

TITLE: CHIKUNGUNYA IgM DETECTED PROFILE IN FORTALEZA, BRAZIL: BASELINE DATA FROM A ZIKA VIRUS COHORT

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ABSTRACT:

Chikungunya, caused by the chikungunya virus (CHIK), is a mosquito borne disease transmitted by *Aedes mosquitoes* and an important public health problem in Brazil since 2014. An outbreak of CHIKV occurred in Ceará in 2017; 38,948 cases per 100,000 inhabitants reported. A seroprevalence study was conducted to characterize the profile of CHIKV detection in Fortaleza, Brazil. Women were recruited for a cohort study of ZIKV infection from the population of women 15-39 attending one of four health clinics in 4 separate health districts in Fortaleza, Brazil. We conducted a survey of socioeconomic conditions and collected sera for CHIKV in the first round of the study, reported here. The presence of CHIKV IgG and IgM antibodies were evaluated by a commercial kit based on enzyme-linked immunosorbent assay (ELISA). We evaluated 1,465 serum samples; 1,416 were eligible for ELISA, with 195 positives for CHIKV IgM. Forty-nine women (3.3%) were inconclusive. Mean age was 24.3 years (SD 6.4), they declared be brown (142; 72.8%) and have high school degree (79; 40.5%); they declared familiar income about two minimum wages (38.3%; median of R\$ 1,402.2, SD 890.3), received some benefit from a social program (123; 63.1%), did not work currently (69; 60%) nor have work permit (118; 67.8%). The majority lived in an own-house or apartment (71; 36.4%) with water supply by general distribution network (170; 87.2%) and asphalted/paved street (150; 76.9%); the presence of backyard/garden in residences was referred by 115 (59%) and daily cleaned (84; 73.4%). The average number of people living in the same settlement was four (SD 1.1). Less than a half of the chikungunya detected participants self-reported hypertension (25; 12.8%), cardiovascular diseases (6; 3.1%) or diabetes (6; 3.1%). Use of repellents was reported by 96 (49.2%) of the participants, which used it occasionally (35; 43.7%). This study identified a social, environmental and behavioral profile for chikungunya infected women in Fortaleza in a non-epidemic period.

Keywords: Chikungunya virus; prevalence; IgM antibodies; Brazil; Fortaleza

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