**Vaccination and Autism**

Due to an undeniable rise in autism in the last few decades, a slew of “experts” such as ex-playmate of the year, Jenny McCarthy, Jim Carey, Charlie Sheen and a handful of activists cloaked in the grandeur of science and armed with pseudo-scientific jargon, have led a crusade against science and fact to convince the public that vaccinations cause autism. To better understand the debate over children’s vaccinations we must delve into the origin of the controversy which began with the infamous “Wakefield Study” published in 1998, by *The Lancet*, a prestigious medical journal in Britain.

In a paper titled, “Ileal-lymphoid-nodular hyperplasia, non-specific colitis, andpervasive developmental disorder in children,” Andrew Wakefield studied 12 children who suffered from neurodevelopmental delay, eight who had autism, and all 12 who suffered from gastrointestinal issues within one month of receiving MMR (Measles, Mumps, and Rubella) vaccinations. The author concluded that autism was a consequence of gastrointestinal inflammation caused by the MMR vaccine. (Offit) Wakefield’s study, which showed a direct cause and effect relationship between vaccinations and autism, marked the cornerstone of the vaccination controversy and is still the basis for the anti-vaccination debate.

The majority of anti-vaccination proponents believe ingredients in vaccines are what have led to a rise in autism. There are a number of interesting ingredients used in vaccines which would understandably raise some questions and, without research, may draw a similar, uneducated conclusion in the matter. The most suspect of these ingredients being formaldehyde, aluminum hydroxide, mouse brains and mercury in the form of the preservative thimerosal. Formaldehyde is essentially used to keep the weakened virus from reproducing and to kill other unwanted viruses and bacteria that otherwise might contaminate the vaccine during production. According to the Center for Disease Control (CDC), “Formaldehyde is removed from the vaccine before it is packaged, leaving only a trace.” Aluminum hydroxide and mouse brains are used to stimulate antibody levels. According to the CDC, aluminum is added to “promote an earlier, more potent response, and more persistent immune response to the vaccine” (“Ingredients in Vaccines”). It should be noted that aluminum is the most common metal found in nature and that “the average recommended dose of antacids has about 1,000 times more aluminum than a vaccine does” (Children’s Hospital of Philadelphia). These methods have been used for over 70 years in the production of vaccines while the rise in documented cases of autism began roughly 30 years ago.

As the internet would suggest, mercury is the most objectionable substance found in vaccines. “Since the 1930s, it [mercury] has been widely used as a preservative in a number of biological and drug products, including many vaccines, to help prevent potentially life threatening contamination with harmful microbes” (The Food and Drug Administration). Though tests done on infants show that the minute amounts of mercury in vaccines do not “represent a potentially significant exposure to the developing fetus” and no tests done have resulted in any correlation between autism and trace amounts of mercury in vaccines, in 1999, thimerosal was taken out of most vaccines as a precautionary measure (National Network for Immunization Information). According to the CDC, the influenza vaccine is the only child vaccine which contains any trace amounts of thimerosal (“Ingredients in Vaccines”). Though thimerosal is not even currently used in most vaccines and was used for 40 years before the autism epidemic, this still remains the backbone of arguments opposing vaccinations. The majority of the opposition to vaccination seems to not even realize mercury has been taken out of vaccines; let alone, what the purpose of it was in the first place. If mercury was the culprit I would expect autism levels to drop after mercury was removed from vaccines but to no avail, rates of reported autism cases have continued their steady rise.

For many people, it is hard to separate correlation and causation, especially for the parents of an autistic child. Just because one event occurs after another, doesn’t mean that one caused the other. “In the United States, the average age of diagnosis with an autism spectrum disorder (ASD) is around 4 years of age” (Bleicher). According to the CDC, most vaccines are recommended to be administered to children at 15 months and at 18 months of age (“2014 Recommended Immunizations”). It would make sense to jump to the conclusion that vaccinations caused your child’s autism when the earliest signs of autism occur after 16 months, especially in the wake of an autism epidemic and combined with the media hysteria surrounding the issue.

However, the most damning evidence against the anti-vaccination movement is *The Lancet* retracting the Andrew Wakefield study after a panel found him guilty of gross misconduct regarding his research practices. The investigation published by *The British Medical Journal,* concluded that Wakefield had “misrepresented or altered the medical histories of all 12 of the patients whose cases formed the basis of the 1998 study – and there was ‘no doubt’ Wakefield was responsible.” Part of the problem was that the gastrointestinal inflammation was actually observed after the symptoms of autism in all eight of the autism cases but the timeline had been falsified. Another point made was that Wakefield claimed the children with autism had low levels of circulating immunoglobulin (IgA) and intestinal nodular hyperplasia, but in reality the children’s IgA was within the normal range for their age group and nodular hyperplasia is normal in the sense that enlarged tonsils may similarly occur in children (Offit). The investigation seemed to hit the jackpot when it uncovered that Andrew Wakefield received more than 435,000 pounds from a law firm intending to sue vaccine makers. Neither Andrew Wakefield nor any other scientists have been able to duplicate the results of this study and in May of 2011, Wakefield was finally stripped of his medical license (The CNN Wire Staff). Though Wakefield continues to proclaim his innocence, it is hard to ignore the fact that he received over half a million dollars based on the results of this study; it would seem to be an undeniable conflict of interest. In my personal opinion, the Andrew Wakefield Study had a predetermined conclusion and should have resulted in criminal action; only extraordinary ignorance or denial could lead anyone to any other conclusion.

The rate of diagnosed autism in 1980 was 1 in 10,000 while the rate today is as high as 1 in 88, but I still remain skeptical that there is as big of an epidemic of autism as these statistics lead people to believe (Autism Science Foundation). What the majority of the population is not aware of is that there have been several revisions which broadened the definition of what was once “autism” and is now referred to as the Autism Spectrum Disorder. Anytime a definition is broadened to include more individuals, it would make sense that the number of individuals who fit into the definition would increase. In both 1987 and 1994 the Diagnostic and Statistical Manual of Mental Disorders was revised into the third edition (DSM-III-R) and the subsequent fourth edition (DSM-IV), and with similar changes in the International Classification of Diseases, the definition of “autism” was expanded. Countless children, who prior to DSM-IV, were diagnosed with developmental delay, delayed speech and language development, attention deficit or hyperactivity disorder and mental retardation, would thereafter be considered autistic (Tanne). Under the Individuals with Disabilities Education Act (IDEA) of 2004, even more children were lumped in with the now vague term of autism including children with Asperger’s and disorders which previously were diagnosed as child psychosis and childhood schizophrenia (National Association of Special Education Teachers). In layman terms, previous to the autism definition changes, children were required to have a “neurobehavioral syndrome caused by a dysfunction of the central nervous system that leads to disordered development,” i.e. had autism to be considered autistic; now autism only represents one part of a group of disorders called the Autism Spectrum Disorder (Department of Health). When people who previously were just the weird kid in class, the slow kid, or maybe the quiet, antisocial kid are now being considered autistic, it makes that “1 in 88” statistic really not seem so outlandish. Times have changed as well, in this new era of bubble wrapping, political correctness, and gross oversensitivity, I would imagine people are more apt to having their children diagnosed with any new psychological disorder that’s put on the market; whereas in the past people might not have needed as much of a justification for their child struggling in school.

Since vaccines were first believed to cause autism, there have been more than 20 studies done by national medical authorities and scientific professional societies on the MMR vaccine. All studies have unanimously denounced the claim that vaccines lead to autism. There has not been one stitch of credible evidence pointing at vaccination as the culprit for autism. In addition, the Vaccine Injury Compensation Program conducted “the most extensive and elaborate fact-finding proceedings” which also came to a similar conclusion that “there is no causal connection between childhood vaccines and autism” (Poland). No credible case has ever concluded that autism was caused by vaccinations, so, unless this is a worldwide conspiracy by all people involved in these studies against the self-proclaimed “martyr,” Andrew Wakefield, then this would seem sufficient proof that vaccines do not cause autism.

I personally disagree with many of the pharmaceutical companies’ business practices. I disagree with advertising for prescription drugs, doctors receiving bonuses for prescribing certain medications over another, and the constant emergence of new psychological disorders simultaneously with the release of a new prescription drug to “cure” it. With that said, I still believe that if you “follow the money,” you will find it on the side of the anti-vaccination movement. Vaccines represent a mere 1.5 percent of all pharmaceutical revenues; treatments of mental disorders or illnesses which require lifelong prescriptions bring in the majority of revenue (Prifti). If everyone quit receiving vaccines, then pharmaceutical companies would make considerably more revenue in the long run via treatments.

Next time you hear some anti-vaccination advocate publicly reciting some pseudo-scientific nonsense, who is not just a brainwashed parent, google their name; there’s an excellent chance they have a book for sale or possibly one of the thousands of supposed autism cures. Science should be left to the scientists, not someone plugging a book or a playboy model who claims she cured her son of autism by giving him probiotics.

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