

BIOLOGICAL, PHYSICAL, SOCIAL, AND ENVIRONMENTAL FACTORS ASSOCIATED WITH DENGUE HEMORRHAGIC FEVER IN NGANJUK, EAST JAVA

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ABSTRACT

Background: Dengue Hemorrhagic Fever (DHF) is an infectious disease transmitted by mosquitoes that carry dengue virus (DV). This disease is endemic in more than 100 countries. Nganjuk district, East Java, is a DHF endemic area with sharp increase in DHF incidence by 286% from 2014 to 2015, of which 9 cases died. This study aimed to examine biological, physical, social, and environmental factors associated with dengue hemorrhagic fever in Nganjuk, East Java.

Subjects and Method: This study was observational analytic with case control design. It was conducted in Nganjuk District, East Java, from May to June, 2017. A sample of 120 children aged less than 15 years old were selected for this study by fixed disease sampling. This sample consisted of 40 children with DHF selected as cases and 80 neighboring children without DHF selected as controls. The independent variables were the existence of bush surrounding the house, existence of mosquito larvae, still water, hung clothes, mosquito breeding place control (PSN), and activity of larva monitoring cadre. The dependent variable was DHF cases. The data were collected by a set of pre-tested questionnaire and observation with a checklist. Logistic regression was employed for data analysis.

Results: Incidence of DHF case was determined by the existence of bush surrounding the house (OR= 2.14; 95% CI= 0.99 to 4.6; p= 0.052), existence of mosquito larvae (OR= 14.94; 95% CI= 5.91 to 37.73; p<0.001), still water (OR=11.42; 95% CI= 4.68 to 27.89; p<0.001), hung clothes (OR= 4.31; 95% CI =1.92 to 9.70; p<0.001), mosquito breeding place control (OR=0.06; 95% CI= 0.02 to 0.15; p<0.001), and activity of larva monitoring cadre (OR= 0.14; 95% CI= 0.06 to 0.32; p<0.001).

Conclusion: Existence of bush surrounding the house, existence of mosquito larvae, still water, hung clothes, mosquito breeding place control, and activity of larva monitoring cadre, are the determinants of DHF incidence.

Keywords: biological, physical, social, environmental factor, mosquito breeding place control, Dengue Hemorrhagic Fever

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