

A neighborhood picnic ended up in a neighborhood food poisoning in Yogyakarta, Indonesia, 2017

Fovilia Dewi, Dahlan Napitupulu, Susilawati Susilawati, Riris Andono Ahmad

Background

Foodborne diseases are an important cause of morbidity and mortality worldwide. In mid July 2017, a Public Health Center (PHC) reported a number of residents in neighborhood X having diarrhea after going on a picnic the day before. An investigation was conducted to confirm and describe the outbreak, to identify the source and the transmission.

Methods

A retrospective cohort study was performed. Cases were persons who consumed picnic meal and had diarrhea and or abdominal pain during July 16-17, 2017. Food handlers and residents who consumed the meal were investigated. Data was collected using a questionnaire and observation checklist. Food samples were taken to Yogyakarta Laboratory for microbiological analysis. Bivariate and multivariate analyses were performed to obtain RR value.

Results

The epidemic curve was that of a common source outbreak. Sixty two residents became ill (AR 62.6%; N=99) and had diarrhea (95%) and abdominal pain (79%). The average incubation period was 11 hours. The outbreak lasted less than 24 hours. The 41-50 years age group had the highest attack rate (87.5%). For lunch, the residents ordered ricebox, grilled chicken, offal chicken meats, eggs with soy sauce, vegetable dish, sliced cheese cake, and rice cake. Multivariate analysis showed that grilled chicken was the source of this outbreak (RR=3.6; p=0.013; 95%CI : 1.3 – 9.9) and laboratory analysis found *Bacillus cereus* in grilled chicken. Food handlers stated that the raw chicken meat was not fresh. The materials were purchased in the afternoon, cooked at dawn the next day, and consumed at lunch time.

Conclusions

The food poisoning outbreak in neighborhood X was caused by *Bacillus cereus* in grilled chicken. Failure to provide fresh chicken meat, poor kitchen hygiene and sanitation, and improper food handling might have enabled spore contamination and growth. Health promotion, training, and regular monitoring are necessary to avoid similar outbreaks.

Keywords: food poisoning, outbreak, *Bacillus cereus*, grilled chicken