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Norovirus Outbreaks in Two Long-Term-Care Facilities in Southeast—Summer, 2006

Background

On July 10, personnel from a long-term-care facility (LTCF) in Southeast Alaska (LTCF-A) notified the Section of Epidemiology (SOE) that four residents and ten staff members had recently developed acute gastroenteritis. On July 12, personnel from another LTCF in Southeast Alaska (LTCF-B) notified SOE that four residents and one staff member had recently developed acute gastroenteritis. Upon notification of each outbreak, in collaboration with the Section of Nursing and the Department of Environmental Conservation (DEC), we began two separate investigations. Fact sheets, information on sanitizing and environmental controls, and hand washing posters were provided prior to arrival at both locations.

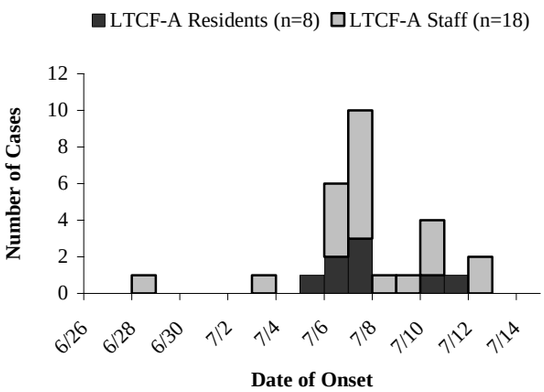
Investigations

On July 12, state health officials arrived at LTCF-A to administer a survey to residents and staff members, abstract medical records of ill residents, collect specimens, establish surveillance, inspect the kitchen, and provide information about disease prevention and control. On July 14, state health officials arrived at LTCF-B to conduct a similar investigation. For both outbreaks, a case was defined as a resident or staff member who experienced acute onset of two or more episodes of vomiting and/or watery diarrhea in a 24-hour period since June 26.

Results

LTCF-A: Surveys were completed for 17 (100%) residents and 48 (96%) staff members. Of the 26 people who met the case definition, 8 (31%) were residents (Figure). Three of the residents died within 3 days of illness onset. All ill residents had multiple underlying co-morbidities, including Alzheimer's/dementia (71%), heart disease (53%), hypertension (47%), lung disease (29%), and diabetes (24%); 41% were taking immunosuppressive medications. On July 5, a case-patient vomited in a common room. Of the 16 persons who became ill on July 6 and 7, at least 12 (75%) had been in the common room within 24 hours after the public vomiting event (PVE). On July 15, the Alaska State Virology Laboratory (ASVL) detected norovirus in a stool specimen from one case-patient. DEC sanitarians reported no substantial kitchen violations.

Figure. Number of Cases of Norovirus-associated Gastroenteritis at LTCF-A, by Date of Onset—Summer, 2006.



LTCF-B: Surveys were completed for ill residents and staff members. Of the 23 persons who met the case definition, 14 (61%) were residents. The earliest and latest reported onset dates were July 4 and July 18, respectively. No deaths were reported during this period. All ill residents had multiple underlying co-morbidities, including Alzheimer's/dementia (64%), hypertension (50%) and heart disease (21%); 7% were taking corticosteroids. PVEs occurred in public areas in LTCF-B on July 10, 12, and 13. On July 18, ASVL detected norovirus in stool specimens from three case-patients. DEC sanitarians reported no substantial kitchen violations.

Discussion

Noroviruses are highly infectious; each year, approximately 23 million cases of gastroenteritis in the United States are due to norovirus infection. Transmission is by person-to-person spread via the fecal-oral route, by consuming contaminated food or water, or by ingesting virus particles after contacting contaminated environmental surfaces.

LTCF-A and LTCF-B personnel appropriately contacted SOE when they realized an outbreak was occurring at their respective facilities. For both outbreaks, the original source of norovirus was unknown. The probable routes of transmission were through person-to-person spread and contact with contaminated environmental surfaces, particularly after PVEs. Person-to-person transmission of norovirus among LTCF residents is facilitated by the close living quarters and reduced levels of personal hygiene that result from incontinence, immobility, or reduced mental alertness. Because of underlying medical conditions, the disease among LTCF residents can be severe or fatal.[1]

Recommendations

1. All LTCFs or congregate living facilities should have established infection control policies and procedures that are implemented immediately during outbreaks of gastrointestinal illness.
2. Ill elderly residents should receive supportive care (e.g., fluid and electrolyte replacement), as appropriate.
3. To prevent additional transmission, ill residents should be confined to their rooms and ill staff members should be excluded from work until 48 hours after symptoms resolve.
4. New residents should not be admitted to LTCFs until the outbreak has subsided.
5. Large group activities in the facility should be limited or suspended until the outbreak has subsided.
6. Wash hands thoroughly using soap and running water for 20 seconds after using the toilet, and before eating or preparing food.
7. Hard surfaces that are frequently touched by people should be cleaned and then disinfected using chlorine bleach at a concentration of 1000 ppm (1/2 cup bleach/gallon water).
8. Surfaces contaminated with vomitus or stool should be immediately covered with absorbent material and receive an initial cleaning to remove all organic material. Disinfection with chlorine bleach at a concentration of 1000 ppm (1/2 cup bleach/gallon water) should then be done wearing gloves.
9. Soiled linens/clothes should be handled as little as possible and should be laundered at the maximum cycle length and then machine dried.
10. Clusters of gastrointestinal illness should be reported to the Section of Epidemiology (907-269-8000 during working hours; 800-478-0084 after hours).

Reference

1. "Norwalk-Like Viruses" Public Health Consequences and Outbreak Management. MMWR, June 01, 2001, 50(RR09); 1-18.

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