

Abstract

Background: Malaria persists to be one of the major significant diseases in the world. A range of antimalarial drugs are readily accessible but management of the disease remains a problem. Despite the broadened spread of resistance to Sulfadoxine Pyrimethamine (SP), it still remains the suggested drug to treat and prevent malaria in expecting women and children below five years. This study sought to assess the current trend of SP resistance markers a decade after it was withdrawn as the first-line anti-malarial in Msambweni, Kwale County, Kenya.

Materials and Methods: Smear-positive samples (N=134) collected from June 2013 cross-sectional study amid infants visiting Msambweni District Hospital were evaluated for mutations in dhfr and dhps genes. Extraction of DNA was done using Chelex method followed by PCR amplification of dhfr and dhps genes. Specific enzymes were used to cleave the successfully amplified DNA to establish the samples as either mutated or wild type.

Results: Pfdhps/pfdhfr A437G/K540E/N51I/C59R/S108N quintuple mutant linked with SP-resistance did not change significantly ($p=0.967$).

Conclusion: This survey proves fixation of key mutations in the Pfdhfr and Pfdhps genes conferring resistance to SP. Further research involving more samples and endemic sites need to be conducted to endow the stakeholders with information on the emergence and increase of SP resistance