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A PANACEA TO ECONOMIC STABILITY
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EVALUATION OF AGE AND GENDER DISTRIBUTION OF MALARIA PATIENTS IN GENERAL HOSPITAL IGBO-ORA

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Abstract

The study was to investigate the age and gender distribution of malaria patients in Igboora. Data were collected from the health record department of General Hospital Igboora. It attempts to compare the prevalence rates of the diseases among the age and gender distribution in the community between 2013 and 2017.

Structured proforma form was used to obtained data on the variables of interest like: age-groups of each gender, number of affected male, number of affected female, total malaria patients between 2013 and 2017.

The analyses employed for these findings are descriptive and inferential statistics. Data collected were analyzed using SPSS version 21.0. Descriptive statistics was used to determine the percentage distribution of Age and gender of malaria patients between the periods along with the theoretical hypotheses to be tested. Also Chi-square was used to investigate the dependence among the variables.

The study revealed that majority of the patients were female with 14,846 patients representing 70% of the distribution while male 6,331 patients representing 30% of the distribution. The study also showed that majority of the patients were adult with 19,296 patients representing 91% of the distribution while children 1,881 patients representing 9% of the distribution.

The result showed that most malaria patients admitted were adult. Children accounted for the lowest number while the highest number of malaria related admissions was experienced in 2014. The study indicated a direct relationship between the age and gender distribution and statistically significant. Since $p < 0.05$, therefore the null hypothesis is rejected.

Keywords: malaria, age, gender and patient

Introduction

Malaria is an acute and chronic disease caused by an obligate intracellular protozoan of the genus plasmodium. Malaria is a mosquito-borne infectious disease of humans and other animals caused by protists- a type of microorganism of the genus Plasmodium. It begins with a bite from an infected female Anopheles mosquito, which introduces the protists through saliva into the circulatory system. In the blood, the protists travel to the liver matured and reproduce. Malaria symptoms typically include; fever, headache and in severe cases can result into coma or death. The disease is widespread in tropical and subtropical regions in a broad band around the equator.(Nayyar *et. al.*, 2012).

Malaria parasite was discovered in 1880 by Charles Louis Alphonse Laveran a military physician working in Constantine Algeria. Malaria is a serious notifiable infectious illness characterized by periodic chills, fever, sweating and splenomegaly. It is a serious and often fatal complication which gave way to Falciparum malaria. It is intermittent and remittent fever caused by a protozoa parasite that invaded the red blood cells. Malaria is a preventable and treatable disease of public health.

Five species of Plasmodium can infect and transmitted by humans. The vast majority of deaths are caused by P. falciparum and P. vivax, while P. ovale, and P. malariae cause a generally milder form of malaria that is rarely fatal. The zoonotic species P. knowlesi, prevalent in Southeast Asia, causes malaria in macaques but can also cause severe infections in humans' insecticides and draining standing water. From the five Plasmodia species that infect human beings, (P. falciparum, P. vivax, P. malariae, P. ovale and P. knowlesi), P. falciparum and P. vivax cause the significant majority of malaria infections while P. Falciparum causes most of the severe cases and deaths, and is generally found in tropical regions, such as (sub-Saharan Africa, Southeast Asia, and Western Pacific and

in countries sharing the Amazon rainforest). *P. vivax* is common in Asia (especially Southeast Asia) and the Eastern Mediterranean, and endemic countries of the Americas. (Fairhurst *et. al.*, 2010).

Malaria infection begins when a female mosquito of the *Anopheles* genus bites human and injects infectious cells known as sporozoites into the person's bloodstream. The sporozoites travel in the bloodstream to the liver, where they multiply for one to two weeks to form cells called merozoites. The merozoites leave the liver to invade red blood cells. Inside these blood cells, the merozoites multiply rapidly until the blood cells burst. As the cells burst, there is release merozoites that go on to infect other red blood cells and begin the cycle again. Some merozoites divide to form gametocytes, immature male and female gametes (cells involved in sexual reproduction). The gametes are involved in transmission of the disease.

Considering this fact, it therefore becomes very extremely important that this study should be carried out to reduce the effect of malaria among children and adult in Igbo-ora, Oyo State. Several studies had been carried out with regards to malaria, which includes Awoke Derby and MegbaruAlemu, (2017) research on the trend of malaria at Woreta Health Centre over a period of five years. He concluded that the two most important species of malaria parasite were *P. Vivax* at 184(42.4%) and *P. Falaparium* at 233(53.7%). Relatively higher proportions of cases were documented in the months of November, December and June (11.1%, 8.1% and 7.2% respectively). Also, a study conducted by Beatriz Larruet *et al.*, (2006) on the Malaria in infants below six months of age. The study observed that the average annual proportion of paediatric admissions in children < 15 years with confirmed malaria aged < c months was 4.8% this proportion was stable throughout the season between 2001-2004, 9.9% of admissions with confirmed malaria in children < 5 years occurred in infants < 6 months with numbers increasing steadily during the first six months of life.

It can be observed that all these studies emphasized mainly on the causes of malaria, the particular age that are prone to malaria which is adolescent, but failed to address other age groups of the malaria patients that is children, adult and elderly as well as gender that are prone to malaria within the study. This is the identify gap in knowledge, which this study intends to bridge.

Methodology

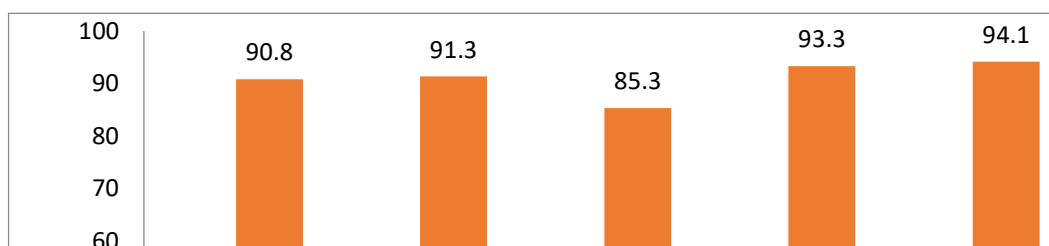
The research was a retrospective review of existing data on malaria cases in the General hospital, Igbo-ora between 2013 and 2017. Structured proforma form was used to obtained data on the variables of interest like: age-groups of each gender, number of affected male, number of affected female, total malaria patients between 2013 and 2017. All the data were retrieved from the existing source.

The analyses employed for these findings are descriptive and inferential statistics. Data collected were analyzed using SPSS version 21.0. Descriptive statistics was used to determine the percentage distribution of number of male and female malaria patients between the periods along with the theoretical hypotheses to be tested. Also, Chi-square was used to analyze the dependence among the variables with special preference to the objective of the study while $p < 0.05$ will be considered statistically significant.

Results and discussion

Table 1: Percentage of children to adult malaria patient

Year	Number Of Malaria Patient	Children %	Adult %
2013	6258	9.2	90.8
2014	6487	8.7	91.3
2015	2583	14.7	85.3
2016	2670	6.7	93.3
2017	3179	5.9	94.1



Number of Malaria Patients

Year

Figure 1: Percentage of children and adult

Figure 1 shows that in any of the year within the study period, adult has the highest number of malaria occurrences. In 2013 Children had 9.2% Adult had 90.8%, in 2014 Children had 8.7% Adult had 91. 3%, 2015 Children had 14.7% Adult had 85. 3%. Also in year 2016 Children had 6.7% Adult had 93. 3% and in the year 2017 Children had 5.9% while Adult had 94.1%.

Table 2: Percentage of Male to Female malaria patient

Year	Number Of Malaria Patient	Male %	Female %
2013	6258	28.51	71.49
2014	6487	27.73	72.27
2015	2583	38.64	61.36
2016	2670	30.30	69.70
2017	3179	29.60	70.40



Figure 2: Percentage of Malaria Patients by Gender

Figure 2 shows that females are more prone to malaria related issues compared to males. In 2013 male had 28.51% and females had 71.49%, in 2014 male had 27.73% and female had 72.27%, 2015 male had 38.64% female had 61.36%. Also in year 2016 male had 30.3% female had 69.7% and in the year 2017 male had 29.6% while female had 70.4%

Hypotheses Testing

H₀: There is no significant relationship between the age and gender distribution of malaria patients

Table3 :Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	895.167 ^a	812	.022
Likelihood Ratio	289.584	812	1.000
Linear-by-Linear Association	45.283	1	.000
N of Valid Cases	60		

a. 870 cells (100.0%) have expected count less than 5. The minimum expected count is 0.02

Table 3 revealed that there is direct relationship between the age and gender distribution of malaria patients.

Discussion

From the data collected, the result revealed that most of the patients admitted within the study period are adult, children are the group that accounts for the lowest number of malaria related admission within the study period and this was in Agreement with a study conducted by Onikola K.A (2016) she revealed that children aged one year and below are the group with the lowest survival rate but this age group accounts for the lowest number of malaria related admission within the study period. Females are more prone to malaria related issues compared to males this was corroborated with the work of Nas *et al.*, (2017) who stated that the disease was found to affect more females than males. In general, the highest number of malaria related admissions was in 2014. The study indicated a direct relationship between the age and gender distribution and statistically significant. Since $p < 0.05$, therefore the null hypothesis is rejected.

Conclusion

The appropriate statistical tool was used to analyze the data in accordance with the aim and objectives of the study. The result shows that most of the patients admitted within the study period were adults with 19,296 patients representing 91% of the distribution while children 1,881 patients representing 9% of the distribution. Females are more prone to malaria related issues compared to males with 14,846 patients representing 70% of the distribution while male 6,331 patients representing 30% of the distribution. Therefore, study shows a direct relationship between the age and gender distribution (Since $p < 0.05$). This paper therefore recommends that government should double their efforts in supplying malaria drugs to dispensaries and hospital to help in further decline of malaria fever. Both Adult and Children should imbibe the habit of using mosquitoes net. If, infected with malaria fever, please go to the nearest hospital for proper care .Government and private organization both local and international bodies should create awareness on how to kick against malaria disease.

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