## The dangers of falsely linking Tylenol to autism

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Last month, Secretary of Health and Human Services Robert F. Kennedy, Jr. and President Trump declared that Tylenol's active ingredient, acetaminophen (or paracetamol outside the U.S.), was responsible for causing autism. They have subsequently claimed that penile circumcision (and the resultant use of Tylenol) results in higher rates of autism. They claimed to draw these conclusions from scientific studies. Considering the medical community's ubiquitous recommendation in favor of the use of this medicine, it's critically important that the facts be understood. Mercy's Critical Concern for Women calls us to be accurately informed so that pregnant people and all parents can make healthy choices.

Acetaminophen has been widely available over the counter in the United States since the 1950s and has been broadly studied. It does have risks – particularly for liver damage – when not taken according to directions, but it is known to have almost no risks when taken in recommended doses. On the other hand, untreated pain and fever can have significant risk for both parent and child, including organ damage and even death. The fabricated fear of autism could have the effect of creating a mindset where the parent and/or child's death is preferable to life with an autistic child.

A critical tool in understanding scientific studies is the difference between correlation and causation. A study noticing that two things occur in the same population is correlative; such a noticing makes no claim that either one causes the other. A causative relationship is much more difficult to prove and requires exhaustive elimination of other potential sources of a correlation. Studies also need to consider confounding factors, those that could contribute to outcomes that were not evaluated in the study.

While a few studies do exist that may indicate a weak relationship between Tylenol use and autism diagnosis, they are known to be observational rather than experimental. Further, these studies used small subject populations and had a number of possible confounding factors. The strongest evidence comes from a Swedish study finished in 2021 that evaluated whether a parent's use of Tylenol during pregnancy affected the autism rate in children. This study included nearly 2.5 million children and examined siblings who were not exposed to Tylenol during the pregnancy, eliminating a possible confounding factor. The study concludes that there is no causative link between acetaminophen use and autism, a finding reasserted in this obstetrician's editorial from just a few weeks ago.

There have been only two studies appearing to indicate a link between penile circumcision and autism, and neither studied what analgesics (i.e., pain relievers) might have been used in the subjects. Both are over 10 years old, and both have been thoroughly debunked. Further, common sense would indicate that in places where circumcision is more common and treated with Tylenol should have higher rates of autism diagnosis. Canada's circumcision rate (32%) is significantly lower than the United States (71%), while their autism diagnosis rate is nearly identical, differing by only 0.02%.

As an autist (i.e., autistic person) myself and parent of an autistic child, this is a conversation that rests very close to home. The causes of autism are not completely understood, but the scientific consensus is that the primary factor is genetic. Autism is heritable. It is not a disease; it is neither acquired nor does it have or need a cure. The autism spectrum is not linear (i.e., "more" or "less" autistic), but rather a huge variance in the way this neurodivergence is expressed in different people. Autism is always a disability – albeit an invisible one – because of our social norms, but autists are a natural variation in the way humanity has always existed. And Tylenol does not cause autism; parents should not hesitate to use it or give it to their children. Tylenol can save lives. Please follow your physicians' recommendations and directions on your medications' packaging.