

## Dengue019- Incidence of dengue fever in an urban slum community in Salvador, Brazil

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**Introduction:** Symptoms of dengue infection are nonspecific, complicating diagnosis and case reporting. Active surveillance is needed to better characterize disease burden. The objectives of this study were to estimate the incidence and identify risk factors for dengue fever (DF) in an urban slum community in Salvador, Brazil. **Materials and Methods:** We conducted enhanced surveillance for febrile illness from April 2009-March 2011 at the only public emergency unit in the Pau da Lima community. Acute and convalescent sera were collected from residents  $\geq 5$  years old presenting for acute febrile illness during standard business hours. Community members presenting with fever outside of recruitment hours were identified by chart review. DF cases were confirmed by positive NS-1 or IgM or IgG seroconversion. Using age-stratified dengue rates among participants, we first projected the DF frequency among community members evaluated for febrile illness, and then estimated the incidence of DF in Pau da Lima using 2010 census data. We assessed potential sociodemographic and clinical factors associated with DF using  $\chi^2$  and Mann-Whitney U for categorical and continuous variables, respectively. **Results:** During the study period, 12,379 community members who were  $\geq 5$  years old presented to the unit due to a febrile illness. Of these, 3,075 (25%) were recruited into the study. No sociodemographic or clinical differences were seen between recruited and non-recruited patients. Of the recruited patients, 578 (18.7%) had laboratory-confirmed dengue infection. The median age of cases was 19 years old. Patients with DF were more likely to be male (OR 1.5,  $p < .01$ ), to have education higher than primary school (OR 1.3,  $p = .02$ ) and to have lower income ( $p < .01$ ). In addition, they more frequently reported retro-orbital pain ( $< .01$ ), arthralgia's ( $p < .01$ ), rash ( $p < .01$ ), and prostration ( $p = .05$ ). Thirty-one (1%) cases were hospitalized. The estimated mean annual incidence of DF was 1,636.8 per 100,000 (95% CI: 1,571.3-1,704.4). The 5-14 years old age group had the highest incidence (4081.6 per 100,000, 95% CI: 3,835.4-4,339.6). **Main Conclusions:** The estimated incidence of DF in this community was  $> 7$  times higher than reported in Salvador for 2009 and 2010 (217.7 and 229.0 per 100,000, respectively). This discrepancy may result from regional variances, but it more likely reflects better case ascertainment by enhanced surveillance. Enhanced surveillance is an essential step in quantifying dengue burden and understanding its transmission dynamics at the community level. **E-mail:** tassialq@hotmail.com