

Waterborne food poisoning outbreak of *Bacillus Cereus* in primary school Sabah East Malaysia

Abstract

On 15 Feb 2012, food poisoning outbreak occurred in a primary school that never reported any incident before. A team was sent to identify the risk factor and to institute control measures. A retrospective cohort study design was applied. All persons who attended the school canteen meal on 15 Feb 2012 were interviewed, using a standard questionnaire. Environmental investigations included observations of kitchen, water supply, sanitation, food-handling procedures and the collection of environmental samples for microbiological analysis. 33 of 188 people had upper gastro-intestinal symptoms. All were students whereas school staff members ate food from outside the canteen. Mean incubation period was 30 minutes. Of 15 foods, nasi kuning was associated with the outbreak, RR 3.8 (95% CI 2.19-6.56). Kitchen cleanliness was poor. Temporary shortage of water supply caused them to use untreated water from the village well. Food handler practiced unhygienic food preparation. *Bacillus cereus* was isolated from water tank, preparation table surface and hand towel. Nasi kuning was most likely the source of *B. cereus* sp. outbreak probably from cross-contamination during food handling as a result of poor hygienic practices and using untreated water tank. The outbreak stopped with closure of school canteen. Food premises inspection must ensure all water is potable.