

Ethnobotanical Treatise on Selected Herbs Used in the Treatment of Hypertension among the Ekiti People of Western Nigeria

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ABSTRACT

Local ethnobotanical survey is carried out in Ekiti Zone of Yoruba tribe of Nigeria to ascertain the various medicinal plants that are used by the people to treat hypertension and high blood pressure related illnesses. The various plants used by the local people are identified; the forms and the ways in which the people prepare and administer them are documented. The scientific and the vernacular names of the plants are equally documented. Hence, the federal government, the federal ministry of health and all the various health institutions and drug-making research centers should encourage indigenous technology to utilize the numerous medical plants available in Nigeria

Keywords: Selected herbs; Treatment of hypertension; Ekiti people, Western Nigeria

INTRODUCTION

Adodo (2001) in his book on “ethnobotany” states that the origin of plants utility dates back to the origin of the earth. From theological perspective, God created and originated the use of plants from the account recorded in the Bible. “And God said; let earth bring forth grass, the herb-yielding seeds and fruits after its kind”. And God said, “I have given you every herb-yielding seeds and every tree ... to you it shall be for food. All the aforesaid is in consonance with Hill (1952) that man’s dependence on plants for the essentials of his existence has been of paramount importance in his life since the human race began. And that; drugs, used to cure diseases and relieve suffering are to a great extent plant products.

The use of plants as bio-medical has the highest percentage in commodity grouping of useful plants in Africa (Schemelzer and Omino, 2003). Fahnsworth and Morris (1976) Kumar and Siagh (1979) have rightly acclaim that “plants are the sleeping giants of drug development and virtually untapped reservoir of potentially source of drugs”. A medicinal plant has been defined as any plant in which one or more of its organs contains substances that can be used for therapeutic purpose; which are precursors for the synthesis of useful drugs. From scientific and pharmacological viewpoint, a medicinal plant is any plant within the plant diversity that contains any useful chemical (homogenous) or heterogeneous in any of its anatomical structure which has potential for being therapeutically active

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and which can be used as drug to alleviate, relieve or cure human and animal diseases, caused by single or diverse agents (Fahnsworth, 1998 and Omotayo, 2007). Life itself operates in a chain of chemical processes and are included in life's operational phenomenon. Over 70,000 plant chemicals (phyto-chemicals) have been identified, isolated and characterized (Kumar and Singh, 1979). Olorode (1984) and Omotayo (2007) affirm that not less than 5,000 vascular plants are present in Nigeria and are distributed in over 200 different families and virtually up to 95% of these plants are exploited medically. Taylor, Grien and Stout (1997) define hypertension as a condition of the circulatory system in which the blood vessels resist blood flow leading to a rise in blood pressure. This phenomenon imposes a strain on the heart and blood vessels and it leads to a weakening of artery walls, rupturing and clogging of narrow vessels by blood clots (thrombosis). These conditions are very serious if they affect the brain or the heart and can lead to Cerebral haemorrhage (stroke), Cerebral thrombosis or Coronary thrombosis (Mader 2004, Omotayo 2007).

Hypertension is associated with factors such as stress, obesity, smoking, saturated fat, consumption of excessive alcohol and lack of physical exercise. There is also a genetic predisposition in some people to develop hypertension at a certain time in their life (WHO 2013). A change of life style and social adjustment and dietary intake would correct or reduce many of the anomalies associated to developing high blood pressure or hypertension. Ethnobotanists have addressed the insurgency of hypertension by application of medicinal plants.

MATERIALS AND METHOD

Semi-structured interviews and discussions with selected informants were adopted according to Martins (1995), Omotayo (2000), Omotayo (2007). PRA (Participatory Rural Appraisal) method was used to ascertain the information provided (Black and Cox, 1996), Two methods; Whittaker Nested Quadrant method) and Normal Field techniques for plant collections and herbarium development were used for vegetation sampling and plant collection as regard this study.

RESULTS AND DISCUSSION

Reports from the survey showed that 23 different plant species were used for the study. They represented 19 different angiosperm families and 25 genera; of these, 11 specie were trees, representing 48%, 2 were climbers, representing 8%, 8 were herbaceous plants representing 35%, while 2 species were bulb representing 8% each, no shrubs were recorded in the study. All the plant families observed are Graminae, Moraceae, Euphorbiaceae, Leguminosae, Lauraceae, Piperaceae, Caricaceae, Guttiferae, Juglandaceae, Sterculiaceae and Aquifolaceae had 1 species

only except Rutaceae that has 3 species, Musaceae has 2 species and Liliaceae has 2 species respectively. The plants are utilized single or jointly sometime with honey. Plant parts used are the leaves, shoots, stem bark, root bark, or bulb, these are produced in infusion, decoction or as soup ingredients. In primary hypertension cases, the effects of these plants usage are felt within 2 to 4 days.

Table 1: The plants discovered are enlisted on the table below:

	Plant Species/Family	English name	Nigeria vernacular Name	Part used	Method of preparation	Medicinal importance
1	<i>Allium sativum</i> (Liliaceae) L	Garlic	Yoruba–Ayu, Hausa- Tafamuwa, Igbo -Ayo	Whole bulb	Juice extraction	Lowers blood pressure, Dissolves cholesterol in artery lumen. Produces high anti-hypertension agent-called prostaglandin- A and allicin,
2	<i>Zea mays</i> (Graminae) L (Poaceae)	Maize, Corn	Yoruba –Agbado, Oka, Igbo-Oka, Hausa – Masara	Silk from cobs	Hot, infusion Decoction	Lowers blood pressure, Dissolves cholesterol
3	<i>Alchornea laxiflora</i> (Euphorbiaceae)	Arithemetic Stick	Yoruba –pepe, iyapepe, Urobo -Urie Vivu	Root	Decoction	Dissolves stones’ Reduces incidence of heart failure lowers blood pressure
4	<i>Allium cepa</i> (Liliaceae) L	Onion	Yoruba Alubosa, Igbo-Yabash, Hausa-albasa	Bulb	Juice extraction	Diuretic, Promotes blood flow, cardiac tonic, Reduces
5	<i>Viscum album</i> (Loranthaceae)L	Mistotle	Yoruba-Afamo, Igbo -	Dried leaves	cholesterol Hot infusion, Decoction	Reduces blood pressure, cardiac tonic, improves blood circulation, prevents
6	<i>Ficus asperifolia</i> (Moraceae) L	Sand paper tree	insomnia Yoruba-Epin, Igbo-Asesa, Hausa–Baure, Esan-Amene	fresh or dried leave	decoction, Hot infusion	Lowers blood pressure, prevents insomnia Activate nerves
7	<i>Persea americana</i> (Lauraceae) L	Pear tree	Yoruba- pia, Igbo–Osisi pia	Dried seed	Decoction as sou Ingredient	Lowers blood pressure, calmative
8	<i>Glyceridia sepium</i> (Pappilionaceae) L	Tree legumes	Yoruba-Agunmaniye, Igi dindinrin	Tender foliage leaves	cold infusion, Decoction	Reduces blood pressure
9	<i>Hibiscus sabadariffa</i> L (Malvaceae)	Rama	Yoruba–Isapa pupa, Igbo–Sobo Hausa- Sobo	Dried Leaves	Hot infusion, Decoction	Dissolves Cholesterol, lowers blood pressure
10	<i>Rauwolfia vomitoria</i> ; syn- <i>Rauwolfia serpentina</i> (Aquifoliaceae)	Wizzle stick	Yoruba-Aso feyeye Igbo-Akanta Esan-Ukheta	Dried root bark	Hot infusion of powdered root back	Lowers blood pressure, prevents insomnia, calmative
11	<i>Lantana camera</i> (Labiaceae) L	Wild sage	Yoruba-Eleku, ewon agogo Hausa-Kinbar	Fresh leaves	Decoction	Prevents nervous breakdown, lower blood pressure
12	<i>Juglans nigra</i> Juglandaceae	Wall-nut	Yoruba-Asala	Seed (cotyledons)	Partially cooked seeds level	Lowers blood pressure, reduces cholesterol
13	<i>Garcinia kola</i> Guttiferae	Bitter Kola	Yoruba–Orogbo	Seed	Eating raw	Lower blood pressure, reduces cholesterol
14	<i>Carica papaya</i> (Caricaceae) (L)	Pawpaw	Yoruba–Ibepe, Ogolomoshi Gbegbere	Unripe green fruit	Eating raw fruit (excluding the fruit) hypertension	Cardiac, tonic, papain dissolves cholesterol in artery lumen,
15	<i>Citrus lemon</i> (Rutaceae)	Lemon orange	Yoruba - Orombo wewe – Orobo-lemo	Extracted Juice	Squizzed juice add to honey	Contains anti hypertension agent – Ascorbic acid, Reduces cholesterol and lowers blood pressure

16	<i>Citrus Aurantifolia</i> (Rutaceae)	Lime orange	Yoruba- Orombo wewe, Oromboo Osan wewe Hausa-Alemu	extracted juice	Squizz juice + honey (to drink)	Reduces cholesterol level, enhances absorption of anti-hypertensive agents, Lowers Blood pressure
17	<i>Musa sapentium</i> (Musaceae) (L)	Banana	Yoruba-Ogede wewe Hausa-Ayaba	Ripe fruit	Food agent	Reduces hypertension, enhances absorption of anti-hypertensive agents
18	<i>Musa paradisiaca</i> (Musaceae) (L)	Plantain	Yoruba- Ogede Agbagba, Ogede nla Hausa – Ayaba	Unripe green fruit & green leaves	Cooked unripe fruit, decoction of green leaves	Supplies K ⁺ Potassium salt linked with lowering blood pressure, Cardiac tonic
19	<i>Ipomia batata</i> Convolvulaceae (L)	Sweet potato	Yoruba –anomo	Tuber +leaves	Cooked tuber to eat, decoction of leaves, soup ingredient	Lowers blood pressure, Cardiac tonic
20	<i>Citrus paradise</i> , (Bum) (Rutaceae)	Grape Orange	Yoruba- Orombo, Girepu Hausa-Lemu, Igbo-Grepu	Fleshy- Juicy endocarp	Squizz juice to drink	Lowers blood pressure, Dissolves cholesterol, Enhances absorption of anti-hypertensive ingredients
21	<i>Theobroma cacao</i> Sterculiaceae (L)	Cocoa tree	Yoruba-Igi owo, Igi koko Igbo- koko Hausa – koko	Dry seeds	Hot infusion of powered seeds/ cotyledons	Lowers blood pressure, contains theobramine - an essential anti-hypertension agent
22	<i>Piper nigrum</i> (L) Piperaceae	Black pepper, Native pepper	Yoruba-Iyere	Dried seeds (berries)	Decoction, as soup ingredients	Promotes blood circulation, Dilates arteries, lowers blood pressure, Activates nerves
23	<i>Ocimum basilicum</i> (L) (Labiaceae)	Basil	Yoruba –Ewe efin	Fresh leaves + corn silk	Decoction as soup ingredient	Reduces cardiac congestion, promote blood flow, contains anti-hypertensive agent tocopherol (Vitamin E)

Source: Survey, 2013 - 2014; Bakhru (2009); Adodo (2001); Omotayo (2000).

CONCLUDING REMARKS

Without doubt, plants are the mainstay of medicine and are accrued with natural potency of healing. From ancient times, most plants enlisted in this compendium have been in use for treatment of hypertension or high blood pressure-related illnesses with proven evidence of relief when administered for a few days. However, while most herbs have little or no harmful side effects, some herbs may cause slightly undesirable reactions in some persons. Therefore, patients should attempt one herb at a time, beginning in small doses and wait and watch for side effects, if there are none, then increase the use or dosage cautiously. The federal government, the federal ministry of health and all the various health institutions and drug-making research centers should encourage indigenous technology to utilize the numerous medical plants available in Nigeria.

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