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HERBS USED BY THE URHOB0 PEOPLE IN DELTA STATE NIGERIA FOR THE TREATMENT OF TYPHOID FEVER

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ABSTRACT

Typhoid fever is a common disease that very many people across the globe suffer from over time. There has been little investigation into the local medicinal herbs used for the treatment of this disease. Herbal plants used in the treatment of typhoid fever by the Urhobo people in Delta State were investigated in this study. A well structured questionnaire were administered to the focus group, which comprises of traditional healer, School Teachers and people that were adjudged by the locals to be knowledgeable in the use of medicinal herbs. It was found that beside the use of orthodox medicine, herbal plants were also used for the treatment of the ailment. The survey shows that majority of the herbs used by these people to treat the disease were used in combination with other herbs. Agronomy crops form buck part of the plants used to treat the disease. It was observed during the survey that the medicament containing unripe pawpaw, unripe pineapple, grape fruit and lime were more frequently used among the people in different places of the study area. The study showed that 23 plants belonging to 19 families were frequently used than other plants by the Urhobo people of Delta state Nigeria in the treatment of typhoid fever.

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INTRODUCTION

Typhoid fever is a very common illness that the Nigeria people suffer from at all time. Typhoid fever is transmitted by the ingestion of food or water contaminated with the faeces of an infected person, which contain the bacterium *Salmonella enterica*, serovar Typhi (Giannella R.A 1996). The bacteria then perforate through the intestinal wall and are phagocytosed by macrophages. The organism is a Gram-negative short bacillus that is motile due to its *peritrichous flagella*. The bacterium grows best at 37°C / 98.6°F human body temperature. Symptoms of typhoid fever usually develop five to 21 days following ingestion of food or water contaminated with *Salmonella* Typhi bacteria and can last up to a month or longer.

Flying insects feeding on faeces may occasionally transfer the bacteria through poor hygiene habits and public sanitation conditions. Public education campaigns encouraging people to wash their hands after defecating and before handling food are an important component in controlling spread of the disease. According to statistics from the United States Centers for Disease Control and Prevention (CDC), the chlorination of drinking water has led to dramatic decreases in the transmission of typhoid

fever in the U.S (Wikipedia, May 2011). A person may become an asymptomatic carrier of typhoid fever, suffering no symptoms, but capable of infecting others. According to the CDC, approximately 5% of people who contract typhoid continue to carry the disease after they recover. The most famous asymptomatic carrier was Mary Mallon (commonly known as "Typhoid Mary"), a young cook who was responsible for infecting at least 53 people with typhoid, three of whom died from the disease. Mallon was the first apparently perfectly healthy person known to be responsible for an "epidemic"(Wikipedia, May 2011). Many carriers of typhoid were locked into an isolation ward never to be released in order to prevent further typhoid cases. These people often deteriorated mentally, driven mad by the conditions they lived in. Early symptoms include fever, general ill feeling, and abdominal pain. A high (over 103 degrees) fever and severe diarrhea occur, as the disease gets worse. Some people with typhoid fever develop a rash called "rose spots," which are small red spots on the belly and chest (Bhutta 2008). Other symptoms that occur include: Abdominal tenderness, Agitation, Bloody stools, Chills, Confusion, Difficulty paying attention (attention deficit), Delirium, Fluctuating mood, Hallucinations, Nosebleeds, Severe fatigue, sluggishness, lethargic feeling and Weakness.

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Historically, plants have played an important role in medicine for early people and were intricately connected to diet and healing. Through observation and experiment, they learned which plants promote health and well-being. An enumeration of the World Health Organization from the late 1970 species listed 2100 medicinal species. However, in China alone, 494 of 26092 native species were used as drugs, Chinese traditional medicine (Duke and Ayensu, 1985). Medicinal plants fall into two broad categories (Syed *et al.*, 2008). Those plants that are only used by local physicians in various crude formulations to provide some relief to the local population in developing countries. Secondly, those plants which are in demand by pharmaceutical companies for their active ingredients. The world's tropical rain forests are especially rich in biodiversity but there is rapid depletion of this natural resource worldwide, and in Nigeria in particular, the pressures from degradation, unsustainable arable land use, urbanization and industrialization (Obute and Osuji, 2002; Ayodele, 2005) are taking their toll as well. The plant genetic resources of Nigeria, according to Gbile and Adesina (1986), are a veritable source of pharmaceuticals and therapeutics though these plants are not adequately documented.

The aim of this survey is to present herbs used in the treatment of typhoid fever, so that researchers can use them in the development of new medicine that will combat the disease. The study also serves as means of documentation of the indigenous knowledge of these plants that is passed down from generation to generation before it fades away.

MATERIALS AND METHODS

The investigated area covered fifteen (15) villages in Urhobo, an ethnic group in Delta State, Nigeria. The villages visited are Kokori, Ovir-Olomu, Opete, Ewu, Otor-Ogor, Effurun-Otor, Uwhurun, Usiefurun, Ogharaefe, Otor-Edo, Ododegho, Udo-ophori, Okwagbe, Ogbowwa and Oorerokpe. Delta state is located in the South-South geo-political zone of Nigeria. Some of the villages that were visited have primary healthcare facility present in them. The villages that do not have primary health care facility have at least one shop where orthodox medicine are been sold. In these villages, there are traders, farmers, schoolteachers, traditional healers and a host of others people mostly artisans.

In the course of the survey, a well structured questionnaire were administered to the focus group, which comprises traditional healers, school teachers and people that were adjudged by the locals to be knowledgeable in the use of medicinal herbs. This focus group comprises people of different age category ranging from ages 25 to 60 and even above. The questionnaires were administered in form of question and answer to the focus group, and after which brief discussions were usually held based on the indigenous knowledge of the medicinal plants mentioned. One hundred (100) questionnaires were distributed in each of the villages, making one thousand five hundred (1500) questionnaires in all. The major questions present in the questionnaire

were based on the part of the plant to be used as medicine, method of collection, mode of preparation of the medicament, name of the plant and mode of administration of the medicament. Indigenous information on medicinal plants was compiled according to botanical names, common names, parts of plants used, mode of preparation and administration. With the assistance of the traditional healers, some of the medicinal plants that were mentioned were collected for identification. Materials used during the collection were cutlasses for plant bark, hoes for plant roots and the leaves and fruits were usually collected by hand.

Information gathered on these medicinal plants in the course of this ethno-botanical survey include the following: the part of the plant used as medicine, mode of administration of the medicament, local names of the plant used as drug, mode of preparation of the medicament and method of collection of the plant parts used. The collected samples and specimens were identified at the Herbarium of the National Centre for Genetic Resources and Biotechnology (NACGRAB), Ibadan, Nigeria.

RESULTS AND DISCUSSIONS

Table 1 shows the list of medicinal plants used by the Urhobo People in the treatment of typhoid fever. The survey shows that 23 plant species spread among 19 families were used in the locality to combat the disease. The family *rutaceae* and *poaceae* have the highest representative, containing four and two plant species respectively. The people use different parts of the plant (leaves, roots and barks) in the treatment of the disease. During the interaction with the respondents, it was observed that some of the plants mentioned are not commonly found in that locality, such plant parts are usually bought from traditional herbs sellers in the market by the traditional healers. Plant parts used are usually prepared in different form (decoction, infusion and tincture) before usage. This is in agreement with the work of Ogie-Odia and Oluowo 2009 on assessment of some therapeutic plants of the Abbi people in Ndokwa West L.G.A of Delta State, Nigeria. The medicament are either taken orally or used in bathing. Table 2 show mode of preparation of the medicament and the mode of administration of the medicaments. Majority of the herbs are used in combination with other herbs in the treatment of typhoid fever. In many of the places visited, the medicament that contains grape, unripe pineapple, unripe pawpaw fruit and lime mixed in pap water is used more frequently than other medicament. It was also observed that non-herbal ingredient feature in preparing the medicament used by this people. The non-herbal ingredients are; water, pap water (water used in preserving pap), local fowl egg and honey. Literature revealed that, other people outside the region of this survey equally use some of the herbs used by the Urhobo People in the treatment of typhoid fever. Some of the

Table 1 Herbs used in the treatment of typhoid fever

S/N	Scientific name	Local name	Common name	Part used	Family name
1	<i>Allium sativum</i>	Garlic	Garlic	Bulbs	<i>Alliaceae</i>
2	<i>Aloe vera</i>	Aloe vera	Aloe vera	Leaves	<i>Liliaceae</i>
3	<i>Alstonia boonei</i>	Ukpukuhu	Stool wood	Bark	<i>Apocynaceae</i>
4	<i>Ananas comosus</i>	Ilalaja	Pineapple	Fruit	<i>Bromeliaceae</i>
5	<i>Azadiractha indica</i>	Dogoyaro	Neem	Bark	<i>Meliaceae</i>
6	<i>Carica papaya</i>	Eto oyibo	Pawpaw	Fruit	<i>Cariaceae</i>
7	<i>Citrus aurantifolia</i>	Utiaferen	Lime	Fruit	<i>Rutaceae</i>
8	<i>Citrus lemon</i>		Lemon	Fruit	<i>Rutaceae</i>
9	<i>Citrus paradisi</i>		Grape	Fruit	<i>Rutaceae</i>
10	<i>Citrus sinensis</i>	Utien	Sweet orange	Fruit	<i>Rutaceae</i>
11	<i>Cocos nucifera</i>	Uviobo, ukokodia	Coconut	Water from fruit	<i>Arecaceae</i>
12	<i>Cymbopogon citratus</i>	Iti	Lemon grass	Leaves	<i>Poaceae</i>
13	<i>Daucus carota</i>	Carrot	Carrot	Fruit	<i>Abiaceae</i>
14	<i>Euphorbia heterophylla</i>		Spurge weed, wild poinsettia	Whole plant	<i>Euphorbiaceae</i>
15	<i>Ficus exasperata</i>		Sandpaper tree	Leaves	<i>Moraceae</i>
16	<i>Mangifera indica</i>	Imagoro	Mango	Bark	<i>Anacardiaceae</i>
17	<i>Musa paradisiacal</i>	Ode	Plantain	Fruit	<i>Musaceae</i>
18	<i>Ocimum gratissimun</i>	Erhan	Tea bush	Leaves	<i>Lamiaceae</i>
19	<i>Psidium guajava</i>	Igueva	Guava	Leaves	<i>Myrtaceae</i>
20	<i>Saccharum officinarum</i>	Uwherhe	Sugar cane	Mature stem	<i>Poaceae</i>
21	<i>Sida acuta</i>		Broom weed	Leaves	<i>Malvaceae</i>
22	<i>Solanum lycopersicum</i>	Tamatosi	Tomato	Fruit	<i>Solaneaceae</i>
23	<i>Zingiber officinale</i>	Ginger	Ginger	Rhizome	<i>Zingiberaceae</i>

Table 2 Herbs preparation and administration

S/N	Herbs	Mode of preparation	Mode of administration
1	<i>Citrus aurantifolia</i> , <i>Citrus paradisi</i> , <i>Carica papaya</i> , and <i>Ananas comosus</i> (all fruits should be used unripe).	Soak in pap water for 24 hrs	Drink thrice daily
2	<i>Citrus sinensis</i> , <i>Carica papaya</i> , <i>Musa paradisiaca</i> and <i>Anana comosus</i>	Grind and mix together with the subsequent addition of milk	Drink thrice daily
3	<i>Citrus lemon</i> , <i>carica papaya</i> and <i>mangifera indica</i>	Cut and boil in little water	Drink thrice daily
4	<i>Cymbopogon citratus</i> , <i>Citrus aurantifolia</i> , <i>Citrus paradisi</i> , <i>Carica papaya</i> , <i>Ananas comosus</i> , <i>Allium sativum</i> and bark of <i>Alstonia boonei</i>	Decoction of the herbs	Drink thrice daily
5	<i>Mangifera indica</i> and <i>Azadiractha indica</i>	Soak in water for 24 hrs	Drinking and bathing
6	<i>Psidium guajava</i> leaves	Soak in water with menthol for 24 hrs	Drink thrice daily
7	<i>Cocos nucifera</i>	Mix with raw egg of local breed fowl	Drinking
8	<i>Solanum lycopersicum</i> and <i>Daucus carota</i>	Blend together, ten ripe tomatoes, seven pieces of carrot, 5 litres of water and ½ a litre of honey	Take a glass of the concoction thrice daily for one week
9	<i>Aloe vera</i> , <i>carica papaya</i> , <i>Allium sativum</i> and red <i>zingiber officinale</i>	Blend them together and sieve	Drinking
10	<i>Saccharum officinarum</i>	Juice is extracted from mature stem	Drinking
11	<i>Sida acuta</i>	Make a decoction of the leaves	Drinking
12	<i>Euphorbia heterophylla</i>	A decoction of the whole plant is used in making eba (garri)	Eat as food
13	<i>Ficus exasperate</i> and <i>Ananas comosus</i>	Leaves of <i>Ficus exasperate</i> and Pineapple chopped and decocted.	Take a tea cup four times daily for 7 days
14	<i>Ocimum gratissimun</i>	Leaves of the plant are boiled or squeezed in water	Drinking

herbs used by the Urhobo people in the treatment of typhoid fever are in agreement with the work of Faleyimu *et al* 2010 on the survey of forest plants used in traditional treatment of typhoid fever in Chikun Local Government Area of Kaduna State, Nigeria. The survey captures a wide range of respondents between ages 25 to 60 and above as shown in table 3 , the table showed that the highest numbers of respondents falls between ages 40-44.

herbs used in combating the disease than those of age 44 and below. The study also showed that majority of the plants used in the treatment of typhoid fever are agronomy crops.

The study was aimed at documentation and determining the ethno botanical usefully of these local herbs used by the Urhobo people in the treatment of typhoid fever. Indigenous knowledge of these herbs are passed down from generation to generation without

documentation, if conscious effort is not made to document the indigenous knowledge of these medicinal herbs such knowledge will fade away gradually, leaving researchers little or nothing to improve upon in regards to folk medicine. It was observed that most of these plants used in treatment of typhoid fevers also serve as sources of food to the locals and as a means of income generation.

Table 3 Ages of Respondents

Age range	No. of people	Percentage (%)
25-29	50	3.33
30-34	150	10
35-39	341	22.73
40-44	377	25.13
45-49	265	17.67
50-54	230	15.33
55-59	64	4.27
60 and above	23	1.53

CONCLUSION

This study was able to reveal that beside the use of orthodox medicine in the treatment of typhoid fever, there had existed several indigenous knowledge and local herbal therapeutic applications, utilized in the management of the ailment in the study area. Typhoid fever is a disease that is very common among the general population in different places all over the world. There is need for researchers to explore and exploit the inherent potentials available in the enumerated array of plants used as herbal remedy for the management of typhoid. In this vein, efforts should be geared towards identifying and extracting the active ingredients in these herbs with the result of formulating and packaging a cost-effective and efficacious product in treating typhoid for the teeming masses of the developing countries.

There is need to preserve the indigenous knowledge of these people for posterity and furtherance research, because modern sciences is yet to fully exploit the potentials of the herbs.

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