[Fictitious abstract created for teaching purposes]

Water supply system as a cause of Shigella dysentery outbreak among children, living in an island of Stockholm archipelago, Sweden, September-October 2013

Background:

Shigella are a major cause of dysentery throughout the world. Infection occurs mainly following consumption of contaminated food or contaminated water. OIn 2 October 2013, the Swedish national institute in Stockholm notified more than a 10-fold increase of report in Shigella dysentery cases among children living in on rural areas of the island of Nåttarö, in the Stockholm archipelago. They We investigated the outbreak to determine identify the source and extent in order to and implement control measures.

Methods:

The outbreak investigation team We defined a case: " as People with a laboratory-confirmed diagnosis of Shigella dysentery at the Stockholm General Hospital since in 1 September 2013 to 31 - October 2013", used surveillance data to and describe the outbreak by time, person and place. They We compared carried out a matched case-s with persons selected from population registry of affected municipalities irrespective of their disease status matched for sex and age cohort study and to calculate odds ratio (ORs) and 95% confidence intervals (CIs)used univariate stratified analysis (STATA). Controls were chosen from the population registry of affected municipalities, frequency matching for sex and age by 1- year intervals (6-mounth intervals for cases aged below 1 year)The water supplied company inspected the water distribution system of the island.

Results:

In Stockholm General Hospital, Sweden, were during September – October 2013 laboratory-confirmed 174 cases were reported (90 52% men, 84 womenales, median age: 3 years) of Shigella, clustering around a pipeline leakage objectified by the water company. Cases peaked on 14 September, persisted at high rates until 7 October when the pipeline was repaired, and decreased after. Compared with the 174 controls, (90 men, 84 women) were chosen. The most affected age group were children under 12 months of age (AR= 150 per 10,000). Ccases were more likely to live in areas affected by a the pipeline leakage OR = 8.283,-95% CI (1.364- 16.03, p-value = 0.000) than in other area). In Consumption of tap water areas affected by the leakage, drinking tap water has statistically significant was associated with illness (OR= 14.30, 95% CI (1.61-19.3), than while in the others area,, there was no association (OR = 0.31, 95% CI (: 0.02-18.5).

Conclusions:

Epidemiological and environmental evidence suggested that a pipeline leakage was at the source of this Shigella dysentery outbreak. It is necessary to Water

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companies must repair pipeline leakage rapidly ~~on remote islands~~ and local health departments must report promptly any increase in cases.