Proceedings of the Annual Conference of the Agricultural Extension Society of Nigeria
Number: Twenty-Second Annual Conference
Theme: Mainstreaming Entrepreneurship in Agricultural Extension Practice in Nigeria
Date: 23rd -26th April, 2017. **Venue:** University of Port Harcourt, River State, Nigeria
ISSN: 1595 – 1421.http://aesonnigeria.org/ConfProc . **Email**: editorinchief@aesonnigeria.org

Extent of Utilization of Medicinal Plants among Rural Households in Imo State, Nigeria

https://dx.doi.org/10.4314/jae.v22i1.16S

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Abstract

The study investigated the extent of utilization of medicinal plants among rural household in Imo State Nigeria. The study made use of multi- stage random sampling techniques in sampling 120 respondents in the study area. The data for the study were collected with the use of structured questionnaire and analysed using both descriptive (such as frequency, percentages and mean count) Results showed that the available medicinal plants in the study area were pawpaw (100.0%), mango (100.0%), bitter leaf (95.0%), cocoa (81.67%) and Uziza leaf (78.33%, avocado (71.33%) among others. The result further revealed that cocoa ($\bar{x}$ = 3.47), pawpaw ($\bar{x}$ = 3.33), avocado ($\bar{x}$ = 3.25), raphia palm ($\bar{x}$ = 3.15), bitter leaf ($\bar{x}$ = 3.10), aloe vera ($\bar{x}$ = 3.03), uziza leaf ($\bar{x}$ = 2.93), morringa ($\bar{x}$ = 2.70) were highly utilized in the study area. Tobit regression analysis revealed that age, household size, farming experience, income and education at significantly influenced the utilization of medicinal plants among the rural households in the study area. The study recommended that the conservation of medicinal plants should be pursued vigorously by both government and individuals via establishment of botanical gardens and horticultural centres in order safe guard them from indiscriminate use, overexploitation and destruction.

Key Words**: **Medicinal plants**, **Availability and Rural households.

Introduction

Medicinal plants constitute an effective source of both traditional and modern medicine. These plants have been shown to have genuine utility and about 80% of the rural population depends on them as primary health care (Akinyemi, 2000). Plants have been used as sources of remedies for the treatment of many diseases since ancient times and people of all continents especially Africa have this old tradition. Despite the remarkable progress in synthetic organic medicinal products of the twentieth century, over 25% of prescribed medicines in industrialized countries are derived directly or

indirectly from plants (Newman et al., 2000). However, plants used in traditional medicine are still understudied (Kirby, 1996 cited in Monier, 2016). In developing countries, notably in West Africa, new drugs are not often affordable. Thus, up to 80% of the population uses medicinal plants as remedies (Kirby, 1996; Hostellmann and Marston, 2002).
According to the World Health Organization (2010) the definition of traditional medicine may be summarized as the sum total of all the knowledge and practical, whether explicable or not, used in the diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing. Traditional medicine might also be considered as a solid amalgamation of dynamic medical known-how and ancestral experience (Monier 2016**)**. In Africa, traditional healers and remedies made from plants play an important role in the health of millions of people. Traditional medicine has been described by the WHO (2010) as one of the surest means to achieve total health care coverage of the world's population.

Traditional medicines form a central component in health care systems in developing countries where 80% of the population have been reported to depend on traditional medical system. The use of herbal medicines however, is on the increase even in developed countries because of the belief that herbal remedies are safe because of their natural origin (Jacobsson *et al* 2007). Globally, there are about 120 plant-derived drugs in professional use; three quarters being obtained from traditional medicinal plants (Marles, 1996). In Africa, 90% of the population has used medicinal plants at least once for various health conditions (Chirchir *et al* 2006). In other regions such as Peru, it has been found that about 84% of the local people prefer traditional medicinal plants for their health care needs in comparison to modern pharmaceutical products. Some of the reasons given include the fact that they are of natural origin and no risks or harm is experienced when used (Bussmann *et al* 2007)

The use of traditional medicine in various therapies by the indigenous population over the world cannot be overemphasized, according to the World Health Organization (WHO), as many as 80% of the world's people depend on traditional medicine for their primary healthcare needs. Due to poverty, ignorance and unavailability of modern health facilities, most people especially rural people are still forced to practice traditional medicines for their common day ailments, most of these people form the poorest link in the trade of medicinal plants (Khan, 2002). A vast knowledge of how to use the plants against different illnesses may be expected to have accumulated in areas where the use of plants is still of great importance (Diallo et al., 1999). In the developed countries, 25 per cent of the medical drugs are based on plants and their derivatives.

According to Lewis and Elvin-Lewis (2003), botanically derived medicinals have played a major role in human societies throughout history and prehistory and people have used plants as medicine since the beginning of civilization, as they were believed to have healing powers (Connie and King, 2003). The use of plants in the tropical and subtropical regions is diversified and most of the uses are for medicine, source of food, clothing and shelter. But the medicinal uses of plants are rapidly declining among the present generation of local people as a consequence of modernization and civilization (Cox, 2005). The younger generation is showing little interest in learning this valuable science of healing.

Unfortunately, according to a recent report, almost one third of medicinal plant species could become extinct, with losses reported in China, India, Kenya, Nepal, Tanzania and Uganda (Hamilton, 2009). Greater losses are expected to occur in arid and semi-arid areas due to factors such as: climate change, erosion, expansion of agricultural land, wood consumption, and exploitation of natural vegetation, increased global trade in natural resources, domestication, selection and grazing among other factors Wezel and Rath (2001)

Usage of medicinal plants to cure diseases has also been much influenced by religious practices (Trease and Evans, 1989; Wambebe, 1999). All over the world, several ethnobotanical studies focusing on medicinal plants have been documented (Ekpendu *et al.,* 1998; Balansard and Timon, 2000; Singh and Singh, 2001; Wang *et al*., 2002; Cox, 2005; Kumar et al., 2005; Pei, 2005). But in Nigeria, very little information about ethnobotanical studies has been documented (Gill, 1992; 1999; Monier, 2016). Therefore, the need for proper documentation of traditional medicinal plants among the people in Nigeria where there has been a dearth of published information is immediately called for as well as the extent utilization of these medicinal plants among rural farmers. The study described the socioeconomic characteristics of the respondents, identified the available medicinal plants and ascertained the extent of utilization.

Methodology

The study was conducted in Imo State, Nigeria. The State is one of the 36 States of Federal Republic of Nigeria. It was created when the former East Central State of Nigeria was split into Anambra and Imo State on February 3rd 1976 by late Gen. Murtala Mohamed military regime. Imo state is one of the five States in South East Geo-political zone of Nigeria. Imo State lies between latitudes 5◦ 12 and 5◦ 56 North of the equator and longitude 6^0 38 and 7^0 25 East of the Greenwich meridian (Imo State Annual Gazette, 2002). Imo state falls within the rainforest zone of Nigeria with the various characteristics of tropical rainforest zone. The state has an average population density of about 590 persons per square kilometer and its total population of 2006 National Census was 3,927,563. The State is bounded in the East by Abia state, in the west by Anambra and Delta states, in the north by Enugu State and in the south by Rivers State.

The study made use of multi-stage random sampling techniques. From the 27 Local Government Areas in Imo State, 6 (six) Local Government Areas were selected randomly, two each from the three agricultural zones (Owerri, Okigwe and Orlu zones). Ten (10) rural households were randomly selected from each of the six Local Government Areas. This gave a total of 60 (sixty) farmers which constituted the sample size of the study. Primary data were used for the study. The data were collected through issuing of questionnaires to respondents in the study area. The data collected were subjected to descriptive statistical analysis.

Results and Discussion

Socioeconomic Characteristics of the Respondents

The distribution of the respondents according to sex was shown in Table 1. According to the Table, a large proportion (55.00%) of the respondents were male. This result implies herbal medicine are mostly utilized by male in the study area.

The Table reveals that a fair proportion (41.6%) of the respondents was within the age of 51-60 years. The result further shows a mean age of 52.6 year implying that the respondents in the study area were still in their productive age. This result conforms to the findings of Onu (2012) posited that age determines the level of involvement in livelihood activities among rural households.

The result also reveals that about 91.7% of the respondents were married while 6.7% and 1.7% of the respondents were single and divorced respectively. This result implies that most of the respondents in the study area are married. Marriage is an important factor in the livelihood of individuals in our society as it is perceived to confer responsibility on individuals. The average household size of the respondents in the study area was 8 persons. This result implies that the respondents had a relatively large house hold size. The implication of these findings is that more family labour would be readily available since relatively large household size is an obvious advantage in terms of farm labour supply, where wage rate is relatively costly (Nwaobiala, 2013 and Onu, 2015).

A fair proportion (46.7%) of the respondents had secondary education. The average year of education of the respondents was 10. 8 years. Educational attainment will likely make the respondents more responsive to relevant information on the use of herbal medicine and policies as well as enhances their access to information. It is also expected that the higher level of education will contribute significantly to the decision to use herbal medicine. This finding supports the view of Nwaru (2004) that higher level of education determines the quality of skills of the respondents, their efficiency and how well informed they are of the innovations and technologies around them.

Result shows that the average years of farming experience of the respondents was 23 years. This result implies that the respondents in the study area were well experienced in the farm related activities. This is plausible in the sense that the higher the farming experience, the more the farmer would have gained more knowledge and technological ideas on how to tackle farming problems and the higher would be his output and in income (Nwaru, 2004 and Nwaobiala and Onummadu 2013). The average income of the respondents was ₦ 288750.0. The result implied that respondents earned relatively high monthly income from their livelihood activities. It is expected that income will significantly influence the decision to use herbal medicine among the respondents in the study area.

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Table 1: **Distribution of respondents according to their socioeconomic characteristics**

Socioeconomic characteristics	Percentages (n = 120)	Mean
Gender		
Male	55.00	
Female	45.00	
Age		
20 – 30	1.7	
31 – 40	5.00	
41 – 50	33.40	
51 – 60	41.60	
61 – 70	18.50	52.6 years
Marital status		
Single	6.7	
Married	91.7	
Widowed	1.7	
Household size		
1 – 3	3.40	
4 – 6	21.70	
7 – 9	51.70	
10 – 12	16.60	
13 – 15	6.60	8.00 persons
Level of education		
No formal education	25.0	
Primary education	6.7	
Secondary education	46.7	
Tertiary education	21.7	
Farming experience		
1 -10	21.7	
11 – 20	30.10	
21 – 30	26.70	
31 – 40	10.00	
41 – 50	11.7	23.1 years
Income		
50,000 – 100,000	20.0	
101,000 – 150,000	13.5	
151,000 – 200,000	16.7	
201,000 – 250,000	15.0	
251,000 – 300,000	38.33	288750.0

Source: Field Survey, 2016

Availability of Medicinal Plants

The distribution of respondents based on the availability of medicinal plants in the study area was shown on Table 2. The table revealed that the available medicinal plants in the study area were pawpaw (*Carica Papaya*), mango (*Mignifera indica*), bitter leaf (vernomia), cocoa (Theobroma cocoa), Uziza leaf (*Piper guineense*), raphia palm (*Raphia farinifera*), avocado (Persea Americana), Aloe vera (*Aloe barbadensi miller*), neem (*Azadirachta indica*), and uziza leaf (*Piper guineense*). This result implies a lot of medicinal plants were available in the study area. This result corroborates with Adeshino, (2013) that 20 – 30% of people living in Africa rely chiefly on traditional herbal medicine to meet their health problems.

Table 2: Distribution of respondents based on the availability of medicinal plants in the study area

Medicinal plants	Available Percentages
Bitter leaf (vernomia)	95.00
Mango (*Mignifera indica*)	100.00
Cocoa (Theobroma cocoa)	81.67
Pawpaw (*Carica Papaya*)	100.00
Avocado (Persea Americana)	73.33
Morringa (*Moringa oleifera*)	63.33
Aloe vera (*Aloe barbadensi miller*)	71.67
Neem (*Azadirachta indica*)	65.00
Uziza leaf (*Piper guineense*)	78.33
Uda (*Xylopia aethiopica*)	38.33
Ugba (*Pentaclethra macrophilla*)	31.67
Raphia palm (*Raphia farinifera*)	76.67

Source: *Field Survey, 2016*
Multiple responses recorded

Level of Utilization of Medicinal Plants

The distribution of respondents based on level utilization of medicinal plants in the study area was presented on Table 3. The table revealed a grand mean of 2.78 indicating high utilization of medicinal plants in the study area. The result further revealed that cocoa ($\bar{x}$ = 3.47), Pawpaw ($\bar{x}$ = 3.33), avocado ($\bar{x}$ = 3.25), Raphia palm ($\bar{x}$ = 3.15), Bitter leaf ($\bar{x}$ = 3.10), Aloe vera ($\bar{x}$ = 3.03), *Uziza* leaf ($\bar{x}$ = 2.93), Morringa ($\bar{x}$ = 2.70). This result implied that there was high level of utilization of medicinal plants in the study

area. The result agreed with Dele (2007) that 80% of the total populations of Nigerians are use traditional medicine to treat different types of human illness.

Table 3: Distribution of respondents based on level utilization of medicinal plants in the study area

Utilization	$\bar{x}$
Bitter leaf (Vernomia)	3.10
Mango (*Mignifera indica*)	2.45
Cocoa (Theobroma cocoa)	3.47
Pawpaw (*Carica Papaya*)	3.33
Avocado (Persea Americana)	3.25
Morringa (*Moringa oleifera*)	2.70
Aloe vera (*Aloe barbadensi miller*)	3.03
Neem (*Azadirachta indica*)	2.10
Uziza leaf (*Piper guineense*)	2.93
Uda (*Xylopia aethiopica*)	2.17
Ugba (*Pentaclethra macrophilla*)	1.57
Raphia palm (*Raphia farinifera*)	3.15
Total mean	**33.25**
Grand mean	**2.78**
Benchmark mean	**2.50**

Source: Field Survey, 2016
Mean > 2.50 indicates high utilization

Conclusion and Recommendations

The available medicinal plants in the study area were pawpaw (*Carica Papaya*), mango (*Mignifera indica*), bitter leaf (Vernomia), cocoa (Theobroma cacoa), Uziza leaf (*Piper guineense*), raphia palm (*Raphia farinifera*), avocado (Persea Americana), Aloe vera (*Aloe barbadensi miller*), neem (*Azadirachta indica*), and uziza leaf (*Piper guineense*).
There was high level of utilization of medicinal plants in the study area.
The conservation of medicinal plants should be pursued vigorously by both government and individuals via establishment of botanical gardens and horticultural centres in order safe guard them from indiscriminate use, overexploitation and destruction.
Awareness creation among traditional healers and community at large is pertinent in order to preserve the available medicinal plant in the area.
Youth should be well informed on the use of indigenous medicinal plants in the study area.

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