

Medicinal Herbs Used for Managing Some Common Ailments among Esan People of Edo State, Nigeria

R.I. Okoli¹, O. Aigbe², J.O. Ohaju-Obodo³ and J.K. Mensah⁴
^{1,3}Department of Pharmacology and Therapeutics,
²Department of Medical Biochemistry, ⁴Department of Botany,
Ambrose Alli University, P.M.B 14, Ekpoma, Edo State, Nigeria

Abstract: Medicinal herbs used for managing some common ailments in Esanland, Edo State, Nigeria were investigated in this study. The Esan people have a rich cultural heritage, which is reflected in the well-developed herbal medicine used to cure and manage various disease conditions. Herbal medicine offered remedies to common ailments ranging from common cold to complex pathological disorders including those relating to the respiratory, circulatory and genito-urinary systems. Seventy herbal plants used in 115 different methods or preparation were identified. About 83% of the herbal preparations were given orally, while 17% were applied topically. The aerial parts of the plants (84%) were most frequently administered in the form of decoctions. Some of the herbs also form part of their diets and include: *Talinum triangulare*, *Boerhavia diffusa*, *Euphorbia hirta*, *Gongronema latifolium* and *Aframomum melegueta*. It can be concluded that medicinal herbs have played and will continue to play major roles in the management of common diseases in these communities.

Key words: Medicinal herbs, common ailments, Esanland

Introduction

All civilizations have always had traditions of using herbs to promote healing. Plants still remain the basis for development of modern drugs and medical plants have been used for years in daily life to treat diseases all over the world (Ates and Erzdogrul, 2003). According to Ayitey-Smith (1989), traditional medicine evolved from environmental resources, which the people of a community adapted in desperation for survival from disease. On the African continent, traditional medical practices date as far back as 4000 years. It was the sole medical system for health care before the advent of orthodox or modern medicine. Even in this present technological era, traditional medicine is still the predominant means in the third world for the preservation of health of the rural majority who constitute over 70% of the total population.

According to Gbile and Adesina (1986), the Nigerian flora has made and would continue to make great contributions to health care of Nigerians. In fact the indigenous medicinal plants form an important component of the natural wealth and culture of Nigeria. The present survey was carried out in twenty-one selected communities in Esanland, an ethnic group located in Edo State, Nigeria. The communities studied include: Ahia, Amahor, Amendokhian, Egoro-Naoka, Eko-Ibadin, Ekpoma, Ekpon, Emu, Ewatto, Ibore, Obeidu, Obieromu, Ohordua, Opoji, Ubiaja, Ugbiyokho, Ugbegun, Ukhun, Uwalor, Uromi and Udo. The communities are semi-urban or rural and depend on traditional medicine or the few government and private

hospitals for providing solutions to their health problems. Only five of the communities studied have functioning Government General Hospitals with Medical officer in charge while the rest make do with Primary Health Care Centres headed by a nurse, midwife or a Matron. The rich culture of these areas is reflected in their well-developed herbal medicines/preparations not only as the first remedy for poor health but also in some chronic disease conditions. The objective of the present investigations is to document the uses of indigenous plants for posterity, prior to their possible elimination through urbanization, social development and deforestation. It is also hoped that the publication will stimulate interest for further research in medicinal plant (s) and the ailments for which they are used with the purpose of developing potential drugs for some common diseases.

Materials and Methods

The information about the local names, usages, parts of plants used, methods of preparation and administration of plants was obtained from local healers, herbalists, traditional birth attendants, bone setting homes, experienced parents and patients by filling in questionnaires during personal interviews. Respondents were asked to bring their drugs or herbal preparation they use or guided the authors to places where they are grown. In all 1106 individuals were interviewed and 45% of them were men while 55% were women. Information was compiled from 21 settlements in Esanland. The reference numbers for the plants are

Okoli et al.: Medicinal Herbs Used for Managing Some Common Ailments

Table 1: Categories of Respondents interviewed for studies

Categories of Respondents	No	%
Local healer	100	9
Herbalist	94	8.5
Traditional birth attendant	80	7.2
Bone setting homes	90	8.1
Experienced parents	342	30.9
Patients	400	36.2

n = 1106

Table 2: Routes of Administration of herbal preparations

Route of Administration	Frequency	Percentage
Orally	95	83
Topically	19	17
Inserts or Suppository	0	0
Inhalation	1	0.9

n = 115

Table 3: Parts of the plant used in the herbal preparations

Part of plant	Frequency	Percentage
Leaf	56	51.0
Seed	9	8.1
Fruit	10	9.0
Root	14	12.7
Back and Steam	10	9.0
Flower	1	0.9
Bulb	4	3.6
Juice/sap	1	0.9
Tuber	2	1.8
Whole plant	2	1.8
Rhizome	1	0.9

n = 110, Aerial part = 84%, Root = 16%

those used in depositing the plants at the Herbarium of the Department of Botany, Ambrose Alli University, Ekpoma in Edo State (Table 5).

Results

The characteristics of respondents, types of plants used as well as the common ailments for which various parts of herbs are used by the Esan people (an ethnic group in Edo state, Nigeria) are presented in Table 1-5. Table 1 gives the details of the various categories of respondents engaged in this investigation. A total of 1106 indigenes were interviewed and of these, patients who were undergoing treatment at various herbal homes constituted the largest percentage of 36.2% while traditional birth attendants constituted the least (7.2%).

Oral route was the most frequently used route of administration (83%) while inhalation and inserts/use of suppositories recorded the least (6.9% and 0% respectively; Table 2).

The results of the present investigations further revealed that aerial parts of the plants (84%) were the most commonly used parts while roots or underground parts of the herbs (16%) were the least used parts (Table 3). The leaf was indeed the most popular plants part used in the various herbal preparations (51%) while seed

(8.1%) and fruits were used occasionally. Flowers have the least frequency of 0.9%. Table 4 gives the herbal plants used for their treatment. Gastro-intestinal disease had the highest number of herbal plants for its treatment (23), followed by treatment of infertility in women or gynaecological and obstetrics problems (17); the least number of plants was used for the management of ear problems (1). A summary of the characteristics of the herbs, parts used and voucher numbers of the Ambrose Alli University; Ekpoma which is located in Esanland is presented in Table 5. The local names of the plants have been included to ease identification by herbalist practicing in the locality and potential researchers from the same environment.

The plants used in Esanland have been presented in alphabetical order of botanical names and other relevant information in Table 5. In all, 70 species were encountered and are used in 115 different methods or preparations. It was recorded that 83% of the herbal preparations were used internally while 17% were applied externally (topical).

Discussion

About 36% of the respondents were patients undergoing treatment for various ailments at herbal homes as both out patients and in patients at the time of investigations (Table 1). Another major category were experienced parents (30.9%) who had encountered the various herbs during the period of raising their children. The high proportion of patients and parents is an indication of the popularity of herbal medicine in the communities studied.

It is apparent from Table 2 that oral route was the most popular method of administration since the majority of the extracts were alcoholic or aqueous and acceptable through the mouth. Topical application was low (17%) while inhalation was a rare means of administering the herbal preparations. The aerial parts of the plants especially the leaves were the most frequently used and were administered directly in the form of decoctions, and in few cases applied externally or topically. Leaves are known to accumulate alkaloid, tannins, inulins etc. which are active components of most herbal preparations in high concentrations and it is these components which give relief to the disease condition in patients (Okoegwale and Omefezi, 2001). Roots, stem bark, fruits and seeds are minor source of these components and hence used to a lesser extent (Table 3).

In the communities studied, traditional medicine offered remedies to some of the common ailments ranging from common cold to complex pathological disorders relating to poor blood circulation, gastro-intestinal, respiratory, genito-urinary system, as well as infertility, impotence, rheumatism and asthma. The highest number of herbs was associated with gastro-intestinal disorders. This is not surprising because water availability is a problem in Esanland which has been

Okoli et al.: Medicinal Herbs Used for Managing Some Common Ailments

Table 4: Diseases and Herbs used in managing specific ailments

Ailment	Plants used (Serial numbers as in Table 5)
Common cold/respiratory system	1, 6, 7, 11, 16, 22, 22, 26, 27, 29, 33, 37, 40, 40,70.
Cardiovascular system	22, 34, 56, 61, 68.
Genito-urinary system	2, 6, 29, 44, 52, 61, 68.
Wound/ulcers	4, 37, 43.
Dermatitis/skin	4, 13, 18,20, 60, 28, 39, 39, 47, 49, 64.
Ear	38.
Eye	1, 21, 21, 25.
Female fertility/gynaecology and obstetrics	3, 8 15, 24, 29, 32, 37, 42, 44, 45, 47, 50, 52, 57, 58, 67.
Male fertility/sexual dysfunction	3, 30, 47, 62, 65.
G I T (gastro-intestinal system)	5, 6, 10, 12, 12, 17, 18, 19, 22, 23, 24, 25, 29, 43, 44, 44, 46, 48, 52, 52, 54, 55.
Epilepsy	7, 8, 36, 44, 50, 51.
Dental/mouth	10, 18, 25.
Malaria	14, 14, 22, 47, 53.
Central Nervous System	17, 20.
Fractures/bone	35, 69.
Diabetes	41, 47, 66.
Miscellaneous	4, 9, 31, 52, 59, 63.

Table 5: Medicinal Plants used in Esanland of Edo State Nigeria

Species Name	Local Name	Parts Used	Traditional uses	Preparation and Administration	AAUBH No.
1. <i>Abrus precatorius</i>	Empo	Leaf	For cataract For asthma	Leaf extract is applied on the eyes Leaf is chewed	00342
2. <i>Acacia sieberiana</i>	Alughan	Leaf	For urinary tract disorder	Decoction is taken orally	00076
3. <i>Aframomum melegueta</i>	Uriema / Usiedo	Seed Fruit	For low sperm count For menstrual pain	Seed is chewed during breakfast. The fruits with the seeds are chewed together	01124 00023
4. <i>Ageratum conyzoidess</i>	Okhekhe	Leaf Root Leaf	For dressing wound For rheumatism Skin rashes	Decoction is applied on wound surface Decoction is taken orally Leaf extract is applied on affected parts	0 0 5 6 8 00021
5. <i>Alchornea latiflora</i>	Obieyba	Leaf	For stopping vomiting	The leaf is ground with pepper and taken orally	00287
6. <i>Allium cepa</i>	Alubasa	Bulb Bulb/leaf	For asthma For kidney problem For ulcer	Decoction is taken orally Bulb is burnt and taken orally. Same as above	00032
7. <i>Allium sativum</i>	Nikhere	Bulb Seed (cloves)	For asthma For epilepsy	Decoction is taken orally Cloves are chewed.	03340
8. <i>Alstonia booneii</i>	Ojebhukhun	Root Bark	For epilepsy For expelling retained placenta	Decoction is taken orally Decoction is taken orally	09003 04402
9. <i>Amaranthus spinosus</i>	Obiwhne	Roots	For allergy	Roots are mashed, soaked in ethanol and taken orally	00012
10. <i>Anacardium occidentale</i>	Ikashu	Bark	For dysentery For toothache For sore gum	Decoction is taken orally Bark is chewed.	00062
11. <i>Ananas comosus</i>	Edin-ebo	Fruit	For asthma	Ripe fruit is eaten	009111
12. <i>Aspillia Africana</i>	Ohawe	Leaf Root	To stop vomiting To stop vomiting	Decoction is taken orally Leaf is chewed.	00009
13. <i>Alternanthera sessalis</i>	Obiewe	Leaves	For eczema	Infusion is applied on affected parts	00392
14. <i>Azadirachta indica</i>	Dogoyaro	Leaf Bark Leaf	Malaria Malaria For malaria	Decoction is taken orally Decoction is taken orally Decoction is used to bath	00073

Table 5 Cont.

Okoli et al.: Medicinal Herbs Used for Managing Some Common Ailments

15. <i>Boerhaavia diffusa</i>	Ebe-Ukpokodo	Leaf	For fertility For menstrual pain	Leaf is used for making soup which is taken orally. Leaf is pounded with pepper (<i>Capsicum annum</i>), salt is added and taken orally.	09321
16. <i>Bryophillum pinnatum</i>	Ogbodogho	Leaves	For cough	Leaves are passed over the fire for a minute, fluid produced is taken orally.	00081
17. <i>Caesalpinia pulcherrima</i>	Eko-omode	Leaf/bark Seed	As purgative For nervous ailment	Decoction is taken orally Seed powder is taken orally	00066
18. <i>Cajanus cajan</i>		Root	For frequent stooling	Root is ground and taken orally	00099
	Olene	Leaf	For toothache For chicken pox	Leaf extract is used as mouth wash Decoction is taken orally	
19. <i>Calotropis procera</i>	Tofiafia	Leaf	For stomach pain	Leaf extract is taken orally	00451
20. <i>Cannabis sativa</i>	Itabe-elimin	Leaf	For dandruff	Leaf extract is applied on the scalp	01243
		Leaf	As stimulant	Prepared along with food such as beans and porridge	
21. <i>Capsicum frutescens</i>	Asin	Leaf	For eye pain	The extract of the leaf is applied on the eye	000154
		Seed	For eye pain	Seed is ground and taken orally	
22. <i>Carica papaya</i>		Dry leaf	For asthma	The smoke of burnt leaf is inhaled	03457
	Okodu	Seed Unripe fruit Leaf	For tuberculosis For stomach ulcer For hypertension	Seed is chewed Decoction is taken orally Leaf is crushed, little quantity of water and native chalk is added to it, the extract is taken orally.	
		Dried leaf	For malaria	Leaf is boiled for along time and is taken orally.	
23. <i>Ceiba pentandra</i>	Okha	Leaf	For stomach pain	Decoction is taken orally	05112
24. <i>Chromolaena odorata</i>	Ebe-awolowo	Leaf	For diarrhoea For menstrual pain	Decoction is taken orally The leaf of <i>C. odorata</i>	00452
25. <i>Citrus aurantifolia</i>	Igbopin-nigue	Fruit	For abdominal pain	Juice is taken orally	00812
	Obiede	Leaf	For bad breath	Leaf is chewed	
	Stem		For ophthalmia	Decoction is taken orally	
26. <i>Citrus paradise</i>	Alimo-grape	Fruit	For tuberculosis	Juice is taken orally.	00521
27. <i>Citrus sinensis</i>	Alimo	Fruit	For tuberculosis	Juice is taken orally	01230
28. <i>Cleome viscosa</i>	Ikharo-oha	Leaf	For female infertility	Leaf is chewed three times a day.	02010
29. <i>Cocos nucifera</i>	Uvin	Bark Root	For scabies For uterine diseases, urethritis, bronchitis, liver ailment and dysentery	Decoction is taken orally Decoction is taken orally.	00025
30. <i>Crateva adansoni</i>	Ogiri-oha	Root	For weakness of male reproductive organ (decreased Libido)	Root is chewed at regular interval for a month.	01921
31. <i>Cymbopogon citrates</i>	Ihumibo	leaf	For high fever	Decoction is taken orally	05111
32. <i>Cynodon dactylon</i>		Leaf	For irregular menstruation	Decoction is taken orally	00051
33. <i>Dialium guinense</i>	Igen	Leaf	For hiccup	Leaf is chewed.	04191
34. <i>Dichapetalium heudebtii</i>	Ureaja	Leaf	For hypertension	Decoction is taken orally	09100
35. <i>Dityandra involucreta</i>	Ebeughegbe	Roots	For bone fractures	Scrapings from the outer covering of the roots are mixed with ground fruits of <i>Xylopiya aethiopica</i> , oil added, the mixture is made warm over the fire. The decoction is applied on the affected area.	00076

Okoli et al.: Medicinal Herbs Used for Managing Some Common Ailments

36. <i>Elaeis guineensis</i>	Udin	Kernel oil	As anticonvulsant	The extract is applied all over the body	00413
37. <i>Euphorbia hirta</i>	Azugben	Leaf Fresh leaf Flower	For wound For asthma	It is applied on the surface of the wound Decoction is taken orally Infertility in women It is prepared as soup which is taken orally.	00995
38. <i>Euphorbia heterophylla</i>		Leaf	For ear pain	Latex is applied directly on the ear twice a day	06311
39. <i>Ficus exasperata</i>	Ebe-Ameme	Leaf	For ring worm	Leaf is used to scratch the affected part.	07113
40. <i>Ficus exasperata</i>		Leaves	For boils	Leaves are ground and applied directly on the boil.	
41. <i>Garcinia kola</i>	Adu	Root bark bulb/seed	For asthma For tuberculosis	Decoction is taken orally after food	00301
42. <i>Gongronema latifolium</i>	Utezi	Leaf	Diabetes	Eaten raw or as vegetable in soup as spice	00115
43. <i>Hibiscus rosasinensis</i>	Obobo	Leaf	Abnormal development of foetus	Leaf is ground with salt and taken orally once a day	01942
44. <i>Ipomoea batatas</i>	Iyan ebo	Leaf	For boils and wounds As purgative	Poultice of leaf is applied on affected area Decoction is taken orally	00341
45. <i>Jatropha curcas</i>	Ujavade/ Okokoiko	Root Seed Seed Leaf Dry leaf	Fr epilepsy For gonorrhoea As an abortifacient For indigestion For stomach ulcer	Decoction is taken orally Seed is burnt and eaten Dry seed is ground, kept in local gin and taken orally. Infusion is taken orally. Decoction is taken orally	02231
46. <i>Manihot utilissima</i>	Egu	Tuber	For bleeding during pregnancy	Start is extracted from the tuber, stays for three days before the addition of a glass of water and is taken orally.	02003
47. <i>Melanthera scandens</i>	Obreshelle	Leaf	For stomach disorders	Decoction is taken orally	007201
48. <i>Momordica charantia</i>	Urakhanye	Leaf Leaf and fruit Whole plant Fruit	Malaria For fertility For diabetes Low sperm count	The three plants are squeezed together in water and taken orally. Leaf and fruit are macerated in water, the fluid is taken orally Decoction is taken orally A mixture of ground young fruit with snails is taken orally once a day. Leaf extract is applied on the affected area	00112
	<i>Momordica charanta</i>	Leaf	For ring worm		
49. <i>Musa paradisiaca</i>	Oghede	Unripe fruit Leaf	For stomach ulcer For haemorrhoids (pile)	Decoction is taken orally Leaf mixed with palm oil is applied externally	00512
50. <i>Musa sapientum</i>	Oghede-nikhere	Leaf	For eczema	The leaves are burnt, and the ashes are rubbed in the affected area	00219
51. <i>Newbouldia laevis</i>	Ukhimi	Root Stem bark	For epilepsy Early abortion	Decoction is taken orally Decoction is taken orally	00017
52. <i>Nicotiana tabacum</i>	Itaba	Fresh leaf	For epilepsy	Decoction is taken orally	09655
53. <i>Olax subscorpioidea</i>	Ukpakon	Root Bark/leaf	To reduce fat during pregnancy, for constipation For yellow fever, jaundice, venereal diseases and guinea worm	Decoction is taken orally Decoction is taken orally	00555

Okoli et al.: Medicinal Herbs Used for Managing Some Common Ailments

54. <i>Parguetina nigrescence</i>	Ufiogba	Leaf	Malaria	The three plants are squeezed together in water and is taken orally.	00086
55. <i>Paullinia pinnata</i>	Ekeleba-kpugho	Leaf	As a purgative	Decoction is taken orally	09433
56. <i>Penisetum purpureum</i>	Esun	Root	For indigestion	Root extract is taken orally	00009
57. <i>Persea americana</i>	Olumuebo	Leaf	For hypertension	Leaf is boiled and taken orally	00871
58. <i>Phyllanthus amarus</i>	Ikekeebe	Whole plant	For bleeding during pregnancy	Decoction is taken orally	00097
59. <i>Portulaca oleracea</i>	Userue	Leaves	For bleeding during pregnancy	Parts are cooked using yam and palm oil and are eaten.	09076
60. <i>Saccharum officinarum</i>	Uriekhue	Matured stem	For typhoid fever	Juice extract of matured care is taken	09097
61. <i>Sida acuta</i>	Ubane alimi	Leaf	For gonorrhoea	Leaf extract is taken	00086
62. <i>Sphenocentrum jolyanum</i>	Obiomanuwhuno	Root	For impotence, loss of Libido	Root is chewed like chewing stick every morning	00128
63. <i>Spondias mombin</i>	Ogheghe	Leaves	For allergy	Leaves are eaten	00681
64. <i>Talinum triangulare</i>	Ebodondon	Tuber Leaf	For schistosomiasis For scabies and fresh cuts	Tuber extract is taken orally. Leaf extract is taken orally.	08553
65. <i>Telferia occidentalis</i>	Umwenken	Seed	For increasing sperm count in male	Seed is boiled and eaten	00954
66. <i>Terminalia catappa</i>	Belebo	Leaf	For diabetes	Decoction is taken orally	09762
67. <i>Triumfetta rhomboidea</i>	Uwerientan	Leaf	To induce fertility and make womb receptive to implantation of foetus	Infusion is taken orally	00423
68. <i>Vernonia amygdalina</i>	Oriwo	Leaf	For hypertension	Unwashed leaf is prepared as soup and taken in the evenings.	05030
69. <i>Xylopia aethiopica</i>	Erierie	Fruits	For bone fractures	Fruits are mixed with scrappings from the outer roots of <i>Dityandra involucrate</i> and oil. Then mixture is made warm over fire and applied on the fractured site.	05117
70. <i>Zingiber officinale</i>	Agio	Rhizome	For tuberculosis	Decoction is taken orally	03302

without good source of water from time immemorial. Some of the preparations are potent antibiotics and are used to treat pathologies such as wounds/ulcers, venereal diseases, dysentery, urinary tract infections, eczema, dandruffs and schistosomiasis. The potent antibiotics include: *Garcinia kola* for treating tuberculosis; *Olax subscorpioidea* for yellow fever and venereal diseases such as *Neisseria gonorrhoea*. As indigenous communities, emphasis is placed on child birth and its associated gynaecological/obstetric disease conditions. Herbs used in the management of reproductive disorders were *Sphenocentrum jolyanum* for loss of libido in men, *Telferia occidentalis* and *Aframomum melegueta* for low sperm counts; and *Cloeme viscosa* for managing infertility in women (Table 5).

Interestingly, some of the plants, which are known for treating specific ailments, also form part of the diet of the indigenes, who use them in various food preparations. Notable among these are: *Aframomum melegueta*, *Euphorbia hirta*, *Telferia occidentalis*, *Vernonia*

amygdalina, *Allium cepa*, *Talinum triangulare*, *Citrus aurantifolia*, and *Boerhavia diffusa*.

Previous works on traditional medicine in Nigeria include: Mume (1976); Gill and Akinwumi (1986); Sofowora (1993); Adegoke et al. (1968); Daodu (2000); Oliver (1990); others are: Gill and Akinwumi (1986), Sofowora (1993), Gill and Siakpere (1990) and Gill and Akporhonor (1988). The findings of the present investigations were compared with some previously published studies on traditional medicine in Southern Nigeria: Okoegwale and Omezezi (2001); Gill et al. (1993), Osifor (1988); Gill (1992). From these reports, it was apparent that some of the plants, parts used and purpose of use cut across other cultures not only in Nigeria but other parts of the world with similar cultural and socio-economic background (Ayitey-Smith, 1989).

Conclusion: It could be said that the use of medicinal herbs to cure common ailments would continue to be a major part of the health care delivery system in many societies. This may be related not only to cost and

Okoli *et al.*: Medicinal Herbs Used for Managing Some Common Ailments

difficulty in obtaining modern orthodox medical care but also the proven efficacy and tolerability of these herbal preparations—a practice that has been with indigenous groups for ages.

References

- Adegoke, E.A., A. Akinsanya and S.H.Z. Nagvi, 1968. Studies of Nigeria medicinal plants IA: Preliminary survey of plant alkaloids. *J.W. African Sc. Assoc.*, 13: 13-33.
- Ates, D.A. and O.T. Erdogrul, 2003. Antimicrobial activities of various medicinal and commercial plant extracts. *Turk. J. Biol.*, 27: 157-162.
- Ayitey-Smith, E., 1989. Prospects and Scope of Plant Medicine in Health Care. Ghana Universities Press, Accra, pp: 1-2.
- Daodu, Tunde, 2000. Aloe Vera, The Miracle Healing Plant. Healthfield Publication, Ilesamaja, Lagos., pp: 36.
- Gbile, Z.O. and S.K. Adesina, 1986. Nigerian flora and its pharmaceutical potentials. *J. Enthopharmacol.*, 19: 1-6.
- Gill, L.S. and O. Akporhunor, 1988. Medical Practices of Urhobo People, Agbarho Clan. *Herba Hungerica*, 27: 141-147.
- Gill, L.S. and H. Siakpere, 1990. Ethnobotanical studies of Urhobo People (Agbarho Clan) Ughelli Local Government Area, Delta State, Nigeria. In S.A. Adesanya (Ed.). *Proceedings Workshop on Nature Products*. OAU Press, Ife, Nigeria.
- Gill, L.S., H.G.K. Nyawuame, E.I. Esezobor and S. Osagie, 1993. Nigeria Folk Medicine: Practices and Beliefs of Esan People. *Ethnobotany*, 5: 129-142.
- Gill, L.S. and C. Akinwumi, 1986. Nigerian Folk Medicine. Practices and Beliefs of the Ondo People. *J. Ethnopharmacology*, 18: 257-266.
- Gill, L.S., 1992. Ethomedical Uses of Plants in Nigeria. University of Benin Press, Benin-City., pp: 276.
- Mume, J.O., 1976. Traditional Medicine in Nigeria, Jom Nature Cure Centre, Agbarho Nigeria, pp: 49-85.
- Okoegwale, E.E. and J.U. Omefezi, 2001. Some herbal preparations among the people of Isoko Clan of Delta State, Nigeria. *J. Appl. Sci.*, 4: 2350-2371.
- Oliver, B., 1990. Medicinal plants in Nigeria. 2nd Edition, University of Ibadan Press Ltd; Ibadan, pp: 305.
- Osifor, N.G.A., 1988. System of traditional health care. Volume 1. Ethiope Publishing limited, Benin-City, Nigeria., pp: 45.
- Sofowora, A., 1993. Medicinal Plants and Traditional Medicine. WHO, Document No. 30, pp: 69.