Observation Assessment #1

Date: February 2, 2018

Observation: Methods of Flu Treatment

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Extra Resources: USAD Science Information Resource Guide

Over the course of the past few weeks, I have discussed with my medical mentor, in a form similar to an interview, about the influenza breakout. Influenza, unlike many of the other illnesses treated with medication in the field of pediatrics, is a viral infection. Many of the diseases or illnesses treated by a pediatrician are bacterial infections. Some of the common bacterial infections that are commonly addressed by pediatricians are streptococcal pharyngitis, also more commonly known as strep throat, inner ear infections, and bronchitis. These forms of diseases more often than not do not require specialized medical professional due to their lack of severity, which is why they are handled by general physicians in adult medicine and by pediatricians in child medicine. I observed that while the influenza is treated by a pediatrician, it does not root from the same cause as bacterial infections and must be treated differently.

Infectious illnesses are transferred by pathogenic microorganisms, which fall into four specific categories: parasites, fungi, bacteria, and viruses. Influenza, as a viral infecting is much more difficult to treat, because the strains are constantly changing. This year, the flu shot that has been administered nationwide is less effective than it has been in the past. Many of the people infected in the flu have been out of school, work, or unable to complete priorly-committed responsibilities due to the severity of their symptoms. For the people who have taken the flu shot and still contracted some strain of the flu, their symptoms are lessened, but the vaccine was not completely effective due to differences between the strain contracted and the strain that was used to develop the vaccination. The first official vaccine developed was a smallpox vaccine, and it was created by Edward Jenner; his general purpose was to completely eradicate a viral infection. Due to the fact that viruses often hijack host cells, viral infections are more difficult to treat, because vaccines have to be developed for specific strains of a disease, therefore making them less effective than possible with more research and time dedicated to their development. This information helped me see that a vaccine does not guarantee immunity to any disease, specifically influenza.

Something I also learned in my observation in the medical workplace i that the medication used to treat influenza also falls under a different category that bacterial, fungal, or parasitic infections. Antiviral medication is how viral diseases have to be treated, including influenza in the form of all strains. TamiFlu, one of the main medications prescribed to influenza patients in both the adult and children's medical fields, falls under this category of antiviral medication. While viruses can be stopped by prohibiting reproduction, they hijack host cells in order to utilize their ribosomes, which

is also a categorization used to classify all living things. Therefore, the construction of antiviral medication is much more complicated that the development of antibiotic medication, because by targeting a viral cell, the medication may also target infected host cells, which could pose a danger to the infected person. Due to this complication, other prescriptions are written, such as Ondansetron or
Zofran, which is meant to treat symptoms of influenza strains, specifically vomiting and nausea. For bacterial infections or illnesses, the medication only treats the illness itself; antibiotics does not treat the symptoms of the illness.

Through this observation of the medical workplace, I learned a critical difference between forms of diseases that require different treatment. Influenza specifically has an outbreak almost every year, and knowing its cause and treatment is important to the field of pediatrics. By doing so, I can begin building my knowledge in treatment of illnesses, and I will be able to break up my original work into a research sections, observation section, and a reflection section in order to deepen the importance of my work.