

1145-92-576

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Veda Chandwani. *Reducing severe malaria incidence with gut microbiota.*

Malaria is a major burden on the general health and economic wellbeing of Sub Saharan Africa. Sub Saharan Africa endures the highest malaria incidence in the world, with cases ranging from 130 to 266 million per year, and annual costs of at least 3.9 billion. A disproportionate amount of these incidences and costs are attributed to severe malaria in children. The reason for this is children generally have no prior immunity to malaria infection, and thus are far more likely to endure anemia, cerebral, and neurological side-effects. Consequently, interventions that reduce the occurrence of severe malaria are in desperate need. One potential intervention is gut microbiota. To elaborate, recent clinical studies have shown that gut microbiota have ability to mitigate the severity of malaria, which suggests the roll out of a dried yogurt (containing the microbiota) would dramatically reduce severe malaria incidence. However, the health benefit and cost-effectiveness of such an intervention at the population level has yet to be evaluated under the malaria transmission intensities occurring in Sub Saharan Africa. Here, we evaluate the roll out of such a gut microbiota intervention to gauge its benefit in reducing severe malaria incidence through the use of mathematical modeling. (Received September 10, 2018)