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MEDIA AND ECONOMIC IMPACT OF ROLL-BACK MALARIA PROGRAMME IN NIGERIA: A Case Study of Anambra State

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ABSTRACT

For some years now, roll-back malaria programme has been organized to bring the hazard of malaria under control. Hence, the main objective of this paper is to analyze and evaluate the media and economic impact of the programme in Anambra State. Demographic translation theory was used to drive home the message. Data for the study were collected and analyzed using the quantitative and qualitative method (questionnaire and interview). The study found out that the programme has created invaluable positive results through its rampant advertisements in the media and has made a positive economic impact on the lives of people. Descriptive statistical tool was used to evaluate and analyze the result. It is therefore, recommended that the central government should extend their dragnets by reaching to the entire populace through the media to induce more practical approach to the objective of the programme.

Keywords: *Media, Economic, Roll-back, Malaria, Programme*
JEL Classification: ***L82, C60, I15***

I. INTRODUCITON

Roll-back malaria, simply put, is a malaria control programme. A programme which involves coordinated action against malaria; an action that harmonises key actors like W. H. O., UNICEF, ministries of health amongst others in malaria control and mobilises resources to fight malaria in its endemic countries, Nigeria inclusive.

Between 1955 and 1968, pre-eradication pilot epidemiological studies were conducted by the World Health Organization for Global Malaria Eradication Programme. Further studies were conducted from 1970 to 1975 in Garki District and from 1975 to 1980 in Bendel State (currently Edo and Delta States). Hence, in 1975, the National Malaria Control Committee was established, with membership drawn from the Federal and State Ministries of Health, universities and other relevant sectors. The committee produced a five-year plan of action (1975–1980) with the key objective to reduce the malaria burden by 25% nationwide by 1980 and malaria morbidity and mortality by 50% by 1985, mainly through distribution of anti-malarial drugs, both as chemoprophylaxis for vulnerable groups and as treatment for primary school children's fever. This plan was dormant for years but was re-activated at the start of the RBM initiative in 1998. Results of the pilot studies were not encouraging and were nothing to reckon with.

With the birth of the RBM initiative in 1998, a new approach was initiated to control malaria that emphasized evidence-based planning and decision-making, and public and private partnerships. The first strategic plan for rolling back malaria in Nigeria (2001–2005) was released at the end of 2000. It involved a comprehensive needs-assessment using adapted RBM tools, situation analyses conducted in four rural communities of six LGAs drawn from the six geopolitical zones of the country, and a tentative programmatic plan and budget.

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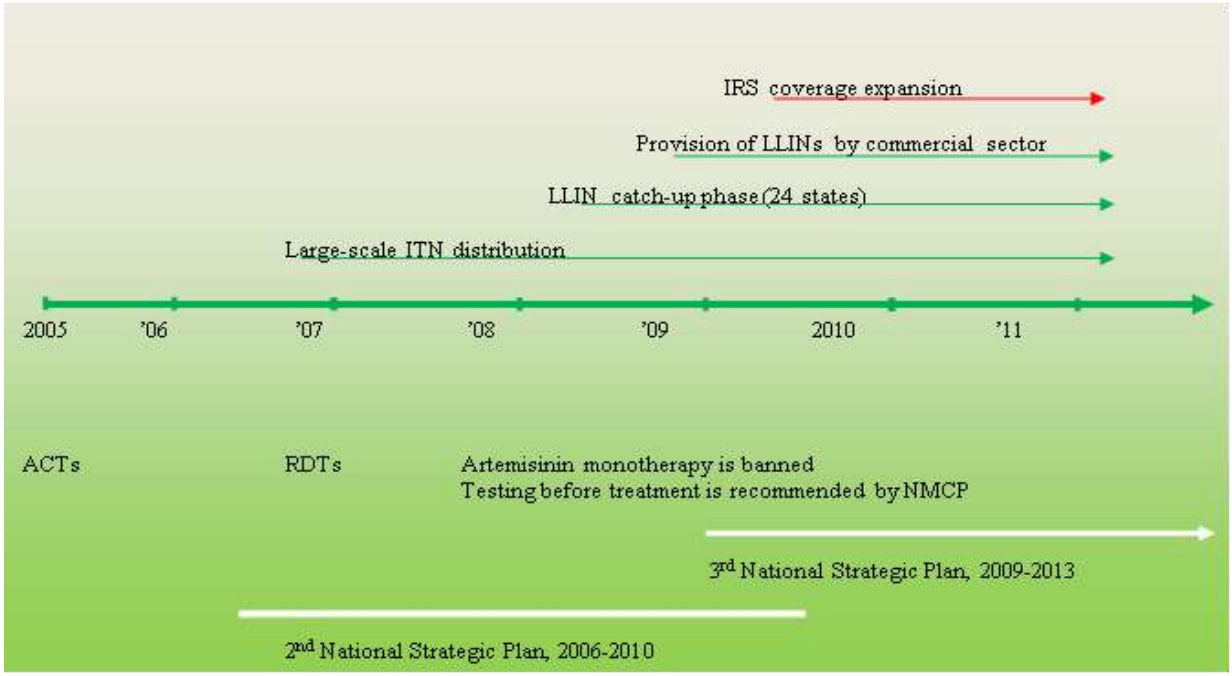
Figure 1: Nigeria's Malaria Control Policy and Activity Milestones (2005-2011)



Source: Nigerian NMCP

However, an evaluation carried out around 2008 to assess progress in the implementation of that plan found only minimal advances towards its targets. The main challenges to implementation identified during the assessment were limited resources to scale up proven prevention and treatment interventions, non-availability of ACTs and ITNs in most areas of the country, and increased resistance of malaria parasites to the drugs commonly used.

This brought about the next strategic plan for the elimination of malaria in Nigeria from 2009-2013.

The partners involved in malaria control form the country's RBM Partnership. Coordination of the partnership is ensured through a National Malaria Coordination Committee, which is supported by five technical working groups: integrated vector management, case management, procurement and supply management, monitoring and evaluation, and behaviour change communication (BCC).

National Malaria Strategic Plan 2009–2013	
	Target
ITN coverage	>80% of households (HHs) with an average of 2 ITNs/HH by 2010 and sustain coverage by 2013
IRS coverage	>85% coverage of eligible HHs in target areas by 2013
IPTp coverage	100% of pregnant women attending antenatal care (ANC) receive ≥ 2 doses of intermittent preventive treatment during pregnancy (IPTp) by 2013
ITN use by pregnant women	>80% of pregnant women sleeping under an ITN by 2010 and sustain coverage by 2013
ITN use by children under 5 years	>80% of children under 5 years sleeping under an ITN by 2010 and sustain coverage by 2013
Case management	>80% of sick persons treated with an effective antimalarial within 24 hours of onset of symptoms by 2013

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In the last ten years, a clear and focused commitment has emerged with well-defined organizational plans. Hence, under consistent leadership from the FMOH and the NMCP, clear and focused policy documents with defined targets and goals were drafted. The programme operated under its third national strategic plan covering the period 2009 to 2013.

In Nigeria today, many efforts have been exerted into realizing the target-objective of the roll back malaria programme. One of such efforts is the programme's advertisement in the media. The rate of advertisement of this programme is quite alarming and encouraging. Having said this, we note that the objective of this study is to evaluate the peculiar effort in the media towards abating the upsurge of malaria and its economic impact on Nigerians in general, and the people of Anambra state in particular.

Problem Statement

All of Nigeria's population of over 167 million is at risk of malaria caused by *Plasmodium falciparum*, the most lethal of the malaria parasites. While morbid and mortality due to malaria have been declining over the years, malaria remains unacceptably high. The disease contributes enormously to both childhood and maternal mortality in Nigeria. It is equally a drain on the economy, costing an estimated 264 billion naira (approximately US$ 835 million) annually for prevention, treatment and loss of income due to inability to work. The malaria burden adversely impacts the physical, mental, and social well-being of Nigerians.

Malaria control efforts in Nigeria have been ongoing since the colonial days. However, effective coordination began only with the creation of the Division of Malaria and Vector control in the early 1960s. This evolution culminated in the establishment of a National Malaria Control Committee, which produced a five-year plan (1975-1980) with the key objective to reduce the malaria burden by 25% by 1980.

Commitment to malaria control was further enhanced by the signing of the Abuja Declaration on 25 April 2000 during the African Summit on Roll Back Malaria held in Abuja, Nigeria. All 44 Heads of State and Government or their representatives in attendance (this number represented 88% of all malaria-endemic countries in Africa) signed the declaration which committed these governments to set aside resources towards reducing by half the burden of malaria mortality in Africa by the year 2000.

In the last decade, the Nigeria National Malaria Control Programme (NMCP) has received strong partnership support resulting in massive scale-up of interventions including insecticide-treated mosquito nets (ITNs), rapid diagnostic tests (RDTs), and artemisinin-based combination therapies (ACTs), Between 2007 and 2010, over 50 million ITNs have been made available to the population and 70 million RDTs have been distributed to health facilities across the country.

Malaria prevalence remains high in Nigeria compared with other African countries that scaled up their malaria control programmes earlier. Data from the 2010 Malaria Indicator Survey (MIS) showed that, using microscopy, 42% of children under the age of five tested positive for malaria. However, recent improvement in intervention coverage will no doubt, soon translate into a decline in the malaria burden. In states that received support for their long-lasting insecticide-treated net (LLIN) distribution campaigns, for instance, over 70% of households now own at least one ITN, a good result by the standard of any highly malaria endemic country.

Numerous other partners provided smaller financial contributions towards various aspects of technical assistance, advocacy or service delivery at the local level, including WHO. The amount of external funding reached a peak of US$ 325 million in 2009. Still, this represented roughly US$ 2 per person at risk for malaria when current estimates show that 2 to 2.5 times this amount is needed to tackle the disease. This is a crucial issue for Nigeria: the large number of people at risk means that a daunting quantity of resources is necessary to control the disease.

From the foregoing, it is clear that several governmental efforts have been put to halt the upsurge of malaria yet it appears resilient. This situation creates the worry for this study.

II. THEORETICAL REVIEW

Demographic Transition Theory of Malthus:

The *demographic transition theory* is a "model describing the transition from high birth and death rates to low birth and death rates that occurs as part of the economic development of a country"(Boundless, 2015). This transition can be broken down into four stages, as elucidated by Boundless (2015):

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Stage One: The Pre-Industrial Stage
During the pre-industrial stage, societies have high birth and mortality rates. Because both rates are high, population grows slowly and also tends to be very young: many people are born, but few live very long. This is so because children are regarded as an economic benefit to families and as such, reinforces high birth rates.

Stage Two: The Industrial Revolution
In stage two, countries begin to industrialize, and mortality rates drop rapidly as a result of two factors: improved food production and improved health and sanitation. "Food production is improved through more efficient agricultural practices and better transportation and food distribution, which collectively prevent death due to starvation and lack of water. Health is improved through medical progress as well as more advanced sanitation methods, especially water supply, sewerage, food handling, and general personal hygiene" (Boundless, 2015). As mortality rates fall, birth rates remain high and this result in a population explosion precipitated by decreasing deaths.

Stage Three: Post-Industrial Revolution
During the post-industrial stage, birth rates fall, possibly as a result of social and economic changes, such as higher wages, urbanization, commercialization of agriculture, a reduction in the value of children's work, and greater parental investment in the education of children, eventually balancing the lower mortality rates. "As birth rates fall, the age structure of the population changes again. Families have fewer children to support, decreasing the youth dependency ratio. But as people live longer, the population as a whole grows older, creating a higher rate of old-age dependency" (Boundless, 2015). This phenomenon can further the correlation between demographic transition and economic development.

Stage Four: Stabilization
During the fourth stage four, population growth stabilizes as birth rates fall into line with mortality rates. These dwindling birth rates, in some cases, result in a shrinking population.

This theory as explained here provides the framework for this study in that it reveals the importance for advancements in the health sector of a country as illustrated in stage two of the theory. The theory contended that improved health brings about reduced mortality rates as a country becomes industrialized. Roll back malaria programme is a way of improving health of Nigerians and following this theory, one expects a decline in mortality rates in Nigeria; an objective roll back malaria programme ultimately wants to achieve. Aligning the demographic transition theory to a study as this is the gap this study wants to fill since it was discovered that previous studies lack an underpinning theory.

III. EMPIRICAL REVIEW
Several studies have been conducted bordering on the economic impact of anti-malaria programmes.

Jimoh et al (2007) carried out a study, *Quantifying the economic burden of malaria in Nigeria using the willingness to pay approach*, the results of which showed a high level of willingness to pay for malaria control in Nigeria. They indicated that if there were insurance policy for malaria treatments, households would be prepared to pay a premium of an average of about Naira 1,112 (USD 9.3) per month to be covered. This is about Naira 427 (USD 3.6) in excess of the average expenditure they currently make on malaria treatment per month. This would be a sort of price for buying certainty. Similarly, households are willing to pay on the average a sum of Naira 7,324 (USD 61) per month for the control of malaria. Again, this is an excess of about Naira 2,715 (USD 22.6) over the cost they currently bear (protection, treatment and indirect costs), and it represents households' average valuation of their intangible costs of malaria illness. This amount represents about Naira 611.7 (USD 5.1) per head per month and Naira 7,340 (USD 61.2) per year. For a country with a population of about 120 million this translates to about Naira 880,801 million per annum representing about 12.0 per cent of Gross Domestic Product. Hence, the malaria burden in Nigeria is enormous, intolerable and has a devastating impact on economic growth. They therefore suggested that health and poverty are closely linked. Reducing the burden of malaria in Nigeria will help to contribute to the economic well-being of communities; and poverty-reduction will be an essential input into improving health. National Malaria Control Programme in Nigeria and their partners need to recognize these links, and identify mechanisms for ensuring that the poorest have access to essential health interventions (Quantifying the economic burden of malaria in Nigeria using the willingness to pay approach).

John, Kiszewski, et al (2010) in their study, *Cost and benefit of investment in malaria control, elimination and R&D (research and development),*using GMAP (Global Malaria Action Plan) costing model, were of the view

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that the costs of fighting malaria are not low, the benefits are significant. They noted several compelling reasons why malaria control makes a good investment.

Uzochukwu, Ezeoke, et al (2010) in their study, *Malaria treatment services in Nigeria* came up with the conclusion that anti-malaria medicines have an important role to play in reducing malaria transmission and in curtailing the spread of drug resistant parasites. Early cure of blood infections, such as by providing good access to diagnosis and treatment will, in itself, be effective in lowering malaria transmission that handicapped the masses as the carry on with their businesses.

Focus on Nigeria (Progress and Impact Series) estimated the number of lives saved using the LiST (Lives Saved Tool) model; among children under five according to the estimated efficacy of various malaria prevention interventions. The LiST model estimated the protective efficacy of vector control at 55% against malaria-specific mortality. The protective efficacy of intermittent preventive treatment during pregnancy has been estimated to be 35% against low birth weight, which then affects child mortality. According to this model, approximately 166,000 (range: 121,000–264,000) deaths among children under five were averted in Nigeria between 2001 and 2010, thanks to the scale-up of coverage for vector control measures (defined as a household owning at least one ITN) and intermittent preventive treatment during pregnancy. Vector control accounts for the vast majority of lives saved, preventing 164,000 child deaths (range: 120,000–262,000). The study concluded that it is reasonable to assume that the actual number of lives saved by all malaria control interventions is much higher.

IV. METHODOLOGY

This study is designed to evaluate the media and the economic impact of Roll-Back Malaria programme. The researchers used Anambra State as a case study because of proximity and familiarity of the area and because the government of Anambra state has tried consciously to eradicate malaria in other to improve the quality of life of people in the area. The study employed both qualitative and quantitative method of data collection. Despite the limitations of qualitative research method like the issue of bias and objectivity, qualitative methods of research has been used successfully in social sciences studies. Our study considers the qualitative tools chosen as necessary as it aims at getting deeper meanings of the phenomena from many perspective including opinions through dialogue, shared experiences and others. Hence it helped in analyzing the situation of malaria in a more exhaustive manner. The quantitative method is employed to help us in analyzing data collected from individuals numerically and statistically and at the same time the quantitative data helped in giving credence to the study as it provides the numerical and statistical data that may be lacking if we are to use only qualitative tools for data collection and analysis.

In carrying out the study also, data were obtained from secondary and primary source. The primary data were collected through the administration of the questionnaire. Random sampling method was adopted for the study both in the rural and urban areas of Anambra state, 150 from rural and 150 participants from the urban areas. The decision for the even distribution was to make sure that all the areas of the State are covered knowing fully well that life is not the same in all the areas and also to avoid any preference. Hence, a total of 300 participants were selected randomly for the questionnaire and 12 people were selected for the interview. Overall, we took a sample of 312 as a manageable number considering the time and resources available for the study. Descriptive statistics was used in analyzing the data collected through the questionnaire.

V. DATA PRESENTATION AND ANALYSIS

The analysis was based on 276 questionnaires returned out of 300 questionnaires distributed.

TABLE 1
Participants' Location

Response	Frequency	Percentage
Rural	149	54%
Urban	127	46%
Total	276	100%

The table shows that 149 (54%) of the respondents in the rural areas while the 127 (46% of the respondents in the urban area.

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TABLE 2
Participants' Response on How Aften their Household is Being Disturbed by Malaria

Response	Frequency	Percentage
Very often	55	19.9
Often	167	60.5
Seldom	54	19.6
Total	276	100%

Table 2 shows that 55 representing 19.9% of the respondents are very often being disturbed with malaria. 167 representing 60.5% of the respondents are often disturbed and 54 representing 19.6% of the respondent are seldom disturbed. Hence, nobody is exempted from the scourge.

TABLE 3
Participants' Response on How They Diagnose the Sickness Before Medication

Response	Frequency	Percentage
Medical diagnosis	65	23.6
Self ascertained	211	76.4
Total	276	100%

Table 3: 65 representing the 23.6 % of the respondents confirm the sickness through medical diagnosis, while 211 representing 76.4% of the respondent confirm the sickness by themselves.

TABLE 4
Participants' Response on The Remedial Measure They Normally Take

Response	Frequency	Percentage
Self medication	102	36.9
Hospital	51	18.5
Pharmacy	123	44.6
Total	276	100%

Table 4 shows that 102 representing 36.9% of the respondents resort to self medication to cure the sickness. 51 representing 18.5% of the respondents prefer treatment by medical experts. While 123 representing 44.6% of the respondents run to pharmacy for drugs for the treatment of malaria.

TABLE 5
Participants' Response on How They Rate the Incidence of Mosquito Bite in Their Area

Response	Frequency	Percentage
High	276	100
Low	Nil	0
Moderate	Nil	0
Total	276	100

Table 5 shows that 276 representing 100% the respondents believe that the incidence is high. While none of the respondents believe that it is either low or moderate.

TABLE 6
Participants' Response on How They Rate the Incidence of Malaria in Your Area?

Response	Frequency	Percentage
High	276	100
Low	Nil	0
Moderate	Nil	0
Total	276	100

The table shows that 276 representing 100% of the respondent answered in the affirmative that the incidence of malaria is high. While none believe that it is either low or moderate.

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TABLE 7
Participants' Response on Whether They Have You Heard of the Roll – Back Malaria Programme

Response	Frequency	Percentage
Yes	276	100
No	Nil	0
Total	276	100

Table 7 shows that 276 of the representing 100% of the respondents believe that they have heard of the programme through the media. While none some said that they have not heard of it.

TABLE 8
Participants' Response on Whether They Have Encountered the Agents of the Programme

Response	Frequency	Percentage
Yes	276	100
No	Nil	0
Total	276	100

Table 8 shows that all, which represent 100% of the respondents, have met the agents of the programme while none of the respondent accepted that they have not met them.

TALBE 9
Participants' Response on Whether They Have Been Provided With Any of Their Services/Materials

Response	Frequency	Percentage
Yes	276	100
No	Nil	0
Total	276	100

Table 9 shows that all representing 100% of the respondents have in one way or the other been provided with their services. This firms that none of them answered in the negative.

TABLE 10
Participants' Response on Whether They Use Them

Response	Frequency	Percentage
Yes	264	95.7
No	12	4.3
Total	276	100

This shows that 264 representing 95.7% of the respondents were using the materials /services, while 12 representing 4.3% of the respondents were not using them.

TABLE 11
Participants' Response on Whether the Services/ Materials are Effective

Response	Frequency	Percentage
Yes	264	95.7
No	0	0
Neutral	12	4.3
Total	276	100

This shows that 264 which are 95.7% of the respondents valued the materials/services because of its effectiveness. 12 representing 4.3% of the respondents were neutral. While nobody among them said 'no'.

TABLE 12
Participants' Response on Whether the Members of their Household Sleep Under their Treated Insecticide Net

Response	Frequency	Percentage
Yes	238	86.2
No	38	13.8
Total	276	100

Table 12 shows that 238 (86.2%) of the respondents sleep under the treated insecticide net while 38 (13.8%) the respondent were not sleeping under the treated insecticide net.

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TABLE 13
Participants' Response on Whether there is any Economic Impact of the Programme on their Household

Response	Frequency	Percentage
Yes	261	94.6
No	15	5.4
Total	276	100

Table 13 shows that 261 representing 94.6% of the respondents affirmed that there is an economic impact of the programme on their household. While 15 representing 5.4% the respondents answered in the negative.

TABLE 14
Participants' Response on How They Will Evaluate the Economic Impact of the Programme on their Household

Response	Frequency	Percentage
Positive	261	94.6
Negative	Nil	0
Moderate	15	5.4
Total	276	100

Table 14 shows that 261 (94.6%) of the respondents believed in having witnessed positive economic impact of the programme on their household. While none of the respondents affirmed that the progamme has any negative effect on his or her household. However, 15 (5.4%) of the respondents were of the opinion that they have not witnessed any positive impact of the programme on their household, hence neutral on its impact.

TABLE 15
Participants' Response on How They Will Rate the Media and Their Coverage of the Programme?

Response	Frequency	Percentage
High	264	95.6
Low	3	1.1
Moderate	9	3.3
Total	276	100

Table 15 shows that 264 (95.6%) of the respondents rated the media high while 3 (1.1%) rated it low. And 9(3.3%) indicated that the media coverage is moderate.

TABLE 16
Participants' Response on How They will Rate the Impact made by Media in Their Sensitization of the Programme's Campaign

Response	Frequency	Percentage
High	253	91.7
Low	5	1.8
Moderate	18	6.5
Total	276	100

Table 16 shows that 253 (91.7%) of respondents believed that the media have created high measure of impact of the programme. 5 (1.8%) believed that the impact of the programme was low. And 18 (6.5%) of the respondents believed that the impact of the media was moderate.

Summary of Qualitative Data Collected:
According the respondent, the programme as run on the media contributed a lot in creating awareness of using ITN. The routine promotion cum sensitization campaign which is periodically aired to the accompaniment of jingles, has subliminally elicited the much needed attention from the public. This has in the same vein ensured the wider creation of the intended awareness.

Furthermore it has created opportunities for many people. The government-sponsored programme has extended its tentacles to reach a wider part of the populace, by creating varying degrees of employment opportunities, in its bid to ensure even dissemination of information. This method is chiefly employed to ensure person-to-person awareness, which is discovered to be valued by those who have no access to the electronic media. The

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opportunities have been on the increase especially for the workforce. They are seldom tentatively secured to use them as vehicles for service delivery.

They also mention their difficulties such as lack of fund to access ITN from the market, and to buy television and radio, which they will use to have access to the media for information. This is remarkably a hurdle in the ways of those who have the willingness, but lack the wherewithal to be kept abreast of the current information with respect to the registered interest.

Lack of provision and irregularity of the provision of ITN by the government also widens the divide between knowledge and implementation. This observation proves that there is pronounced levity on the side of either the government or the field workers. This could be as a result of lack of incentive strategies and supervisory itinerary to see to the proper judgment of the execution and effectiveness.

Generally, Roll-Back-Malaria programme has gained currency and effectiveness in the long run through the media.

VI. FINDINGS AND ROCOMMNADATIONS

Many findings were made in this study. The study reveals that malaria is a common illness amongst the people, irrespective of one's geographical area – rural or urban. It is obvious that the scourge – malaria – is the bane of the lives of the people. It is discovered that every individual has his or her own way of diagnosing the sickness. But greater number prefers 'self- ascertained method' to medical diagnosis before treatment.

It is also revealed that the media have played a prominent role in getting the information disseminated. The study shows that virtually all have heard of the programme and the information it embodies on the internet/e-media, radios, television, newspapers, e t c. and have been sensitized to the menace of malaria.

The study shows that the remedial channel taken is chiefly self – medication as only a few resort to going to hospital for treatment. The rate of the incidence in household was alarming. Its frequency is greater when compared with other sickness.

The study contends that Roll-Back-Malaria programme as variously and rampantly advertised in the media has gone a pretty long way in sensitizing the populace about the scourge and inherent danger of malaria. The sickness which could be terminal should be avoided by people not exposing themselves to mosquito bites.

While the cost of fighting malaria is not low, the benefits are significant. There are several compelling reasons why malaria control makes a good investment:

- Malaria control is cost effective especially when compared to interventions for other diseases.
- R & D investments save long – term control costs.
- Lowering the burden of malaria yields positive economic benefits and can reduce poverty.

VII. RECOMMENDATIONS

1. Anti-malaria medicines have an important role to play in reducing malaria transmission and in curtailing the spread of the parasites. Considering that the quality of care received is poor, the government must, as a matter of priority and importance, provide continuous training for lower level health cadres to improve the level of care they provide.
2. There is the need for continuously intensified enlightenment and sensitization of the masses on the dangers posed by malaria and how to effectively combat it *via* the media. This would go a long way in reducing the cost of government's intervention so far in curbing the menace of malaria.

VIII. CONCLUSION

In conclusion, even though Nigeria is progressing in malaria control, the gains are fragile. It is clear that the disease can easily resurge when the pressure exerted to extinguish it is eased. These highlight the need to maintain sustainable financial resources in the use of media in order to sustain the gains against malaria. Without this commitment, the disease will quickly return.

The next few years should be an important time for Nigeria. The country has shown its capacity to mount campaigns through the media and deliver interventions in a surprisingly short time. With continued commitment from states, the federal government, and external partners, a national scale-up of malaria control interventions will accrue more and better returns.

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