Rotavirus: A Concern for Infants and Young Children

Introduction
Rotavirus is a human fecal pathogen that is shed in the diarrhea of ill persons, especially infants and young children. Care providers and food handlers who care for those with rotavirus can easily spread the virus to others if they are careless about their personal hygiene. Hand washing is the most important way to control the virus. Most cases are not foodborne, but could be if food is cross-contaminated by a food handler.

Symptoms of illness
Rotavirus causes a mild to severe self-limiting illness with fever, watery diarrhea, and vomiting. Symptoms appear 1–3 days after exposure to the virus, depending on the dose of virus particles ingested. The illness lasts for 4–8 days. Outbreaks are common in day care centers because of the high infection rate in young children and poor worker hygiene.

Public health consequences
The exact number of rotavirus cases that occur each year is hard to determine because many people attribute their illness to the flu. The local Health Department and Centers for Disease Control and Prevention (CDC) cannot record the number of cases accurately unless the ill person seeks medical care, which is unusual in mild cases. The CDC has calculated an estimate of the number of cases of rotavirus based on corrections for under reporting, misdiagnosis, and the number of cases that are not caused by contaminated food. The CDC estimates that there are over 15,000 cases of rotavirus each year in this country, and less than 1% of the cases are caused by eating contaminated food. Most cases are caused by environmental contamination and poor personal hygiene. About 350 cases will be severe enough to require hospitalization; deaths are rare.

Risk factors
Anyone can get rotavirus, but infants and young children who are not yet toilet trained are most susceptible. The reason is that rotavirus is found in human feces and anyone who comes in contact with the virus in the environment and then touches their mouth, or who eats contaminated food can become ill. If an infected person touches food or water, then the virus can be passed along to another person.

Foods implicated
Any food can be contaminated with rotavirus if an infected person touches the food. The foods most often implicated in foodborne illnesses are foods served cold or raw, such as salads. The good news about this virus is that it doesn't multiply in foods or water like bacteria. Young children often contact the virus in the environment and from contaminated toys. If you are traveling in an area that appears to have polluted water, drink bottled beverages without ice. Avoid uncooked foods.
How can you control this pathogen in your home?

1. Wash hands with warm soapy water before and after handling raw foods.
   a. First, wet your hands.
   b. Add soap to your hands.
   c. Rub both sides for at least 20 seconds.
   d. Rinse thoroughly.
   e. Air dry, or dry your hands with a clean towel or paper towel.
   f. Wash hands with warm soapy water before and after handling raw foods.
   g. Always wash your hands after using the toilet or after changing baby’s diaper.
   h. Prepare food for yourself but not others if ill with diarrhea.

2. Wash fruits and vegetables before eating them.
   a. Do not eat raw alfalfa and other raw sprouts.
   b. Use water from a safe water supply for drinking and washing fresh produce.
   c. Remove outer wilted and damaged areas before washing.
   d. Only wash and prepare the amount you will use in one meal.
   e. Refrigerate remaining vegetables without washing, or dry with a paper towel or in a salad spinner.

3. Knives, cutting boards, and food preparation surfaces should be washed with hot water and soap after contact with raw foods.
   a. Clean sinks and counters with paper towels or clean cloths and hot soapy water before and after cooking food.
   b. Wash knives, cutting boards, and counters with hot water and soap after you work with raw food.
   c. Scrub your cutting board with dish soap. If your cutting board is not made of wood, you can put it into the dishwasher.
   d. Sanitize all food preparation surfaces after contact with raw foods. Use a commercial sanitizer for kitchens or make a sanitizer with 1 teaspoon of 6% chlorine bleach in 1 quart clean water.

References


For more information about food safety, visit Foodsafety.osu.edu.

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