

Fig.6 Trend Analysis For Malaria Over A Thirty Month Period,
Source: Researcher Computer analysis, 2016

Data Malaria
 Length 30
 NMissing 0

Fitted Trend Equation
 $Y_t = 8.89 + 0.928 * t$

Accuracy Measures
 MAPE 30.0911
 MAD 5.9261
 MSD 71.5873

Time	Malaria	Trend	Detrend
Jan	9	9.8151	-0.8151
Feb	17	10.7428	6.2572
Mar	20	11.6704	8.3296
Apr	12	12.5981	-0.5981
May	12	13.5258	-1.5258
Jun	16	14.4535	1.5465
Jul	11	15.3812	-4.3812
Aug	13	16.3089	-3.3089
Sep	11	17.2366	-6.2366
Oct	6	18.1643	-12.1643
Nov	14	19.0920	-5.0920
Dec	14	20.0197	-6.0197
Jan	18	20.9474	-2.9474
Feb	16	21.8751	-5.8751
Mar	20	22.8028	-2.8028
Apr	33	23.7305	9.2695
May	26	24.6582	1.3418
Jun	35	25.5859	9.4141

Jul	60	26.5136	33.4864
Aug	32	27.4413	4.5587
Sep	29	28.3690	0.6310
Oct	26	29.2967	-3.2967
Nov	27	30.2244	-3.2244
Dec	38	31.1521	6.8479
Jan	27	32.0798	-5.0798
Feb	27	33.0075	-6.0075
Mar	21	33.9352	-12.9352
Apr	29	34.8629	-5.8629
May	43	35.7906	7.2094
Jun	36	36.7183	-0.7183

Forecasts

Period Forecast

Jul	37.6460
Aug	38.5737
Sep	39.5014

From the trend analysis of malaria over the thirty months period, as shown in Figure 5.5, it will be noticed that October, 2014 has the least incidence of malaria while July, 2015 has the highest prevalence value. The trend analysis shows that the occurrence of malaria is increasing steadily even though the plot of the records shows a fluctuation in monthly occurrence. After the highest incidence in the month of July, 2015, the incidence dropped but did not drop to below the initial month of January, 2014.

Conclusion: The analysis shows increase in the trend of malaria in the region.

TREND ANALYSIS FOR TYPHOID

For Typhoid

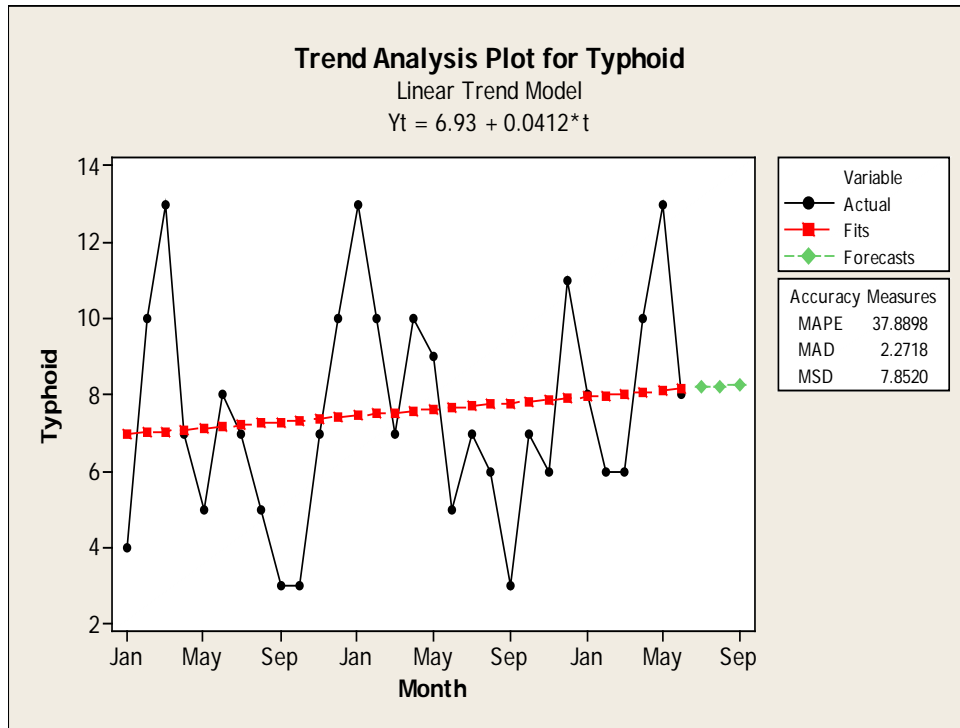


Fig.7 Trend Analysis For Typhoid Over A Thirty Month Period

Source: Researcher Computer analysis, 2016

Trend Analysis for Typhoid

Data Typhoid
 Length 30
 NMissing 0

Fitted Trend Equation
 $Y_t = 6.93 + 0.0412 * t$

Accuracy Measures

MAPE 37.8898
 MAD 2.2718
 MSD 7.8520

Time	Typhoid	Trend	Detrend
Jan	4	6.96989	-2.96989
Feb	10	7.01105	2.98895
Mar	13	7.05221	5.94779
Apr	7	7.09336	-0.09336
May	5	7.13452	-2.13452
Jun	8	7.17568	0.82432
Jul	7	7.21683	-0.21683
Aug	5	7.25799	-2.25799
Sep	3	7.29915	-4.29915
Oct	3	7.34030	-4.34030
Nov	7	7.38146	-0.38146
Dec	10	7.42262	2.57738
Jan	13	7.46377	5.53623

Feb	10	7.50493	2.49507
Mar	7	7.54609	-0.54609
Apr	10	7.58725	2.41275
May	9	7.62840	1.37160
Jun	5	7.66956	-2.66956
Jul	7	7.71072	-0.71072
Aug	6	7.75187	-1.75187
Sep	3	7.79303	-4.79303
Oct	7	7.83419	-0.83419
Nov	6	7.87534	-1.87534
Dec	11	7.91650	3.08350
Jan	8	7.95766	0.04234
Feb	6	7.99881	-1.99881
Mar	6	8.03997	-2.03997
Apr	10	8.08113	1.91887
May	13	8.12228	4.87772
Jun	8	8.16344	-0.16344

Forecasts

Period	Forecast
Jul	8.20460
Aug	8.24575
Sep	8.28691

From the trend analysis of typhoid, it will be noticed that the months of March, 2014, January, 2015 and May, 2016, have the highest cases of occurrence of Typhoid in the study area while the the months with the least occurrence are the months of September,2014, October, 2014 and September,2015. In the first year (2014), there is a wide variation in the degree of prevalence while in the 2015, the degree of prevalence does not show much variation. It will equally be noticed that there is always an increase in occurrence in the months considered to be dry with each year (that is the months of January, February, November and December).

Conclusion: The trend of malaria in the region is higher than that of typhoid. This implies malaria is more common than typhoid despite the flooding. But it should be noted that typhoid also has a very slight upward trend.

Conclusion

- The trend analysis shows an increase in the trend of malaria in the region
- The trend analysis of typhoid also showed an increase but the trend of malaria in the region is higher than that of typhoid.

The findings supports WHO (2020) that Floods can potentially increase the transmission of the following communicable diseases: water-borne diseases, such as typhoid fever, cholera, leptospirosis and hepatitis A and Vector-borne diseases, such as malaria, dengue and dengue haemorrhagic fever, yellow fever, and West Nile Fever and Elsanousi, Elmahi, Pereira, and Debacker, (2018) that a marked increase of new malaria cases and incidence rate was observed in the 13 sentinel malaria notification sites

8.0 Recommendation

Based on the result of this study which showed an increase in the cases of malaria and also a slight increase in the prevalence of typhoid, it is recommended that the Government should intensify the campaign on the fight against malaria and also provide mobile hospitals to the locals. More hospitals and primary health centers should be built and doctors and nurses posted to the areas.

Appreciation: We wish to thank REX Hospital, Nmiata- Anam for providing us with their available data even though they lost some during the flood incidence that occurred before this study.

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