

Analysis of Utilization of Traditional Medicine for the Treatment of Malaria among Rural Farmers in Abia State, Nigeria

Mbah, G.O.*; Ekweanya, N.M.

Department of Rural Sociology and Extension Michael Okpara University of Agriculture, Umudike, Nigeria
Corresponding Author*

Abstract— The study investigated the level of utilization of traditional medicine for treatment of malaria among rural households in Abia State, Nigeria. Specifically, the study described socio-economic characteristics of the respondents; ascertain the extent of utilization of traditional medicine among the respondents and determine the factors influencing level of usage of traditional medicine in the area. Data for the study were collected from (180) respondents using structured questionnaire and analyzed using both descriptive and inferential statistics. The result showed that 55.0% of the respondents were males, average age of 58.45 years, 81.2% were married and 45.0% had secondary education. The study further revealed that respondents had high access to medicinal plants from market (mean = 2.35) and traditional medical practitioners (mean = 2.36). Tobit regression result showed that coefficient of age, years of education, income and farming experience influenced access to traditional medicine at 1% probability level. The study concluded that there was moderate utilization of traditional medicine for treatment of malaria in the study area, and recommended ensuring appropriate information on traditional medicine efficacy for effective utilization by the farmers in the study area.

Keywords— Utilization , Traditional Medicine and Rural Farmers.

I. INTRODUCTION

Agriculture is the mainstay of the Nigerian economy. It employs about two-thirds of the country's total labour force, contributing about 45 % of GDP and providing the means of livelihood for over 70 % of the population (IFAD, 2009). Agriculture is also a major source of raw materials for agro-allied industries (Obboh et al, 2009). It is carried out mainly in the rural areas by rural farmers who play several roles in an agrarian country like Nigeria, given their

capacity for job creation and local food production (Asenso-Okyere, 2011)

About 90 % of Nigeria's food is produced by small-scale farmers who cultivate small plots of land and depend mostly on rainfed agriculture rather than on irrigation systems. Agricultural development provides suitable conditions for breeding of anopheles mosquitoes which is the vector of plasmodium parasite (Asenso-Okyere, et al 2011). Agriculture and health being bi-directionally linked, perpetuate poverty in rural areas, where up to 80 % of the population are farmers and live below the poverty line. Food, social services and infrastructure are limited to the population (IFAD, 2009), they tend to be vulnerable to malnutrition, illiteracy and poor health condition especially in the absence of modern, adequate and functional primary health care facilities. In Nigeria, malaria is endemic and it occurs throughout the year. Traditional medicine is the sum of the total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of the health, as well as to prevent diagnose, improve or treat physical and mental illness (WHO, 2000). Traditional knowledge plays a significant role in life style of the members of the local communities and hence an essential resource for any human development process. They form the basis of decisions pertaining to food security, human and animal health, education, natural resources management and other vital activities

According to Federal Ministry of Health (2005), there are over 100 people at risk of malaria. Nigeria has the third highest rate of maternal mortality in the world (1100 per 100,000) after Sudan and Democratic Republic of Congo. The major cause of this being ill-health of which malaria scourge is distinguished (USAID, 2008) Attitude toward malaria as a disease is important in understanding health-seeking behaviour and utilization of preventive methods.

Many rural people do not trust Western method medicine, preferring instead to use traditional ways which is an alternative or non-conventional mode of treatment involving the use of herbs in a non-orthodox manner, as well as the process of consulting herbalists, mediums, priests, witchdoctors, medicine men and various local deities (Mafimisebi and Oguntade, 2010). Good knowledge, attitude and practices of any public health disease by individuals and communities seems necessary if effective treatment and preventive measures are to be realistic (Iwueze et. al., 2013). These treatments are usually incorrect or sub-optimal since they are most times administered without proper diagnosis (Okeoluwapo et. al., 2008).

Malaria is usually first treated at home with herbal teas and baths prepared with neem, pawpaw, guava, and eucalyptus leaves. Analysis of “what respondents will do first” during malaria attack showed that only 35.5 percent of respondents will use synthetic antimalarial drugs, 13.4 percent will use local herbs, while 27.3 percent will go to the hospital, and 18.2 percent will just pray (Asenso-Okyere et. al., 2009). Utilization of traditional medicine is complex and varies among member states. It is important to take into consideration the utilization pattern of a location in order to ensure that the information developed will be effective and appropriate to the specific country location and their culture. Reliance on herbs as the first treatment action for malaria was also noted in South-east Nigeria upon which this paper intends to ascertain the extent of utilization of Traditional Medicine for the Treatment of Malaria among Rural Farmers in Abia State through the following specific objectives

- 1 ascertain the extent of utilization of traditional medicine among the respondents,
- 2 identify the problems associated with traditional medicine practice and utilization

HO₁: There is a significant relationship between some socio-economic characteristics of the respondents and utilization of traditional medicine.

HO₂: There is no significant difference between farmers' level of access and utilization of traditional medicine

II. METHODOLOGY

The study was conducted in Abia State, Nigeria. Abia State is located within latitudes 4°00'N – 4°40'N of equator and longitude 7°00'E – 8°00'E of the Greenwich Meridian (NRCRI, 2010). The state has a total land area of about 5,410sq kilometers, with a human population of about 2,881,380 (NPC, 2017). Abia State shares a common boundaries with

Rivers State in the South, Imo in the West, Ebonyi and Enugu States in the North and Akwa Ibom and Cross River States in the East. Abia State is made up of 17 Local Government Areas (LGAs) and three agricultural zones namely Aba, Ohafia and Umuahia. Most people especially the rural dwellers are engaged in subsistence farming, producing such arable crops as cassava, yam, cocoyam, maize, vegetables, melon, banana/plantain sweet potatoes and rice. The study was conducted in Bende and Ohafia Local Government Area in Abia State. Both LGAs lie within approximately latitudes 5°34' North of the equator and longitudes 7°38' East of the Greenwich Meridian. It covers an area of about 304.45sqKm with 192,111 people (FRN, 2007; NPC, 2006), among which 128,074 people are females and 64,034 are males, according to the NPC state and Local Government Census figure. The major occupation of this people is farming, with other occupations like civil services, and businesses. It is a low-land with a heavy rainfall of about 2,400mm between May and October, which favours agricultural activities. These Local Government Area is blessed with several inland water channels and seasonal run-offs. It has a tropical climate with average temperature of 7.20c from January to April and over 21.10c from September to December. The great variety of plants in L.G.A reflects its rich soil and topography. Major food and cash crops produced include cassava, yam, plantain and oil palm. Other economic activities engaged by the people include, handcrafts and petty businesses. (Imo Bulletin, 2006).

Multi-stage random sampling technique was used in selecting 180 (one hundred and eighty) respondents in the study area. In the first stage, two local government areas were purposively selected from Abia State, namely Bende, and Ohafia. In the second stage, one autonomous community was selected from each of the Local Government Area. In the third stage, two (2) villages were randomly selected from each of the selected autonomous communities making a total of eight (8) villages. In the third stage, 30 respondents were randomly selected from the villages selected. This will give a sum total of eighty (80) respondents which made up the sample size for the study. Both descriptive and inferential statistics was used to analyze the data collected for the study

MODEL SPECIFICATION

The model for the mean decision used in this work is specified thus:

$$\bar{X} = \frac{\sum fx}{n}$$

Where,

\sum = Summation of the frequencies

X_s = Assigned scores to different categories

n = number of sample

\bar{X} = Arithmetic mean

Hypothesis 1 and 2 were analyzed using Tobit regression estimates which is specified thus:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7 \dots X_n, e)$

Tobit model expressed thus;

$I_i = B^T X + e_i \dots \dots \dots (1)$

$Y_i = 1$ if $I_i = T$

Where,

Y_i = represent a limited dependent variables which simultaneously measures the level of access and utilization of traditional medicine.

T = observed threshold

I^* = the underlying content variables indexing the levels of access and utilization

X_i = the vectors of independent variables

X_1 = Age of respondents (years)

X_2 = marital status (married = 1, single = 0)

X_3 = level of education (number of years spent in school)

X_4 = Gender (male = 1, female = 0)

X_5 = Occupation

X_6 = Household size (number of persons)

X_7 = Income (Naira)

1.1 LEVEL OF UTILIZATION OF TRADITIONAL MEDICINE

Table.1. 1: Distribution of the respondents based on their level of utilization of medicinal medicine

Level of utilization	Sum	Std Dv	Mean	Rank
Drinking neem water squeezed out From the leaves to cure malaria.	157.0015	0.77040	1.96	5 th
Steam bathing and inhalation of boiled leaves (roots) bark concoction from roots and leaves to cure malaria.	148	0.74799	1.85	6 th
Drinking of boiled concoction from roots and leaves to cure malaria.	197	0.54988	2.46	1 st
Drinking of tree bark, roots and alcohol concoction to cure malaria.	164	0.78276	2.10	4 th
Drinking of boiled concoction made from unripe fruits to cure malaria.	185	0.68610	2.31	2 nd
Rubbing of traditional lotions and concoctions to cure malaria.	174	0.80779	2.18	3 rd
Combining medical therapy with traditional medicine.	86	0.30914	1.08	7 th
Total mean			13.94	
Grand mean			2.00	
Benchmark mean			2.00	

Source: Field survey, 2018.

The result Table 1.1 showed distribution of the respondents based on their level of utilization of medicinal medicine in the study area. Generally, the respondents had high level of utilization of medicinal plants in the study area. The respondents highly utilized medicinal plant in the areas of drinking of boiled concoction from roots and leaves to cure malaria (mean = 2.46), drinking of boiled concoction made from unripe fruits to cure malaria (mean = 2.31), rubbing of traditional lotions and concoctions to cure malaria (mean = 2.18), drinking of tree bark, and roots and alcohol concoction to cure malaria (mean = 2.10).

The result is plausible owing to the fact that traditional medicine is accessible, affordable, culturally acceptable, socially sanctioned and easy to prepare with little or no side effects. Most rural households prefer traditional medicine to the exorbitantly priced conventional health care services. Adesina (2014) and Alarm (2011) were of the notion that 75-80% of the population in Africa uses traditional medicine for their needs.

1.2 PROBLEMS ASSOCIATED WITH TRADITIONAL MEDICINE

Table.1.2: Distribution of the respondents based on the problems associated with traditional medicine

Problems	Frequency	Percentages
Poor and inadequate medical facilities.	53	66.2
Limited access and use of these medicines.	37	46.2
Poor quality assurance	25	31.2
There are very few practitioners in area.	55	68.8

The practitioner is not easily accessible.	35	43.8
There are very few healers in attendance.	54	67.5
The drugs have no dosage	52	65.0
Drugs are not usually available.	28	35.0
There is no provision from practitioners to visit very sick patient at home.	41	51.2
High transport cost to traditional healers.	51	63.8
Traditional healers are not well trained or skilled	42	52.5
Lack of knowledge and ignorance	43	53.8
Traditional healers are not well trained/ skilled.	38	47.5
Unhygienic nature of traditional medicine.	44	55.0
At times they are out of reach of patients.	37	46.2

Source: Field survey, 2018

*Multiple responses recorded

Table 1.2 showed the distribution of the respondents based on the problems associated with traditional medicine in the study area. The result showed that the respondents perceived some challenges associated with medicinal plants. These challenges were that there are very few practitioners in area (68.8%), very few healers in attendance (67.5%), poor and inadequate medical facilities (66.2%), drugs have

no dosage (65.3%), high transport cost to traditional healers (63.2%), unhygienic nature of traditional medicine (55.0%), lack of knowledge and ignorance (53.8%), traditional healers are not well trained or skilled (52.5%) among others.

Hypothesis

Table.1.3: Regression estimates of the relationship between socioeconomic characteristics of the respondents and level of utilization of medicinal plants in the study area

Variables	Parameters	Estimate	Std. Error	T – value
ge	X_1	.026	.025	2.104**
Gender	X_2	1.553	.499	9.701***
Marital	X_3	-.331	.888	.139
Years of education	X_4	.170	.133	1.634
Household size	X_5	.035	.121	.085
Farm size	X_6	.070	.188	.139
Occupation	X_7	1.659	.811	4.187***
Income	X_8	3.022E-7	.000	6.014***
Farming experience	X_9	.030	.025	1.440
Pseudo R-Square		0.573		
-2 Log Likelihood		264.103		
Chi-Square		617.663***		

Source: Field survey, 2018

Keys: *** indicates significance at 1%

Table 1.2 showed Tobit regression estimate of the relationship between selected socioeconomic characteristics and the utilization of medicinal plants in the study area. The Pseudo R-Square of 0.573 indicated that 57.3% of the variations in the dependent variable were accounted for while others were due to error. The chi-square value was statistically significant at 1% level of probability indicating the Tobit regression line of best fit. The coefficients of age,

gender, occupation and income positively influenced the intensity of utilization of medicinal plants in the study area. Furthermore, the coefficient of age was statistically significant at 1% level of probability. This result implies the older person will have high intensity and probability of utilization of medicinal plants. The coefficient of gender was statistically significant at 1% level of probability. The result implies that male respondents had more intensity of

utilization of medicinal plants than their female counterparts in the study area. The coefficient of occupation was statistically significant at 1% level of probability. The result implies that farmers had more intensity of utilization of medicinal plants than non farmers' counterparts in the study area. This may be attributed to the fact farmers are more familiar with these medicinal plants than non farmers.

The study therefore rejected the null hypothesis which stated that there is no significant relationship between some socio-economic characteristics of the respondents and utilization of traditional medicine and concluded otherwise.

Hypothesis 2

Table.1: 4 Z – test comparative analysis of the difference in the access and utilization of medicinal plants

Variables	Mean	Std. Deviation	Std. Error Mean	Df	Z - Test
Access	1.9625	.27759	.03104		
Use	1.9911	.24517	.02741		
Access – Use	-.02857	.28408	.03176	79	0.900

*No significant difference

The result in table 1.4. showed Z-test of the difference in the levels of access and utilization of traditional medicine in the study area. The result showed the mean value of access 1.9625 and mean utilization value of 1.9911 with mean difference of 0.02857. The difference obtained implied that there is no statistically significant difference in the levels of access and utilization of medicinal plants in the study area.

III. CONCLUSION AND RECOMMENDATIONS

The study concluded that there was moderate high utilization of traditional medicine in the treatment of malaria in the study area. It is therefore important to ensure that the appropriate information is made available to the consumers to enable effective utilization which entails maximizing the benefit of traditional medicine while minimizing the risks Production of traditional malaria drug with labeled instruction, dosage and expiry date, so as to ensure adequate utilization. Traditional doctors should ensure that the drugs are produced in a hygienic environment. Women and youths should be encouraged to utilize traditional medicine in the treatment of malaria in the study area.

REFERENCES

- [1] Adesina, S.K. (2014). Traditional medicine care in Nigeria: online Nigeria daily news. Accessed on: 29 February 2016 at www.onlinenigeria.com
- [2] Asenso-Okyere, K. Asante, F. A., Tarekegn, J., & Andam, K.S (2009). The Linkages between agriculture and malaria: Issues for policy, research, and capacity strengthening. Knowledge, Capacity, and Innovation Division. Washington, D.C.: International Food Policy Research Institute.
- [3] Asenso-Okyere, K., Kwaw A., Aragon, C., Thangata, P., & Mekonnen, D. A. (2010). HIV and AIDS and farm labour productivity: A review of recent evidence in Africa. *Journal of Development and Agricultural Economics*, 2(12): 406-41.
- [4] Iwueze, M. O., Ezugbo-Nwobi, I. K., Umeanaeto, P. U., Egbuche, C. M. & Anaso, C. I. (2013). Knowledge, attitude and management practices on malaria: A case study of Amansea, Awka North Local Government Area of Anambra State, Nigeria. *The Bio scientist*, 1(1): 32-38.
- [5] Mafimisebi, T. E., & Oguntade, A. E. (2010). Preparation and use of plant medicines for farmers' health in Southwest Nigeria: socio-cultural, magico-religious and economic aspects *Journal of Ethno biology and Ethno medicine*, 6 (1):1746-4269
- [6] National Population Commission (2006). Population figure Federal Republic of Nigeria. <http://www.npc.gov>
- [7] Okeoluwapo, O.A., Falade, C.O., Bamgboye, E.A., Oduala, A.M. & Kale, O.O. (2008). Assessment of improvement guideline to improve home management of malaria in children in rural south-west Nigeria. *Journal of BioMed Central*, 7(24): 1475-1587
- [8] World Health Organization (2006) General Guidelines for methodologies in research and evaluation of traditional medicine, Geneva, Switzerland.