

# Culture and disease paper "rotavirus" essay

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First-time parents anticipate changing plenty of dirty diapers, however they may never consider that a minor problem like diarrhea can land them and their infant in an emergency room. Mothers and fathers can be shocked to discover that rotavirus is one of the main causes of severe diarrhea cases in babies and youth in the United States. Rotavirus is responsible for the yearly hospitalization of 55, 000 young persons according to annual reports (Centers for Disease Control [CDC], 2003).

Many rotavirus cases diagnosed are potentially fatal and call for extended hospital stay. The sight of an infant or tot attached to an IV drip to replenish hydration lost by rotavirus is enough to leave parents feeling powerless and terrified. Despite the fact that almost all children will contract rotavirus before ever attending school, it is disturbing that a large number of mothers and fathers have little or no knowledge of the disease.

Description of Rotavirus According to Carson-DeWitt, Davidson, and Jacqueline (2009), " The name rotavirus comes from the Latin word " rota" for wheel and is given because the viruses have a distinct wheel-like shape" (Carson-DeWitt, Davidson, & Jacqueline, 2009). Rotavirus groups A to F have been thoroughly researched and results show that only groups A, B, and C occur in viral cases of humans. Group A is the most common strain of rotavirus in humans.

However, group B is responsible for causing pandemic outbreaks in the adult population in China. Group C is not as commonly found in human beings.

Indications of rotavirus consist of fever, nausea, and diarrhea that can

happen at various intervals during a 24 hour period, sometimes lasting for a few days to over a week.

Diarrhea, nausea, and vomiting triggered by rotavirus may also cause severe dehydration (Carson-DeWitt et al. 2009). Risk Factors That Make Young Children Vulnerable to Rotavirus Infants, toddlers, and youth under the age of 5 lack the immunity necessary to fight certain infections.

Therefore, they are most susceptible to rotavirus than adults. Four out of five children under age 5 in the U. S. will become infected with rotavirus diarrhea (Centers for Disease Control [CDC], 2003). Most rotavirus cases happen before a child reaches his or her second or third birthday.

Persons of all ages may be infected by rotavirus, but youth over age 5 years of age, adolescents, and adults tend to experience milder forms of the virus. Even so, they may still transmit rotavirus to vulnerable babies, toddlers, and youth in the lower age ranges. Rotavirus also maintains a seasonal path of occurrence, with yearly outbreaks happening starting in November and ending around April the following year. The occurrence of rotavirus is at its peak in cold temperatures with an 80% infection rate in winter (Carson-DeWitt et al. , 2009). Rotavirus is a prevailing problem in day-care facilities. If hygienic measures are not taken, it can also spread to hospital neo-natal units, pediatric clinics, and other health care facilities treating children.

Environmental Factors in Rotavirus As an infectious disease, rotavirus is extremely resistant to the atmosphere in which it thrives. Rotavirus can persist in water for weeks and is impervious to most sanitizers and decontaminators. Rotavirus is usually transmitted by contact with contagious <https://assignbuster.com/culture-and-disease-paper-rotavirus-essay/>

matter like fecal to oral contact but it can also be conducted through respiratory fluids and contact with matter that has been infected by a person with the virus, like food, water, and toys (Centers for Disease Control [CDC], 2003). High rates of infection are prevalent even in the most hygienic environment.

The frequency of rotavirus cases is comparable in both developed and under-developed nations, which implies that disparities in environmental sanitation and accessibility to uncontaminated water have no influence on the rate of infection (Carson-DeWitt et al. , 2009). Modes for Rotavirus Transmission The primary mode of rotavirus transmission is fecal to oral contact. Newborns who carry the disease release the virus in bowel movements in large amounts upon inception of rotavirus. This process continues for four to seven days although infants with compromised immune systems can emit the virus for a month or longer. Contact with the newborns' soiled diapers and the unhygienic behavior of young children increases the chances that the virus will spread.

Rotavirus can live airborne on solid exteriors, skin, and in infected water for days because of its resistance to ordinary sanitizers. However, rotavirus can be eradicated by chlorine. Stringent hand washing and isolating young children with rotavirus from others is the recommendation from physicians (Centers for Disease Control [CDC], 2003). Methods in Prevention and Alternative Methods of Treatment Even though improved hygiene and hand-washing are the standard recommendations, these precautionary measures will not avert all cases of rotavirus. Vaccines prove to be helpful in prevention.

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The original vaccine for rotavirus, Rotashield, was first placed on the market in 1999 but it was later withdrawn in the same year because of side effects including intussusceptions. Intussusception, a well-known form of bowel obstruction, occurred in one of every fifteen infants who received the vaccine (Carson-DeWitt et al. , 2009). Newer vaccines for rotavirus that have no reported incidence of intussusceptions include Rotarix and RotaTeq. Conversely, previously infected infants who have experienced intussusceptions prior to receiving either vaccine, are at an increased risk for contracting rotavirus a second time (Carson-DeWitt et al. , 2009).

In May of 2010, the FDA (Food and Drug Administration) modified its guidelines for vaccinations to prevent rotavirus in young children and has concluded that it is suitable for pediatricians and health care providers to continue vaccinations to prevent rotavirus with either Rotarix or RotaTeq (U. S. Food and Drug Administration [USFDA], 2010).

According to Carson-DeWitt et al (2009), infants who are breastfed exclusively “ may be less likely to become infected, because breast milk contains antibodies (proteins produced by the white blood cells of the immune system) that fight the illness” (Carson-DeWitt et al. , 2009).

Researchers report that immunizations for rotavirus in pregnant women may encourage increased amounts of antibodies in breast milk.

This may also provide much-needed antibodies to newborns’ nutrition during the crucial stage when they are more susceptible to the disease (Carson-DeWitt et al. 2009). If newborns or young children do contract rotavirus, alternative therapies for treatment are used at the initial onset of the

disease. One alternative treatment is the BRAT diet, consisting of bananas, rice, applesauce, and toast. These foods help to replace depleted potassium levels and help solidify waste in the bowels. Patients with rotavirus are typically given extra fluids to circumvent dehydration. Oral rehydration therapy may also be used in combination with the BRAT diet for optimal patient outcomes.

Effectiveness of Alternative Treatment for Rotavirus Because a few of the foods on the BRAT diet, specifically bananas and rice, are 'binding' foods that can cause constipation, they tend to halt diarrhea symptoms. However, there are erroneous beliefs about the treatment of diarrhea with alternative methods and home remedies. A frequent notion that parents have about treatment for diarrhea is that Pedialyte or other electrolyte replacements will ward off diarrhea. Pedialyte is not a remedy for rotavirus or diarrhea. Electrolyte replacement fluids only prevent children from dehydration (Centers for Disease Control and Prevention [CDC], 2003). Social and Cultural Influences Additional research is needed on sources that enhance the environmental resilience of rotaviruses.

Bad water supply may be the top mode of transmission in under-developed nations. In a few regions of the world, younger generations experience milder symptoms of rotavirus that generally persist for less than a week at a time. However, simultaneous contact with pathogens and bacteria may prolong the infection. In regions with moderate climate temperatures, rotavirus typically peaks in the winter. However, in tropical locales rotavirus cases are reported year-round.

In most regions of the world, rotavirus is the number one cause of diarrhea in children (Centers for Disease Control [CDC], 2003). Two of the main obstacles in prevention of rotavirus are the cost of vaccinations in and perceptions of decision makers in developing nations like Latin America. There is a deficiency in quality research on cost effectiveness of the vaccines for rotavirus and this is urgently needed in most nations.

**Conclusion** Future projections on the incidence of rotavirus cases portray an improvement in the application of available vaccines for prevention of rotavirus by more nationalized immunization plans. This will occur upon completion of analysis reports on the cost effectiveness of the vaccines. Introduction of the vaccines into all developing nations will only be possible through global and joint ventures with countries who are already successfully administering the vaccines to prevent rotavirus among young children. Almost all young people will contract rotavirus by the age of five. Rotavirus occurs randomly. Although the majority of young people will experience symptoms of a low-grade infection, others may be diagnosed with a severe form of the disease.

Symptoms are inconsistent but should be checked by medical professionals. Parents must have a conversation with pediatricians concerning rotavirus and evaluate prevention and treatment options to gain more knowledge on rotavirus. **References** FDA Revises Recommendations for Rotavirus Vaccines. (2010, May 14). U S Food and Drug Administration Home Page. Retrieved June 11, 2010, from <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm212149>.

htm Managing Acute Gastroenteritis Among Children: Oral Rehydration, Maintenance, and Nutritional Therapy. (2003, November 21). Centers for Disease Control and Prevention. Retrieved June 10, 2010, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5216a1>.

htm Roslyn Carson-DeWitt; MD; Tish Davidson; A. M. ; Jacqueline L. , L. (Jan. 1, 2009).

Rotavirus infections. Gale Encyclopedia of Medicine,