

Associations between infant chubbiness and Dengue Haemorrhagic Fever



Dengue fever is caused by the dengue virus, which is principally transmitted by the mosquito *A. aegypti*. It represents the most prevalent arthropod-borne viral illness in humans, where over 50% of the world's population is at risk. In fact the global burden of symptomatic dengue is on the order of 100 million cases/year.

It has been noted that in primary dengue virus infection, which occurs mostly in the first year of life, that severe clinical symptoms are seen only in chubby infants. In a recent edition of PLoS Neglected Tropical Diseases, Libraty and colleagues report on a prospective observational study of infants in the first of life to ask the following question: does adipose tissue accumulation in infants associate with severe dengue fever?

The authors found that adipose tissue "contains two potential targets for dengue virus infection and production- adipocytes and adipose tissue macrophages." During early infancy, total body adiposity and visceral adipose tissue stores peaked and this observation was characterized by a relative decrease in alternatively activated macrophages, and a relative increase in circulating pro-inflammatory cytokines in these children. They conclude that such inflammatory conditions in these children provide a conducive environment for the development of severe dengue fever upon viral transmission.

[Libraty, D. et al. 2015. The Pattern of Adipose Tissue Accumulation during Early Infancy Provides an Environment for the Development of Dengue Hemorrhagic Fever. *PLOS*.](#)