6<sup>th</sup> International Conference on

## **Tropical Medicine and Infectious Diseases**

January 28-29, 2019 | Barcelona, Spain

## Asymptomatic malaria-parasitemia plays a role in the prevalence of anemia in children aged under 5 years living in South Kivu/Democratic Republic of Congo: A cross-sectional study

Yvette Lufungulo Bahati Ghent University, Belgium

**Background:** At present, malaria is considered endemic in more than 90 countries. One of the most important problems in controlling malaria is the limited access to effective and accurate diagnosis of malaria parasitemia. DRC is heavily affected by malaria which is one of the leading causes of morbidity and mortality in the country. However, in these areas, asymptomatic infections are considered benign, and so, not diagnosed nor treated. The purpose of this study is to assess the prevalence of anemia and the relationship with asymptomatic plasmodium falciparum infection.

**Methodology:** A cross sectional study was carried out among 571 children between 6 and 59 months old selected at random in the Health Zone of Miti Murhesa in South Kivu/DRC. Capillary blood was obtained for hemoglobin (Hb) concentration measurement by Hemocue Hb301<sup>\*</sup>. Malaria detection was performed by thick blood smear microscopy and the loop-mediated isothermal amplification (LAMP) assay or the illumigene malaria assay<sup>\*</sup> (Meridian Bioscience). Anemia was defined as Hb<11g/dl. We applied Chi-squared test (MedCalc) as statistical test.

**Results:** The prevalence of anemia was 52 %. Malaria infection was diagnosed in 20.7 % and 42.8 % of the children, respectively by thick blood smear microscopy and LAMP. In children diagnosed with malaria, by microscopy or LAMP, anemia was statistically more prevalent (both p<0.0001). Importantly, in the group of children negative with microscopy, but positive with LAMP, anemia was also significantly more prevalent (65%) than in children without malaria parasites (35 %) (p<0.0001).

**Conclusion:** The prevalence of malaria in children was underestimated when thick smear microscopy was used to diagnose malaria. Moreover, children with low parasitemia detected by LAMP but not by microscopy showed a significantly increased prevalence of anemia. Accurate diagnosis is essential to control malaria-associated anemia in malaria-endemic countries.

## Biography

Yvette Lufungulo Bahati is a Pedriatrician in Bukavu/DRC. She initiated a research program in order to get a better insight in the causes of anemia in a pediatric population in South Kivu, a collaboration between Université Catholique de Bukavu/DRC and Ghent University/ Belgium. This research aims to explore the mechanisms causing anemia in childhood in a Bantou population living in a volcanic region. Our results will help to improve strategies to reduce the prevalence of anemia and their consequences.

yvebahati@gmail.com

Notes: