a therapeutic resource used by the population of the African continent specifically for health care, which may also serve as starting materials for drugs (Sofowora, 1993). WHO (2001) defines medicinal plant as herbal preparations produced by subjecting plant materials to extraction, fractionation, purification, concentration or other physical or biological processes which may be produced for immediate consumption or as a basis for herbal products. Medicinal plants are of great importance to the health of individuals and communities (Edeoga *et al.*, 2005). A medicinal plant is one whose one or more of its organs contains substances that can be used for therapeutic purpose or which are precursors for the synthesis of useful drugs (Sofowora, 1982). However, the knowledge of medicinal plants is rapidly dwindling due to the influence of western lifestyles, and lack of interest of the younger generations to carry on the tradition (Muthu *et al.*, 2006).

Ethnobotanical studies are often significant in revealing locally important plant species especially for the discovery of crude drugs. Right from its beginning, the documentation of traditional knowledge, especially on the medicinal uses of plants, has provided many important drugs of modern day (Flaster, 1996). Out of the total flowering plants reported from the world, more than 50,000 are used for medicinal purposes (Govaerts, 2001; Shippmann, 2002). The growing public interest and awareness of natural medicines have led the pharmaceutical industry and academic researchers to pay more attention to medicinal plants (Day, 1998). The apparent reversal of trend from western to herbal medicine is partly due to the fact that synthetic drugs have always shown adverse reactions and other undesirable side effects. This has led to the belief that natural products are safe because they are more harmonious with biological systems (Erasto, 2003). Considering the rate at which the vegetation is getting depleted in this part of the world, there is the need to document the precious knowledge of these plants as well as the experience of the traditional healers and herbalists. Documentation of the traditional uses of medicinal plants is an urgent matter and important to preserve the knowledge. Thus, the purpose of this study is to investigate the traditional uses and remedies of various indigenous medicinal plants used by the indigenes in Abbi clan of Ndokwa local government area in Delta state and to provide baseline data for future pharmacological and phytochemical studies.

In this study, we present the local and scientific names of the plants used for the treatment of various ailments like malaria, cough and others in this community as well as the parts of the plants used and the various methods of preparation and administration. For these reasons, the documentations of the traditional uses of indigenous plants are important to preserve their knowledge.

Materials and Methods

The ethnobotanical assessments were carried out using questionnaires and interview was conducted. Conversations with the informants were held to document and preserve the knowledge on the medicinal plants. The informants were selected randomly. They were asked to give their knowledge about the plants they use against

a disease, plant parts harvested, method of preparation of the remedy, details of administration and the dosage. Collection of information from indigenes was easily facilitated by a well known indigene in the locality as information regarding medicinal plants was not easily given. Specimens of the reported medicinal plants were collected and identified using texts such as Hutchinson and Dalziel (1954, 1958, 1963, 1964, and 1972), Keay (1989) and Lowe (1989) while the voucher specimens were deposited at the herbarium of Botany Department in Ambrose Alli University for identification and reference purpose.

Plants were also identified using the local names which were given by the traditional midwives, herbsellers, herbalist, and farmers in the village. The study area lies within the geographical coordinates of longitude 5°04´ East and 6°43´ East and latitude 5°44´ North and 7°34´ North.

Results and Discussion

Results from this study revealed that the numbers of ethnomedicinally important plant species documented in Abbi community were twenty-six (Table 1). These medicinal plant species belong to eighteen families. The family Solanaceae had five species while genera like Liliaceae, Poaceae, Anarcardiaceae and Asteraceae were families with two species and the rest had one species each. This does not mean that the family Solanaceae is the most important but shows the diverse nature of the different plant species which belongs to this particular genera. The remedies are taken either as decoction, or administered directly to the infected parts. Others were mixed with various plant species parts.

The natural resources in Abbi Ndokwa West Local Government Area of Delta State are deteriorating rapidly than many other global regions because it has received little attention. The wide spread use of traditional medicinal plants among both urban and rural population could be attributed to cultural acceptability, efficacy against certain type of diseases, physical accessibility and economic affordability as compared to modern medicine. This continued reliance of many African people on traditional medicines is partly due to economic circumstances, which place modern health facilities, services and pharmaceuticals out of the reach of the majority of the population. However, in many cases, it is also attributable to the widespread belief in the effectiveness of many traditional therapies. Even where western biomedical care is available, many people still prefer traditional treatments for treating many aliments (Asfaw *et al.*, 1999; Addis *et al.*, 2001).

Several studies on the use of *Mangifera indica, Carica papaya, Psidium guajava* for treatment and management of ailments like malaria and fever are in line with researches carried out by (Idu *et al*., 2008; Okoegwale and Omofezi , 2001). The measurements used to determine the dosages are not standardized and depend on the age and physical appearance of the patient, socio-cultural explanation of the illness, diagnosis and experience of individual herbalist (Addis *et al.*, 2001). Despite the benefits derived from plants, some of them have some unpleasant side effects which may be related to over doses. This may lead to acute toxicity and death but when these problems are carefully addressed, will help to harness the therapeutic potentials of medicinal plants for further drug development in the future. In recent years, folk medicine is no more an attraction to the younger generation; they are more dependent on western medicine. They are unable to recognize the herbs

and possess very little knowledge on traditional herbal remedy. Nowadays many young people migrate to urban areas for education and job opportunities. As a consequence, only the elder people possess the knowledge of herbs and it is estimated only a handful of people are able to use the traditional remedy to treat illness. Thus, the traditional knowledge is rapidly eroding (Lin, 2005).

In conclusion, this study has shown that the area/region is diversified in medicinal plant species and more research work should be carried out here to evaluate the phytochemical and pharmacological values of these diverse medicinal plant species.

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Table 1. Inventory of medicinal plants species and their uses.

Species Name	Families	Common Name	Local Name	Parts Used	Uses
Aframomum melegueta K.Schum	Piperaceae	Alligator pepper	Ose-ojo	Seeds	The seeds are used in preparing "pepper-soup" which is given to sick patients for quick relief.
Allium cepa L	Liliaceae	Onion	Alubasa	Bulb, leaves.	The whole bulb is eaten regularly to clear the eye; it is also used to treat hypertension, diabetes and head-ache.
Allium sativum L	Liliaceae	Garlic	Ayun	Whole plant	Cloves are eaten regularly and are a good anti-biotic for wounds and intestinal worms; it is used to control high blood pressure.

Anacardium occidentale L	Anacardiaceae	Cashew	Kasu	Leaves, Bark, Fruits, Root, Stem	Decoction of the roots, bark and leaves is drunk twice daily for three days for treatment of malaria and dysentery.
Azadirachta indica A. Juss	Meliaceae	Neem tree	Dogogaro	Leaves, Stem, Bark	Plant parts (leaves, stem and bark) are boiled and the decoction taken frequently is used to treat malaria and high fever.
Capsicum annum L	Solanaceae	Guinea pepper	Ose	Seed	Used in treating dislocation in joints (it is ground and tied round the dislocated part of the joints with the aid of a cloth wrapped round the affected part).
Carica papaya L	Caricaceae	Paw-paw	Ekebo	Fruit, fresh leaves, seeds and roots	Leaves are boiled along with other plant like *Mangifera indica*, *Psidium guajava* and decoction is taken twice daily for treatment of malaria, stomach ulcer, convulsion and respiratory problems.
Chromolaena odoratum (L.) K.R	Asteraceae	Siamweed	Mbujbo-akpi	Leaves	The leaf extract is used in dressing or treating open wounds.
Citrus aurantifolia (Christm.) Swingle	Rutaceae	Lime	Oleme-ntiti	Fresh leaves, Fruit	Whole parts (leaves and cut fruit) is boiled with Lipton tea and used for treatment of typhoid fever and jaundice in little children.
Cola acuminta (P. Beau.) Schott and Endl	Steculiaceae	Bitter Kola	Oji	Fruit	Fruit eaten clears the throat and also used as antidote for sleep.
Cucurbita pepo L	Cucurbitaceae	Pumpkin	-	Fruit, Seeds, Leaves	The leave serves as blood tonic when squeezed and the liquid extract taken.

Cymbopogon citratus DC Stapf	Poaceae	Lemon grass	Koriko	Leaves, Roots.	Leaves are boiled, mixed with honey and drunk. It is used in the treatment of typhoid fever, malaria and cough.
Ipomoea batatas L	Solanaceae	Sweet potato	Ipotato	Leaves, Tuber	The leaves are used to treat stomach problem when squeezed and the extract taken orally.
Mangifera indica L	Anacardiaceae	Mango	Magoro	Fresh leaves, Bark of stem	Decoction of the leaves, stem and bark mixed together with those of *Carica papaya* and *Psidium guajava* are used to treat malaria.
Nicotiana tabacum L	Solanaceae	Tobacco plant	Taba	Leaves, Seed.	Eaten and it acts as stimulant.
Persea americana Mill	Lauranaceae	Avocado Pear.	Uber	Leaves, Stem.	Decoction of leaves and stem is used to treat fever.
Piper guineense Schum and Thonn.	Solanaceae	Pepper	Ose	Seeds	The seed is ground and used as spices for soup (pepper soup) given to patients having fever.
Piper nigrum L	Solanaceae	Black pepper	Uziza	Seeds	Used as spices in pepper soup for fever.
Psidium guajava L	Myrtaceae	Guava	Goliva	Stem, bark, leaves	A decoction of the plant parts added to that of *Mangifera indica* and *Carica papaya* is used to treat fever.
Senna alata L (Rox. B)	Fabaceae	Ringworm plant	-	Leaves	The leaves are squeezed and the extract is rubbed on the affected part for treatment of craw-craw and ringworm

Sida acuta Burm.F	Malvaceae	Stubborn grass	-	Leaves	Decoction of the leaves is used to treat malaria and typhoid fever.
Talinum triangulare (Jacq.)Willd.	Portulaceae	Water leaf	Gbologi	Leaves, Roots	Extract from the leaves and root is used to cure asthma.
Terminalia catappa L	Combretaceae	Indian almond.	Ebelebo	Fruits	The fruit are used as sedative when eaten in large amount.
Vernonia amygdalina L	Asteraceae	Bitter leaf	Owuso or Onugo	Leaves	Bitter extract from squeezed leaves is taken for stomach ache and the foamy extract is rubbed on itching skin or with any other skin infection.
Zea mays L	Poaceae	Maize.	Agbado	Cobs	Decoction of cob is damped on infected nose with a small hand towel and aids in the treatment of nose bleeding
Zingiber officinale Rosc	Zingiberaceae	Ginger	Alele or Aje	Underground stem or rhizome	Aids digestion, reduces stomach upset and menstrual discomfort when chewed or boiled and drunk.