

Population health and epidemiology of *clostridioides difficile*



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The Population Health and Epidemiology of Clostridioides Difficile

Clostridioides difficile also known as C. difficile or C. diff is a Gram-positive, anaerobic bacterium and is the most prevalent pathogen among all healthcare-associated infections (NIH. gov, 2017). This bacterium causes liquid diarrhea and or life-threatening inflammation of the colon (CDC, 2018). There are about half a million infections every year in the United States (CDC, 2015). “ In recent years the infection has become more frequent, severe and difficult to treat” (Mayoclinic. org, 2016). According to the Center for disease control, Cdiff infection is responsible for about 15, 000 deaths in the United States with 1 in 11 being 65 yrs and over (2015). C. diff can easily spread from person to person through contact and infection of the bacteria (CDC, 2018). Symptoms can vary from mild to severe and can start as shortly as a few days taking antibiotics. The host may develop frequent diarrhea including loose, smelly, watery stools or frequent bowel movements for several days. Other symptoms may include blood or pus in the stool, fever, stomach tenderness, cramping or pain, loss of appetite, nausea, weight loss, and rapid heart rate (Mayoclinic. org, 2016). Complications may include dehydration, elevated white cells, toxic megacolon, bowel perforation, renal failure, and death. Depending on the affected individual, treatments for cdiff may include stopping the disturbing antibiotic, treat with new antibiotics, probiotics, fluids, hydration, good nutrition, surgery or fecal transplant (Mayoclonic. org, 2016). Caregivers in health care facilities must follow contact plus protocol to keep the disease from spreading. In addition to standard precautions, patients must be placed in a private room. After caring for them, staff must remove gown, gloves, wash their hands with soap

and water and clean care areas with an approved sporadically product.

Visitors must be educated and encouraged to adhere to the same protocol (Ohsu. edu, n. d).

Determinants of Health

More than 80% of C. diff deaths occur in people 65 and older (CDC, 2015).

People with chronic disease comorbidity, weakened immune system, and under the age of two are other determinants (Mayoclinic. org, 2016). People who take antibiotics are 7 to 10 times more likely to get C. diff; the use of acid suppressants is also a contributing factor (Bloomfield & Riley, 2016).

Because C. diff germs remain in the body after infection, it can still be spread to others. Among those who have already acquired the infection, 1 in 5 will experience recurrence despite successful proper treatment of the initial episode (CDC, 2015). The infection setting is usually in hospitals or healthcare care facilities. About half of hospital patients colonized by Cdiff become symptomatic because their bodies are unable to produce an adequate antibody response to the toxins (Solomon, 2013).

Host Factors

Clostridioides difficile bacteria are found throughout the environment in soil, air, water, human and animal feces, and food products. Its spores can live in a room for weeks or months and are transmitted through contact surfaces, object, and food by the carrier who fails to wash their hands with soap and water; the spore can unknowingly be touched and injected by the host (Mayoclinic. org, 2016). The colonization does not quickly lead to the

development of the infection in a healthy person but the reaction between <https://assignbuster.com/population-health-and-epidemiology-of-clostridioides-difficile/>

the factors of the bacterium and the strength immune responses of the host may be a contribution (Solomon, 2013).

Role of FNP

The role of the Family nurse practitioner (NP) includes autonomously providing patient-centered care for individuals, families, and groups. NPs can diagnose, manage acute and chronic conditions emphasizing on health promotion and disease prevention (Aanp. org, n. d). When it comes to infectious diseases like C. diff, this author would use the Chronic care model (CCM) to support the implementation of evidence-based practice (Curley & Vitale, 2016). In applying this model, this NP would use a holistic approach to C. diff management using evidence-based practice, and health promotion to improve care in the clinic and the community (Curley & Vitale, 2016). This NP will use the clinical information system to stay up to date with practice, keep track of the epidemiology of the infection as well as the treatments.

Starting with the identification of at-risk susceptible patients, a self-management and decision support combined with primary prevention education would need to be implemented after assessment. Patients can be educated about the cdiff infection and encouraged to look for early signs and to seek medical attention if the infection is suspected. Hand washing with soap and water, use of separate bathroom and taking showers with soap if they have diarrhea should be highly stressed (CDC, 2018). Avoiding unnecessary antibiotics, using contact precautions, and thoroughly cleaning contact surfaces should also be addressed (Mayo clinic. org, 2016). For secondary prevention, lab tests can be ordered if cdiff is suspected due to

signs and symptoms (CDC, 2018). Cdiff is not a reportable disease but should still be treated very seriously. If the test is positive, a multidisciplinary team consult of the digestive system and infectious disease including MDs, RNs, pharmacists, and lab personnel should work together in the management of the infection (Mayo clinic. org, 2016). Together they can obtain data collection and analysis of the effects of prescribed antibiotics in the facility to guide care and intervention. The patient should be followed closely in case they may need hospitalization using telehealth or home RN visits. For tertiary prevention, after recovery, education to prevent infection to the community should take place. Finally, primary prevention should be reinforced to prevent reinfection or spread of the disease to others. The patient should be advised to inform all your healthcare providers that they have had C. diff (CDC, 2018).

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