

## ABSTRACT

Dengue is the most rapidly spreading arbovirus infection globally and exhibits a substantial temporal and geographical variability. The number of dengue cases reported annually to WHO has progressively increased from 0.4 to 1.3 million in the decade 1996–2005, reaching 2.2 million in 2010 and 3.2 million in 2015. Kenya has experienced heightened cases of dengue in recent years with outbreaks in Mandera in 2011 and Mombasa in 2012, 2013 and 2017. Prevalence of dengue among febrile patients in Mombasa in 2015 was 15% as the latest published data show. Dengue virus (DENV) has four closely related but serologically distinct viruses denoted as DENV-1, DENV-2, DENV-3, and DENV-4. Clinical manifestation of dengue ranges from mild-self resolving dengue fever (DF) to severe life threatening forms of dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). Major risk factors for DHF and DSS are mosquito vector population and secondary infection of DENV 1- 4. With no direct treatment for dengue, patients are normally given supportive therapy to aid healing. The progression to DHF and DSS occurs shortly after the fever has subsided and this may mislead health care providers that the patient is leading to recovery. The burden of DHF and DSS is poorly quantified with increasing geographic expansion to new countries. The study was aimed at determining the prevalence of DF, primary and secondary infections and investigating the incidence of DHF and DSS. This was a hospital-based cross-sectional study where 203 patients attending the Coast Province General Hospital and presenting with fever were recruited between October 2016 and May 2017. The DENV specific IgM and IgG antibodies were determined using enzyme-linked immunosorbent assay (ELISA). Results showed that 36 (17.7%) out of 203 febrile cases were positive for anti-DENV IgM. About twenty one cases (10.3%) were primary infections and 15 (7.4%) were secondary infections. None of the patients could fit the criteria for DHF/DSS. The relationship between age groups and type of infection, whether primary or secondary, was found to be significant ( $p=0.027$ ) with primary infections highest (4.5%) in the 30-44 age groups whereas secondary infections were highest (4%) in age group 15-29. No incidence of DHF or DSS was reported in this study. However, study reported a prevalence increase from previous years showing the endemic nature of dengue. Adequate public health planning to avert the life threatening DHF and DSS is required since dengue is a rapidly increasing global public health threat.