Journal of Community & Communication Research
ISSN: 2635-3318
Volume 6, Number 1, June 2021
Pp.22-29

Socioeconomic Determinants of the use of Traditional Methods of Malaria Treatment among Rural Households in South-East, Nigeria

Accessible at: https://jccr.sccdr.org.ng

Nwakwasi, R.N.
Department of Agricultural Extension, Federal University of Technology Owerri, Imo State, Nigeria

Nwachukwu, I.
Department of Agricultural Extension and Rural Development, Michael Okpara University of Agriculture, Umudike, Umuahia, Abia State, Nigeria

Okoroma, E.O.
Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa-Ibom State, Nigeria
Corresponding Author's Email: nwakwasiray@gmail.com

Review Process: Received: 05/02/21 Reviewed: 01/03/21 Accepted: 31/05/21

ABSTRACT
This study analyzed the socioeconomic determinants of the use of traditional methods of malaria treatment for increased agricultural production among rural households in South-East, Nigeria. Specifically, the study ascertained the traditional methods of malaria treatment employed by rural households in the study area as well as analyzed the socioeconomic determinants for the use of traditional methods of Malaria treatment among rural households. Three States of Abia, Imo and Ebonyi, were randomly selected for the study, while a sample size of 360 household heads were randomly selected. Data were collected using structured questionnaire, Focus Group Discussions (FGD) and key informant interviews. The result of the focus group discussion validated the responses from the interviews. Frequency distribution, percentages and Ordinary Least Square multiple regression analysis were used to analyze the data. The result of the study revealed that respondents utilized all the traditional treatments studied except steam bathing and inhalation of boiled leaves/roots/bark concoction. Usage of traditional methods of treatment had positive relationship with age, marital status, household size and membership of organization, while education and health care contact were negatively related. Traditional medicine was an important resource, providing healthcare to manage illness among households. It is recommended that Nigeria should as a matter of urgency fully integrate the traditional medical sub sector with the orthodox practice. There is need to properly integrate traditional medical practitioners into the healthcare systems in Nigeria.

Keywords: Malaria, Traditional treatment, Rural Households, Agricultural production, South-Eastern Nigeria.

INTRODUCTION

The rural household which forms the unit of family labour in agriculture bears the burden of a sick member of the household by diverting household income to medical expenses, losing workforce due to incapacitation of sick members to provide household labour, experiencing decline in productivity and income. The unfortunate outcome of a health incapacitated rural household as noted by Nnadi and Anaeto (2013) include exacerbation of household poverty and hunger. This is

further compounded by government's poor policy intervention and budgetary allocation. In 2013, the Nigerian Government allocated 5.6% of the total government budget on health at the federal level. This means that the Government of Nigeria allocated $10.90 per person in Nigeria, which is the equivalent of NGN 1,709 per person for health, down from $11.50 or NGN 1,782 in 2012 (Federal Ministry of Finance, 2013) which makes it more difficult for the poor to access adequate healthcare facilities.

All year-round Malaria is transmitted throughout Southern Nigeria by the Anopheles mosquito, precisely the *gambiae s.s.*, which is the primary vector, while Plasmodium falciparum as the predominant malaria species (President's Malaria Initiative, 2017). According to the report, there is a wide socioeconomic difference in Malaria transmission in Nigeria. Members of the poor socio-economic groups live in dwellings that offer little protection against mosquitoes and such groups are less able to afford insecticide-treated nets. According to Onwujekwe, *et al* (2009), better-off Socio-Economic Status (SES) groups and urban dwellers usually possess more malaria preventive tools unlike rural farmers who settle in their farms and operate on low SES. They resort to the use of traditional methods of treatment which is more accessible and accepted by rural communities as major means of preventing and treating malaria.

Rural dwellers have higher risk factors for malaria in children less than five years of age, even after controlling mosquito using bed net (Onwujekwe *et al.,* 2009). The infant mortality for Nigeria is reported to be 55 % higher and life expectancy about 11 years lower than the rest of the world's low-income developing countries. Maternal mortality is double that of other low- and middle-income developing countries (Mafimisebi and Oguntade, 2010). Malaria kills nearly one million people every year. In addition to the hundreds of thousands of Nigerians that die each year, malaria also makes millions of Nigerians sick. This single disease accounts for about 60% of outpatient visits and 30% of hospitalizations; 25 % of deaths in children under one-year old; and 11 % of maternal deaths —a heavy burden on Nigeria's families, communities, health system, and workforce (World Bank, 2009) and it has been identified as a major obstacle towards achieving several of the health-related Sustainable Development Goals (Opiyo *et al*, 2007).

Each year the Government of Nigeria and collaborating partners invest hugely in Malaria control programs across the country. Between the periods of 2010 – 2017 a total of 495 million Dollars was spent on the Malaria control programme in Nigeria (President's Malaria Initiative, 2017). Although, the control programmes have recorded several documented successes, the widening socioeconomic gap among rural households continues to promote people's resort to traditional methods of treating malaria, especially among resource poor rural households. Onwujekwe *et al.,* (2008) stated that at household level decisions for prevention or treatment are made depending on economic ability of the household, perceived susceptibility and assessment of consequences because malaria risk and disease burden are inequitably distributed. While the use of traditional Malaria treatment methods subsist, the lingering knowledge gap on specific socioeconomic variables that influence rural households' use of traditional treatment methods in South-east makes it difficult to determine in specific terms traditional Malaria treatment methods commonly used among rural households in South-east Nigeria, especially, considering the social and spatial variations that exist within the region. This knowledge is critical in recommending safer ways of using traditional treatment methods to combat Malaria in order to protect rural households against health conditions that may incapacitate them for greater food productivity. Hence, the need for the study.

Objectives of the study

The study broadly analyzed the socio-economic determinants of traditional methods of Malaria treatment among rural households in South-east, Nigeria. The specifics of the study include to:

i. ascertain traditional methods of treatment commonly used by rural households in the area;
ii. analyze socioeconomic determinants influencing rural households' usage of traditional treatment

METHODOLOGY

This study was conducted in South-east Nigeria, situated east of River Niger and covering an area of 29,908 square kilometers, with a population of about 16'381,729. The region lies on latitude 5° and 7° 75' north and longitude 6° 85' and 8° 46' east. It comprises five States namely: Imo, Enugu, Anambra, Ebonyi and Abia. The States in the zone share essentially similar characteristics (NPC, 2009). The zone covers the bulk of the Igbo-speaking ethnic territory, the remainder of which extends westwards into Delta State and southwards into Rivers State. The zone also includes a few non-Igbo speaking communities on the northern and eastern borders. By territorial size, the South East zone is by far the smallest in Nigeria, accounting for mere 3.2 % of the national space. However, the 2006 census data credited it with 11.7 % of the population, giving it a population density nearly four times the national average. High population pressure is indeed one of the basic facts of life in the zone. Analysis of migration data shows that the South East is a zone of strong net emigration, with some 15 % of persons born in the zone resident outside the zone and only 5 % of the residents of the zone coming from outside the zone. Generally, the State is rural with majority of the population engaging in subsistence farming as a means of livelihood.

Sampling procedure and sample size

Multi-stage random sampling technique was employed for this study. First stage was randomly selecting three States out of the five States that make up south-east zone of Nigeria. This included: Imo, Abia and Ebonyi States. The second stage was randomly selecting two Agricultural zones from each of the selected States. This gave a total of six Agricultural zones. The third stage of the sampling was the random selection of two Local Government Areas from each of the zones giving a total of twelve Local Government Areas. The fourth stage was the random selection of three communities from each Local Government Area, giving a total of thirty-six communities. The fifth stage was the random selection of one village from each community selected. The sixth stage was the random selection of ten household heads from each of the selected villages which gave a sample size of 360 household heads for the study.

Data collection

Data were collected with the use of a structured questionnaire, Focus Group Discussions (FGD), key informant interviews. Data collection was determined in two ways. Where the husband and wife were present, they both decided who responded to the questions. Where one of the spouses was not present, the one present responded to the questions. For the FGD, a community was selected from each of the three States. The result of the FGD provided more insight to the study and validated the responses from the interview. The data generated were descriptively analyzed.

Data Analysis

Objective I was measured using a 4-point Likert type scale of Highly Used=4, Moderately Used = 3, Partially Used=2, and Not used=1. This was used over a set of 7 usage indicators or statements. The individual scores were pooled together and the raw scores obtained were used as the index of usage level. To determine the mean response of each item, a mid-point of 2.5 was obtained thus (1 + 2 + 3+ 4 = 10 ÷ 4 = 2.50). Decision was taken based on mean response that is less than or equal to 2.50 suggests that respondents' usage level of the treatment method was low, while any mean score greater or equal to 2.50 suggests that respondents' usage level of the treatment method was high. Objective II which analyzed the socioeconomic determinants influencing rural households' usage of traditional treatment was achieved using Ordinary Least Square (OLS) multiple regression model. The model is implicitly specified as;

$$Y_I = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e) \quad (1)$$

Where,

Y_I = Index of traditional method of malaria treatment usage.
X_1 = Age (years)
X_2 = Marital Status (Dummy: 1 = married, 0 otherwise)
X_3 = Farming experience (years)
X_4 = Farm size (hectares)

X_5 = Household size (number of persons)
X_6 = Education level (years in school)
X_7 = contact with healthcare workers (number of visits in a year)
X_8 = Monthly income (Naira)
X_9 = Membership in other organizations (dummy variable, membership = 1, non-membership = 0)
e = error term

RESULTS AND DISCUSSION

Results showed that the mean age of the respondents was 44, which favourably disposes them to the use of innovative malaria treatment methods and activeness in agricultural production Imo State recorded the highest number of older farmers (27.5%) who upon their retirement settled for farming, **M**ajority of the respondents were married (Abia State =85.0 %, Ebonyi =95.8 %, Imo 87.5 %) Women dominated the study sample in Ebonyi and Imo (55.0 % and 59.2 %, respectively), while the male gender dominated Abia State (50.8%). The mean years of farming experience of the respondents was 15, with Ebonyi recording the highest (16 years). The average farm size of the respondents was 0.5 ha. Ebonyi State however had the highest percentage (5.8 %) of respondents having farm size of 3ha and above, which may be attributed to the fact that Ebonyi is relatively more rural. Respondents in the three States had one form of formal education or the other, which further inclined them to choosing their effective methods of malaria treatment. The average income earning in Abia, Ebonyi and Imo State were ₦18, 250, ₦20,167 and ₦21,917, respectively. This aggregated to ₦20,111, suggesting that the farmers earned poorly as household income. With the burden of malaria (direct and indirect cost) on rural households, farmers may be closer to poverty level with such level of income if nothing is done. Rural dwellers have higher risk factors and greater malaria burden compared to urban dwellers.

A substantial percentage of the respondents in the three States took farming as their major occupation (Abia =79.2 % Ebonyi = 83.3 %Imo = 77.8) while the few others in addition to farming were civil servants, traders, artisans, all in an attempt to enable them stay healthy to enhance agricultural production. The study revealed that 50 % of the respondents in the study area belonged to one organization or the other, thereby increasing the social capital and influence on members.

Traditional methods of treatment commonly used by rural households

Result in Table **1** revealed that the majority of the respondents used *dogoyaro* water from the leave. Out of the States studied, only respondents in Ebonyi State utilized steam bathing and inhalation of boiled leaves and roots/barks concoction to treat malaria. The three States took boiled concoction from roots and leaves, boiled concoction made from unripe fruits, leaves and alcohol concoction and "dogoyaro" (neem) leaves extract. Respondents did not wait until they took ill before they drank them. The reason for this could be that most of the respondents being more of middle aged farmers also took alcohol for pleasure as was revealed in FGD in this study. The preference for roots and leaves soaked in alcohol for malaria treatment was evident as it kept them stronger. A respondent said;

"Alcohol helps to extract all the active ingredients in the roots and leaves which apart from malaria takes care of other ailments and keeps us strong for our daily activities." According to Ekong (2010), locally distilled gin or "hot drink" as it is called, is used for the extraction of curative essence in herbs, roots and barks of medicinal trees. Some may be boiled over a period while others are ground. Oreagba *et al,* (2011) in their study, 66.8 % of the respondents were herbal medicine users (the type of herbal medicines used ranged from crude forms, packaged herbal products to dietary or nutritional supplements. However, on oral interview, some herbal medicine consumers agreed that they actually took herbal medicines alongside orthodox medicines. The use of neem (*dogoyaro*) leaves was highest because the trees commonly grew in these areas. *Dogoyaro* leaves have proved to be effective in the prevention and treatment of malaria as was observed during the FGD. Ebonyi State had the highest grand mean score (3.11) in the use of traditional treatment. This was because they were more rural and closely attached to their culture and tradition which is inclined to

traditional therapies. Rural populace, which constitute about 70 % rely almost exclusively on Traditional Medicine (TM) for their healthcare needs in order to remain economically active (Kayne, 2009). It therefore becomes important for the government and major stake holders in the health sector to borrow ideas from Mexico, China and other countries who have gone into training of traditional healers to improve the primary health care system in Nigeria.

Table 1: Distribution of respondents according to traditional methods of treatment commonly used

	Abia			Ebonyi			Imo		
Indicator	**Mean**	**SD**	**Remark**	**Mean**	**SD**	**Remark**	**Mean**	**SD**	**Remark**
Burning of mosquito repellant leaves and roots	2.70	0.93	Agree	2.88	0.84	Agree	2.85	0.90	Agree
Drinking dogoyaro water from the leaves	3.28	0.85	Agree	3.43	0.75	Agree	3.44	0.75	Agree
Steam bathing and inhalation of boiled leaves/roots/bark concoction	1.42	0.90	Disagree	2.73	1.09	Agree	1.93	1.15	Disagree
Drinking of boiled concoction from roots and leaves	2.73	1.05	Agree	2.88	1.03	Agree	2.52	0.86	Agree
Drinking of boiled concoction from unripe fruits	3.48	0.76	Agree	3.09	0.93	Agree	2.69	1.21	Agree
Drinking of leaves and alcohol concoction	3.08	0.74	Agree	3.32	0.82	Agree	3.03	0.82	Agree
Drinking of tree bark, roots and alcohol concoction	3.11	0.93	Agree	3.27	0.81	Agree	3.05	0.97	Agree
Grand Mean	**2.83**			**3.11**			**2.79**		

Source: Field Survey data, 2013.
NB: Midpoint = 2.50; any mean score less than or equal to 2.50 is Disagree, while any mean score greater than 2.50 is Agree.

Socioeconomic determinants influencing rural households' usage of traditional treatment
Table 2 shows the result of the ordinary least square multiple regression analysis on the relationship between socio-economic characteristics of households and usage level of traditional methods of malaria treatment in south-east Nigeria. Coefficient of age (3.35) was positive and highly significant at 5 % level of probability. This implies that older household heads used traditional malaria treatment more. This is because being older farmers, over time they have come to realize the potency of herbal medicine and its ability to combat several diseases from long years of use. This assertion has been given a strong impetus by the increasingly obvious failure of biomedicine to combat chronic (long-term) illness, as opposed to acute medical problems (Haralambos and Holborn, 2007). According to Bakx (1991), the decline in the cultural dominance of biomedicine and the medical profession has resulted in the reemergence of the plurality of complimentary/alternative approaches to health. Individuals now feel empowered to make choices about their health and their healing.

Coefficient of marital status (3.35) was positive and highly significant at 1 % level of probability. This implies that married respondents used traditional malaria treatment more. This is in agreement with the *apriori* expectation which said that married respondents who have children and probably large household sizes would likely go for cheaper treatment as was evident in the response of one the participants during the FGD, he said:

> "*Married women with many children will not allow my Ochonyeogwo (Dogoyaro or neem tree) to rest because they pluck the leaves for malaria prevention and treatment for themselves and their children both morning, day and night (FGD, 2013).*"

Coefficient of household size (3.78) was positive and highly significant at 1 % level of probability. This implies that any increase in household size will lead to an increase in the usage of traditional malaria treatment. This is in agreement with *apriori* expectation since families with larger households tend to suffer from malaria more and the tendency to use traditional method which is usually cheaper is there. Membership of organization (3.14) was positive and significant at 1 % level indicating that an increase in the magnitude of these variables will lead to an increase in farmers' usage level of traditional methods of malaria treatment. This is likely because members in social groups get information on the potency of a new drug or treatments which may be traditional since majority of rural households utilize traditional treatment. The growth of alternative medicine is linked to the expansion of the self-help movement, which involves support groups, learning circles and self-help groups. People are now more likely than ever before to seize control of their lives and actively reshape them, rather than to rely on the instructions of others. Education (-2.93) and health care contact (-2.74) were negative and significant at 1 % level indicating that these variables were important factors influencing farmers' usage level of traditional method of malaria treatment and that an increase in the magnitude of these variables will lead to a decrease in farmers' usage level of traditional method of malaria treatment. Community health workers promote the use of orthodox treatment more and those households with higher education will naturally opt for orthodox treatment. This choice of treatment by the more educated households was manifested in the view expressed by one of the male household head participants in the focus group discussion held at Isiala Ngwa South LGA in Abia State, he said:

> *Here the book farmers who have once worked in government offices take more of English malaria medicine than the traditional one, they say traditional medicine has no dosage and NAFDAC number (FGD, 2012).*

Table 3: Determination of socio-economic factors that influence rural households' usage of traditional treatment

Explanatory Variables	Double Log+	Exponential	Linear	Semi Log
Constant	261.5338	193.0768	387.5902	303.4118
Age(X1)	0.0683	0.0082	18.0371	2.6093
	(3.3481)***	(1.1389)	(1.0539)ns	(1.2048)
Marital (X2)	0.0679	0.0091	17.0394	3.8455
	3.3448)***	(2.4595)*	(1.0662)ns	(1.2762)ns
Farming Exp (X_3)	0.0882	0.0067	11.0841	2.5054
	(0.2371)	(3.1905)**	(3.4687)**	(3.0494)**
Farm size(X_4)	0.0.0741	0.0049	16.5213	7.9216
	(0.2268)	(1.3243)ns	(1.0989)ns	(1.3225)**
HH. size (X_5)	0.0821	0.0061	18.3394	3.1167
	(3.7834)***	(1.1509)	(1,0774)	(1.1671)ns
Education (X_6)	-0.0665	-0.0094	-19.0821	-3.7144
	(-2.9295)***	(-2.4737)*	(-3.7294) **	(-3.4999)**
Healthcare Contact (X_7)	-0.0846	-0.0091	-13.0829	-3.9319
	(-2.7379)** *	(-3.2501)**	(-1.0928)	(-3.9068)**
Income (X_8)	-0.0763	-0.0088	-17,1904	-4.0336
	(-0.2326)	(-1.2394)	(-2.4446)**	(-1.2647)ns
Org Membership(X_9)	-0.0944	0.0076	16.9941	2.6011
	(3.1375)** *	(1.2459)	(1.1313)	(1.2034) ns
R^2	0.7512	0.6425	0.4738	0.4037
F-value	105.8028	62.9902	31.5867	23.7471

Source: Field survey data, 2013. *** = Significant at 1 %; ** = Significant at 5 %. + = Lead Equation
Values in Parentheses are t-values

CONCLUSION AND RECOMMENDATIONS

The study concluded that the rural household members were in their economic active age and fairly literate, though earned poorly. They utilized traditional methods of malaria treatment. The use of traditional methods of malaria treatment was informed by respondents' age, marital status, household size, education, health care contact and membership of organization. The traditional Malaria treatment method is considered relatively accessible and affordable, especially to resource poor households. Therefore, it is recommended that:

- Traditional medical tertiary institutions should be established in South-east to promote effective research and development of traditional medicines and methods, especially for the socioeconomically disadvantaged people.
- The Public Private Partnership initiative of the Federal Government of Nigeria should as a matter of urgency fully integrate the traditional medical sub sector with proper identification of genuine traditional medical practitioners. Formulate workable ideas and promulgate policies that will create favourable atmosphere for the various bodies concerned in bringing about better healthy situations to rural households should be encouraged.
- On the part of traditional medicine dealers, consideration should be given to the age, marital status, household size, education, health care contact as to leverage them to achieve marketing efficiency.

REFERENCES

Asiabaka, C.C. (2012) Agricultural Extension. A handbook for development Practitioners. Omoku Rivers State. Molseyfem United Services.

Bakx (1991). The "eclipse" of folk medicine in western society. *Sociology of health and illness.* Vol 13, pg. 20-8.

Ekong, E. (2010). *Rural Sociology: An introduction and Analysis of Rural Nigeria.* (3rd ed.). Uyo, Nigeria: Dove Educational Publishers.

Kayne, S. (2009). Introduction to traditional Medicine; A Global Perspective. Pharmaceutical Press, London, United Kingdom. http://www.pharmpress.com/files/docs/sample%20chapter%282%29.pdf

Kumar, S. (2011). Measuring Food Security Throughout the World. Yale Scientific Publications, Inc. Third class postage paid in New Haven. http://www.yalescientific.org/2011/04/measuring-food-security-throughout-the-world

Mafimisebi, T. E., and 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 Ethnobiology and Ethnomedicine*, 6:1 doi:10.1186/1746-4269-6-1

National Population Commission (NPC). [Nigeria], ICF Macro (2009). Nigeria demographic and health survey 2008. Abuja, Nigeria: NPC and ICF Macro; 2009.

Nnadi, F.N. & Anaeto, F.C. (2013). Repositioning Agricultural Extension for Food Security and Poverty Reduction in Nigeria: In: Braima D. James (ed.). *Research for Development Responses to Food Security and Poverty Reduction in Africa.* Pp. 323-345

Nwachukwu, I. (2003). Agricultural communication: Principles and Practice. Lamb House Publishers, Snaap Press Ltd, Enugu Nigeria. Pg 40-41.

Onwujekwe, O., Kaur H., Nkem, D., Shu, E., Uzochukwu, B., Hanson, K. Okoye, V. and Okonkwo, P. (2009) Quality of anti-malarial drugs provided by public and private healthcare providers in south-east Nigeria. *International Journal for Equity in Health*8:45 doi:10.1186/1475-9276-8-45

Onwumere J. (2008). Policy issues in enhancing the output Of Agribusiness Small and medium scale piggery enterprises (AGRI-SMEs) in Abia State, Nigeria. In Onwumere J. & Ukpebor-Eleodinmuo, P. O. (2013, March). Venture capitalization and wealth allocation: The experience of piggery entrepreneurs In Abia State, Nigeria. *International Journal of Small Business and Entrepreneurship Research,* 1(1), 1-10.

Opiyo, P. , Mukabana, W. P. , Kiche , I. , Mathenge ,E. , Killeen, G.F. , and Fillinger, U. (2007). An exploratory study of community factors relevant for participatory malaria control on Rusinga Island, western Kenya. *Malaria Journal*, 6:48 doi:10.1186/1475-2875-6-48

Oreagba, I. A., Oshikoya, K. A. and Amachru, M. (2011). Herbal medicine use among urban Residents in Lagos, Nigeria. *Journal of BioMed Central Complemnt and Alternative Medicine.* Doi 10. 1186/1472-6882/11/117

President's Malaria Initiative (2017). Fighting Malaria and saving lives: Nigeria

World Bank (2009). Malaria Prevention in Nigeria Aims at Universal Bed Net Coverage.