

# **Epidemiological Assessment of Climate Change and Malaria Trend**

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## **Abstract**

Malaria transmission is determined by vectors, hosts and pathogens. Also these determinants are thought to be affected by changes in climate conditions of the environment. This study aimed to detect the trend of malaria and climatic factors change with malaria transmission. Community-based, cross-sectional descriptive study was done in Pyin Oo Lwin Township, Mandalay Region from January to December, 2014. Data of the climatic factors were collected from Meteorological Department of the studied township. Monthly data of malaria morbidity and mortality from 2004 to 2014 were collected from Vector-borne Disease Control Unit of the township. Geographical information for malaria detections was collected at endemic areas during this period. Percentage of malaria patients among the patients attending at both primary health centers and hospitals were significantly reduced ( $p=0.001$ ) but, climate variables such as temperature, rainfall and humidity did not changed significantly from 2004 to 2014. In correlation analysis, percentage of malaria patients among the patients attending at both hospitals and primary health centers were significantly increased with increasing humidity ( $p=0.008$  &  $0.018$ ). However, percentage of malaria patients among hospital admitted patients was significantly reduced with increasing monthly mean temperature. In conclusion, monthly humidity showed significant correlation with malaria prevalence in Pyin Oo Lwin. An outlook on environmental conditions favorable for the occurrence and spread of malaria could be a part of reporting and monitoring to aid future predictions on malaria occurrence.