

Abstract

# Outbreak Investigation of Malaria in Usta Mohammad, District Jaffarabad

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**Abstract**

**Background:** On 7 August 2017, District Health office received information about 2 deaths due to high grade fever at Usta Mohammad. 7 similar cases were also reported from same village.

**Objective:** Descriptive followed by Case Control study was conducted to investigate outbreak and to assess risk factors

**Methods:** Descriptive followed by Case Control study was conducted to investigate outbreak and to assess risk factors. Case was defined any person resident of Usta Mohammad, regardless of age and sex, having fever with chills with August 7th August to 26th September 2017. Review of hospital records and active case finding was done through house to house survey. Matched for Age and sex controls were taken from locality with a ratio of 1:2 and interviewed. Blood samples were taken for microscopy and rapid diagnostic tests. Data were analyzed using EpiInfo version 7.0.

**Results:** 180 cases identified with mean age of 22.5 years (range: 01-60). Males were 59%. Age group 1-20 years was most affected (n=59). All cases were confirmed on microscopy and 90% (n=162) were positive on rapid test. Plasmodium falciparum was positive in 35% (n=64) while rest were positive for Plasmodium vivax. Attack rate was 31.4%. Case fatality was 12%. Spot map shows clustering around a stagnant Pond water. Epi curve shows sudden outburst of cases on 23th of September 2017. statistical associations was found between disease occurrence and following risk factors; Stagnant water pond (OR 48.23, 95% CI 4.43-31.27;  $P<0.05$ ), non-usage of repellents (OR 5.3, 95% CI:2.67-13.52;  $P<0.05$ ), absence of window screens (OR 11.2, 95% CI 5.44-41.12;  $P<0.05$ ), absence of insecticide spray (OR 4.22, 95% CI 6.76-183.72;  $P<0.05$ ) and waste dump near houses (OR 7.2, 95% CI 4.91-33.41;  $P<0.05$ ).

**Conclusions:** Stagnant Pond water was major mosquito breeding site and probable cause of outbreak. Mass awareness, Residual sprays, pond treatment by larvicidal, provision of bed nets and prophylaxis with chloroquine were able to control the outbreak.

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