

IJBHS 2009136/6103

Herbal Approach to the Treatment of Chicken pox: A Case study of Giwa Local Government, Kaduna State. Nigeria

O. I. Faleyimu, I. H. Ahmad and O. Akinyemi

Federal College of Forestry Mechanization, Afaka, Kaduna

(Received November 24, 2009)

ABSTRACT: Medicinal plants play crucial roles in the treatment of deadly but treatable diseases at little or no cost. This study evaluates some of the valuable medicinal forest plants commonly used for treating Chicken pox by the various ethnic groups in Giwa Local Government, Kaduna State, Nigeria. Structured questionnaires were administered to the identified respondents viz: traditional healer, herbs traders, and civil servants in the Giwa Local Government. Descriptive analysis such as frequency distribution, tables and percentages were used for data analysis. Results showed that nine trees and two shrubs were the forest plants used for the treatment of Chicken pox. These include: *Ipomoea asarifolia* (Duman Rafi), *Dyschoriste perrttetii* (Fidda Hakukuwa), *Indigofera nummulariifolia* (Kwankwan), *Deuterium Senegalese* (Tuara), *Ziziphus abyssinica* (Magarya), *Ocimum basilian* (Daddoya), *Annona senegalensis* (Gwandan Daji), *Musa sapientum* (Ayaba), *Butyrospermum paradoxum* (Kwara), *Acanthospermum hispidum* (Kashim yawo) and *Manihot esculenta* (Rogo). This study has proved that local people have a wealth of knowledge that need to be exploited and improved upon in forestry, parasitological and pharmaceutical researches.

Key word: Chicken pox treatment, traditional medicine, medicinal plants

Introduction

In developing countries all over the world a large number of people die daily from preventable or curable diseases because of the lack of even simple health care in these countries. Some of these diseases are often associated with malnutrition and, as a result, those that do survive often never recover completely from the effects.

The developing world is not a homogenous entity, but is made up of a variety of widely different countries and areas which are at different stages of development. Nevertheless, these developing countries have certain features in common, viz: extremely limited resources, poor communications, vast distances, individual and community poverty, lack of educations, etc. These factors act together to keep the developing countries like Nigeria in a perpetual state of poverty. (Djukanovic and March, 1975). Herbal remedies have been used for thousands of years. Today an estimated one-third of adult Americans, some 60 million people, use herbal medicines each year, spending more than \$3.2 billion on them. In the rest of the world, approximately 64 percent of the population relies on herbal medicines.

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

Despite their overwhelming popularity and long history, we know relatively little about the safety and effectiveness of herbal remedies. Scientific study should make these remedies far safer and more effective in the future. Global recognition of nature's green pharmacy should inspire individuals and nations to protect this extraordinary resource (WHO, 2008).

Traditional medicine is cheaper than orthodox medicine. The cost of the latter is increased by modern health technology which in many cases is inappropriate or irrelevant to the immediate needs of people in developing countries. Also the costs of modern health care has recently increased due to the higher cost of basic commodities, fuel and agricultural produce.

It is generally accepted that the cost of this type of medical programme, which relies heavily on institutions and professional staff, is increasing faster than that of simpler health programmes, such as the traditional or indigenous system of medicine available in Asia and China (Gunaratne, 1980). Efforts are being made however, by some African governments (e.g. Nigeria) to place emphasis on Primary Health Care, which requires little technology. While drugs alone are not the only means of providing health care, they do play an important role in protecting, maintaining, and restoring the health of people. Also, there has been a marked increase in the number of pharmaceutical products marketed but with no proportionate improvement in health (Gunaratne, 1980).

The drug bill for many countries still represents a sizable proportion of their total health expenditure, especially in developing countries. These countries have to purchase such drugs at exorbitant and often inflated cost from multinational companies which spend a disproportionately large amount on advertising in developing countries, to encourage the latter to spend even more on modern drugs. For example, in Bangladesh drugs account for 6.8% of the total health cost which inflates the price of drugs in developing countries can be exemplified by the fact that in Great Britain pharmaceutical salesmen reported to be in a ratio of 1 to every 20 physicians and other health personnel they visit. However, in a developing country such as Tanzania, there are about 150 salesmen for a total of 600 doctors or a ratio of 1 to 4 (Gunaratne, 1980). The same report also mentions that equivalent of 1,070,000 pound sterling is estimated as the cost of promoting drugs in Tanzania. The magnitude of this expenditure will be appreciated when it is considered that the figure is 100,000 pounds more than the total budget for the Faculty of Medicine in Dar-es-Salaam during the same period. The cost of advertising is of course eventually borne by the consumer. The research work seeks to identify the medicinal plants used for the treatment of chicken pox.

Materials and Methods

The Study Area

The study was conducted in Giwa Local Government Area of Kaduna State. The study area plays a significant role in agricultural production in Kaduna State. It is located on latitude 11° to 12°N of longitude 7° to 34° East. Giwa Local Government is bounded in the North of Futua Local Government Area of Katsina State; also bounded in the west by Faskari Local Government Area of Katsina State. In the East, Giwa is bounded by Daura Local Government Area of Katsina State. Base on 2006 general census, the local government has a population of 2,862,427 people mainly Hausa/Fulani with few other minority ethnic group like Maguzawas (NPC, 2006). Ecologically, it occupies North West of Zaria in the transition zones between Northern Guinea and Sudan Savannah. The area is characterized by alternating dry and wet season with a mean annual rainfall of between 1000-1300mm (FOS, 2004).The duration in the area is about five months beginning from May and ends in October.

Sampling Procedure

Random sampling technique was used to select herbal practitioner among the villages in Giwa North, South and East Local Government Area. A total of fifty (50) respondents were selected during the course of the investigation.

Research Instrument and Data Collection:

Primary data were used for this study. The data were sourced through the use of well structured questionnaire. The questionnaire was divided into two sections. Section “A” was used to collect information about the bio data of the respondents, while part ‘B’ was made to address issues on the ethno botany and the characteristics of the plants used to treat measles. The information gathered include name of species, family, part used, mode of processing and use, forms used and sources. Taxonomic texts such as (Gblile, 1980) and (Keay, 1985) were consulted for the scientific names of the plants.

Data Analysis

Descriptive statistics such as percentages, frequency distribution tables were used to achieve the specific objective of the study.

Results and Discussion

The demographic characteristic of the respondents were summarized in Table 1. Of the total respondents, 38 or 79% were males while the remaining were females. The highest numbers of respondents recorded were elders (41-50) years of age, which corresponded to 40%. There was a high level of illiteracy among the respondents. This category was 18 in number or 36% of total respondents. Only 28% of the respondents had post secondary education. Table 1 further revealed that 26 or 52% of the respondents were married while the main occupation was herbal production. The respondents having between 6-10 people in their household correspond to 44%. Table 2 also shows nine (9) shrubs and two (2) trees which were found to be used in the treatment of chicken pox.

The fact that there are both male and female involved in the sales and administering of herbs showed that herbal knowledge is not male specific. It could also be because chickenpox infection is not restricted to the males alone. Most of the respondents were elderly people. This is an indication that the passage of indigenous knowledge in plant use is probably more from the elders to the younger ones as similarly reported by (Adekunle, 1992). Most of the respondents were illiterates. The implication of this finding, is that indigenous knowledge (IK) especially on plant use, is not dependents or affected by education, although formal education might enhance the conservation and use of natural resources. Most of the respondents have family size of 6-10. Family labour could be the most readily available form of labour especially during herbal collection in the study area.

Table 2 revealed nine (9) shrubs and two (2) trees which where found to be used in the treatment of chicken pox. Apart from providing complementary medicine, medicinal plants are also items’ of trade providing employment and income to indigenous people in Giwa Local Government Area. The documented plants species for the treatment of chickenpox are: *Ipomoea asarifollia* (Duman Rafi), *Dyschoriste perrttetii* (Fidda Hakukuwa), *Indigofera nummulariiflia* (Kwankwan) , *Deuterium Senegalese* (Tuara), *Ziziphus abyssinica* (Magarya), *Ocimum basilian* (Daddoya), *Annona senegalensis* (Gwandan Daji), *Musa sapientum* (Ayaba), *Butyrospermum paradoxum* (Kwara), *Acanthospermum hispidum* (Kashim yawo) and *Manihot esculenta* (Rogo) and many others found to be effective in this study. Table 3 revealed that most of the medicinal plants are prepared by boiling and then drunk followed by soaking and drinking.

The field study showed that most of the respondents were found to be open and straightforward in their answers to the questionnaire interviews. This is contrary to the initial fears that it would be difficult to document knowledge on traditional medicine, especially in the treatment of chickenpox infection. The local names, parts used and methods of use are summarised in Table 2. It can also be observed that the leaves and root are mostly used. This has some management implication on the survival of the plants. Hence, there is the need for proper monitoring of the harvesters. It should be put to rest that traditional healing is a closely guarded secret.

Table 1: Demographic Characteristic of the Respondent.

Characteristic	Frequency	Percentage (%)	Cumulative %	Mode
Male	38	76	76	Male
Female	12	24	100.00	
TOTAL	50	100		
Age Class				
<20	10	2	2	40
21-30	10	20	22	
31-40	15	30	52	
41-50	20	40	94	
51-60	3	6	100.00	
TOTAL	50	100		
Marital status				
Married	26	52	52	Married
Single	14	28	80	
Window (wer)	10	20	100.00	
TOTAL	50	100		
Educational level				
No formal Education	12	24	24	Primary
Primary School	18	36	60	
Secondary School	14	28	88	
Tertiary	6	12	100	
TOTAL	50	100		
Occupation				
Farming	8	16	16	Herbalist
Civil servant	10	20	36	
Herbalist	23	46	82	
Herb traders	1	18	100	
TOTAL	50	100		
Household size				
1-5	17	34	34	6-10
6-10	22	44	78	
11-15	9	18	96	
16-20	2	4	100	
TOTAL	50	100		

Table 2: Medicinal plants used for the treatment of chickenpox.

Botanical and Family name	Local name (Hausa)	Cultivated or wild	Tree or shrub	Part used	Method of use
<i>Iplomeoa asarifolia</i> (Desr.) (convolvulaceae)	Duman Rafi	Wild	Shrubs	Leaves	Boil the leaves and drink the liquid
<i>Dyschoritse perottetii</i> (compositeae)	Fidda Hakukuwa	Wild	Shrubs	Leaves	Cook the Leaves and drink
<i>Ocimum basilian</i> (Lamiaceae)	Daddoya	Wild	Shrubs	Leaves	Cook the Leaves and drink
<i>Strophanthus hispidus</i> (Apolynaceae)	Tatsinya	Wild	Shrubs	Leaves	Boil the leaves and give the child to drink
<i>Acanthospernum hispidum</i> (asteraceae)	Kashim yawo	Wild	Shrubs	Leaves	Boil leaves and use it to bath the child
<i>Lawsonia inermis</i> (lythracea)	Lalle	Cultivated	Shrubs	Leaves	Cook the leaves and drink
<i>Btyrospermum paradoxum</i> (sapotaceae)	Kwara	Cultivated	Tree	Juice	Cook the leaves and dink
<i>Annona senegalensis</i> (annonaceae)	Gwandan Daji	Cultivated	Tree	Juice	Crush the leaves and apply to the rashes
<i>Ficus sp</i> (moraceae)	Waa	Wild	Shrub	Leaves	Cook and drink
<i>Deuterium Senegalese</i> (fabaceae)	Taura	Wild	Tree	Back	Soak with water and drink
<i>Indigafera nummulariifolia</i> (fabaceae)	Kwankwan	Wild	Tree	Back	Soak with water and drink
<i>Musa sapientum</i> (Musaceae)	Ayaba	Cultivated	Shrub	Leaves	Cook and drink
<i>Ziziphus abyssinica</i> (Rhamnaceae)	Magarya	Wild	Tree	Back	Soak with water and drink
<i>Ziziphus spina-christr</i> (Rhamnaceae)	Rurna	Wild	Tree	Back	Soak with water and drink
<i>Boswellia dalsielii</i> Burseraceae	Hannu	Wild	Tree	Root	Soak with water and drink
<i>Manihot esculenta</i> (Euphorbiaceae)	Rogo	Cultivated	Shrub	Leaves	Cook and drink

Table 3: Responses to method of preparation of the herbs.

Method of preparation	Frequency	Percentage
Decoction (Boiling) and Drinking	27	54
Infusion (Soaking) and Drinking	15	30
Apply directly after extraction	3	6
Boil and bathing with it	5	10
Total	50	100

Conclusion and Recommendation

As plant species have numerous other products and services, such as timber, food shade, and live fences, there is therefore an urgent need for their domestication. This study has lent credence to the process of prioritization which has been described as a veritable tool for developing a short list of target species for genetic improvement researches among multipurpose plants. It is recommended that efforts should be made to carry out some pharmaceutical research on the active ingredients to determine their appropriate dosage levels.

References

- Adekunle, M.F (1992):** Traditional Medicines and wild plant Conservation. A case study of Ogun State Nigeria B. For These University of Agric, Abeokuta, Nigeria. Pp. 180
- Djukanovic, V. and March, E.P (1975):** Alternative Approaches to health Needs in Developing countries – A joint UNICEF – Who study, WHO, Geneva. PP.10-26.
- FOS (2004):** Federal Office of Statistics, Abuja, Nigeria.
- Gblile, Z.O (1980):** Vernacular names of Nigerian plant (Hausa) Forestry Research Institute of Nigeria (FRIN) Ibadan, Nigeria. Pp.63.
- Gunaratne V.T (1980):** Bringing down drugs cost: the Srilankan example; world health forum, (Land 2). 117 – 122.
- Keay R.W.J (1985):** Families A.D the useful plants of West tropical Africa Vol. 1 Royal Botanic. P.448.
- NPC (2006): National Population Commission, Abuja**
- WHO (2000):** State of Africa's health; pharmacy world Journal. 8(3) 72– 74.