Food Poisoning Outbreak among School Children in Terengganu Year 2016: Its Characteristics and Associated Factors

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Abstract

Food poisoning is a public health problem in Malaysia and is the top five communicable diseases in Malaysia. Terengganu had also shown increasing trend of food poisoning involving school children. This study aimed to determine the proportion, characteristics and to determine the associated factors of food poisoning cases involving school children in Terengganu in year 2016. This was a retrospective record review using secondary data of 21 food poisoning outbreaks collected among school children in Terengganu that involved in food poisoning outbreak at school in year 2016. The data were obtained from Borang Siasatan Keracunan Makanan’ (FWBD/KRM/BG 001) Pindaan 2008 and final outbreak report from eWabak system. There were total of 21 episodes of food poisoning outbreak involving school in Terengganu year 2016 with the proportion of 63.6%. Total sample were 2589 students (643-cases, 1946-controls). Ministry of Education (MOE) schools had contributed to 95.3% of food poisoning outbreak cases and 81% occurred at secondary schools. Schools located in rural district contributed to 57.1% of the food poisoning outbreak. Poultry (61.9%) was the most food vehicle related to school food poisoning outbreak, Salmonella spp. (52.4%) was the commonest microbial etiological agent involved and 57.1% of critical control point involved was inadequate cooking and reheating. Schools that were located in rural district had the adjusted odds (aOR=1.668; 95% CI: 1.355,2.055; p<0.001), Non MOE school (aOR = 3.621; 95% CI: 2.368, 5.537; p<0.001), were the factors at higher risk to involve in school food poisoning outbreak. Meanwhile, food vehicle of poultry (aOR= 0.384; 95% CI: 0.180,0.819; p=0.013), red meat (aOR=0.327; 95% CI: 0.181,0.589; p<0.001) and rice/grain (aOR= 0.216; 95% CI: 0.083,0.563; p= 0.002) are more protective than eggs that were associated with the occurrence school food poisoning outbreak. The CCP factors were all not significant in our studies. Food poisoning among school children in Terengganu had been associated with non-modifiable factors such as school category (MOE & non-MOE school) and school district location and modifiable factors such as food vehicles and critical control points involved.

Keywords: food poisoning, outbreak, school, food borne disease

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