

Relation entre le portage asymptomatique du plasmodium, l'anémie et l'état nutritionnel chez les enfants de moins de 5 ans vivant dans les zones à transmission stable à Kinshasa, en République Démocratique du Congo

The relationship between asymptomatic carriage of Plasmodium falciparum, anemia and nutritional status in children aged under five years living in stable transmission zones in Kinshasa, Democratic Republic of Congo

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Summary

Introduction. Asymptomatic carriage (AC) plays a role in the sustainability of the transmission and may have an impact on comorbidity factors. The objective of this study was to assess AC prevalence and its relationship with some known morbidity factors in a vulnerable stratum of the population.

Methods. A simple random sample, household survey in asymptomatic children under the age of five was conducted from April to September 2012 in two health areas of the health zone of Mont Ngafula 1, Kinshasa, Democratic Republic of Congo.

Results. The AC prevalence were 30.9% (95% CI: 26.5-35.9) and 14.3% (95% CI: 10.5-18.1) in Cité Pumbu (CP) and Kindele, respectively. The prevalence of anemia was 61.6% (95% CI: 56.6-66.5) in CP and 39.3% (95% CI: 34.0-44.6) in Kindele. CP had a larger proportion of chronic

malnutrition compared to Kindele (OR: 8; $p < 0.001$). AC was predictor factor for anemia (aOR: 3.5, $p = 0.01$) and, an inverse relationship was observed between parasite density and hemoglobin level ($\beta = -5 \times 10^{-5}$, $p < 0.001$). Age older than 12 months (aOR: 3.8, $p = 0.01$), anemia (aOR: 3.4, $p = 0.001$), chronic malnutrition (aOR: 1.8, $p = 0.01$), having a single parent/guardian (aOR: 1.6, $p = 0.04$), and the non-use of insecticide-treated nets (aOR: 1.7, $p = 0.04$) were predictors for AC.

Conclusions. AC was correlated with some comorbidity factors and was thus a harmful condition in the study population. Malaria control initiatives should not only focus on prevention and treatment of symptomatic infections but also take into consideration asymptomatic but infected children.

Keywords: asymptomatic carriage, anemia, malaria, prevalence, transmission