

Assessment 2 – Essay

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Dating back to the 1990s, vaccines have been questioned as a cause of Autism. According to History of Vaccines (2018), the role of vaccines have received more investigation than any other speculated cause of Autism. The following paper will present a critical discuss of the original research and information linked to vaccinations and autism in relation to the case scenario involving Alison, Emily and Sarah. Critical analysis of counterstatement opinions of this topic will also be addressed along with clinical advice and guidance from the perspective of a healthcare professional to aid in persuasion of this research topic.

The 1970s saw an introduction of the Diphtheria, Tetanus and Pertussis (DTP) vaccine in many countries including Asia, North America, Australia and the UK. Following this, speculation occurred over the safety of the DPT immunisation (World Health Organization [WHO], 2011). The Measles Mumps and Rubella (MMR) vaccination was brought to attention during the 1980's after the BMJ (British Medical Journal) published an article displaying a link between vaccine and autism (World Health Organization [WHO], 2011).

History of Vaccines (2018), discuss Dr Wakefield and 12 other authors who published a case study in 1998 claiming they discovered evidence of “measles virus in the digestive systems of children who had exhibited autism symptoms after MMR vaccination”. The published report demonstrates a causal relationship between MMR vaccination and autism. Wakefield’s leading idea was that the MMR vaccination caused a “persistent measles infection in the gut, which in turn allows inadequately processed peptides from gluten and casein to enter the bloodstream and brain producing an opioid effect” causing autism (Wakefield et al., 1998). Wakefield also discussed an alternate pathway of the measles virus invading the brain and triggering an immune response which would consequence in an inflammation of the brain causing autism (Positive Partnerships, 2016).

Criticism of Wakefield’s research came shortly after publication. Some of which included Wakefield using adult ranges on laboratory tests rather than paediatrics which would lead to irregular gastrointestinal findings (Positive Partnerships, 2016). The relationship between measles virus and autism was published by Wakefield in his second study during 2002. Intestinal biopsy samples for the presence of measles virus from children with and without autism were tested and presented with concerning results (Vaccines and Autism, 2019).

Again, Wakefield's research was critically flawed as the measles vaccine virus is live and attenuated. Determining if the finding is specific for children with autism is crucial before concluding that MMR is in association with autism (Vaccines and Autism, 2019). It is important that children are matched for the length of time between receipt of MMR vaccine and collection of biopsy specimens. This information was available to Wakefield and his team as it is critical in their hypothesis, however, it was specifically excluded from the publish paper (Vaccines and Autism, 2019). Wakefield was then removed from the medical register in 2010 after displaying serious professional misconduct in relation to his research (Positive Partnerships, 2016). Evidence is strong that the original study and findings of Wakefield should not have been published not only as it was poorly conducted but because it was a product of research fraud (History of Vaccines 2018).

While Wakefield's research raised concerns about a relationship between vaccines and autism, large scale studies have not found a link between autism and the MMR vaccine. Hviid, Hansen, Frisch & Melbye, (2019), discuss that their study does not support that MMR vaccination increases the risk for autism, triggers autism in susceptible children, or is associated with clustering of autism cases after vaccination. Most autism researchers believe that there are many causes of autism including genetic and environmental factors, but do not involve vaccines (History of Vaccines 2018).

Through careful analysis and examination of the original research promoting the idea of a relationship between vaccines and autism, it can be concluded that Wakefield's research was fabricated and contained falsified data. The original research rapidly created repercussions in the medical, research and public health communities (Soloway, 2019). It can be observed that Wakefield's report was conducted not only dishonestly but irresponsibly leaving the data he produced as unreliable and unusable (Gerber & Offit, 2009).

Based on the evidence found, it can be concluded that there is no distinct relationship between vaccinations and autism. In relation to the case scenario, Alison is having difficulty convincing Emily that in order for their children to have contact and avoid Sarah getting sick, Emily must have her children vaccinated. Alison can confidently explain and reassure Emily that based on research carried out by many trusting and reliable sources, there is no connection between vaccines and autism (Ben-Joseph, 2019). Vaccination of children is a safe and effective procedure and it is highly recommended that all parents should consider

vaccinating children. It is important that Alison is aware of Emily's concerns in regards to vaccinations and should assist in educating her and her family on the risks of not vaccinating children and the potential harms it may cause to her own. Autism is a life-long disorder of behaviour, cognition and social interaction which as a result can have an overwhelming impact on its victims and their families (Soloway, 2019). It is greatly understandable why Emily is concerned about the administration of vaccinations to her children but as mentioned by Ben-Joseph, (2019), there is substantial evidence that vaccines are safe and effective and have no link to autism.

It can be concluded that several issues undermine and underpin the research conducted by Wakefield, that led him to the conclusion of a relationship between vaccinations and Autism. The above response outlines the original research and information published based on the link between vaccinations and autism whilst also discussing the contradictions in regards to the reliability and truthfulness of it. Various research methods undertaken that resulted in the evidence of safe vaccinations were also mentioned. The ways in which a healthcare professional may assist in the persuasion whilst also highlighting the extreme benefits of vaccinating children was addressed in relation to the vaccination scenario.

Reference list

Ben-Joseph, E. (2019). Is There a Connection Between Vaccines and Autism? (for Parents) - KidsHealth. Retrieved from <https://kidshealth.org/en/parents/autism-studies.html>

Fact Sheet - Vaccinations & autism | Positive Partnerships | Working together to support school aged students on the autism spectrum. (2016). Retrieved from <http://www.positivepartnerships.com.au/en/fact-sheet/vaccinations-autism>

Gerber, J., & Offit, P. (2009). Vaccines and Autism: A Tale of Shifting Hypotheses. *Clinical Infectious Diseases*, 48(4), 456-461. doi: 10.1086/596476

History of Vaccines. (2018). Retrieved from <https://www.historyofvaccines.org/content/articles/do-vaccines-cause-autism>

Hviid, A., Hansen, J., Frisch, M., & Melbye, M. (2019). Measles, Mumps, Rubella Vaccination and Autism. *Annals Of Internal Medicine*. doi: 10.7326/m18-2101

Soloway, R. (2019). Vaccines Do Not Cause Autism. Retrieved from <https://www.poison.org/articles/2010-oct/vaccines-do-not-cause-autism>

Vaccines and Autism. Children's Hospital of Philadelphia (2019). Retrieved from <https://www.chop.edu/centers-programs/vaccine-education-center/vaccines-and-other-conditions/vaccines-autism>

Wakefield, A., Murch, S., Anthony, A., Linnell, J., Casson, D., & Malik, M. et al. (1998). RETRACTED: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *The Lancet*, 351(9103), 637-641. doi: 10.1016/s0140-6736(97)11096-0

World Health Organization (WHO). (2011). *The impact of adolescent pertussis immunization, 2004–2009: lessons from Australia*. Retrieved from: <https://www.who.int/bulletin/volumes/89/9/11-086538/en/>