

## **Socio-economic Assessment of Ethno-botanical Practices in Odogbolu Local Government Area of Ogun State, Nigeria**

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### **ABSTRACT**

Both semi-structured questionnaire and a checklist were used to gather necessary information about medicinal plants used and ethno-botanical practices from respondents in five major communities: Odogbolu, Ijagun, Imaweje, Abapawa and Mobalufon randomly selected in the study area. In each of these communities twenty (20) respondents were randomly selected to give a sample size of one hundred (100). Checklists were used to gather information on ethno-practices from Traditional Medical Practitioners as well. Data generated were analyzed and presented using descriptive statistics (frequency tables, percentages and mean) and Correlation Analysis. The result reveals that the mean age of the respondents was 41.08 years, female gender (56%) dominates the usage of medicinal plants in treating livestock in the study area, 68% are married and 66% practice Christianity. All the respondents had formal education to certain degree with 12years of attendance in school in the majority (32%). The modal household size among the respondent was 8 persons (22%). The reasons adduced for using medicinal plants in treating livestock by respondents include- convenience (36%), cheapness (28%), efficiency (22%), ready availability (12%) and civilization (2%). Medicinal plants were sourced from the wild (56%) and cultivation (44%) using leaf cutting (70%), debarking (12%), seed or fruit (10%), stem cutting (4%), root cutting and all parts (2%) each as harvesting methods. The result of the correlation analysis shows that there is a significant relationship between the ages of respondents and their household size. There is a positive relationship (0.040-0.294) such that as household size increases and age increases there is more usage of medicinal plants. There is however, a negative but significant relationship (-0.356-0.012) between age of respondents and level of education. The correlation between age of respondent and duration of use (0.032-0.307) has a direct positive relationship; there is significant and positive relationship between the duration of use and source of medicinal plants (0.077-0.255).The study concludes that medicinal plant is readily used in the study area and recommends the domestication of useful medicinal plants in the study area and inventory of all plants with ethno veterinary potentials in the study area.

**Key words:** Ethno-botany, correlation analysis, medicinal plants, Traditional Medical Practitioner.

## INTRODUCTION

Ethno-botany is the study of how people of a particular culture and region make use of indigenous plants. Ethno-science is the sum total of group's knowledge, conceptions and classification of objects, activities and events. It is the scientific study of the relationship that exists between people and plants. Though rural people are generally uneducated and innocent; they possess an invaluable assets (funds) in the form of knowledge about the resources in their environment which they utilize for the survival of their communities and ecology of locally occurring plants and rely on them for foods, medicine, fuel, building materials, dye, tannin, gum, resin, fiber, and other products (Sweetmore, 2006).

Ethno-botany is a vital approach in the study of natural resources management of indigenous people and can be summed up in four words: the people, plants, interaction and uses (Aliyu, 2006). It also provides valuable insight into the potential uses of species (Aliyu, 2006). The choice of animal keepers is not one (conventional) or another (non-conventional) but combination of both technologies and services (McCorkle, 1995). According to data released by the World Health Organization (WHO), ethno medicine has maintained its popularity in all regions of the developing world and its use is rapidly expanding in the industrialized countries (10), for example, in China traditional herbal preparation account for 30-50% of the total medicinal consumption.

In Ghana, Mali, Nigeria and Zambia, the first line treatment for 60% of children with malaria is the use of herbal medicine. In San Francisco, London and South Africa, 70% of people living with HIV/AIDS use traditional medicine. Traditional practices can be used to provide economical solutions to improve productivity of animals and reduction in poverty of the poor

farmers (Iqbal *et al.*, 2004). The essence of this paper is to address the problems of inadequate knowledge about the medicinal plants and their uses, identify and describe the stakeholders as well as bring to fore specific ethno-botanical practices in the study area with a view to providing reliable data bank for future development and improvement in Traditional Medical Practice (TMP).

## MATERIALS AND METHODS

Both semi-structured questionnaire and a checklist were used to gather necessary information about medicinal plants use and ethno-botanical practices from respondents in the study area. Five major communities—Odogbolu, Ijagun, Imaweje, Abapawa and Mobalufon were randomly selected to represent both rural and peri-urban localities in the study area. In each of these communities twenty (20) respondents each were randomly selected to give a sampling size of one hundred (100) respondents. Checklists were used to gather information on ethno-practices from Traditional Medical Practitioners such as herbalists, traditional birth attendants and medicinal plants marketers. Data generated were analyzed and presented using descriptive statistics (frequency tables, percentages and mean) and Correlation Analysis.

## RESULTS AND DISCUSSION

Table 1 reveals that the mean age of the respondents is 41.08 which suggest that they are generally individuals in their active years. A greater (56%) part of the respondents are female while only 44% are male indicating female gender dominance in the usage of medicinal plants in treating livestock than males in the study area. In another vein, 68% of the respondents are married while 66% practice Christianity. All the respondents had formal education to certain degree with 12years of attendance in school in

the majority (32%), 6 and 9 years of attendance are 22% each, 15 years of formal education is 18% while only 6% of the respondents had formal education of above fifteen years. The modal household size among the respondent is 8 persons (22%), followed by 6 persons (18%) while the least household size is 11 and 16 persons which are 4% each. On the whole, the respondents have sizeable household size necessary for the collection and processing of medicinal plants for their livestock health care in line with the fact that alternative sources of health care services and remedies like the use of medicinal plants (such as chewing sticks) usage especially in developing economies like Nigeria is inevitable (Olawumi, 2011). The reasons adduced for using medicinal plants in treating livestock by respondents include- convenience (36%), cheapness (28%), efficiency (22%), ready availability (12%) and civilization (2%). In terms of sources of medicinal plants materials, 56% are sourced from the wild while 44% are sourced through cultivation. The method used in harvesting the materials include- leaf cutting (70%), debarking (12%), seed or fruit (10%), stem cutting (4%), root cutting and all parts (2%) each which is in line with the findings of Mustapha and Jimoh, 2012 that various parts of the trees are used for herbal preparations for the cure of ailments and infections. However, Ngeh, et al, 2007 cautioned that plants should be harvested in such a way that the mother plant is not killed after collection and hence, ethno-medicines should be collected with care and a sustainable way. The results of the correlation analysis as presented in Table 3 shows that there is a significant relationship between the ages of respondents and their household size. There is a positive relationship (0.040-0.294) such that as household size increases and age increases there is more usage of medicinal plants. There is however, a negative but significant relationship/correlation (-0.356-0.012)

between age of respondents and level of education. This implies that younger people are involved in the use of medicinal plants for treating their livestock than older people probably due to their curiosity and access to more information via the internet and other media. The correlation between age of respondent and duration of use (0.032-0.307) has a direct positive relationship which is expected that as the respondent ages the length of time of usage also increases. In another vein, there is significant and positive relationship between the duration of use and source of medicinal plants (0.077-0.255) which means that the longer the use of a particular medicinal plant material in treating an animal ailment the more readily the respondent source for it no matter the distance.

**Table 1:** Socio-demographic characteristics of medicinal plants users in Odogbolu LGA

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Age		
11-20	2	8
21-30	26	52
31-40	15	30
41-50	10	20
51-60	14	28
61-70	8	16
71-80	8	16
Total	100	100
Mean Age = 41.08		
Gender		
Male	44	44
Female	56	56
Total	100	100
Marital Status		
Single	26	26
Married	68	68
Divorced	2	02
Widowed	4	04
Total	100	100
Religion		
Christianity	66	66
Islam	28	28
Traditional	6	06
Total	100	100
Literacy Level (no of years of formal education)		
6	22	44
9	22	44
12	32	64
15	18	36
>15	6	12
Total	100	100
Household size		
1-5	18	36
6-10	28	54
11-15	4	8
>15	4	8
Total	100	100

**Table 2:** Distribution of respondents based on Ethno-veterinary practices

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Means of treatment</b>		
Medicinal drugs	20	20
Herbal drugs	6	6
Medicinal plants	36	36
Medicinal drugs and medicinal plants	34	34
Herbal drugs and medicinal plants	4	4
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Reason for use of medicinal plants</b>		
Convenience	36	36
Cheapness	28	28
Efficiency	22	22
Readily Available	12	12
Civilization	2	2
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Source of medicinal plants</b>		
Cultivated	44	44
Uncultivated/Wild	56	56
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Method of Harvesting</b>		
Leaf cutting	70	70
Debarking	12	12
Seed or Fruit	10	10
Root cutting	2	2
Stem	4	4
All parts	2	2
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Method of use</b>		
Boil and drink	18	18
Boil and bath	6	6
Cook as soup	38	38
Hang at door post	4	4
Squeeze and drink	4	4
Eat raw	6	6
Soak and drink	6	6
Soak and bathe	6	6
Place in the house	12	12
<b>Total</b>	<b>100</b>	<b>100</b>

**Table 3:** Results of Correlation Analysis

<b>Control variables</b>	<b>Age of respondent</b>	<b>Household size</b>	<b>Level of literacy</b>	<b>Duration of use</b>	<b>Time of usage</b>	<b>Source of medicinal plant</b>
Frequency of medicinal use	1000	294	-356	307	084	-023
Age of respondent correlation	.0	040	032	032	567	873
Significant (2-tailed)		47	47	47	47	47
Df						
Household size Correlation	294	1.000	-230	079	026	-177
Significant (2-tailed)	040	.	113	590	861	233
Df	47	0	47	47	47	47
Level of literacy correlation	-356	-230	1.000	-156	-149	-017
Significant (2-tailed)	012	113	.	283	306	906
Df	47	47	0	47	47	47
Duration of use Correlation	307	079	-156	1.000	464	255
Significant (2-tailed)	032	590	283	.	001	077
Df	47	47	47	0	47	47
Time of usage Correlation	084	026	-149	464	1.000	248
Significant (2-tailed)	567	861	306	001	.	086
Df	47	47	47	47	0	47
Source of medicinal plant Correlation	-023	-177	-017	255	248	1.000
Significant (2-tailed)	873	223	906	077	086	.
Df	47	47	47	47	47	0

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