Norovirus outbreak among students of a boarding school in Kluang, Johor, Malaysia

ABSTRACT

Introduction: Norovirus (NoV) is a contagious virus causing acute gastroenteritis and is mainly responsible for diarrheal outbreak in closed settings. The aims of this study were to describe the epidemiological characteristic of an outbreak in a boarding school, to assess the extent of the outbreak and to implement appropriate control measures. Methodology: A descriptive study was conducted to describe the epidemiological characteristics of the outbreak. Data on demographic details, onset of abdominal symptoms, food intake history and contact with ill person three days prior to illness were obtained. Results: Twelve fresh stool and 14 food samples were tested for NoV and enteric pathogens, respectively. Out of 745 students, 42 (5.6%) were infected during this outbreak. Predominant clinical features were diarrhea (76.1%), vomiting (71.4%) and abdominal pain (67%). Eight (67%) stool samples and six (43.9%) food samples were positive for NoV and total coliforms, respectively. The dissemination of the disease was due to poor hygiene practices among students. Quarantine was imposed until the last case on September 28, 2016. The outbreak was declared over on September 30, 2016. Conclusions: A NoV outbreak was determined first time in Malaysia. Environmental assessment showed poor hygienic conditions in the school’s kitchen. The number of infected students increased considerably despite the implementation of preventive and control measures. Quarantine was effective to stop the outbreak which is characteristics of NoV outbreak.