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Medicinal plant used for the treatment of skin diseases in Edo State, Nigeria

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ABSTRACT

An ethnomedicinal survey of medicinal plants used by the people of Umelu village, Ikpoba Okha Local Government Area of Edo State in the treatment of skin diseases was conducted. Information and data were collected through the use of personal interviews with healers and the local dwellers during various field trips as well as the use of relevant literature. A total of 21 indigenous plants belonging to 18 families, 21 genera and 21 species were identified and documented. The various plant habits range from trees (52.38%) which were found to be most frequently used; followed by herbs, (33.33%) and shrubs (14.29%). Notable skin diseases identified included measles, eczema, ringworm, scabies, leprosy, boil, small pox and guinea worm. *Jatropha curcus* L., *Carica papaya* L. and *Psidium guajava* L. were among the different plants commonly used for the treatment of these skin diseases. Decoction, infusion, squeezing of the various plant parts was the mode of preparation while administration was majorly by topical application on affected regions of the body. Most of these plants have some bioactive and biological activities and can provide remarkable basis of information for drug industries. The knowledge of effectiveness of these plants can enhance the healthcare system of Umelu people and Edo State at large.

INTRODUCTION

Medicinal plants are plants used as natural medicines. They are those plants with a recognized medical value. Plants form the main ingredients of medicines in traditional systems of healing and have been the source of inspiration for several major pharmaceutical drugs. Roughly 50,000 species of higher plants (about 1 in 6 of all species) have been used medicinally. The use of medicinal plants can not be underemphasized. It is increasing world wide in view of the tremendous expansion of traditional medicine and a growing interest in herbal treatment. Plants are used in medicine to maintain and augment health, physically, mentally and spiritually as well as to treat specific conditions and ailments. It is up to us to explore, seek, search and reap the benefits of these treasures (Titilayo, 2015).

In recent times, research on herbal therapy has gone beyond the third the issues of developing countries but also in developed countries. Studies on risk assessment of herbal therapy, active components as well as ethno-medical importance worldwide are ongoing with respect to thousands of plants and extracts, methods of preparations and their subsequent products important in promoting the wider usages of drugs of medicinal plants origin (Kuldeep et al., 2014).

The plant kingdom has contributed and is still contributing immensely to human health when no synthetic medicines were available and when no concept of surgery existed. There is therefore need to conserve these plants associated with indigenous knowledge for our development and good health. Synthetic drugs gained popularity against green remedies because of their fast acting effects however people have begun to realize the benefits associated with natural remedies. Chemically prepared drugs may act quickly, but they have side effects with our body negatively in the long run. Whereas medicinal plants work in an integrated or pro-biotic approach with little or no adverse effects on the body (Natesan et al., 2006).

The African continents have a long history of the use of plants and in some African countries up to 80% of the rural population rely on medicinal plants as a source of remedies (Hostettmann et al., 2000). By conserving traditional medicinal plants, a country can improve its health sector and reduce poverty. Medicinal plants are now in a “come back” phase within the last two decades. Moreover as people learn more about the nutritional aid medicinal value plants, they will increase their consumption resulting in improved health. Herbal or plant based medicines are considered reliable for the treatment of certain diseases such as skin diseases.

Skin disease is therefore an illness of the skin such as a bacterial and fungal infection, a cancer or an allergic reaction. Skin problems arise from a number of causes which include infections, over exposure to sun light, toxic, hormonal imbalance, parasites, cell dysfunction and even stress. Skin diseases include several circumstances like herpes simplex, eczema, leucoderma, insect dermatitis, ringworm, decubitus ulcer, skin cancer, pilyriasis rosea, scabies and many items without distinct symptoms. Contemporary medicines used in the cure of skin diseases have consequences. Traditional medicine uses several plants species for treatment of skin diseases caused by contagious germs. The method of ethnobiotanical studies is reported to show greater percentage yield of bioactive useful medicinal compounds over other methods of random selection and screening (Shinwaikar et al., 2004).

This study was aimed at identifying some medicinal plants used in treating skin diseases by traditional herbalist and healers in Umelu Village, Ikpoba–Okha Local Government Area of Edo State. This research is an ethnobotanical survey covering the application of plants in the treatment of skin infections based on traditional knowledge as well as a baseline for the development of therapeutic drugs.

MATERIALS AND METHODS

Study area

Umelu village is located at the northern region of Ikpoba-Okha Local Government Area. It occupies an approximate size of 816.46 square kilometer and a population of about 371,106. It has geographical coordinates of latitude 6.169774 and longitude 5.667758. Edo State is however located within latitude 5° 45' and 7° 8' North and longitude 5° 4' and 6° 52' East. The climate is tropical and the vegetation is lowland rain forest with a mean annual rainfall of 2300 mm. It has a tropical climate with two distinct season in a year, rainy and dry season. Umelu is one of the major towns/villages in this local government amongst which are Okha, Evbiakagba, Ukhiri, Ute Ogheghe, Utesi, Oregbeni, etc. The major occupation is predominately farming. Major agriculture products include cassava, yam, plantain which is sold in the village market and also sold in major towns.

Consultation of traditional herbalist and healers

Visits were made to herbal homes and tradomedical doctors in the community under study to obtain information on the use of medicinal plants for the treatment of skin diseases. Appointment was made and discussion section was held with different herbalist and tradomedical doctors at their various herbal homes for the purpose of gathering information.

Collection of plant materials

Based on the consultation with traditional herbalist and healers, plant samples and description given were sued to survey the farmlands and forest in the study area to obtained plants used for the treatment of skin diseases and infections. Several plants were collected according to traditional herbalist and healers instructions and guide.

Collection of ethnomedicinal data

Ethnomedicinal data of the plants obtained from farmlands and forests in the study area were identified locally by traditional herbalist and healers as well as other indigenes that are vast in the use of plants. The ethnomedicinal properties of the plants such as parts used, major ailments used for, mode of preparation and administration were sorted and recorded adequately as reported.

Scientific classification of medicinal plants

The plants were packed in clean polyethylene bags and transferred to the Department of Botany, Faculty of Science, Delta State University, Abraka were they were further identified scientifically.

RESULTS

Medicinal plants identified in this survey are a total of 21 plants consisting of 18 families, 21 genera and 21 species. The plants have different types of habits ranging from trees, herbs and shrubs. Trees provided the highest proportion of plants at 52.38% followed by herbs at 33.33% and shrubs at 14.29%. Table 1 shows the botanical names, families, common and local names of

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Table 1. Medicinal uses of plants for the treatment of skin diseases in Umelu Village, Edo State.

Botanical names	Family	Common name	Local name	Habit	Part used	Major cure	Method of preparation and administration
Allium cepa L.	Liliaceae	Onion	Alubarha	Herb	Bulb	Rashes and scorpion bites,	The bulbs is crushed into onion juice and applied to rashes. Also the onion juice can be rubbed on the stings from snake bites
Alstonia boonei De wild	Apocynaceae	Cam wood	Ukhu	Tree	Stem bark	Snake bite and arrow poison	It is prepared by the infusion of the stem bark. And then drank as a remedy for snakes bites and arrow poison
Anarcardium occidentale L.	Anarcardiaceae	Cashew	Ekashu	Tree	Mature leaves	Body swellings in rheumatism and arthritis wound	The matured leaves are sliced, infused in a local gin in a bottle and then rubbed on the swollen rheumatic or arthritis parts
Bryophyllum pinnatum (lam) Oken	Crassulaceae	Resurrection Plant or Air plant	Idanwesin	Herb	Leaves	Wound	Leaves are slightly warmed in fire and applied to cuts and wounds
Carica papaya L.	Caricaceae	Pawpaw	Uhro	Tree	Leaves	Sore	The roasted leaf pulp is placed on sores for healing
Celosia argentae L.	Amaranthaceae	Cockscomb	Ebe – afor	Herb	Leaves	Rashes	The juice of the leave is applied in the treatment of rashes. The seeds can also be used when grinded into paste
Citrus aurantifolia (christm.)Swinge	Rutaceae	Lime	Alimo – negiegie	Tree	Fruits	Measles	The fruit is cut into two parts and the juice squeezed out of it. The juice is then mixed with honey and applied by drinking the mixture for measles treatment
Colocasia esculentum (L) schott	Araceae	Cocoyam	Ebe – aka	Herb	Leaves and roots	Snake bites and rheumatism	Poultice from the roots is used for snake bites. Poultice from both root and leave is used for swellings from snake bite and rheumatism
Corchorous olitorious L.	Tiliaceaae	Jute plant	Ebiyoyo	Tree	Seeds	Abscesses and swellings.	The seeds is grinded and the paste from it is used to rub on abscesses and swellings
Dacryodes edulis H. J. Lam	Burseraceae	African pear	Orumwun	Tree	Bark	Swollen foot from jigger infestation	A paste of the bark is a remedy for swollen foot (jiggers) when rubbed on it
Ficus exasperata vahl	Moraceae	Sand paper plant	Amenmen	Tree	Leaves	Ringworm	Squeeze and rub leaves on affected part of the ringworm
J. curcus L.	Euphobiaceae	Purging nut	Ebe – 0moruebo	Shrub	Stem	Eczema and boil	Detach one or two leaves from the stalk of the stem, then apply the sap coming out of from the petiole of the leaf to the affected region for eczema and boil
Magnifera indica L.	Anacardiaceae	Mango	Emago	Tree	Bark	Eczema, satires ringworm	Few of the dried bark are pounded and made into paste with shear butter. It is externally applied twice a day to treat eczema, scabies, and the ringworm infection and inflammations
Monodora myristica. Dunal	Annonaceae	African nutmeg	Ikposa	Tree	Seeds	Guinea worm	Seeds are grinded to powder and used to treat the worms. Decoction of the seeds is drunk too

Table 1. Contd.

Botanical names	Family	Common name	Local name	Habit	Part used	Major cure	Method of preparation and administration
Ocimum gratissimum L.	Lamiaceae	Scent leaf	Ebe - amwokho	Herb	Leaves	Insect bites	Crush leaves or squeeze fresh leaves and rub on affected part for insect bites
Psidium guajava L.	Myrtaceae	Guava	Igueva	Tree	Leaves	Small pox and measles	Extract is prepared from leaves plant with water and is taken orally three times a day to treat skin infection, small pox and measles
Senna alata L. Roxburgh	Caesalpiniaceae	Candle bush, Ringworm pant	Aro –ghamiasol	Shrub	Leaves	Ringworm, Eczema	Two to three leaves are plucked, squeezed and then used to scrub the surface of the affected ringworm parts. Also decoction of the leaves and kerosene is applied to eczema, ringworm e.t.c.
Talinum triangulare (Jacq)Willd	Portulaceae	Water leaf	Ebodundun	Herb	Leaves	Cuts wounds and scabies	Macerate that is soak the leave in heated water and applied on the surface of infected part for cuts, wounds, and scabies
Terminalia catappa L.	Combretaceae	Almond tree	Ebelebo	Tree	Leaves	Leprosy and scabies	The saps from the young leaves are rubbed for leprosy and scabies ailment. Macerated leaves in palm oil are applied on leprosy
Vernonia amygdalina Del.	Asteraceae	Bitter leaf	Ebe – oriwuo	Shrub	Leaves juice	Measles	It can be prepared by the extraction of the leave juice from the leave and then mixing with native gin. It is then rubbed for measles treatment
Xylopia aethiopica (Dunal) A. Rich	Annonaceae	African guinea pepper	Unien	Tree	Fruits	Swollen from rheumatism and arthritics	Pound fruits and make into paste and apply to the affected parts. It can also be prepared by grinding of the fruits, adding to a pomade and rubbed on swollen from Rheumatism and Arthritis

the plants, parts used and the major cure as well as method of preparation and mode of administration. This research gives a detailed review of plants as used by the locals of the study area in the treatment of skin diseases. The mode of action of these plants according to the local indigenes is believed to be as a result of the belief of the people as majority of the plants have been used by their ancestors and great grandparents. Hence, there are no specific explanation as to their mode of action, rather than their fate and belief.

DISCUSSION

This research and previous related literature indicates the plants used for skin diseases and wound healings in the various parts of the world by different groups of native communities. This study documented a total of 21 plants which constitute 21 genera, 21 species and 18 families use by the people of Umelu Village in the treatment of skin diseases. Study from literature revealed that the medicinal value of these plants lies in some phytochemical substances that produce a definite physiological action on the human body. Among these bioactive constituents of plants are alkaloids, saponins, tannins flavonoids, carbohydrates and phenolic compounds (Edeoga et al., 2005).

The parts of plant used for medicine preparation varies from leaves, stem, bark, roots, fruits and flowers respectively. This corresponds with the study carried out by Egharevba and Ikhatue (2008). The leaves were observed to be the most frequently used part and this agrees with the studied made by Algasim et al. (2013).

Preparation of the plant for use ranged from crushing decoctions, dried extracts maceration, infusions, squeezing and poultries. The leaves of *C. papaya* is used for the treatment of some but studies by Aravind et al. (2013) revealed it can also be used in the treatment of Eczema, warts and other hardness of skin. Also *J. curcas* is used in the treatment of eczema. This agrees with study by Borokini et al. (2013). Algasim et al. (2013) reported that *Allium cepa* and *Allium sativum* are used in the treatment of measles and chicken pox. But this is in contrast with the report from this study that *A. cepa* is used in the treatment of rashes and scorpion bites by the people of Umelu Village. Oladele (2010) reported that the leaf juice decoction of *Senna alata* is used for the treatment of ringworm and other skin diseases. This agrees with research from this study that the decoction of the leaves and kerosene is applied to ringworm and eczema treatment.

The application of different kind of plants can be used for the treatments of one particular skin disease distinctively. Example is seen in the use of *Citrus aurantifolia, Psidum guajava* and *Vernonia amygdalina* for measles treatment. Also *Anarcadium occidentale, Colocasia esculentum* and *Xylopia aethiopica* can be applied to swollen from Rheumatism and Arthritis.

RECOMMENDATIONs AND CONCLUSION

This research has highlighted various ethnomedicinal plants remedies practiced by the people of Umelu Village of Ikpoba Okha Local Government Area, Edo State in the management of skin diseases with their botanical names, common names and local names documented. The various ways of preparing and administering the identified plant was stated.

The knowledge of effectiveness of these plants can enhance the health care system of the Umelu people and Edo State at large. The medicinal plants with established compounds can serve as a leads to the progress of powerful medicines, while these medicinal plants that are unique to the Local Government can be a guide to a source of novel drugs.

There is need for Government to recognize the traditional medical practice with the target of improving the healthcare delivery system because according to the literature review, most of the plants has some bioactive and biological activities and this can provide remarkable basis of information for drug industries, as usefulness of many plants can be a life time breakthrough to the scientific world.

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