Importance of vaccinations

- Kasandra Padilla

Each year the Department of Health and Human Services releases a list, essentially a schedule, of optional vaccines for children 0-18 months. Although these shots are not required, they are highly recommended. However, in recent years there has been speculation that the rise in childhood immunizations has caused excessive and unnecessary medical issues among children in the United States. This hearsay, spurred on by a handful of studies, claims causal relationships between developmental disabilities and certain elements found in vaccines. These studies, along with certain religious teachings and personal beliefs, have caused a number of parents across the United States to opt out of vaccinating their children. This decision has, unfortunately, caused the recent outbreaks of several, previously manageable, viruses in a number of America's cities. In his article " Anti-Vaccination Movement Causes a Deadly Year in the U. S." (2013), Brian Krans stated, " The anti-vaccination movement continues to leave the door open to outbreaks of diseases that have been all but eradicated by modern medicine. These diseases include measles, polio, whooping cough, and more." According The Center for Disease Control [CDC] measles is considered to be the deadliest childhood disease (2013), and all previously mentioned diseases (measles, polio, and whooping cough) are spread easily and simply by coming in contact with an infected individual. Although, in some cases, there may be side effects to certain vaccinations, the positive aspect of being immunized against a number of fatal diseases far outweighs the possible effects or reactions that may occur.

Firstly, as briefly mentioned, vaccines save children from preventable diseases. Children are going to be children. So, parents protect them from sharp pointy objects, install gates to protect them from unsafe areas of the house, only feed them certain food for the first few months of their life, and do not feed them other foods until a certain age. Vaccines are another way to prevent one's child from danger. According to Dr. Vincent Iannelli, a pediatrician in Dallas, Texas, today's parents did not grow up in an era riddled with disease like Polio and therefore often forget the importance of vaccines (Vaccine Preventable Diseases, 2014). The World Health Organization [WHO] fact sheet classifies polio as, " a highly infectious disease caused by a virus. It invades the nervous system, and can cause total paralysis in a matter of hours," and includes symptoms such as, " fever, fatigue, headache, vomiting, stiffness in the neck and pain in the limbs" (2014). Global Health Strategies [GHS], an international consulting firm that focuses on research in health care, mirrors Dr. Ianelli's view and the issue of Polio, " Few remember a time in the US in the 1940's and 50's when fear of this crippling disease pervaded all pockets of society. Images of shuttered swimming pools and children in iron lungs and on crutches colored every mother's daily worries" (2012). Therefore, due to the effectiveness of the very vaccines that they often contest, some individuals may not realize the severity and complexity of a disease.

Individuals that choose not to vaccinate their children, known as anti-vaxxers, sometimes claim religious beliefs as the main reason for choosing not to immunize their children. One main issue that people cite is that certain vaccines contain fibroblast cells of fetal tissue. These fibroblast cells

aid in holding connective tissue together (Hot Topics: Fetal Tissues, 2013). According to Paul Offit, a doctor at The Children's Hospital of Philadelphia, the tissue resulted from two terminated pregnancies that occurred in 1960, and " No further sources of fetal cells are needed to make these vaccines" (2013). In other words these cells are not taken from fetuses today, like some anti-vaxxers claim. In the same article Dr. Offit continues on to state that these cells are used for two reasons: " Viruses need cells to grow and tend to grow better in cells from humans than animals (because they infect humans)," and because of the Hayflick limit, where cells die after being divided a certain number of times, fetal cells are used because they are able to " go through many more divisions before dying" (2013). Dr. Offit also notes, in " Parents Fake Religion to Avoid Vaccines," that religious beliefs have come to be the default; because of state laws protecting religious practices, people claim religious exemption when it is that they just do not believe there is a need for immunizations (2007).

The second reason that immunizations are beneficial is that they prevent outbreaks from occurring. In her article, " Measles Is Spreading In Our Largest Cities Because People Aren't Vaccinating Their Kids" (2014), Tara Culp-Ressler, the health editor for ThinkProgress, a non-partisan web-based news source, discussed how recent outbreaks have occurred in " Boston, San Francisco, San Diego, and Dallas areas. Measles have also recently been reported in suburban areas in Connecticut and Illinois." Anti-vaxxers claim that other countries do not have as many vaccines and they do not experience outbreaks. J. B. Handley (2011) stated " Iceland, Sweden, Singapore, Japan, and Norway give 11, 11, 13, 11, and 13 vaccines

respectively—all less than 1/3 the number of vaccines the U. S. mandates." Each vaccine on the CDC's schedule is highly recommended, they are not " mandated." If they were mandated no parent would have a choice in vaccinating their child and there would be no exemptions. Also, Handley mentioned that each of these countries only have 11-13 vaccines. The US only has 14 vaccines; these fourteen are given in a series from 0-18 months, not 36 separate vaccinations as Handley leads one to believe.

It is necessary to highlight, because of the sheer difference in land mass and therefore population size, the population of each of the countries Handley mentioned. The most current statistics show Iceland: 326, 340 (Statistics Iceland, 2014), Sweden: 9. 7 million (Statistics Sweden, 2014), Singapore: 5. 4 million (Department of Statistics Singapore, 2014), Japan: 127 million (The World Bank, 2014), Norway: 5 million (The World Bank, 2014), and the United States: 317. 3 million (United States Census Bureau, 2013). These statistics emphasize Handley's error in comparing countries with a much smaller population to that of the United States, and further underscores the previous inaccuracies contained in his argument regarding vaccination requirements.

In countries where they do not promote vaccinations, such as Nigeria, Pakistan and Afghanistan (GHS, 2012), there are outbreaks of several diseases. For example, according to WHO, each of these countries remains endemic (2014). That is to say that communicable disease, such as polio and measles, are found regularly in these parts of the world. The probability of dying before one's fifth birthday in Pakistan is almost 9% (86 in every 1, 000 births) (WHO, 2014). Tara Culp-Ressler stated outbreaks in the United States

tend to occur because families travel abroad, become infected, and then bring the virus back the US, infecting others who have not been vaccinated (2014).

Lastly, vaccines are safe. Due to a handful of studies conducted by the previously mentioned J. B. Handley and Andrew Wakefield, the public now associate vaccines, particularly the MMR vaccine, with causing autism. Each of these individuals has been criticized for their lack of scientific objectivity in their experiments, with Wakefield in particular being barred from practicing medicine in Britain because of his falsified study (BBC, 2010). Unfortunately, their claims still remain on the public's mind. It also does not help to quell the public's concern when a celebrity, Jenny McCarthy, takes these falsified studies and uses them as a platform in an attempt to further frighten parents with the claim that her child suffers from autism because of the vaccinations he received.

A study conducted by Sharpe, Gist, and Baskin (" Autism Spectrum Disorder and Their Unaffected Siblings Exhibit Hypersensitivity to Thimerosal," 2013) point their fingers at Thimerosal, which, according to the Immunization Action Coalition (2011), is a " preservative that has been used in some vaccines since the 1930's." The CDC, as well as the Immunization Action Coalition, point out that Thimerosal is present in only one influenza vaccine, and has been reduced to trace amounts. It should also be noted that, should one choose, there are other available alternatives to that particular influenza vaccine which contain no Thimerosal (2011). So, this preservative that anti-vaxxers claim causes autism is, in fact, is not contained in the MMR vaccine.

Parents, undoubtedly, want to provide the safest environment for their children in order to keep them out of danger. Vaccinating one's child is no different. Unfortunately, there is an abundance of information available that can cause a person to feel overwhelmed. When a well-known celebrity is claiming her child suffers from autism because of a vaccine, a great deal of the public is going to believe that individual because she is famous and has resources the parent may not have. These claims perpetuate the myths of preservatives being harmful to a child, or that vaccines are unnecessary because such diseases they protect against have been eradicated when they haven not. Each parent has the option to speak with a doctor regarding vaccinations. In fact, the CDC (2014) recommends speaking to a doctor in order to receive all relevant and up-to-date information so that each person can make an informed decision regarding having their child immunized.

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