Abstract

Epidemiological Determinants Associated with the Spread of Dengue Fever in Lahore, Punjab -2013

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Background: Dengue is the most rapidly spreading mosquito-borne viral disease in the world. It is one of the important public health emergencies of international concern as per International Health Regulations (IHR). In Punjab the disease suddenly saw an upsurge towards August 2011 especially in Lahore and adjoining areas of Punjab. By 2011, total of 20864 cases of Dengue had been reported in the province, including 17256 in Lahore alone. A large number of these cases i.e. 21292 in Punjab including 17232 in Lahore only were cured while a total of 352 deaths including 279 in Lahore were reported. Apart from Lahore, maximum number of cases have been reported from Faisalabad (783), followed by Rawalpindi (410), Pakpattan (233) and Sheikhupura (225).

Objective: To identify epidemiological determinants responsible for causation of Dengue for preventing future outbreaks in the study area particularly and in Punjab in general.

Methods: A case control study was conducted in December 2013 to identify the epidemiological determinants for spread of Dengue Fever. Cases were those confirmed with IgM/IgG positive (n=147) living in Data Ganjbaksh town Lahore and controls (n=300) were selected from the same area who were suspected cases with laboratory negative results. A standardized questionnaire was developed to collect data. A line list of cases was developed, and data was analyzed using Epi Info version 7.0

Results: Variables found significant in the bivariate analysis were included in a logistic regression analysis. The presence of indoor stagnant water (OR 3.7), indoor larvae (OR 3.1), not using repellent (OR 2.7), and older age (OR 1.2) were independent determinants of dengue infection ($P<0.01$ for all).

Conclusions: Health education campaigns for improved water storage practices. Indoor residual sprays in urban and peri-urban high-risk areas 1 month before the transmission period. Community based environmental management was recommended.

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