

vaccine. The yellow fever vaccination uptake is associated with maternal education, occupation, possession of health insurance and being born to mother belonging to the highest strata of wealth index. In addition, children born to mothers living in less economic disadvantaged neighbourhood are more likely to receive yellow fever vaccine compared to their counterpart from highly economically deprived neighbourhoods.

Conclusion: Yellow fever vaccine uptake among children in Togo is marked by socioeconomic inequities.

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UMP. 732

Impact of exposure to mosquito transmission-blocking antibodies on *Plasmodium falciparum* population genetic structure

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Background: Progress in malaria control has led to a significant reduction of the malaria burden. Interventions that interrupt transmission are now needed to achieve the elimination goal. Transmission-blocking vaccines (TBV) that aim to prevent mosquito infections represent promising tools and several vaccine candidates targeting different stages of the parasite's lifecycle are currently under development. A mosquito-midgut antigen, the anopheline alanyl aminopeptidase (AnAPN1) is one of the lead TBV candidates; antibodies against AnAPN1 prevent ookinete invasion.

Methods & Materials: In this study, we explored the transmission dynamics of *Plasmodium falciparum* in mosquitoes fed using direct membrane feeding assays (DMFA) with anti-AnAPN1 monoclonal antibodies (mAbs) vs. untreated controls, and investigated whether the parasite genetic content affects or is affected by antibody treatment.

Results: Exposure to anti-AnAPN1 mAbs was efficient at blocking parasite transmission and the effect was dose-dependent. Genetic analysis revealed a significant sib-mating within *P. falciparum* infra-populations infecting one host, as measured by the strong correlation between Wright's F_{IS} and multiplicity of infection. Treatments also resulted in significant decrease in F_{IS} as a by-product of drop in infra-population genetic diversity and concomitant increase of apparent panmictic genotyping proportions. Genetic differentiation analyses indicated that mosquitoes fed on a same donor randomly sampled blood-circulating gametocytes. We did not detect trace of selection, as the genetic differentiation between different donors did not decrease with increasing mAb concentration and was not significant between treatments for each gametocyte donor. Thus, there is apparently no specific genotype associated with the loss of diversity under mAb treatment

Conclusion: Finally, the anti-AnAPN1 mAbs were effective at reducing mosquito infection and a vaccine aiming at eliciting anti-

AnAPN1 mAbs has a strong potential to decrease the burden of malaria in transmission-blocking interventions without any apparent selective pressure on the parasite population

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UMP. 733

Epidemiological profile of influenza-related mortality in children under five years old. Brazil, 2000-2015

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Background: In Brazil, since 1999, the Ministry of Health has conducted annual vaccine campaigns targeting the elderly (above 60 years of age) and other groups in risk of severe disease. The inclusion of new target groups was gradual and in 2014, children aged 6 months to less than 5 years of age were also included. The objective of this study is to describe the epidemiological profile of influenza-related mortality in children from six months to under five years old.

Methods & Materials: A descriptive study was conducted using Brazilian Mortality Information System (SIM) data from 2000 to 2015. Records were selected for influenza-related causes (IRC): J09 to J18, J22, J40 to J42 and J44.

Results: 192,456 deaths were reported among children aged 6 m.o. to less than 5 y.o. during 2000-15, of which 33,468 were due to diseases of the respiratory system. Considering the death caused by diseases of the respiratory system, 22,985 (69%) deaths were reported according IRC criteria. We observed a continuous reduction in the influenza-related mortality during the years (2,361; 10.3% in 2000 to 1,024; 4.5% in 2014). The deaths occurred most frequent in São Paulo State (17.7%), Paraná State (8.6%) and Bahia State (8.3%). The most affected age group was 1 y.o (33.7%) and 2 y.o. (14.1%). The most frequent cause of death (88.0%) was pneumonia due to an unspecified microorganism (J18). As a limitation we identified the complexity of the SIM database, considering the number and type of variables, which reflects the variables in the standard form. Studies shows that the SIM presents a good data quality and, probably, underreporting is low because this is a Brazilian universal system, linked to civil and legal issues, being mandatory the fulfillment of the "Declaration of Death" and consequent inclusion in the system.

Conclusion: The results show that community-vaccination measures may be related to the reduction of deaths due to influenza-related causes in children under 5 y.o.. Considering the most affected age groups, the vaccination strategy should be strengthened at 6-Months-Old. In addition to reducing mortality from influenza-related causes in children, this strategy may reduce family outbreaks of influenza.

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