

The prevalence of symptomatic and asymptomatic malaria and its associated risk factors in Debre Elias District communities, Northwest EthiopiaAbtie Abebaw^{1,2}, Tadesse Kebede² and Asrat Hailu²¹Debre Markos University, Ethiopia²Addis Ababa University, Ethiopia

Introduction & Objective: Malaria is a major public health problem which still results in illness and death despite appropriate intervention measures being taken. Malaria could be either asymptomatic or symptomatic so, identification of such infections is very important to control malaria. The objective of the present study is to assess the prevalence of symptomatic and asymptomatic malaria infections and its associated factors in Debre Elias district communities, Northwest Ethiopia.

Method: A community based cross-sectional study was conducted from 01 May to 30 June 2018 among selected Kebeles in Debre Elias district. A multi-stage sampling technique was carried out to select representative households. A total of 440 individuals were randomly selected from 440 households. Malaria prevalence was determined by using both light microscopy and CareStart™ Malaria HRP2/pLDH (Pf/Pv) Combo (RDT) test. Associated factors were assessed by using structured questionnaires. Data entry and analysis was done by Epi info 3.1 and SPSS version 23, respectively. The association between dependent and independent variables were explored by using bivariate and multivariate logistic regression. Statistically significant association was declared at P value of <0.05.

Results: A total of 440 individuals were included out of which 333 were asymptomatic and 107 were symptomatic. From 333 asymptomatic participants, n=16 (4.8%, 95% CI=2.6-7.3) and n=14 (4.2%, 95% CI=2.1-6.5) were positive for malaria infection by RDT and light microscopy, respectively. Similarly, from 107 symptomatic individuals the prevalence of malaria was n=8 (7.5%, 95% CI=2.8-12.6) by both RDT and light microscopy. Overall prevalence of malaria was n=22 (5%, 95% CI=3-7) by light microscopy with the majority of infection (59.1%) caused by *P. falciparum*. Utilization of ITN occasionally [AOR=4.51 (95% CI=1.21-16.79)], not using ITN [AOR=5.47 (95% CI=1.04-28.5)], house with eave [AOR=3.35 (95% CI=1.02-10.93)], previous history of malaria infection and family history of malaria infection [AOR=3.87 (95% CI=1.10-13.61)] were identified as associated factors for malaria infection in the study area (P<0.05). Almost perfect measure of agreement was observed between RDT and light microscopy (Kappa value =0.954).

Conclusion: The findings indicate that malaria remains an important public health problem in Debre Elias district. Further studies needs on the burden of malaria using more sensitive methods such as PCR to scale up the eradication and control program of malaria.

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