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# GUEST EDITORIAL

## Malnutrition and Malaria: The complex relationship

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The problem of malnutrition- whether it is undernutrition or overnutrition- remains a major global problem. When it is confounded by other diseases such as malaria, it becomes more complex and has been a subject of study by many scholars all over the world.

AJFAND has remained the leading journal in the dissemination of information on the problem of malnutrition both in Africa as well as globally. So many interesting articles have been published over the years about the problem and its interaction with other diseases both infectious and non- infectious.

Current information on global malnutrition shows that by 2016, twenty two percent of children less than 5 years were stunted whereas 6% were overweight. Eastern Europe and Central Asia exhibited the highest prevalence of 12.8%. Compared to the year 2000, this prevalence shows a decline from the previously recorded prevalence of 32.7% for stunting [1].

Sub-Saharan Africa, just like South Asia, shows a high prevalence of malnutrition specifically undernutrition. Surprisingly, West and Central Africa show the lowest prevalence of overweight at 3.7% by the year 2016 [1].

In Kenya, the current prevalence values indicate that stunting stood at 26% while underweight was 11 % by the year 2014 [2]. This is a decline from the values reported in 1999 of 37% and 27%, respectively. The Arid and Semi Arid areas of Kenya exhibit the highest levels of malnutrition of > 30%. [2, 3].

The World Malaria day (WMD) was celebrated on Wednesday 25th April, 2018. A number of milestones have been accomplished towards control and possible elimination of the scourge, key among them being the trial malaria vaccine being administered in various parts of the world including Kenya. The theme for this year's malaria day was 'Ready to beat malaria' [4]. In the Tropics, Malaria is a leading cause of mortality and morbidity. Malaria has remained the number one killer disease globally according to the current disease surveillance records [4]. Malaria is one of the major health problems in sub-Saharan Africa. According to the 2013 World Malaria report, malaria is a cause o about 627,000 deaths worldwide. The report also indicates that 3.4 billion people were at risk of malaria. Most of these malaria deaths (90 %) occurred in sub-Saharan Africa and in children under five years of age. In 2016, there were an estimated 216 million cases of malaria, an increase of about 5 million cases over 2015 according to WHO, 2017. Deaths reached 445 000, a similar number to the previous year. In Kenya, malaria prevalence occurs highest in the western parts of the country around Lake Victoria as well as the coastal region that are perceived to be endemic malaria areas [2]. More than 70 percent of the population is at risk of the disease. The malaria burden in Kenya is not homogenous. The highest pick occurs during the long rain season from March to June and also from October to December during the short rains. The most affected in the population are children < than 5 years of age [2]. Beginning in 2006, the distribution of insecticide treated bednets in high-risk areas was limited to pregnant women and children under the age of 5 years, those at the highest risk of contracting the disease. This was carried out in a CDC (Centre for Disease Control) funded project in which the author

participated. In 2011, distribution was widened to include everyone living in those areas [4].

Malaria and malnutrition are the major causes of morbidity and mortality in under-five children in developing countries. Malnutrition is the associated cause for about half of the deaths that occur among under-five children in developing countries [5]. However, the relationship between the two co morbidities is still controversial, and has also not been well documented. Several studies have looked at Biochemical as well as Immunological parameters to try and demystify the complexity of the interaction between the two co morbidities. One such study concluded that there was no causal relationship between the two conditions while another study concluded that depressed immunity in malnourished children makes them more vulnerable to infection by malaria. Other studies have also documented that Protein Energy Malnutrition (PEM) especially that caused by stunting (HAZ) may be significantly associated with increased levels of specific malaria antibodies [5].

In conclusion, nutritional status of a person suffering from malaria is thought to be one of the biggest factors of host resistance and recovery. Unfortunately, malaria is more prevalent in areas or regions where undernourishment and poverty levels are high. Access to levels of treatment may also be low, prolonging the illness and increasing levels of malnourishment [5]. As undernutrition has been linked to increased risk of morbidity. it is crucial to address these issues in order to combat malnutrition and the risk of death of malaria sufferers.

## REFERENCES

1. **Bilal S, Wakgari D and L Bernt** Association between malaria and malnutrition among children aged under-five years in Adami Tulu District, south-central Ethiopia: a case–control study. *BMC Public Health*.2016; **16**: 174.

2. **Kenya Demographic Health Survey**, 2017.

3. **Ngare DK and JN Muttunga** Prevalence of malnutrition in Kenya *East African Medical Journal* 1999;**76(7):**376-80.

4. **WHO.** World Malaria Report, 2013-2017.

5. **UNICEF.** Kenya Humanitarian Situation Report, 5 July 2017.