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## **PROFITABILITY ANALYSES OF HERB SELLERS AND TRADITIONAL MEDICAL PRACTITIONER ENGAGED IN FIBROID TREATMENT IN OGUN AND OSUN STATE, NIGERIA.**

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### **ABSTRACT**

There is an increasing trend in the use of herbs and extracts from woody and non-woody plants for the treatment of fibroids in developing countries. This study analysed the profitability of herb sellers and traditional healers engaged in the treatment of fibroid in Ogun and Osun states, Nigeria. Multistage sampling technique with a four stage design, simple random and purposive sampling techniques were used for this study. Data obtained were analyzed using descriptive statistics, budgetary technique and logit regression. Results showed that the mean household annual income of the respondents were revealed to be ₦26,938.74 and ₦21,827.16, with total revenue of ₦12,019.75 and ₦16,639.35, gross margin of ₦5,322.64 and ₦12,499.05, and net income of ₦3,413.59 and ₦10,675.43 in Ogun and Osun States respectively. Furthermore, the benefit-cost-ratio in Ogun and Osun States were 1.40 and 2.79 respectively, indicating a higher benefit than the cost. The logit regression model indicated that religion was negatively significant ( $p < 0.05$ ), while the family type was positively significant ( $p < 0.01$ ), whereas, residency had a positive effect ( $p < 0.1$ ) on the profitability level of respondents in Ogun and Osun states respectively. Based on the findings, government should formulate policies towards encouraging forest conservation for sustainability and improved livelihood.

**Keywords:** Profitability Analysis, Fibroid Treatment, Herb Sellers, Traditional medicine

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### **Introduction**

Herbal medicine is the first level of contact to rural people when they require medical care. The world's tropical rain forests are especially rich in biodiversity not only from the forest products derivable from there, but also from the ethno botanical and ethno medicinal uses attached to the plant genetic resources obtained from them (Faleyimu and Oluwalana, 2008). In West Africa, more than two thousand plant species have been identified to be potent and suitable for the treatment of the syndrome with little knowledge of other derivatives of socio-

economic importance (Elizabeth and Stewart, 2015) However, the opulent and profound indigenous knowledge of these medicinal uses attached to the forest lies with the aged, the herbalists, herb sellers, herb collectors, hunters and other groups of people who have constant contact with nature, especially in rural areas, and are orally passed from generation to generation (Lalonde, 1993).

Traditional medical practitioners and herbs sellers are the most numerous of the herbal practitioners and they acquire their knowledge and skills from relatives through training and



the oral tradition (Lalonde, 1993). It is the outcome of bold experimentation through trial and error over hundreds of years (Vedavathy, 2003). Herbs sellers get the herbs needed (root, bark, leaf) from the environment basically their farmland or garden, herbs collectors and also sells to the traditional healers. Whereas, the traditional healers use mostly herbs from the environment and sometimes buys certain herbs, animals, minerals from the herbs sellers. Traditional healers are potentially valuable partners in the delivery of health care. They are readily available, ubiquitous in most cases, and share the same culture, beliefs, and values as their patients (Philip, 2000).

Recently, there is an increasing trend for minimal access surgery (endoscopic surgery) for treatment of uterine fibroid in developed countries (Emuveyan *et al.*, 2005). Interventions such as herbs and extracts from woody and non-woody plants may remove the need for surgery in some of these cases, especially if treated early. It is believed that fibroids up to the size of a goose egg can be successfully treated with herbs, and extracts from woody and non-woody plants to reduce the size to a comfortable level and in many cases to eliminate them (Huang *et al.*, 2003; Liu *et al.*, 2010). Larger fibroids that produce pressure-related symptoms are usually treated with surgery, though pre-treatment with herbs, and extracts from woody and non-woody plants may reduce the complications of surgery

(Huang *et al.*, 2003; Liu *et al.*, 2010). This activity helps to improve the livelihood of fibroid herb sellers and the traditional medical practitioner through wealth creation and employment generation. In order to ascertain the livelihood enhancement capacity of fibroid treatment on the herbal practitioners, the study therefore analyzed the profitability of traditional healers and herb sellers involved in the treatment of fibroid

## Methodology

### Study area

The study was conducted in both Ogun and Osun States. Ogun State is situated between Latitudes  $6^{\circ}01'N$ - $7^{\circ}15'N$  and Longitudes  $3^{\circ}20'E$  and  $4^{\circ}37'E$ . It is entirely in the tropics. Located in the South-western Zone of Nigeria with a total land area of 16,409.26 km<sup>2</sup>, it is bounded on the West by the Benin Republic on the south by Lagos State and the Atlantic Ocean, on the East by Ondo State and on the North by Oyo and Osun States.

While Osun State was created from old Oyo State in August 1991. It is located between latitude  $8^{\circ}10'N$  and  $6^{\circ}5'N$  and longitude  $4^{\circ}E$  and  $5^{\circ}4'E$  and with land area of 9,251km<sup>2</sup>; it is bordered in the North by Kwara State, on the South by Ogun State, on the West by Oyo State and on the East by the Ondo State. Osun State has 30 local government areas with a total Population of 3,423,535 in 2006 census. total land area under forest cover is 9224ha.





### Source of data collection

For the purpose of this study, the research data were obtained from primary source with the aid of well-structured questionnaire. Secondary data was also used for the study from previous literature.

### Sampling procedure and sample size

A multistage sampling technique with a three (3) stage design was used for this study. Two States were selected; Ogun and Osun state. Multistage Sampling involved the division of Ogun and Osun States into two strata to represent the primary selection units. From each unit, location was purposively selected due to Herbs Sellers and Traditional medical practitioner's business concentration in the areas. Ogun State comprises of 20 Local Government Areas (LGAs) while Osun State comprises of 30 local government areas. In Ogun state 4 local Government were purposively selected which are Abeokuta South, Ijebu North, Odeda, Yewa south. In Osun state 6 local governments were selected which are Osogbo, Ifelodun, Ilesha West, Atakunmosa East, Ede North and Boripe. The second stage was purposive selection of three (5) communities from the LGAs, Abeokuta South (Itoku, Adatan, Omida, Isaleigbeyin, Igbore), Ijebu North (Ago-iwoye, Awa okeawa, Ilaporu, Ijebuigbo, Aba titun), Odeda (Ogunji, Olodo, Osiele, Odeda, Orileilugun) Yewa South (Abuleolopa, Abuleoke, Abuleolusoji, Sabo, AraromiIfelodun) Osogbo (Ojaoba, Alekuwodo, Isaleosun, itaolokan, ogooluwa) Ifelodun (Ikirun, Ekoajala, Olorunsogo, Olodan, Ekoende) Ilesha West (Ojaoba, Okeodo, Concord, Ilesha market, Igbogi) Atakunmosa East (Iwara, Ipole,

Etiomi, Ajebamidele, Araromi) Ede North (Ojatimi, Ede market, Atapara, Oloba, Bara) Boripe (Iloko, Ire, Obada, Okeigbo, Aweda). The third stage involves selection of four (4) respondents from each of the communities. A total number of two hundred (200) questionnaires were distributed but One-hundred and ninety-two (192) respondents were retrieved.

### Analytical Technique

This study made use of descriptive and Inferential statistics in analyzing the data collected from the Traditional medical practitioners and Herbs sellers. The Inferential statistics used include;

**Budgetary techniques:** - was used in analyzing the costs and returns structure of traditional healers and herbs sellers in the study area. Analysis was carried out using the data collected; that is the costs and quantity of their various inputs used and the price and the quantity processed by an average respondent in the study area.

**Gross Margin (GM):-** The gross margin was calculated using  $Gross\ Margin\ (GM) = TR - TVC$

Where: TR = Total Revenue

TVC = Total Variable Cost

**Net Income (NI):-** The net income was calculated using the formula:

$NI = GM - TFC$

$TFC = TC - TVC$  Where:

GM = Gross Margin

TVC = Total Variable Cost from scale of the operation

TFC = Total Fixed Cost of the operation

TC = Total Cost of scale of the operation

NI = Net Income



**Rate of Returns on Investment (RORI):-**

The rate of returns on investment was calculated in determining the rate of return to capital invested in the business according to the respective scale of operation in determining the profitability of investment in T.H & H.S using mathematical formula below:

$$\frac{NI}{TC} \times 100$$

Where: TR = Total Revenue  
TC = Total Cost

**Regression analysis**

The dependent variable is determined by the independent variables while the independent variables are held fixed. In this study, the logit regression model was used and this is given by:

$$Y = \ln\left(\frac{p}{1-p}\right) = \beta_{0+} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k + \mu_i$$

Where Y= Dependent Variable (Profit)

- X<sub>1</sub> = Gender
- X<sub>2</sub> = Marital status
- X<sub>3</sub> = Religion
- X<sub>4</sub> = Education
- X<sub>5</sub> = Family type
- X<sub>6</sub> = Age
- X<sub>7</sub> = Occupation
- X<sub>8</sub> = Residency (Years)
- X<sub>9</sub> = State

β<sub>1</sub> ... β<sub>k</sub> = Regression coefficient or estimation.

μ<sub>i</sub> = error term

**Results and Discussion**

**Socioeconomic characteristics of the respondents**

The socioeconomic characteristics of the respondents includes gender, age, religion, education qualification, marital status, family type, language, occupation and income of the respondents as observed in the study area. The respondents' socioeconomic characteristics indicated that sex is not a limiting factor in the

practice even though the respondents are Male dominated with 72.8% and 65.8% as against the female respondents with 27.2% and 34.2% in both Ogun and Osun States respectively which signifies that men are more involved in the treatment of fibroid than the women folks (Table 1). This showed that tradomedical practice is male dominated as it agrees with the findings of (Oyelakin, 2009; Ajibesin *et al.*, 2011) who reported that traditional medical practices among the Yoruba ethnic group of Nigeria is dominated by the males due to secrecy in practice and transfer of knowledge from generation to generation.

It was also revealed that majority of the respondents (44.4%, 31.5%) are between 50-59 years while age group 30-39 years represents the least (8.6%, 11.7%) in Ogun and Osun States respectively. This implies that respondents are in their active and productive age which is in line with Omonike *et al.*, 2010) who also reported a similar observation in his study. It was further revealed that majority (88.9%, 82.9%) of the respondents were married while few (2.5%, 3.6%) were single. The three basic religions in Nigeria were observed in the study. Majority (71.6%, 64.9%) of the respondents were Muslims, Christian (21.0%,24.3%) and traditional worshippers (7.4%,10.8%) in Ogun and Osun States respectively. This implies that fibroid treatment is not a function of religion but knowledge.

The study further indicates that most (56.8%,58.6%) of the respondents had lived the community for 21-50 years whereas, about33.3% and 28.8% of the respondents in Ogun and Osun state have been in the community for less than 21years. This is

represented in Figure 3. It implies that most of the respondents have stayed long enough in his/her communities to have folkloric



knowledge on the usage of herbs for treating fibroid. Educationally, 7.2% accounts for Adult literacy in Osun state and 2.5% in Ogun state. 16.0% and 20.7% had full primary education, 34.6% and 33.3% completed secondary education, 8.6% and 5.4% had their education up to bachelor degree in both Ogun and Osun states respectively. This is an indication that there is a reasonable level of education among respondents and is in accordance with (Mussema, Y. 2006) who reported that a traditional medical practitioner can either be educated or be a layperson with the ability to treat certain ailments. Based on the family type, it was discovered that monogamy was the most (61.7 and 65.8) practiced type of family in both states. But Ogun are more polygamousthan Osun state and held a high implication for availability of household labor.

From the study, traditional medical practitioners dominated (81.5% and 68.5%) the study areas while herb sellers were 14.8% and 21.6% in Ogun and Osun State respectively. This implies that more traditional healers are involved in treatment of fibroid as compared to herb sellers. In Figure 4, about 67.9% and 61.3% of the respondents earned less than ₦21,000 annually in Ogun and Osun states respectively, 24.7% and 21.6% earned ₦21,000 - ₦40,000, 2.5% and 8.1% respondents earned ₦41,000 - ₦60,000 both in Ogun and Osun States respectively. 1.2% and 4.5% earned an annual income of between ₦61,000 - ₦80,000. The results further showed that about 3.7%, 4.5% of the respondents earned an income above ₦80,000 on annual basis in Ogun and Osun States respectively. This revealed traditional healing and herb selling is a low income activity in the area.

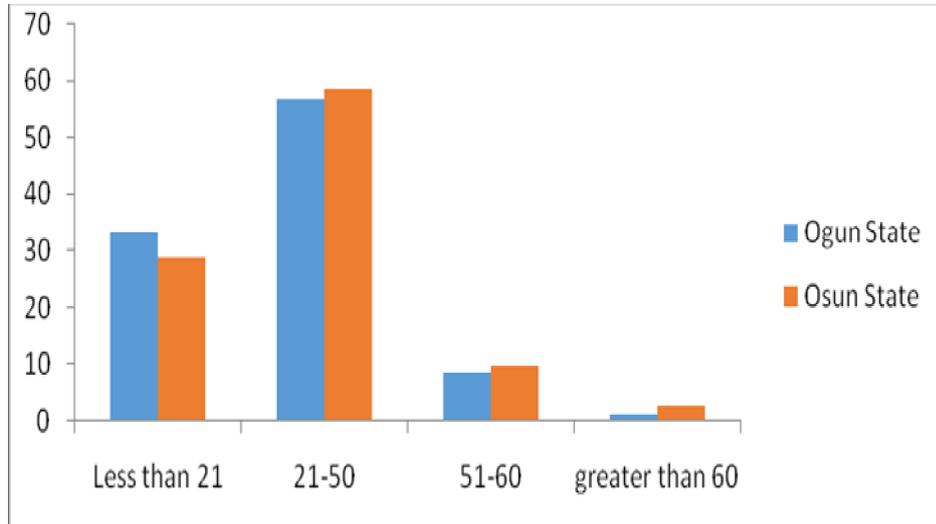
**Table 1: Socio economic characteristics of respondents in Ogun and Osun States**

Variables	Ogun state		Osun State	
	Frequency	Percentage	Frequency	Percentage
<b>Gender</b>				
Male	59	72.8	73	65.8
Female	22	27.2	38	34.2
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Age (Years)</b>				
30-39	7	8.6	13	11.7
40-49	31	38.3	37	33.3
50-59	36	44.4	35	31.5
60>	7	8.6	26	23.4
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Marital Status</b>				
Single	2	2.5	4	3.6
Married	72	88.9	92	82.9
Separated	1	1.2	8	7.2
Divorced	0	0.0	1	0.9
Widow/ Widowe	6	7.4	6	5.4
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>

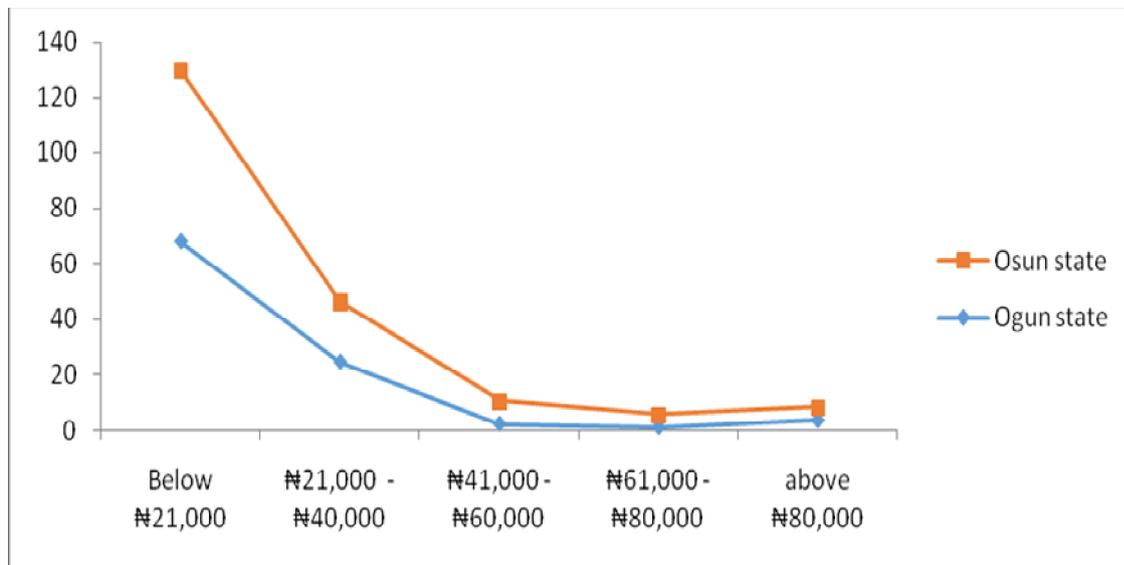


<b>Religion</b>				
Christianity	17	21.0	27	24.3
Muslim	58	71.6	72	64.9
Traditional	6	7.4	12	10.8
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Education</b>				
<b>Qualifications</b>				
Adult Literacy	2	2.5	8	7.2
Incomplete	4	4.9	8	7.2
Primary				
Full Primary	13	16.0	23	20.7
Incomplete	6	7.4	3	2.7
Secondary				
Complete	28	34.6	37	33.3
Secondary				
Grade	7	8.6	9	8.1
II/Technical				
Diploma/OND	10	12.3	8	7.2
NCE/ Nursing	3	3.7	4	3.6
HND /Bachelo	7	8.6	6	5.4
Degree				
Master's Degree	1	1.2	5	4.5
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Family Type</b>				
Monogamy	50	61.7	73	65.8
Polygamy	31	38.3	38	34.2
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Occupation</b>				
Herb Seller	12	14.8	24	21.6
Herbal Healer	1	1.2	5	4.5
Herbalist	2	2.5	6	5.4
Traditional	66	81.5	76	68.5
Healer				
<b>Total</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>

Source: Field survey, 2016



**Figure 3 Years of Residence in the Study Areas**  
Source: Field survey, 2016



**Figure 4: Annual Income of Respondents in the Study Areas**  
Source: Field survey, 2016



### Cost and Return Structure (Profitability) of Traditional Medical practitioners and Herbs Sellers in the Study Area

The cost and returns structure in the tables 2 gives the average values of the cost, revenue, gross margin and profit that a single respondent earn from treating fibroid in Ogun and Osun states respectively. The result for Ogun State shows that an average respondent earns ₦12,019.75k in a particular season, during which he/she incurs a number of direct cost of which the total cost variable cost (firewood, advertisement, tax, transportation and Labour) accounts for 77.8% while the depreciation cost on the use of a number of fixed input/cost (cutlass, mudpot, mortar and pestle, grinding stone, bowl and Rent (cutlass, mudpot, mortar and pestle, grinding stone, bowl and Rent) used accounts for 22.1%. Similar observation is reported for the Benefit-Cost ratio (BCR) that for every ₦1, there is always a profit of ₦1:40k gain which implies a good profitable business because the benefit is higher than the cost of spending. However, in Osun State, an average respondent earns ₦16,639.05k in a particular season, during which he/she incurs a number of direct cost of which the total variable cost (firewood,

advertisement, tax, transportation and Labour) accounts for 69.4% while the depreciation cost on the used number of fixed input (cutlass, mudpot, mortar and pestle, grinding stone, bowl and Rent) used account for 30.5%.

The study showed that the gross margin from the fibroid treatment is positive and high in both states but higher (₦12,499.05k) in Osun State. The study also observed the profit level of ₦34,13.60k and ₦10,675.43k in Ogun and Osun states respectively. Similar trend is reported for the Benefit- Cost ratio (BCR) that for every ₦1, there is always a profit of ₦2.79k gain which implies a good profitable business because the benefit is higher than the cost of spending. This is in line with Iwu (2015) who stated that Nigeria has what it takes to diversify her economy through earning from traditional and herbal medicines practitioner. The result showed that the gross margin is positive and high; the same observation is reported for net income. These findings showed that Indigenous preparation for fibroid treatment is a very profitable business and it is widely known and acceptable, hence, people tend to go for it more than orthodox medicine.

**Table 2: Cost and Returns Structure of Ogun and Osun States**

Variable	Ogun state		Osun state	
	Value (₦)	Total Cost (%)	Value (₦)	Total Cost (%)
Total Revenue (quantity X price)	12,019.75		16,639.05	
Total Fixed Cost	1909.03	22.18	1823.61	30.58
Total Variable	6697.11	77.81	4140.00	69.42
Total Cost(TFC+TVC)	8606.15	100	59,63.62	100



Net Income (GM-TFC)	3413.59	10,675.43
Gross Margin(TRTV/C)	5322.64	12,499.05
RORI(NI/TC*100)	39.66	179.01

Source: Field survey, 2016

### Socio- Economic Factor Characteristics that Influence the Profitability Level of the Respondent in the Study Area

The Logit Model was used to determine the socio- economic factors influencing the profitability level of the respondents in the study areas as shown in table 3. The calculated chi-square value associated with the Likelihood Ratio (LR) test was significant at  $p < 0.01$  which indicate goodness of fit.

The sign of the coefficient shows the direction of the relation as a variable with the dependent variable, while the marginal effects describe the magnitude of the change in a unit of the independent variable on the dependent variable. Religion was negative and significant at  $p < 0.05$ . Religion had a negative significant effect on factors that influence the profitability level of trado-medicine practitioner which means a change in Religion will lower the profitability level. Family type had a positive significant effect on factors that influence the profitability level at  $p < 0.01$ . The marginal effect (0.19) shows that as the family type increases, the likelihood probability level of

tradomedical practitioner also increases. The variable residency was positive and significant at  $p < 0.1$ . This could further be related to the fact that the longer the respondents have stayed in the his/her area, the more the profitability level will increase. The marginal effect of residency shows that the magnitude of a unit change in the residency will yield 0.10 change on profitability level. The results also show that as the religion of respondents decreases or change to another religion the likelihood of the respondents to change in profitability level also decreases by -0.17. The marital status, age and occupation of the respondents has a negative correlation with the likelihood of profitability level, while gender, education, state of the respondents have a positive correlation with the likelihood of the respondents to the profitability level of tradomedical practitioners even though not statistically significant. This is in accordance with the study of Faleyimu and Akinyemi (2014) who also reported that age, education and gender have a positive correlation with urban forester's income Okitipupa, Ondo State.

**Table 3: Socio-economic Factors Influencing Profitability of Traditional Medical practitioner and Herb Sellers in the Study Area**

Variable	Coefficient	T- ratio	Marginal Effect
Gender	0.45 (0.54)	0.83	0.08
Marital status	-0.66 (0.47)	-1.41	-0.13
Religion	-0.87 (0.39)	-2.23**	-0.17



Education	0.43 (0.42)	1.03	0.08
Family type	1.04 (0.36)	2.96***	0.19
Age	-0.36 (0.54)	-0.67	-0.07
Occupation	-0.38 (0.68)	-0.56	-0.07
Residency (years)	0.51 (0.31)	1.67*	0.09
State	0.47 (0.37)	1.26	0.09
Constant	-1.49 (2.73)	-0.54	

Log likelihood = -103.88816

Chi square = 20.37\*\*\*

\*\*\*Coefficients significant at 1%

\*\* Coefficients significant at 5%

\* Coefficients significant at 10%

Standard errors are in parenthesis

Source: Field survey, 2016

### Conclusion and Recommendation

It is concluded that treatment of fibroid by traditional healers and herb sellers is a profitable venture in the study area. This was because the gross margin was observed to be positive and high, so also was reported for net income. Furthermore, herbal medicines are now in great demand for treatment of fibroid not only because they are less expensive but culturally acceptable and better compatibility with the human body with less or minimal side effects.

Based on the findings, the Government of Ogun and Osun States should formulate policies towards regulating polygamous marriage (a family type) as it was observed to have negative effect on the profitability of the traditional medical practitioners engaged in the practice.

### References

- Ajibesin, K. K, Bala, D. N and, Umoh U. F. 2011: The Use of Medicinal Plants to Treat Sexually Transmitted Diseases in Nigeria: Ethnomedicinal Survey of Niger Delta Region. *International Journal Green Pharmacy*. 5:181-91.
- Elizabeth, A., and Stewart, M. D., 2015. Uterine Fibroids. *England Journal Medicine* 372: 1646-1655.
- Emuveyan, E. E., Ifenne, O. I., and Ohaju-Obodo, J.O., 2005. A Randomized Controlled Study of Goserelin as Adjuvative Therapy Prior to Surgery in the Management of Uterine Fibroid. *Tropical Journal of Obstetrics and Gynaecology*. 22(2):120-124
- Faleyimu, O. I., and Oluwalana, S.A., 2008. Efficacy of Medicinal Forest Plant in Ogun



- State, Nigeria. *Obeche Journal* 26 (1): 63-67.
- Huang, Y.Y., 2003. Research Advance and Prospects of Traditional Chinese Medicine and Western Medicine for Treatment of Uterine Fibroids. *Tianjin Journal of Traditional Chinese Medicine*. 20(6):78–80.
- Iwu Maurice, 2015: Nigeria can survive on earnings from herbal medicine. Herbal, Health Food and Natural Expo (HERBFEST) 2015. Vanguard Media Limited, Nigeria. [www.vanguardngr.com](http://www.vanguardngr.com)
- Lalonde, A., 1993. African indigenous knowledge and its relevance to sustainable development. Traditional Ecological Knowledge: Concepts and Cases. Ottawa: International Program on Traditional Ecological Knowledge & International Development Research Centre. *Journal Inglis (Ed.)*: 55-62
- Liu, S., Costanza, R., Farber, S., and Troy, A., 2010. Valuing Ecosystem Services: Theory, Practice, And The Need for A Transdisciplinary Synthesis. *Ecology Economics. Review* 1185: 54–78.
- Mussema, Y. (2006). A Historical Overview of Traditional Medicine Practice and Policy in Ethiopia. *Ethiopia Journal Health Development.*, 20(2),127-134.
- Omonike O. Ogbole, Adebayo A. G. bolade and Edith O. Ajaiyeoba, E. O. E. O 2010: Ethnobotanical Survey of plants used in treatment of inflammatory diseases in Ogun state of Nigeria. *European Journal of Scientific Research*. Vol. 43 No2 pp. 183-191.
- Oyelakin RT. 2009: Yoruba Traditional Medicine and the Challenge of Integration. *The Journal of Pan African studies*. 3 (3)
- Philip S Kubukeli 2000: Traditional Healing Practice Using Medicinal Herbs. *The Lancet*2000 (354) December • 1999
- Vedavathy S., 2003: Scope and importance of traditional medicine. *Indian journal of traditional knowledge*. vol. 2(3), July 2003, pp. 236-239