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The Utilization of Plant species in the Treatment of Some Identifiable Viral Diseases in Southwestern Nigeria

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ABSTRACT

Viral diseases have been prevalent in most parts of the tropics for ages, resulting to serious fatalities especially in Sub-Saharan Africa. However, different communities in most parts of Africa have discovered various medicinal plants capable of treating these diseases. Therefore, this study deals with the utilization of plant species employed in treating some of the identifiable viral diseases in Southwestern Nigeria. Data were collected through the use of structured questionnaires and oral interview. Results obtained from this work revealed that a total of 55 medicinal plant species belonging to 35 families were identified. The study revealed some of the parts of the plants used in treating viral infections and their uses.

***Keywords*:** identifiable viral diseases, plant species, treatment, southwestern Nigeria, indigenous

1. INTRODUCTION

Plants have not only nutritional value but also, in the eyes of the local people, they have medicinal and ritual or magical values [1]. Plant materials have been a major source of natural therapeutic remedies and have been used to treat various infectious diseases in many developing nations [2]. The human diet is composed mainly of carbohydrate, protein, fats and

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oils, whereas, the medicinal plants are mainly composed of the plant's secondary products of metabolism such as alkaloids, terpenoids and falvonoids.

Medicinal plants products constitute the largest percent of traditional medicine which anchors the lives of majority [3]. The reports by the World Health Organization (WHO) confirm that 80% of the world's population in developing countries relies on traditional medicine [4]. [5] Reported that indigenous people have long history and expertise in the use of medicinal plants, however, information on these plants is mainly passed from one generation to the next orally and even to date poorly documented.

Viral diseases may be described as one of the foremost transmissible diseases in the world today. The relatively high cost of purchasing antiviral drugs and their negative side effects have remained a vital problem. Hence, the need for search for new antiviral compounds from plants that is safe, effective, which overcomes resistance and less toxic [6].

Therefore, the main objective of this study is to discover the plant species employed in the treatment of some identifiable viral diseases in Southwestern Nigeria

2. MATERIALS AND METHODS

2. 1. Study Area

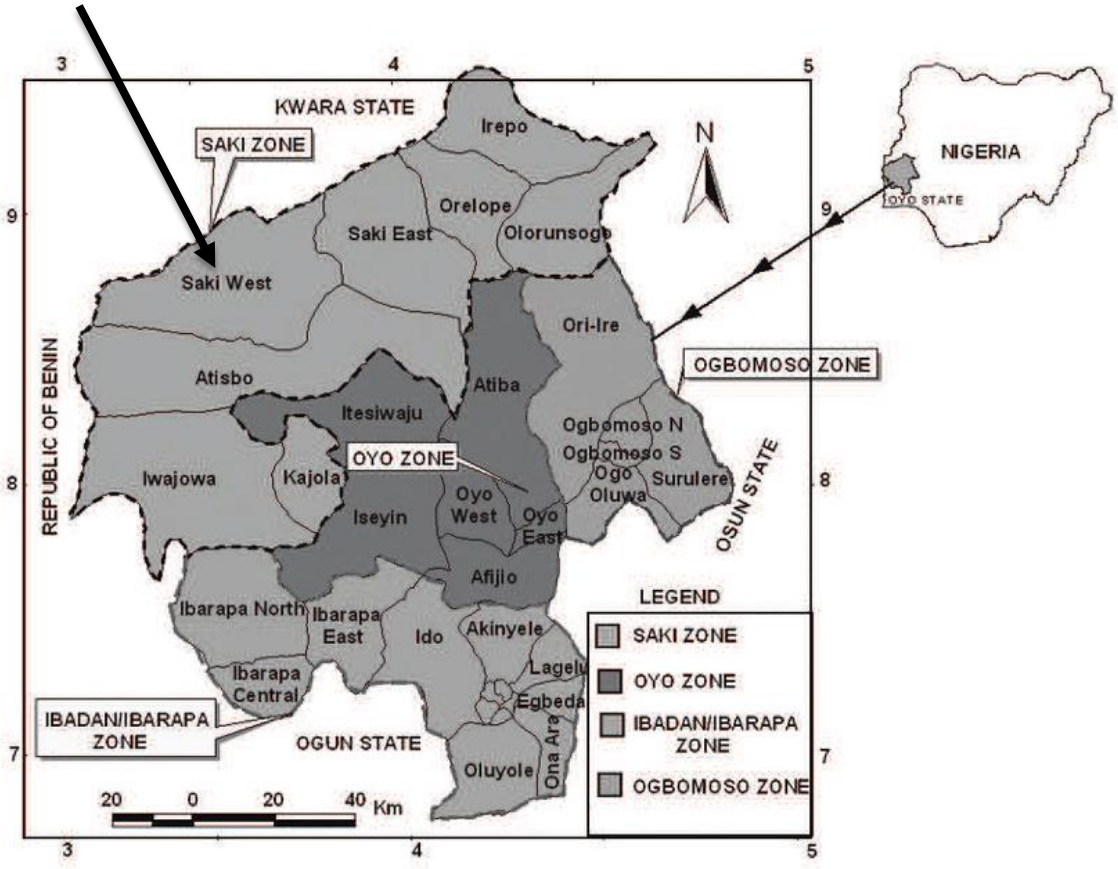

Figure 1. Map of Oyo State, Nigeria indicating the study area

The research was carried out in Saki West Local Government Area of Oyo State, Southwestern Nigeria. Oyo state is situated on latitude 8°00'N and longitude 3.00° E [7]. The state covers an area of approximately 28,454 square kilometers.

2. 2. Data Collection and analysis

Data were collected through the use of structured questionnaires and through oral interview from members of the community with knowledge on medicinal plants. The selected communities include; Olomitut, Sani sala, Igbo ologun, Ataye and Tenleke. Data obtained were analyzed using descriptive statistics.

3. RESULTS

Table 1 shows a total of 55 plant species identified as medicinal plants employed in the treatment of viral diseases in the study area. The names of the plant species (botanical, common and local), uses and plant part used are also shown in Table 1 below.

Table 1. Plant species employed in the treatment of identifiable viral diseases in the study area

S/N	Botanical name	Common name	Local name (Yoruba)	Infection cured	Plant part utilized
1	*Capparis thonningii*	Capper Bush	Buba awodi	Chickenpox, Measles	Leaves
2	*Bryophyllum pinnatum*	Life Plant	Odundun	Measles	Leaves
3	*Lawsonia inermis*	Henna Tree	Laali	Poliomylitis, Measles	Leaves
4	*Allium sativum*	Garlic	Ayu	Poliomylitis	Bulb
5	*Garcinia kola*	Bitter Cola	Orogbo	Smallpox	Roots
6	*Lactuca virosa*	Wild Lettuce	Yanrin	Poliomylitis	Stem Bark
7	*Parkia biglobosa*	Neoul Iol	Igba *Parkia*	Chickenpox, Measles	Stem bark
8	*Argyreia nervosa*	Elephant Creeper	Rerinkomi	Chickenpox	Leaves
9	*Xylopia aethiopica*	Ethopia Pepper	Eeru/ Eriru/ Erinje	Chickenpox, Measles	Fruit
10	*Spondias mombin*	Yellow Mombin	Iyeye	Chickenpox, Jaundice	Stem bark

11	*Citrus aurantifolia*	Lime	Osan jagan/ Osan wewe	Measles, Jaundice	Leaves, Fruit
12	*Pterocarpus spp.*	Blood Wood	Osun	Poliomylitis	Stem bark
13	*Gossypium arboreum*	Western Idian Cotton	Owu	Hepatitis	Leaves
14	*Carica papaya*	Pawpaw	Ibepe	Jaundice	Leaves
15	*Chasmanthera dependens*	Chasmanthera	Ato	Poliomylitis	Leaves
16	*Adenopus breviflorus*	Pseudclocyth	Tagiri	Measles	Fruits
17	*Bridelia atroviridis*	Ira	Ira	Jaundice	Leaves
18	*Ehretia cymosa*	Puzzle Bush	Uja	Poliomylitis, Measles	Leaves
19	*Crudia klainei*	Mistletoe	Afomo	Measles	Leaves
20	*Cajanus cajan*	Pigeonpea	Feregede	Measles	Flower
21	*Pycanathus angolensis*	Wild Nutmeg	Akomu	Chickenpox	Roots
22	*Trema orientalis*	Charcoal Tree	Ayinyin	Chickenpox	Leaves
23	*Zea mays*	Maize	Ojere agbado	Chickenpox	Flower
24	*Piper guinensise*	Climbing Black Pepper	Iyere	Chickenpox	Leaves
25	*Mimosa pigra*	Catclaw Mimosa	Aluro	Poliomylitis	Leaves
26	*Aframomum melegueta*	Alligator Pepper	Itaye	Measles	Leaves
27	*Anacardium occidentale*	Cashew	Casu	Jaundice	Leaves
28	*Bambusa vulgaris*	Bamboo	Oparun	Measles	Leaves
29	*Momordica charantia*	Bitter Cucumber	Ewe were	Yellow fever	Whole plant
30	*Zingiber officinale*	Ginger	Ataile	Yellow fever	Rhizome

31	*Psidium guajava*	Guava	Gilofa	Jaundice	Stem bark
32	*Mangifera indica*	Mango	Mangoro	Jaundice	Stem bark
33	*Azadirachta indica*	Neem Tree	Dongoyaro	Jaundice	Stem bark
34	*Alstonia boonei*	Pattern Wood	Ahun	Jaundice	Leaves
35	*Naucleae latifolia*	Naucleae	Egbesi	Jaundice	Roots
36	*Tetracera pototoria*	Cup of Water	Opon	Jaundice	Stem bark
37	*Lophira alata*	Meni Oil Tree, Iron Wood	Ponhan	Jaundice	Stem bark
38	*Khaya ivorensis*	African Mahogany	Oganwo	Jaundice	Stem bark
39	*Ficus thonningii*	Umbrella Thorn	Odan	Jaundice, Measles	Leaves
40	*Corchorus olitorius*	Jute Plant	Ewedu	Measles	Whole plant
41	*Lagenaria breviflorus*	Psuedoclocynth	Tagiri	Measles	Whole plant
42	*Senna occidentalis*	Africa Coffee	Rere	Measles	Leaves
43	*Morinda lucida*	Brimstone Tree	Oruwo	Yellow fever	Roots
44	*Nicotiana tabaccum*	Tobacco	Taba	Poliomylitis	Leaves
45	*Hyptis pectinata*	Hiptis	Jogbo	Poliomylitis	Leaves
46	*Symphonia globulifera*	Hog Gum Tree	Aba	Poliomylitis	Roots
47	*Dioclea reflexa*	Bull's Eye	Arin	Measles	Seeds
48	*Allium ascalonicum*	Shallt Spring	Alubosa elewe	Chickenpox	Leaves
49	*Agerantum conyzoides*	Goat Weed	Imi-esu	Poliomylitis, Measles, yellow fever	Whole plant
50	*Cymbopogon citrates*	Tea	Tee	Jaundice	Leaves

51	*Terminalia superb*	Korina, Frake	Afara	Yellow fever	Stem bark
52	*Allanblackia floribunba*	Fallow Tree	Roro	Chickenpox, Measles	Leaves
53	*Vernonia amygdalina*	Bitter Leaf	Ewuro	Jaundice	Leaves
54	*Citrus aurantifolia*	Lime, Swing	Orombo wewe	Chickenpox	Leaves
55	*Olax subscorpioidea*	Olax, Stinkant Forest	Ifon	Poliomylitis	Roots

Table 2 shows the various families of medicinal plants employed in the treatment of viral diseases in the study area. The research work showed that members of the family Leguminosae (9.09%) were most frequently used in the study area.

Table 2. Families of plant species employed in this study

Family Name	**Frequency**	**Percentage (%)**
Anacardiaceae	3	5.45
Annonaceae	1	1.82
Apocynaceae	1	1.82
Boraginaceae	1	1.82
Cappararaceae	1	1.82
Caricaceae	1	1.82
Compositeae	3	5.45
Combretaceae	1	1.82
Crassulaceae	1	1.82
Cucurbitaceae	3	5.45
Dilleniaceae	1	1.82

Euphorbiaceae	3	5.45
Guttifereae	3	5.45
Labitae	1	1.82
Leguminiceae	5	9.09
Liliaceae	1	1.82
Loranthaceae	1	1.82
Lythraceae	1	1.82
Malvaceae	3	5.45
Menispermeae	1	1.82
Meliaceae	1	1.82
Mimoceae	1	1.82
Moraceae	1	1.82
Myristiaceae	1	1.82
Olacaceae	1	1.82
Onchnaceae	1	1.82
Pepereceae	1	1.82
Poaceae	2	3.64
Rubiaceae	2	3.64
Rutaceae	2	3.64
Solanaceae	1	1.66
Theceae	1	1.82
Tilaceae	1	1.82

Ulmaceae	1	1.82
Zingiberaceae	2	3.64
	55	**100**

4. DISCUSSION

In most rural societies in Nigeria, natural medicine represent the bulk of the health care scheme. The formation of some modern drugs is based on information obtained from medicinal plants. [8] Reported that many species of plants have medicinal properties and beneficial impact on health e.g. Antioxidant activity, digestive stimulation action, anti-inflammatory, antimicrobial, hypolipidemic, anti-mutagenic effects and anti-carcinogenic potentials. [9] Reported that there are considerable economic benefits in the development of indigenous medicine and in the use of medicinal plants for treatment of various diseases. Despite the advances in modern antiviral drugs, many people around the world continual to rely on medicinal plants for their treatment. [10] Reported that the major reason why local people have depended on these herbal medicines have been that they are the only source of medicine available to them. Most rural people still prefer using medicinal plants because it comes with little or no side effect. [11] Opined that even though pharmacological industries have produced a number of new antiviral drugs in the last three decades, resistance to these drugs by microorganisms has increased.

Based on the number of plant species employed in the treatment of some identifiable viral diseases in Southwestern Nigeria, this work has revealed that indigenous medicinal plants are very important and useful. They can be a major constituent in the production of new antiviral drugs. In the study area, the major solvents used in the extraction of the active constituents are either water or alcohol. This is similar with different findings. For example, [10] reported that in Northern Cross River State, Nigeria, water and alcohol (local gin or palm wine) are the main solvents used in the extraction of the active components from the medicinal plants either by maceration, decoction, infusion or concoction. Similar finding was also reported by [12] on the ethnobotanical study of medicinal plants used for malaria therapy in Enugu State, Nigeria. In this work, a total of 55 plant species belonging to 35 families were identified as the plant species employed in the treatment of some identifiable viral infections in the study area. This confirms the fact that, the use of medicinal plant is generally accepted in the study area. Several authors have reported on different number of medicinal plants used in various regions. For instance, [11] identified 208 plant species in Ekiti, Ondo, Osun and Oyo States of Southwestern Nigeria, while [12] identified 21 in Five Local Government Areas of Enugu State, Southeast Nigeria.

5. CONCLUSION

This research work has shown different medicinal plants employed for the treatment of some identifiable viral diseases in some parts of Southwestern Nigeria. A total of 55

medicinal plant species belonging to 35 families were identified. The uses of these plant species and the various plant parts often utilized were also outlined.

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