

Abstract

Outbreak of Foodborne Disease in Hajj Camp During Hajj Season 2017

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Abstract

Background: On 30th August 2017, the Food Safety Department of Saudi Ministry of Health received notification of potential outbreak of foodborne illness among Hajj pilgrims. Residents from the Saudi Field Epidemiology Training Program team and public health officials investigated the outbreak to identify the source and prevent additional illnesses.

Objective: To investigate the outbreak and identify the main source of foodborne illness.

Methods: A case control study was conducted, with a case definition as any pilgrims who ate lunch meal at the Fajr Al Eman Hotel on Wednesday 30th August 2017 and experienced abdominal pain, diarrhea, vomiting and fever. The ratio of cases to control was 2:1. A standardized questionnaire was used to collect information on symptoms, onset of illness, and food history.

Results: In this study we identified 30 (15 males and 15 females) cases and 60 controls. The most commonly reported symptoms were abdominal pain (100%), diarrhea (24%), vomiting (3%) and fever (17%). The epidemiological curve shows that the onset of the first cases was at 3:00 AM on Thursday 31/08/2017 then the cases started to increase gradually until 9:00 PM on the same day; the peak was at 3:00 PM. The incubation period was 6-32 hours with a mean of 22 hours. The analysis showed a statistically significant association with eating lamb meat and tomato stew ($P=0.03$ for and $P=0.04$, respectively). The association with the other two kinds of food; rice and Kubah were not statistically significant. All laboratory results were negative.

Conclusions: According to the clinical picture and the incubation period, the probable causative organism might be Salmonella, or E. coli. The outbreak was epidemiologically linked to the lamb meat and tomato stew. At the same time the delay of notification could be the reason behind the negative laboratory investigation. To prevent any similar future outbreaks, an improvement in food transport pathway and food storage is recommended.

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