
Miscommunications in Science and Effects on the Public

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by Rebecca Nebel

In July 2011 a paper was published showing that **maternal selective serotonin reuptake inhibitor (SSRI) use during pregnancy increased risk for having a child with autism**, with the strongest effect if taken during the first trimester.¹ As my lab and I discussed the details of this paper soon after it was published, we talked about how to respond to friends or family who asked us about this paper since it was sure to make the news. While the results of the paper were significant and eye opening, the effect was modest. Mothers who took SSRIs during the year before delivery had a two-fold increased risk of having a child with an ASD (a 3.8 fold increase if taken during the first trimester).¹ To put this in perspective, being male alone increases one's risk of developing autism four fold.²

Within weeks of the article being published, I saw a commercial on TV encouraging women who took a specific SSRI during pregnancy to join a lawsuit against the drug manufacturer of this SSRI. I have seen this type of commercial many times with other drugs and completely bought into what these commercials were saying. But not until then did I realized maybe I had been judging these drugs too harshly as I didn't have all the scientific facts.

Over the course of my PhD career and delving into the field of autism, I have slowly begun to realize the overwhelming discordance between what the public knows and what the field knows. Findings that were established before I had started my research in autism a few years ago, such as **advanced paternal age (males over 40) increasing risk for autism**^{3,4}, only started to get the attention of the media last year. Conversely, facts known to be a myth in the field are still widely believed by many people.

The whole reason I became interested in biomedical research was to help advance scientific knowledge in order to benefit people. So what good are these advances doing if they aren't being relayed to the public effectively? Unfortunately, most findings are written in journals that aren't accessible to the public. The findings that are accessible are often written and displayed in such a way that only an expert in the field could understand. Consequently, information that is relayed to the public can easily be misinterpreted which causes unnecessary panic or sometimes not enough stir. I'm not putting blame on any group alone; I think there are multiple parts to the problem. It just seems unfortunate that potentially helpful information is not getting into the communities that could benefit from it the most.

This unfortunately does not stop at autism or even biomedical sciences, but is a problem within the sciences in general. From cancer to climate change, I constantly hear or read about examples of science being ineffectively communicated (a quick Google search confirmed that my experiences are not unique). While I don't have a

solution to fix this situation, more open access to journal articles and scientific writing/presentations aimed at non-experts can definitely help.

References

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