

## Incidence of Malaria at General Hospital Michika

Fami Elijah Pakka  
Biology Department,  
Adamawa State College of Education, Hong.

### Abstract

This is an in-depth study on the documentation of all Malaria cases reported at Michika General Hospital in the year 2020. It investigate the incidence of Malaria with three (3) variable namely; Gender, Age and Density of Parasitemia. The age was categories into four (4) groups while density of parasite into three (3). There is another additional group for cases where any of the said variable is not specified. The result of the study shows that in the year 2020, females had the highest number of Malaria infection. Similarly, over 41% of the record shows that the people whose age was not documented are mostly infected followed by the age group of 21-50 years. Lastly, the parasitic density of 2 positive dominates with 58.8%. The common recommended medication is artemisinin based-combination therapy (ACT).

**Keywords:** Malaria, Age, Density, Michika.

### INTRODUCTION

Malaria is a common protozoan disease of the tropics. It is classified as an infectious disease of poverty because of its prevalence among poor people in developing countries. The world health organization (WHO, 2010) reported that 247 million cases of malaria has been recorded, 85% of this case was from Africa and most of the victims are children under 5.

Malaria is a serious public health diseases caused by *Plasmodium species* (the commonest being *Plasmodium falciparum*) and is vectored by mosquito. WHO (2010), attest the variation in the geographical distribution of malaria to several reasons which include drug resistance, substandard medicines and encroachment of malaria into areas that were once malaria free as a result of rise in global temperature (global warming).

There are four (4) common types or species of malaria namely; *P. falciparum*, *P. ovale*, *p. vivax* and *P. malaria* (WHO, 2010). Malaria is transmitted during feeding of female anopheles mosquitoes which involve piercing the host to get blood meal for the development of their eggs.

Most recent information by the WHO (2019) shows that 93% of all malaria cases was in Africa, 3.4% was in Southeast Asia and the remaining 2% was attributed to the Eastern Mediterranean region. This same report showed several countries that have been certified by WHO as malaria free mostly in Europe and North America while several South American and Asian countries are on verge of been certified as malaria free, The most recent effort by WHO globally is to reduce by half the mortality cause by malaria by 2023 and also to end Malaria by 2030 (WHO, 2019).

Sub-Saharan Africa has been shown to always shoulder the majority of the burden for malaria globally, some North African countries like Algeria, Morocco and Egypt have made significant effort in tackling the disease. As a result of the seriousness of malaria in this region, several initiatives have been brought forth to salvage the situation. Of the 93% of the global malaria burden that Africa shoulders, more than half of this is located in 6 countries; 25% of the infection is said to be in Nigeria, 12% of which comes from the Democratic republic of Congo, Uganda shoulders 5% and the remaining 4% is shared by Niger, Cote d'Ivoire and Mozambique (WHO, 2019).

Eradicating malaria in Sub-Saharan Africa is nearly impossible because of economic constrain and also the lifestyle of the people; measures commonly employed are aimed at controlling and managing the disease (WHO, 2012). Much success have been achieved in managing malaria with the help of international communities like WHO, United Nations Development Project (UNDP), United Nations International Child Emergency Fund (UNICEF) and the World Bank. The Roll Back Malaria (RBM) was launched in 1998 with the sole aim of reducing the morbidity and mortality of malaria in Africa by 2010 (African Summit on Roll Back Malaria 2000, in WHO, 2002).

The relationship between malaria infection and other associated health outcome is complex; the mortality and the morbidity as a result of malaria infection depends on the severity and may serve as a gateway to other infections by weakening the body's immune system (Snow, Newton, Craig, & Steketee, 2003). 3% to 8% for children absenteeism in schools is as a result of malaria infection. In Africa, 71,000-190,000 newborn babes was estimated not to survive and see their first birthday as a result of decrease in birth weight in the year 2000 and 5300 death was also expected in the same year, all these are malaria related (Snow, Newton, Craig, & Steketee, 2003).

Malaria is basically diagnosed by preparing and examining a stained thick blood film using a microscope to estimate the parasitic density while a thin blood film is used in determining the parasite species (WHO, 2010).

By shouldering 25% of Africa's malaria burden shows that Nigeria has a long way to go in managing the disease (WHO, 2019). The Federal Ministry of Health (FMH, 2005) in Ozochukukwu, Onwujekwe, Ogochukwu, & Sibeudu (2010) reports 300,000 mortality occurs each year in Nigeria as a result of malaria which affects economic activities and economic development.

Since Malaria eradication exercise was launched in 1955 by the World health assembly, significant achievement have been registered that has resulted in the complete eradication of the disease in within 15 years in countries of Europe and North America (WHO, 2002). This progress has also been shown to be having a positive correlation with economic development. WHO (2003) in its roll back malaria report has it that children and pregnant women are the population groups that are most susceptible to malaria. Malaria cause mortality in young children by causing acute infection in form of seizures, which can kill very fast, anemia which comes as a result of repeated exposure, and also decrease in Childs weight (WHO, 2003)

Kumur, Elishama, Joshua, John, and Adamu (2019) in a study on regional trend of malaria in Adamawa State has it that Yola North (the state capital) has the highest recorded cases of malaria while Guyuk and Tungo regions has the lowest, this report is based on a compilation by the Adamawa State government for a period of 5 years spanning from 2008-2012.

Nglass, Ozor, Olotu, Momoh, Onuekwe, & Owili, (2019) on a study on chemoprevention of malaria in 3 local government areas of northern Adamawa state which Michika Local government happens to be one of shows that females were infected more than the males. On the other hand, a similarly exercise on the prevalence of malaria in a Yola South by Naphtali, Babylon, Musa, and Atinga (2017) shows that males were most infected with malaria particularly those within the age category of 46-57.

## **STUDY AREA**

Michika Local government is one of the 21 local government areas of Adamawa State located at the North-East of Nigeria. It is located on latitude and longitude 10.616667, 13.383333 and

has an approximate population of 3.5 thousand (Nglass, Ozor, Olotu, Momoh, Onuekwe, & Owili, 2019). The major occupation of the people is farming

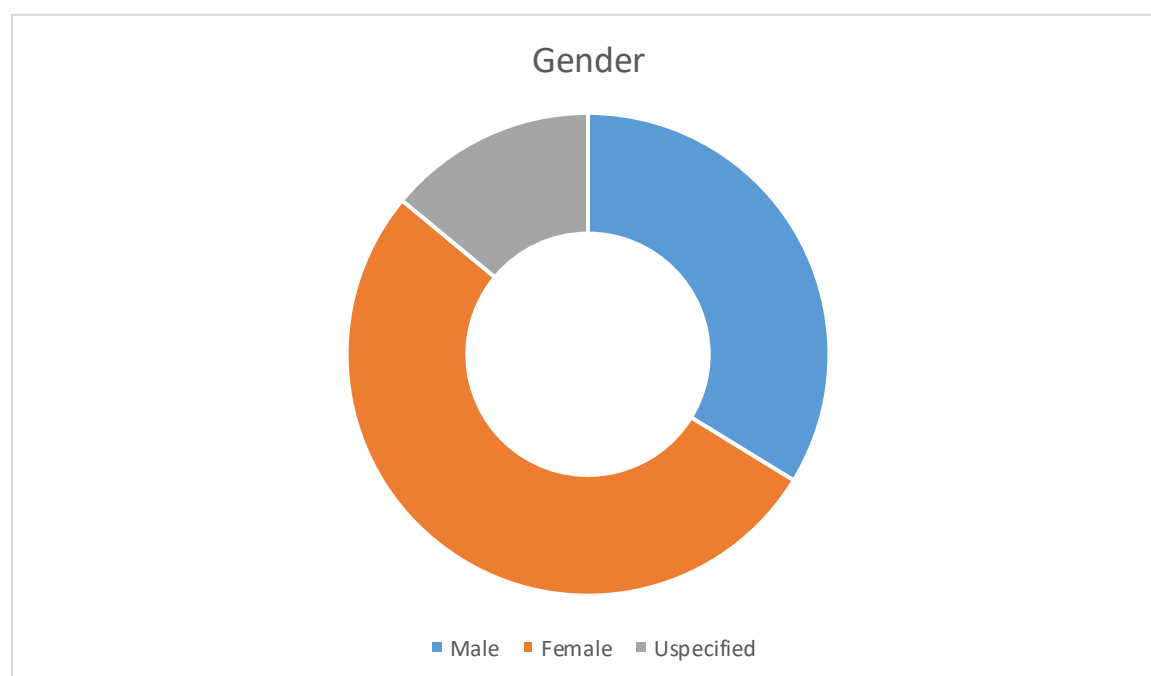
## METHODOLOGY

This study takes an in-depth record of all the reported cases of malaria at general hospital Michika, Adamawa State Nigeria. After seeking and the granting of approval from the Principal Medical Officer (PMO), the data was generated from the hospital's official record of all patients tested for malaria in the year 2020. These data was categorized in terms of age, gender and density of parasitemia in order to draw out conclusion

## RESULTS AND DISCUSSIONS

### a. Incidence of Malaria with gender

Male	Female	Not Specified	Total
1049	1624	435	3108



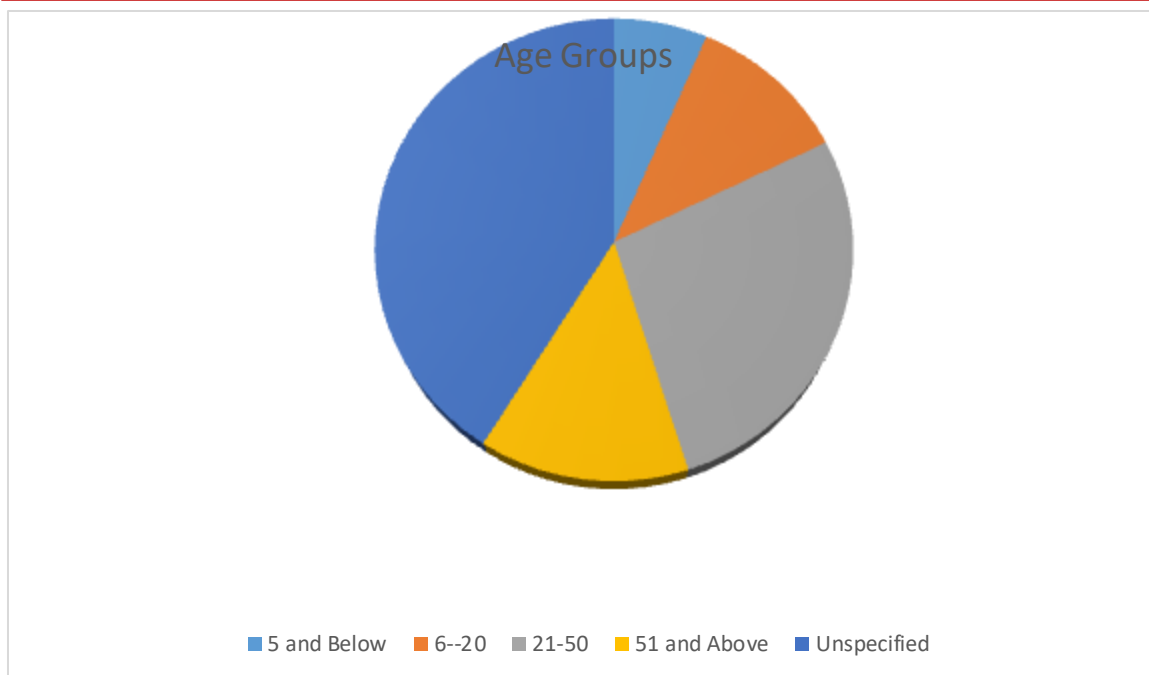
### A pie chart showing the incidence of Malaria in relation to Gender

52.3% of the patients were female while 33.8% were male, the remaining nearly 14% gender was not properly recorded.

This record is in agreement with the work of Nglass *et. al*, (2019) who reported the proportion of male to female infection of malaria is 40.8% to 59.2% respectively in Michika.

### b. Incidence of Malaria with Age

≤ 5	5-20	21-50	≥51	Not specified	Total
203	350	850	428	1277	3108

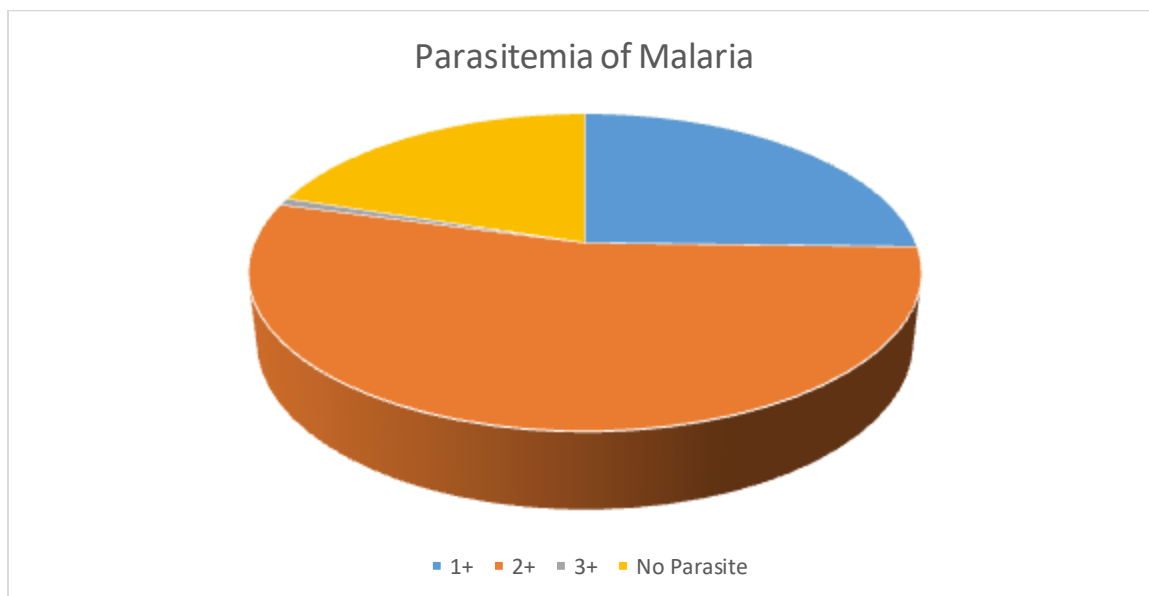


**A Pie chart showing the relationship between Malaria various Age groups**

6.53% of the whole case were less or equal to 5 years of age, 11.3% were between the ages of 6 and 20 years, 27.3% are of the age bracket 21 and 50 years and the last category of 51 and above years of age constitute 13.8%. The population whose age was not specified forms the majority with 41.1% of the whole population.

**C. Incidence of Parasitic density**

Non	+	++	+++	Total
642	789	1672	23	3108



**A Pie chart showing the proportionate distribution of the density of Malaria**

25.4% of the patients were tested on positives, 2 positive takes the lions share with 53.8 and lastly 3 positive with 0.74 %. An additional 20.7% were tested with scanty or no Malaria

## CONCLUSION

The findings of this studies points out the need to rise up and give special attention to the management of Malaria in Michika. Since over 30,000 cases were recorded in a secondary facility not mentioning the cases at the primary health care center and those on self-medication, Malaria is still a matter of urgent health concern in Michika and measures of controlling the disease should be taken with all seriousness. Special care should also be given to the female and the adult populations of age group 6-20 years as they dominate the infected population.

## RECOMMENDATION

- a. Measures of controlling mosquitoes should be encourage by providing them at a reduced cost.
- b. the people of Michika should be encouraged to adopt a means of managing malaria affordable to them

For effective record keeping, ease and reliable data I recommend the following;

- a. Patient information should be recorded as soon as possible.
- b. There is the need to move from analogue to digital means of storing data

## ACKNOWLEDGMENT

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**APPENDIX**

January

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								74				
<b>115</b>	150	7	22	30	97	38	85		145	3	50	272

February

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								53				
<b>102</b>	148	15	21	43	87	56	58		152	0	60	265

March

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								82				
<b>98</b>	187	6	26	35	104	45	81		135	3	71	291

April

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								52				
<b>76</b>	112	8	24	26	79	33	34		102	1	41	196

May

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								76				
<b>78</b>	159	1	12	28	76	23	99		126	4	32	238

June

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								84				
<b>111</b>	204	13	20	45	110	63	90		186	2	56	328

July

Gender		Age						Quantity				
M	F	Non	5≤	6- 20	21- 50	≥51	Non	+	++	+++	Non	Total
								63				
<b>107</b>	146	8	17	37	62	40	105		127	1	70	261

August

Gender		Age						Quantity				
M	F	Non	5≤	6-	21-	≥51	Non	+	++	+++	Non	Total

				20	50			9				
<b>94</b>	132	4	25	30	81	33	61		26	1	194	230

September

Gender		Age						Quantity				
M	F	Non	5≤	6-	21-	≥51	Non	+	++	+++	Non	Total
				20	50			44				
<b>130</b>	174	40	14	19	70	36	205		252	2	46	344

October

Gender		Age						Quantity				
M	F	Non	5≤	6-	21-	≥51	Non	+	++	+++	Non	Total
				20	50			80				
<b>93</b>	158	11	15	32	60	55	100		176	2	4	262

November

Gender		Age						Quantity				
M	F	Non	5≤	6-	21-	≥51	Non	+	++	+++	Non	Total
				20	50			94				
<b>45</b>	54	212	7	25	24	6	249		215	2	0	311

December

Gender		Age						Quantity				
M	F	Non	5≤	6-	21-	≥51	Non	+	++	+++	Non	Total
				20	50			78				
<b>0</b>	0	110	0	0	0	0	110		30	2	0	110