

ABSTRACT

BACKGROUND: Diphtheria is a contagious acute infectious disease caused by the exotoxin of *Corynebacterium diphtheriae* bacteria. The number of diphtheriae cases is increasing in East Java province, Indonesia. Immunization completion status is considered to be the most determining factor of diphtheriae incidence in population. The objective of this study is to investigate the correlation between the immunization status and the severity of diphtheriae in Sampang Regency.

METHOD: This study is an analytic study with a cross-sectional approach. The sampling in this study used random sampling. Data is obtained from medical records from East Java Provincial Office of Health Affairs. Incomplete data was supported by interviewing diphtheria patients in the region. The data collected were about immunization status, the diphtheriae severity (mild, moderate, or severe diphtheriae), case fatality (dead or survived) and complications in the patients (with or without complications). Data were collected, sorted, edited, coded, cleaned, tabulated and analyzed by a computer software using Spearman, Chi-square, and Fisher's Extract test accordingly.

RESULT: 71 patients with clinical diphtheriae were identified, 17 were confirmed with positive culture results. Case Fatality Rate is 7,0% in patient with clinical diphtheria and 5,9% in those with confirmed diphtheria. Our study shows no significant correlation between patients' immunization status with the severity ($p=0,469$ clinical, $p=0,610$ confirmed) and fatality ($p=0,618$ clinical, $p=0,294$ confirmed) of diphtheriae in the clinical and confirmed diphtheriae patients. But there is a correlation between patients' immunization status and the emergence of complications in clinical diphtheriae ($p=0,013$) patients but not in confirmed diphtheriae patients ($p=0,620$).

Keyword: *Diphtheria, Immunization Status, Diphtheria Severity, Fatality, Complication*