Index and Secondary Cases

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ABSTRACT

Zanzibar introduced malaria case-based surveillance in 2012. District Malaria Surveillance Officers (DMSOs) investigate malaria cases notified by health facilities using a web-based surveillance system. DMSOs collect index case details at the diagnosing health facility and household. Later they perform malaria rapid diagnostics tests (mRDT) for members of index case households, treat those with a positive mRDT result antimalarial drugs, and complete case classification based on WHO guidelines. This data is transmitted to a central database for analysis and use. We aimed to evaluate the demographic characteristics, occupation, travel history, and preventive measures associated with malaria infection between July 2019 and February 2020. A logistical regression model was used to investigate factors associated with infection. Among the 9,181 index cases notified by health facilities, 5,064 (55%) were investigated to household level; 13,149 household members were tested by mRDT, 426 (3%) were positive. Among the 5,490 total cases, 2,361 (43%) were classified as locally acquired and 3,129 (57%) as imported based on self-reported travel history in the past 30 days. Of the 2,361 locally acquired cases, 158 (7%) had confirmed malaria infection in the past 30 days. Malaria infections among index cases and household members was associated with recent malaria infection in the past 30 days, OR 9.12, (95% CI 7.47-12.11), self-reported non-adherence to antimalarial drugs, OR 4.34 (95% CI 2.71-5.76), not using bednets, OR 1.11, (95% CI 1.04-1.19), and occupations as fishermen, OR 2.22 (95% CI 2.08-2.37) and police, OR 1.40 (95% CI 1.26 - 1.55). Reducing risk factors associated with infection might be addressed through social behavior change communication efforts to raise community compliance to treatment and preventive measures, such as bednets.