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MEDICINAL PLANTS OF ETHIOPE WEST AND SAPELE LOCAL GOVERNMENT AREAS OF DELTA STATE, NIGERIA

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Abstract

Medicinal plants used by the Urhobo people of Ethiope West and Sapele local government areas of Delta State of Nigeria were documented. Fifty one plant species belonging to thirty one families are used for the treatment and management of diseases such as measles, diabetes, stroke, jaundice, malaria, typhoid, hypertension, gonorrhoea and rheumatism. The list provides useful information on medicinal plants and their uses. This may serve as a lead for further scientific studies aimed at ascertaining the veracity or otherwise the therapeutic claims ascribed to the plants by the indigenous people of the region. The need to conserve these medicinal plants in the region is hereby emphasized.

Keywords: Ethnobotanical survey, Herbal preparation, Medicinal plants, Sapele, Ethiope West, Nigeria.

Introduction

Herbal medicine has remained the source of healthcare in most rural communities of Africa in view of the fact that modern health care services are out of reach of the people (Elujoba *et al*., 2005). In this modern age, the trend towards the use of alternative and complementary medicine is increasing as it offers unprecedented opportunities for the development of herbal medicine. Tor-Anyiin *et al* (2005) emphasized the need to study medicinal plants due to their widespread use in folk medicine and more importantly to preserve the indigenous knowledge of herbal medicine.

Owing to the increasing population and dependence on traditional medicine, there has been indiscriminate collection of medicinal plants and their parts (barks, roots, leaves, flowers and fruits) from the wild. The unsustainable collection poses a serious threat to most of the species used for medicinal purposes. Added to this problem in the oil-rich Niger Delta of Nigeria is the destruction of vegetation caused by oil exploration. It has become necessary therefore, to carry out ethnobotanical studies with a view to documenting the uses of plants by the indigenous people of Ethiope West and Sapele local government areas of Delta State. It is therefore hoped that the indigenous knowlegde emanating from this study will be useful for further research in orthodox medicine. The first list of plants used in native medicine in Nigeria was by Ainslie (1937). Oliver (1960) published the medicinal plants in Nigeria and thereafter several contributors such as Oliver – Bever (1986), Osowole *et al*. (2012) and Smith-Hall (2012) also made their contributions. Despite all these reports there are still many parts of Nigeria like the Niger Delta that are yet to be explored ethnobotanically.

Study Area

Ethiope West and Sapele Local Government areas are located between 5^{o} 55' – 5^{o} 56'N and 5^{o} 32' – 5^{o} 42'E. It has a population of about 300,000 people with a land mass of 18, 050 square kilometer (http://hospitalitynigeria.com/home.php). The altitude is 182.88meters above sea level. The mean annual rainfall is 2000 – 3000mm. Both local government areas lie within the Lowland Rainforest vegetation zone. Delta State supplies about 35% of Nigeria's crude oil and some considerable amount of natural gas (http://www.nigeriagalleria.com/Nigeria/States_Nigeria/Delta_State.html).

Methods

A survey was carried out over a period of six months to find out plants and their medicinal uses in the study area. The two hundred people interviewed in both local government areas were mostly herbalists, community elders and nursing mothers who have the knowledge of herbs. The vernacular (Urhobo) names of the plants were given by these people, the majority of who had to be induced with cash rewards before giving any information regarded as "family secrets". The medicinal plant materials obtained from the field study were identified at the University of Ibadan Herbarium (UIH) where voucher specimens have been deposited.

Plants are arranged in alphabetical order by families and species. Remedies are given in the following order: botanical name, vernacular name, plant part used, description of medicinal uses, dosage. Where remedies are based on multiple species combinations, only the first plant is arranged in alphabetical order.

Results

The following are the names of plants used for treating various ailments.

Acanthaceae

Acanthus montanus (Nees) T. Anders (Emaboekpe share) leaves. Slice about 20-25 leaves and prepare pottage with it, then eat as a remedy for dysentery.

Agavaceae

Sansevieria liberica Ger. Labr. (Ereweneban) leaves. Fresh leaves boiled in water together with few *Piper guineense* Schum & Thonn; cooled and the filtrate (200ml) given twice daily for the treatment of asthma and sexual weakness in men.

Amaranthaceae

Achyranthes aspera L (*Urhiawoho*) leaves. For deep cuts, squeeze the juice of the leaves directly to the wound.

Amaranthus spinosus L (Orere oshare) leaves. Hypertension can be treated by grinding fourteen leaves, mixed in 10ml water and sieved. One teaspoon of native chalk (Calcium carbonate) is mixed with the extract then drunk once daily for two weeks.

Anacardiaceae

Mangifera indica L.(Imangoro) bark.To treat jaundice, boil some bark and seven mature fruits of *Xylopia aethiopica* (Dunal) A. Rich. for thirty minutes. Take 250ml of the extract daily for a week.

Spondias mombin L. (Oghinghen) leaves. Boil 21 mature leaves, with 7 pounded fruits of *Xylopia aethiopica* for 45 minutes. For jaundice in children, four tablespoonfuls taken once daily and some of the extract is added to bathing water.

Annonaceae

Dennettia tripetala Bak. f. (Inako) leaves. For low foetal kick, a pregnant woman chews 10-15 mature leaves together with 7 seeds of *Aframomum melegueta* K. Schum, and then spits the material on her stomach once daily for 3 days.

Monodora myristica (Gaertn.) Dumal(Egwhonre) seeds. Chew about 10-25 seeds depending on the degree of stooling in diarrhea.

Xylopia aethiopica (Urienrie) fruit. In treating cough, 1-4 mature fruits are fried into charcoal. This is ground and mixed with some palm oil. An adult takes 2 tablespoonfuls but children take only one.

Apocynaceae

Rauvolfia vomitoria Afzel (Akata) root. To treat gonorrhoea, prepare an alcoholic extract of the root bark in a bottle, shaking it for about an hour. Four tablespoonfuls to be taken at night for 3 days.

Asclepiadaceae

Secamone afzelii (Schultes) K. Schun (Wonoonisha) leaves. Chew 14 mature leaves for dysentery in adults. For children, grind about 7 leaves and mix with two tablespoonfuls of water. A tablespoonful is taken for three days.

Asteraceae

Ageratum conyzoides L. Ebe (Ikpemeku) leaves. Leaves (7-10) are chewed together with 7 seeds of *Aframomum melegueta* K. Schman for vomiting a poison mistakenly taken.

Aspilia africana (Pers.) C.D. Adams (Asachrasa) leaves. For treating bleeding wounds, apply juice extracted from leaves to stop bleeding.

Bidens pilosa L. (Iyhe) leaves. Prepare hot pepper soup using the leaves of about seven mature *B. pilosa* plants. Take 10 tablespoonfuls of the soup twice daily for 3 days.

Chromolaena odorata L. (Ebe Ishero) leaves. Squeeze 50 mature leaves in 200ml of water. An adult drinks the water extract for malaria. Children take 4-5 tablespoonfuls.

Vernonia amyygdalina Del. (Origbo) leaves. Mature leaves are squeezed in water, then sieved and salt added. Ten tablespoonfuls of extract are taken for dysentery.

Bignoniaceae

Newbouldia laevis (P. Beauv). Seemanex Bureau (Oghriki) leaves. To stop vomiting, grind ten leaves together with 7 fruits of *Capsicum annum*, add little salt and boil everything in water for 5 minutes. Adult takes 5-7 tablespoonfuls and children 1-3 tablespoonfuls depending on the age.

Capparidaceae

Cleome ciliata Shums & Thonn (Omomo) leaves. For vaginal haemorrhage to stop, squeeze about 100 leaves in 2.5 litres of water and add two handfuls of table salt to it. Use the right thumb to swallow four drops of the preparation and the left thumb to take three drops. Then use the medicine to douche.

In the case of onchocerciasis, apply the leaf juice to the affected eye. For food poison 40-45 leaves are chewed with 17 seeds of *Aframomum melegueta*.

Caricaceae

Carica papaya L. (Ipawpaw) leaves. Eczema can be treated by applying leaf juice once daily for 5-7 days.

For rheumatism, grind about 30 flowers of the plant and mix with soap to bathe daily.

Convolvulaceae

Ipomoea batatas (L) Lam (Imitata) leaves. Prepare leaf extract using 20ml of water. Add half a teaspoon of table salt and take before breakfast for pneumonia.

Ipomoea involucrata P. Beauv. (Orerotor) leaves. General weakness in the body (as in malaria attack) can be treated by applying 2-3 drops of the leaf juice to each eye.

Crassulaceae

Bryophyllum pinnatum (Lam) Oken (Ebe okpokpan) leaves. Soften a leaf by passing it through flame, then squeeze the juice on a wound or navel of a newly-born baby to heal; once daily.

Hypertension can be treated by taking 4 tablespoonfuls of 7 blended leaves once daily first for two weeks then 3 teaspoons for another two weeks.

For earache, apply some drops of the leaf juice into the affected ear.

Cucurbitaceae

Citrullus colocynthus Schrad. (Ikpogiri) seeds. Grind dried seed coats into powder. Adults lick one teaspoonful of powder twice daily for 3-5 days for cough and children half a teaspoon twice daily for 3 days.

Luffa cylindrica (L.) M.J. Roem (Ivie imetete) leaves. Pass 3 mature leaves through flame to soften them and squeeze to extract juice. Add some ashes, and then apply to a boil.

Momordica charantia L.(Isighro or Udjiro) leaves. For a blood shot eye, apply the leaf juice mixed with very little quantity of salt, twice daily for 3 days.

Telfairia occidentalis Hook. F. (Eto) leaves. Anaemia can be treated by taking 200 - 250ml water extract twice daily and children half the dosage.

Dioscoreaceae

Dioscorea dumetorum (Knuth) Pax. (Erolo of Isuru) tuber. Eat one or two roasted tubers to alleviate body pain.

Euphorbiaceae

Alchornea cordifolia Mill, Arg.(Ewan) leaves. Treat tuberculosis by chewing 5-7 fresh and mature leaves twice daily for 5 days.

Apply a poultice of mature leaves to a wound once daily.

Malaria is treated by drinking 200 - 250ml decoction of leaves twice daily. Children are given 4 tablespoons twice daily.

Euphorbia hirta L. (Ezigba) leaves. To remove a thorn or spine from the skin easily apply leaf juice or leaf poultice to the affected part.

Jatropha curcas L. (Ishakpa) leaves. Latex from the leaf is put on cotton wool and used to clean the tongue to remove thrush on the tongue.

Snake bite is treated by drinking water extract (200ml) of the leaves.

Manihot esculenta Grantz. (Imedaka) leaves. Infertility caused by internal heat can be treated by using 30 mature leaves for preparing soup eaten once daily for 7 days.

Phyllanthus amarus Schum & Thonn. (Obukoiyeke) leaves, root and stem. For female infertility take 5 tablespoons of alcohol extract of the plant once daily.

Fabaceae

(Caesalpinoideae)

Senna alata L. (Amoke) root, leaves. Apply the juice of young leaves to the skin daily to treat eczema.

Malaria can be treated by taking 200-250ml decoction of the leaves and some roots once daily for 3-5 days. Children take 2 tablespoonfuls once daily for 3 days.

(Papilionoideae)

Abrus precatorius L. (Ebe aware*)* leaves. Cold infusion of leaves used for dry cough.

Millettia thonningii (Schum & Thonn) Barker/ *Ebe erua*/ leaves/ Chewing 10-15 mature leaves with some native chalk (calcium salt) lowers high blood pressure.

Irvingiaceae

Irvingia gabonensis (Aubry – Leconte ex O'Rorke) Bail (Ube) bark. Some of the bark and 14 seeds of *Piper guineensis* are ground and extracted with dry gin for 3-4 hours. For upper abdominal pain, patient takes 4 tablespoonfuls twice daily for 3 days.

Labiatae

Ocimum canum Sims (Iwhri) leaves. Squeeze about 15-20 mature leaves to extract the juice which is applied to the ear affected by otitis media.

Ocimum gratissimum L.(Eran) leaves. Headache can be treated by applying concentrated water extract of the leaves to the head, then leave to dry.

To stop vomiting, half a cup of water extract prepared by using 20 leaves is taken by an adult. A child takes two tablespoonfuls.

Convulsion in children can be treated by roasting about 30 mature leaves. The patient inhales the oil fumes.

For catarrh, water extract is used to wash the face twice daily for 3 days. About 40 mature leaves may be boiled and the vapour produced inhaled, twice daily for 2 days.

Epitaxis (nose bleeding) stops if leaf juice is introduced into the nostrils.

Solenostemon monostachys (P. Beauv) Briq. (Ariophe) leaves. Bleeding during pregnancy may be stopped by squeezing 35 mature leaves in little quantity of water to which native chalk (calcium salt) has been added, sieving and drinking the filtrate. Dosage is twice daily for 3 days.

Malvaceae

Urena lobata L.(Orhion) leaves. For ease of delivery during labour, water extract of the leaves is used to bathe the stomach.

Melastomaceae

Dissotis rotundifolia (Sm). Triana (Ukwuerovwo) leaves. Grind some shoots, add water, native chalk and little table salt. Half a cup (100ml) is taken twice daily over 7 days for female infertility associated with abdominal pain.

Meninspermaceae

Triclisia subcordata Oliv.(Ebe ite rode) leaves. In case of threatened abortion of miscarriage, make a poultice with 14 leaves to which native chalk (calcium salt) is added. Roll preparation into small balls. Two balls are taken daily for a week.

Moraceae

Ficus exasperata Vahl. (Ameme) leaves. To remove thorns from the skin apply leaf juice; which is also used for some eye problems.

Palmae

Elaeis guineensis Jacq. (Edi) Flower. The flowers are processed into powder used to rub some incisions on children who convulse frequently.

Cocos nucifera L. (Ekokodia) fruit. An adult takes 200-250ml of coconut water for cholera, and children half the volume.

Portulacaceae

Portulaca oleracea L. (Ero elauweyi*)* leaves. Grind 20-30 leaves, add some water, sieve and drink. This facilitates easy delivery during labour.

Rubiaceae

Nauclea latifolia Sm. (Ovieghorikoko) root. For weak or non-erection in men, an alcoholic root bark extract is taken. Dosage is 4-5 tablespoonfuls twice daily.

Rutaceae

Citrus aurantifolia (Christm) *Swingle (*Utiobovwievwie) fruit. Extract the juice and take 4 tablespoonfuls thrice daily for measles.

Discharge caused by ear infections can be treated with some drops of the juice.

Solanaceae

Lycopersicum esculentum Mill. (Itomatosi) fruit. The fruit juice applied with cotton wool removes any coating in the tongue of a baby.

Zingiberaceae

Aframonum melegueta K. Schum (Erhie) seeds. Seeds of two big fruits are pounded and put into some dry gin. Five tablespoonfuls of the extract is taken twice daily for 3 days for sore throat (laryngitis).

Discussion

The ethnobotanical study revealed that 51 medicinal plants belonging to 31 families are used by the Urhobo people of Ethiope West and Sapele Local Government areas of the Niger

Delta. The number of medicinal plants used by the urhobos mentioned in this study is higher than a similar study conducted by Ampitan (2013) on ethnobotanical survey in Biu local government area of Borno State. It was found that 27 plant species from 24 families were used medicinally in the region. The disparity in the number of medicinal plants used could be on account of the different vegetation types. Borno state is located at the savanna while Delta state is at the rain forest region hence making the later to have more diversity of plant species. Uzodimma (2013) reported 73 plant species belonging to 38 families used by the people of Ogii and Okigwe of Imo State, Southeastern Nigeria for medicinal purposes. The higher number of plants used medicinally is suggestive that the Ogii and Okigwe people have strong dependence on traditional medicine.

The usage of a variety of plants for treating different diseases seems to support the observation of Williams (1983) that 80 - 90% of the African people use traditional medicines; most of which are from plants for their therapeutics. Sidhu and Sharma (2013) confirmed that medicinal plants offer alternative remedies for different health problems. Most of the methods used for preparing the plant drugs are by decoction or extraction of the plant materials with water or alcohol. That the indigenous people are conscious of the dosage to be administered to adults and children is remarkable.

Majority of the local people consulted in this study, stated that their knowledge of medicinal plants were derived either from parents while a few claimed to have gone through formal training or obtained the knowledge mystically. That most of the claims for the various plant uses tallied among most respondents corroborated the fact that all the ethnic groups in an area have a common ancestry, consequently, their cultures are similar and the similarities are manifested in their religious folklores, dances, art crafts and festivals (http://csrwestafrica.com/delta/). Krog *et al* (1979) reported that the knowledge of medicinal plants came from wizards or witches and through inheritance. Some of the people interviewed were very reluctant to give information. This uncooperative attitude was prominent among the very old people who believe that their herbal knowledge is an asset and must therefore not be disseminated without a strong motive or adequate monetary reward. Although the plant drugs have not been tested in this work to ascertain the claims of efficacy; it stands to reason that if the herbs were not useful and potent, the indigenous people must have discontinued their usage. In the interest of conserving biodiversity, the indiscriminate and continuous exploitation of the

plants must give way to a sustainable use by promoting enlightenment programmes among the inhabitants of the local government areas. This is even more desirable now in view of the loss of vegetation due to oil exploration in the Niger Delta of Nigeria.

Conclusion and recommendations

It is obvious that medicinal plants present in Ethiope west and Sapele local government areas of Delta state of Nigeria play a crucial role in health care of the people. The protection of the plants is therefore important not only because of their present usage, but the potentials to discover new drugs for treatments of diseases. The promotion of medicinal plants as potential sources of drugs will enhance more research internationally in drug development and thus should be encouraged.

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