African Journal of Pharmacy and Pharmacology Vol. 3(4). pp.222-226, May, 2009
Available online http://www.academicjournals.org/ajpp
ISSN 1996-0816 © 2009 Academic Journals

Full Length Research Paper

Ethnophytotherapeutic information for the treatment of high blood pressure among the people of Ilugun, Ilugun area of Ogun State, south-west Nigeria

Lawal, I. O.[1*], Uzokwe, N. E.[1], Ladipo, D. O.[2], Asinwa, I. O.[1] and Igboanugo, A. B. I.[1]

[1]Forestry Research Institute of Nigeria, Ibadan. P. M. B. 5054, Jericho hill, Ibadan, Nigeria
[2]Centre for Renewable Natural Resources, Research and Development (CENRAD), Ibadan, Nigeria.

Accepted 13 March, 2009

Ethnophytotherapeutic information includes the contribution of indigenous knowledge using plants to provide native remedies for varieties of ailment. In African, various species of plants are used in the traditional medicine for the cure of chronic cardio-vascular diseases, where hypertension is one of them. A structured questionnaire was used to obtain enthnomedical information on the treatment of high blood pressure in the Yoruba speaking communities of Ilugun area of Ogun State. Nine species: (*Ficus exasperata, Heliotropium indicum, Afromomum melegueta, Justicia schimperi, Persea americana, Talinium triangulare, Afraegle paniculatum, Newboldia laevis and Chenopodium ambrosioides*) from different families were identified as being used for curing high blood pressure. Plants are documented for further research on chemical composition and active ingredients contained in these plant parts.

Key words: Ethnophytotherapy, herbal treatment, high blood pressure, Ilugun people, traditional medicines.

INTRODUCTION

High blood pressure was defined according to the World Health Organization (WHO) and International Society of Hypertension guideline as a systolic blood pressure (SB P) ≥ 140 mm/Hg or diastolic blood pressure (DBP) ≥ 90 mm/Hg or being on treatment (WHO/ISH, 2003). Stage I (mild hypertension) was defined as a SBP between 140-150 or DBP between 90-99 mm/Hg. Stage II (moderate hypertension) as a SBP between 160-176 mm/Hg or DBP between 90-99 mm/Hg. Stage III (severe hypertension) as a SBP ≥ 180 or DBP ≥110 mm/Hg (WHO/ISH, 2003). Many people have hypertension without knowing it. Hypertension remains the most threatening risk factor, with prevalence ranging between 15 and 30 % in adults (Cooper et al., 1998). A number of studies revealing the prevalence of hypertension in populations of West African origin have been reported (Cooper et al., 1997). Erhun et al. (2005) observed in a worksite study of hypertension prevalence carried out in a university community in Southwestern Nigeria that overall crude prevalence was 21% in the respondent population. Adedoyin et al. (2008) also reported a prevalence of 36.6% in Nigeria. Studies from South Africa have shown that 32.1% of men and 18.9% of women over 30 years had a 20% or higher risk of developing CVD in the next ten years (Nel et al., 2005).

Ilugun people of Ogun State are distinct Yoruba indigenes of Nigeria. They are found in Odeda Local Government as their base according to their historical back-ground, while some of their tribe migrated to Abeokuta South Local Government of Ogun State. Therefore, Ilu-gun people can be found in two Local Government Areas of Ogun State (Figure 1). Like other Yoruba groups, they appreciate and adore their culture. Part of this appreciation towards culture and plant conservation is the use of plant species for the maintenance of their health.

Africa is a continent endowed with an enormous wealth of plant resources. Over 5,000 different species are known to occur in the forest regions alone, and most of them have been used for several centuries in traditional medicine for the prevention and treatment of disease (Iwu, 1993). African materia medica does not consist of dietetics alone, but include many potent herbs. Few African healing herbs are recognized in modern pharmacopoeia; the list includes Calabar bean (*Physostigma venenosum*), *Strophanthus*, Areca nuts, kinox, fulix, kola, the African periwinkles (*Catharanthus roseus)* and the devil's claw

*Corresponding author. E-mail: ibroodula@yahoo.com.

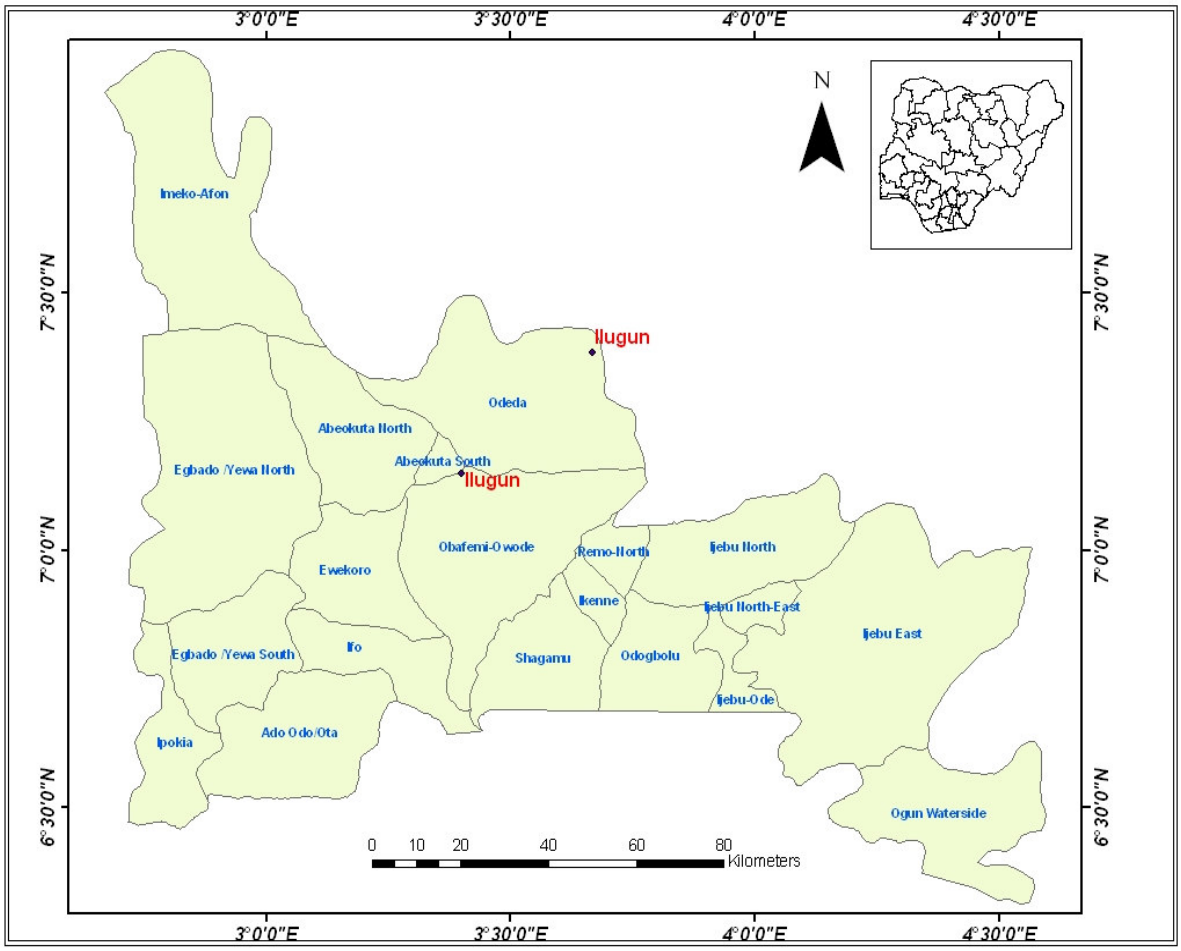

Figure 1. Study area.

(*Harpagophytum procumbens*). It is known that, there are African varieties of several orthodox drugs in which the African *Rauwolfia vomitoria*, for example, has a high content of hypertensive alkaloid reserpine (Iwu, 1993). Traditional medicine is often part of the culture of the people that use it, and as a result it is closely linked to their beliefs (Sofowora, 1993).

High blood pressure occurs when the body's smaller blood vessels (known as the arterioles) narrow, thereby causing the blood to exert excessive pressure against the vessel walls. The heart works harder to maintain higher blood pressure. Although the body can tolerate increased blood pressure for months and even years, eventually they enlarge and got damaged (a condition called hypertrophy), and causes injury to blood vessels in the kidney, brain, and the eyes. Hypertension has been aptly called a silent killer, because it usually produces no noticeable symptoms. Hypertension is referred to as essential, or primary, when the physical is unable to identify a specific cause. This is by far the most common type of high blood pressure, occurring in up to 95% of patients (Slikkerveer, 2001).

Herbal treatments are usually necessary. A single plant root can often control mild to moderate hypertension. More severe hypertension often requires a combination of two or more plant combination. In addition to helping lower blood pressure, herbal medicine provides health benefits (Fugh-Berman, 2000).

The use of traditional botanic knowledge as a promising instrument in bio-prospecting of useful plants for human and animal medicine has recently increased. This results in ethnomedical and medical ethnobotanical research methods and techniques which contribute to validation and development of new plant based drugs (Slikkerveer, 2001; Quah, 2003).

MATERIALS AND METHODS

Study area

A survey of the plants used by the people of Ilugun area of Ogun State (Figure 1) as remedy for high blood pressure which is prevailing in the area among the older ones was statistically undertaken from January 2007 to April 2008 through personal communication and use of questionnaire. Respondents were chosen randomly from the herbalists register that has treated various hypertensive ailment in the community. The record also showed that the

Table 1. Types of healers and their percentage in Ilugun community.

Type of healer	Years of experience	Number of healer	Percentage of healers (%)
Herbalists	40	08	16
Traditional healers	50	17	34
Herbs sellers	49	10	20
Inheritance (practical knowledge of herbal remedy)	40	15	30

Table 2. Percentage of respondents in Ilugun community according to their age group in the healers registers.

Age group (Years)	Number of respondents	Percentage of respondents (%)
Youth (20 - 39)	5	10
Adult (40 - 59)	15	30
Elderly (60 - above)	30	6

Table 3. Sex distribution of hypertensive patients in Ilugun community

Sex	Number	Percentage (%)
Male	35	70
Female	15	30

respondents have previously been diagnosed and confirmed for hypertension in the community health clinic through reliable blood pressure measurements with the aid of a stethoscope before they went to the herbalists for treatment.

Information on the plants was gathered through oral interview of Ilugun people using structured questionnaire administered to 50 respondents chosen from older ones, herbalists or traditional hea-lers and other who claimed to have effective prescription on high blood pressure.

Plant materials were obtained by accompanying practitioners and making collections of various plants used in the medical practice. Plant were identified during collection and authenticated, in the Forestry Herbarium Ibadan (FHI) where specimens were deposited. Initially, it was a little bit difficult to obtain information from respondents, but after enlightening them on the importance of having their indigenous knowledge of herbal treatment for various ailments documented which will contribute to nation's welfare and reduce mortality rate and also create awareness for open market for them, they easily release the information. The respondents were referred back to the community health centre to undergo test to confirm their hypertensive rate in which the results from the register showed that the plants claimed to cure hypertension by the herbalists in their community were potent.

Throughout the interview, local plant names, useful plant parts, methods of preparation, application mode, dosage and duration of treatment were recorded. Years of practice, source of knowledge, the extent of patient patronage and level of success in curing the ailments were also documented.

RESULTS

Table 1 shows the percentage of respondent in term of categories of healers in the community. It is apparent that the traditional healers have 34%, followed by the inheritance (30%). This study demonstrates that these sets of people are those equipped with folk knowledge and the study in this community shows their relative contribution to the healers in the community.

Table 2 presents the percentage of respondents in terms of their ages. It shows that the respondents are mostly in the age group of 60 years and above. The youths have the lowest percentage inferring that they have being diagnosed for hypertension is uncommon. Percentage gender of hypertensive diagnosed patient in the community is presented in Table 3. This shows that the male has the highest (70%) percentage.

DISCUSSION

According to WHO (1996) there are claims that there is a shortage of medical doctors and pharmaceuticals product. Most of the populations in developing countries still rely on traditional practitioners. Decoction of leaves of some plant used for the treatment of hypertension, also blending of *Alium sativum* and *Cocos nucifera* are in use traditionally for the treatment of the high blood pressure over the years (Igoli, 2005; Adodo, 1997). Subsequently, plant species belonging to different families were identified from 50 respondents. The plants with the highest potency according to the respondents are *Ficus exasperata root bark* (15), *Heliotropium indicum* and *Afromomum melegueta* (10), *Justicia schimperi* and *Newboldia laevis* (7) and *Chenopodium ambrosioides* (5). The recipes were indicated for only hypertension which is the main aim of this paper.

This study denotes that for the people in Ilugun area of Ogun State, traditional medicine has wide acceptability and a long history. Indeed, majority of the people believed in the efficacy of herbal medications and the safety of plants materials used in ethnomedicine. Some plants are used in combination. Though it could not be explained why they are mixed, possibility of synergy between some

Table 4. Medicinal plants in use for the treatment of high blood pressure by Ilugun people.

Therapeutic indication and associated plants (high blood pressure)	Local plant name	Plant part used	Medicinal preparation	Dosage	Duration of treatment
F. exasperata (*Moraceaee)*	Ipin	Root bark	Peel out the roots bark and chew	Daily, after each meal each meal.	4 days
H. indicum (*Boraginaceae*) and *A. melegueta* (*Zingiberaceae*)	Ogbe Akuko	Whole Plant	Charring and inorganic powder used with hot pap intermittently	Twice daily morning and night	7 days
J. schimperi (*Acanthaceae*) And *Persea americana* (*Lauraceae*)	Ewe Esisi	Leaves	Infusion taken orally	Night before sleep	6 days
T. trangulare (*Portulaceae*)	Gbure	Whole Roots	Decoction of the root and taken orally	Three times daily	7 days
A. paniculatum (*Simaroubaceae*) and *N. laevis* (*Bignoniaceae*)	Sanga Ewe akoko	Roots leaves	Decoction of the two taken in the morning before eating	Once a day	8 days
C. ambrosioides (*Chenopodiaceae*)	Arunpale	Leaves	Decoction of the leaves and taken orally	Once at night	10 days

of the constituents in the plant species to make them more active presumed. This study has been limited by funding for further studies on the de-termination and isolation of the most active plants com-pounds prescribed for high blood pressure Table 4.

The documentation of African Medicinal plants is becoming increasingly necessary because of the rapid loss of the species and their natural habitats due to anthropogenic activities (Iwu, 1993).

Conclusion

The older generations with 50 years of experience are the custodian of the traditional knowledge on medicinal plant uses. This research has shown that Ilugun community in Ogun state is rich and diversified in medicinal plant species. The people that inherit usage of plant parts contribute positively in the search for the purpose of this study. In the community, nine species were identified that belongs to different families for the management of hypertension. The community has to be enlightened on the importance of this valuable tree and herbs wasted away due to the poor knowledge of the custodian on conservation and propagation of herbal plants in large proportion.

ACKNOWLEDEMENT

The authors appreciate the information given by the traditional practitioners of the Ilugun community during this study.

REFERENCES

Adedoyin RA, Mbadab CE, Balogun MO, Martins T, Adebayo RA, Akintomide A, Akinwusi PO (2008). Prevalence and pattern of hypertension in a semi urban community in Nigeria. European J. of Cariovasc Prev. Rehabil. 15 (6): 683-687.

Adodo A (1997). Herbs for healing by PAX Publication Benedictine Ewu-Esan, Edo State, Nigeria p. 122.

Bammermem RH (1988). Traditional Medicine in Modern Health care. World Health Forum 3(1): 8-26.

Chevallier A (1997). The Encyclopedia of Medicinal Plants. A practical reference guide to over 550 key herbs and their medicinal uses Published by Dorling Kindersley Limited, London p. 332.

Chobanian AV, Bakris GL, Black HR, (2003). "Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure". Hypertension 42 (6): 1206-1252.

Cooper RS, Rotimi CN, Kaufman JS, Mauna WFT, Mensah GA (1998). Hypertension treatment and control in sub-Saharan Africa: The epidemiologic basis for policy. BMJ. 16: 614-617.

Cunningham AB (1993). African Medicinal Plants: Setting Priorities of the interface between conservation and primary health care. People and plants working paper 1. Paris UNESCO. pp. 1-10

Erhun WO, Olayiwola G, Agbani EO, Omotoso NS (2005). Prevalence of Hypertension in a University Community in South West Nigeria. Afr. J. Biomed. Res. 8: 15- 19.

Evan WC (2002). Trease and Evans Pharmacognosy, Fifteenth Edition, by WB. Saunders Edinburgh, London.

Fugh-Berman A (2000). Herbs and Supplements in the prevention and treatment of cardiovascular disease. Preventive Cardiology 1:24-32.

Gbile ZO (1984). Vernacular names of Nigeria Plants in Yoruba. For. Res. Institute of Nig. Ibadan.

Igoli JO, Ogaji OG, Anyin TT, Igoli WP (2005). Traditional Medicine Practices amongst the Igede people of Nigeria. Part II. Afr. J. Trad. Complimentary and Alternative Med. 2 (2): 134-152.

Iwu MM (1993). A Handbook of African Medicinal Plants by CRC press Inc. Florida.

Kayode J, Aleshinloye L, Ige OE (2008). Ethno medicinal use of plant species in Ijesha Land of Osun-State. Nigeria; Res. J. Bot. 3:1-7.

Nel JH, Alberts M, Urdal P, Steyn K, Stensvold I, Tverdal A (2005).

Prevalence of cardiovascular disease and associated risk factors in a rural black population of South Africa. European J. Cariovasc Prev Rehabil. 12: 347-354.
Olapade EO (1995). Food and herb for diabetes mellitus and hypertension, published by NARL Specialist Clinic, Ibadan, Nigeria p. 14-16.
Quah SR (2003).Traditional healing system: negotiating science and technology challenges NUS, Singapore, Indigenous knowledge systems Research and Development Studies No.4. p. 200.
Slikkerveer LJ (2001). Building bridge with traditional knowledge, Honolulu (Hawaii) 28 May-1 June 2001 Indigenous knowledge and Development Monitor 9(2):32.
Sofowora A (1993). Medicinal Plant and Traditional Medicine in Africa. Published by spectrum books Limited Sunshine house, Ibadan, Nigeria.
WHO (1996). Guideline for the assessment of herbal medicine, Programme on Traditional Medicines WHO/TRM 91.4 Geneva.
WHO/ISH (2003). Statement on management of Hypertension. J. Hypertension. 21: 1983 -1992.