

PERCEIVED IMPACT OF MALARIA ON THE PRODUCTIVITY OF RICE FARMERS IN INI LOCAL GOVERNMENT AREA OF AKWA IBOM STATE

N. A. ETIM., G. E. EDET., E. A. EDET AND U. A. ASA

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ABSTRACT

Health and nutritional status affect the capacity to learn, which in turn determines productivity and economic growth. This paper employs a cross-sectional set of data from 120 rice farmers in Akwa Ibom State, Nigeria. These data were collected with the aid of questionnaire using simple random sampling technique. Descriptive statistical tools were used for data analysis. Findings reveal that local, religious, and cultural beliefs; poverty status, literacy level and ignorance of diagnosis were factors that influenced the treatment of malaria in the study area. The study shows that the farmers were not using the insecticide-treated bed nets (ITBNs) as a measure of malaria control. Results further reveal that as perceived by the farmers, malaria frequently disrupts land clearing and weeding operations on the farm.

KEY WORDS: Perceived impact, Malaria, Productivity, Rice Farmers.

INTRODUCTION

Malaria has been and remains one of the greatest scourges of humanity (Arrow, 2004). The extent and depth of the devastating impact of malaria in the developing world at the turn of the new century and millennium remains unconscionable. Egan (2001) posited that as many as two billion people (40 percent of the world's population) live in areas of the world where malaria is endemic. The disease, which is mainly rural, is found between the tropics of Capricorn and Cancer. Although figures are far from being reliable, Arrow (2004) reported that malaria-related deaths are estimated at over one million children a year-about 9 percent of all childhood deaths. Malaria is an endemic disease killing more than one million people annually in Africa, with more than 50 percent of the deaths occurring among rural farming families, thus resulting in a negative impact on food security throughout Africa. Although malaria is a major health problem in Asia, Latin America, the Middle East, and the Pacific, Africa faces the brunt of the disease (Flores and Gillespie, 2001). Each year, about 300 to 500 million people become ill with malaria and about 1.5 to 2.7 million people die (Flores, 2001). Malaria is an important public-health problem and one of the major causes of poverty among rural farmers in Nigeria. According to Sachs and Gallup (1998), malaria causes poverty, and is not just a result of it. To combat the ravaging woes of poverty and increase agricultural production, the level of malaria infection and other health related problems among rural farmers has to be reduced to the barest minimum. Sachs and Gallup (1998) posited that the effect of ill health on agriculture is a vicious cycle which must be broken if poverty is to be truly eliminated and food security ensured in Africa.

Nigeria is experiencing steady increase in the number of malaria cases due to *plasmodium falciparum*, the most pathogenic of the four human malaria parasites. Malaria is caused by a parasite and transmitted to humans by Anopheles mosquitoes. There are several hundred Anopheles mosquito species, and it is important to realize that different mosquito species are responsible for spreading malaria in different regions of the world (Lock, 2000). In Nigeria, malaria is on the rise due to insecticide resistance, anti-malarial drug resistance and environmental changes. There are several strategies other than drugs for controlling and reducing the incidence of malaria: draining standing/stagnant water, spraying pesticides on potential breeding sites for mosquitoes and on houses, and using netting to protect people from mosquito bites at night. These strategies are all important, but none is likely to

eliminate malaria in Nigeria. Drugs however, remain the best hope. A synthetic variation of quinine known as Chloroquine, was introduced into general use around 1950. Even among the poor in the poorest countries, it was and is still cheap and cost poses no impediment to usage. Chloroquine was and is still widely used in Nigeria and most transition economies where it has combined greatly to the control and treatment of malaria. But as a result of mutation, the malaria parasite has become resistant to chloroquine in most developing economies including Nigeria. However, an alternative inexpensive drug, *sulfadoxine-pyremethamine*, which replaced chloroquine in some places, has also been effective.

The prevalence of the disease is among the rural communities largely due to dispersed settlement pattern and sparse population. The predominant population of most rural communities in Akwa Ibom State, Nigeria is farming. The paucity of suitable vector breeding sites in highly populated areas has made malaria a predominantly rural disease. Though, the urban poor are also susceptible to malaria, studies by Malar (2005) has shown that Anopheles mosquito breeding decreases with increasing proximity to the urban centres. The incidence of malaria in recent times have been on the increase in most urban areas of the country due largely to unhygienic living habits of the people, poorly constructed drainages which have been transformed into mosquito breeding sites and excessive rainfall particularly in the South Southern part of the country have created additional vector-breeding grounds for mosquitoes thus increasing its transmission rate. Farm households have resorted to presumptive treatment of all feverish condition as malaria and self-diagnosis/medication which often result in misdiagnosis and incomplete dosage/treatment and increased susceptibility to other infections and of course reduced immunity of the people.

As noted by Malar (2005), the effect of malaria misdiagnosis on the vulnerable will result in more ill-health due to delayed diagnosis and repeat visits, over-burden health services, more severe malaria, loss of faith in health services, increase in real and perceived malaria resistance chronic disease secondary to untreated infection, increased cost to patient and to health facilities and consistent misdiagnosis that will encourage detrimental health-seeking behaviour. The poverty status of farmers is a major factor that has contributed to the high incidence of malaria particularly among children and pregnant women. FOS (1996) ranks Akwa Ibom State as the 7th poorest state in the Federation. Poverty implies lack of

N. A. Etim, Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa Ibom State, Nigeria.

G. E. Edet, Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa Ibom State, Nigeria.

E. A. Edet, Department of Science Technology, Akwa Ibom State Polytechnic, Ikot Osurua, Akwa Ibom State, Nigeria.

U. A. Asa, Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa Ibom State, Nigeria.

money, foods, low literacy, and powerlessness, among others. The poverty status exposes the farmers to malaria and increases the relative cost of prevention and treatment of the illness.

The economic implications of a frequently sick population are evident in the economic retardation of most rural farmers substantially explained by the prevalence of malaria. In addition to the direct effects of malaria on the productivity of farm households, the presence of the devastating disease scares off foreign investors and entrepreneurs. No meaningful agricultural production can occur in an unhealthy and nutritionally ill-fed population. According to Flores (2001), health and nutritional status affect the capacity to learn, which in turn determines productivity and economic growth. An empirical study of the perceived impact of malaria on the productivity of farmers in Akwa Ibom State, Nigeria is therefore imperative. Specifically, the study analyzed the socio-economic characteristics of farmers; identified the factors that influence the treatment practices and control measures of malaria among the farmers and the perceived impact of malaria, by farmers, on the productivity of farm households in the study area.

METHODOLOGY

Study Area

The study was conducted in Ini Local Government Area of Akwa Ibom State. Ini has a total landmass of 245,125 sq km with an estimated population of about 72,000 (NPC, 1991). The Local Government Area is bounded on the South by Ikono Local Government Area, on the North by Abia State, on the East by Itu Local Government Area and on the West by Ikot Ekpene Local Government Area. The area is located within the humid rainforest zone and has two distinct seasons

viz: the rainy and dry-season. The annual precipitation ranges from 2000-3000mm per annum. The area is predominantly agrarian and is known for rice production in the entire South-South geo-political zone of Nigeria. The choice of the study area was however, informed by this fact.

Sampling Procedure and Data Collection

Simple random sampling procedure was employed to select farmers in the study area. Structured questionnaire and oral interview were however used to obtain primary data from 120 farmers.

Analytical Techniques

The study employed descriptive statistics such as tables, frequencies, means and percentages.

RESULTS AND DISCUSSION

1. SOCIO-ECONOMIC CHARACTERISTICS OF RICE FARMERS

Majority of the respondents in the study area (70 percent) were males whereas 30 percent were females. The literacy level of the farmers was quite high with most of the respondents (70 percent) having post primary qualifications. Findings reveal that 72.5 percent of the respondents were married, 18.3 percent were single whereas only 9 percent were divorcees. About 6.67 percent of the respondents were less than 20 years of age, 80.83 percent were between the ages of 21-60. Farmers who were more than 60 years of age were only 12.50 percent. Findings suggest that most of the farmers were within the economically active population.

Table 1: Socio-economic characteristics of respondents

S/N	Socio-economic characteristics	Frequency	Percentage
1	Sex		
	Male	84	70.00
	Female	36	30.00
2	Marital Status		
	Single	22	18.33
	Married	87	72.50
	Divorced	11	9.00
3	Highest Educational Attainment		
	No Formal Education	-	-
	Primary Education	26	21.67
	Secondary Education	84	70.00
	Tertiary Education	10	8.33
4	Age (Years)		
	Less than 20	8	6.67
	21-40	46	38.33
	41-60	51	42.50
	More than 60	15	12.50
5	Major Occupation		
	Farming	74	61.67
	Public/Civil Service	5	4.17
	Artisan	28	23.33
	Trading	13	10.83
6	Number of Children		
	No child	12	10.00
	Less than 5	72	60.00
	6-10	28	23.33
	>10	8	6.67
7	Naira Worth of Rice Produced Yearly		
	<20,000		
	20,000-50,000	22	18.33
	>50,000	48	40.00
		50	41.67
8	Experience in Farming (Years)		
	1-5	28	23.33
	6-10	72	60.00
	Above 10	20	16.67
9	Farm Size (ha)		
	<1	98	81.67
	1-6	72	18.33
	>6	-	-
	TOTAL	120	100.00

Source: Field Survey, 2005

The major occupation of most of the respondents (61.67 percent) was farming, 32.33 and 10.83 percent of the respondents were artisans and traders respectively. Those who had public/civil service as their major occupation were only 4.17 percent.

Findings also reveal that 10 percent of the farmers had less than 5 children, 23.33 percent had between 6-10 children whereas only 6.67 percent had more than 11 children. The small number of children by the majority of farmers could be attributed to the high level of literacy in the study area which has led to parents having only the number of children they can cater for. Majority of the farmers (41.67 percent) earned more than ₦50,000.00 annually from rice production while 18.33 percent of the farmers earned less than

₦20,000.00 annually from rice production. Only 40 percent of the farmers earned between ₦20,000.00 – ₦50,000.00 annually from rice production. Majority of the farmers (60 percent) had 6-10 years experience in farming while 23.33 percent of the farmers had 1 – 5 years experience in farming. However, 16.67 percent of the farmers had more than 10 years experience in farming. Results suggest that most of the farmers have been farming for a long time. Most of the farmers (81.67 percent) had farm sizes less than 1 hectare while only 18.33 percent of the farmers had farm sizes between 1 - 6 hectares. The reason for the small size of farmland may be due to the land tenure system of the study area which encourages fragmentation of farmland into small holdings.

Table II: Factors that influence the treatment practices of Malaria

Table II discusses the factors that influence the treatment practices of malaria. The Table reveals local beliefs and poverty status as the major factors that influence the treatment practices of malaria in the study area.

Factors	SA 5	A 4	U 3	D 2	SD 1	Mean	Remarks
1.Local Beliefs	80	3	6	3	1	4.5	Strongly Agreed
2.Religious Beliefs	53	35	22	6	4	4.1	Agreed
3.Cultural Beliefs	50	37	20	8	5	4.0	Agreed
4.Marital Status	4	5	20	40	51	1.9	Disagreed
5.Poverty Status	70	43	5	1	1	4.5	Strongly Agreed
6.Literacy Level	60	28	20	7	5	4.1	Agreed
7.Ignorance of diagnosis	50	38	21	9	2	3.6	Disagreed
8.Household size	5	3	20	58	34	2.1	

Source: Field Survey, 2005

The implication of the results on Table II indicates that except for marital status and household size, the farmers reported that all other factors influence the treatment practices of malaria among the rice farmers in the study area.

Table III: Malaria control measures by rice farmers

Table III shows the different malaria control measures adopted by rice farmers in the study area.

Malaria Control Measures	Frequency	Percentage
Spraying insecticides on potential breeding sites	8	6.67
Insecticide-Treated bed nets (ITBNs)	-	-
Draining Stagnant Water	6	5.00
Spraying insecticide in houses	22	18.33
Burning of Scent leaf	6	5.00
Netting of houses/buildings	78	65.00
Total	120	100

Sources: Field Survey, 2005

Findings on Table III show that most of the rice farmers (65 percent) controlled malaria by netting their houses and buildings, 18.33 percent controlled malaria by spreading insecticide in houses, 6.67 percent sprayed insecticide on potential breeding sites while 5 percent each drained stagnant water and burnt scent leaves respectively as a measure of

malaria control. However, insecticide-treated bed nets (ITBNs) were not used by the farmers to control malaria. The fact that majority of the farmers used net in their houses as a measure of malaria control may be because it is readily available, accessible and affordable among the farmers.

Table IV: Perceived impact of malaria on the productivity of rice farmers

S/N	Statement	Frequently	Rarely	Never	Mean	Remarks
1	Malaria attack reduces my ability to clear the land for cultivation	75	35	10	2.5	Frequently
2	Malaria attack adversely affect my capacity to transplant rice seeds from nursery to the farm	58	42	20	2.3	Rarely
	Malaria attack reduces my ability to weed the farm					
3	Malaria attack adversely affect my threshing ability	78	37	5	2.6	Frequently
4	Winnowing of rice is not carried out when attacked with malaria	62	41	17	2.3	Rarely
	Parboiling of rice is usually slowed down when attacked by malaria					
5		16	28	76	1.5	Rarely
6		55	45	20	2.3	Rarely

Source: Field Survey, 2005

Results on Table IV show that except for transplanting of rice seeds, threshing, winnowing and parboiling, malaria attack frequently reduces the farmer's capacity to clear the land, and weed the farms. The results imply that when farmers are attacked with malaria, they could still carryout minimal and less labour intensive rice production operations. This however depends on the degree of the sickness.

CONCLUSION

The prevention and treatment of malaria should be of high priority among farm households. The study has highlighted factors such as local beliefs, religious beliefs, cultural beliefs, ignorance, literacy level and poverty status to influence the treatment and control of malaria among rice farm households. Besides, malaria is known to frequently reduce the farmers' ability to clear the land for cultivation and weed the farm. The study recognizes the need for rice farmers in the study area to take advantage of the Roll Back Malaria initiative which aims at reducing malaria mortality and preventing malaria by using insecticide-treated bed nets (ITBNs), spraying home interiors as well as improving access to health-care services.

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