Sound Advice

This is an edited transcript of a telephone interview recorded in February 2010.

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Q: Doctor, how common is autism?

Dr. Wiznitzer: According to statistics, approximately 1 in 100 to 1 in 150 children are defined as having an autism spectrum disorder. Now, if we use the term autism to imply or describe the most severe form of the autism spectrum disorders, we find that those children are much less common. But if you’re defining the entire spectrum of kids with socialization and communication deficits, it comes to about 1 in 100 to 1 in 150.

Q: I’ve heard the recent numbers are closer to 1 in 100. Is that as a more accurate number now?

Dr. Wiznitzer: It depends on how you define the term. The terminology for autism spectrum disorder has broadened, and therefore has become much more inclusive. We’re not talking about the same entity that was present 20 years ago when we first worked with autism. We’re talking about kids with milder impairments; we’re talking about kids who probably more are on the borderlands of these conditions. And the number of 1 in 100 captures this population, but it’s not really capturing the classic autistic disorder.

Q: So are the numbers going up? Are, are we in this midst of an epidemic?

Dr. Wiznitzer: The numbers are going up, but I’m not convinced that it’s an epidemic in the true sense of that term. There’s multiple explanations that have been given for a rise in numbers: greater awareness, change in definition so it’s more inclusive, identification at an earlier age, even some factors as simple as parents now being older and we know that an older parent is at higher risk for having a child within the spectrum.

When you take all this information and put it together, you can probably explain the majority of these findings. Whether there truly is a true rise due to other factors, has not really been determined by the epidemiologic work that we’ve done to date, and different strategies have to be used in order to address this point.

For example, these surveys that have been done have not really sampled the children directly, but have been based on other people’s diagnoses or definitions. And if you’re basing it on how other people define it, you’re not sure that everyone’s on the same wavelength and describing the same entity. Until we really get all our ducks in a row, you have to take these numbers as identifying children with some process affecting socialization and communication and keeping it at that.
Q: How broad is the autism spectrum?

Dr. Wiznitzer: Back when Leo Kanner and later colleagues described this, we were talking about children with significant impairments of socialization, many of them with IQs below 70. More recently the spectrum has been broadened so that we’re including children who have less severe social skills deficits and more normal intelligence. So, now we’re including children who perhaps are more socially awkward rather than socially aloof or socially unavailable.

We’re taking children who may have some quirks or idiosyncrasies in their behavior that in the old days we would have defined them as not necessarily falling within the autistic disorders group itself, but falling into a much less severe category. The criteria to define the autism spectrum have expanded. If we take the three core criteria – dysfunction in socialization, dysfunction in communication, restricted interest and repetitive behaviors -- people are now taking children with milder impairments within each of these categories and putting them within the autism spectrum, something that was not being done in earlier editions of the DSM.

As a consequence we’re seeing a greater number of children falling within the spectrum, especially children who have normal intelligence and children who have milder impairments in communication, milder impairments in socialization or children who have areas of major fascination or some repetitive behaviors that in years past would not have been included.

Q: Why are there differences in autism prevalence among different ethnic, socio-economic and, and geographic groups?

Dr. Wiznitzer: The differences in the prevalence may actually be more artificial than they are real. We have some numbers, for instance, suggesting that you see less within the Hispanic population compared to the Caucasian, but it also may be an issue of how we count. And are we truly identifying the population that’s there.

Recent research that’s been done shows that higher socio-economic groups are more likely to go seek the diagnosis for their children in comparison to lower socio-economic groups. So, therefore, these differences that are there, in part, have to be related to accessing services, as we have noticed with other conditions.

Q: What causes autism?

Dr. Wiznitzer: Well, the prevailing concept of what causes autism is that it is genetically based and it’s due to prenatal stressors on the brain. These prenatal stressors can have a genetic underpinning, but there also may be environmental factors that can impact on the developing brain, especially before birth.

Examples would be exposure to certain medications, certain substances in the environment, as well as the rise in the number of children born extremely prematurely. Because they are born that prematurely, there may be alterations in how the brain wiring develops that may predispose vulnerable children to develop this profile.
There’s one other point. There are some children that appear to be developing adequately and sometime between the second and third year of life show an autistic regression. In that population people have been arguing that there have to be environmental factors that are causing this, but no one has really truly identified a clear-cut and well-described causation.

Most likely what is happening there is that these children have underlying genetic disorders that manifest themselves at that age. There may be a trigger, or phenomenon that causes this inevitable event to happen, but right now what we can say is that this is an area worthy of greater research.

**Q:** You talked a little bit about environmental exposures prenatally, including certain medications or chemicals in the environment. Can you go into a little more detail about what medications or what chemicals might be playing a role?

**Dr. Wiznitzer:** There are data to suggest that exposures to drugs, such Valproate or Thalidomide, cause you to have a greater risk of having an autistic phenotype or autistic picture after children are born. There’s also some interesting, but needing to be better defined, data about exposures to substances such as certain pesticides. People in the past have talked about exposures to heavy metals as being a possible causal factor. However, when they’ve gone and analyzed the data in more detail, they can’t really support that conclusion.

**Q:** What role does the immune system play?

**Dr. Wiznitzer:** Dysfunction of the immune system does not cause autism. However, there are data that tell us that there’s some abnormalities of the immune system that are found in children with autism.

What these actually represent is uncertain, and the reason it’s uncertain is because we don’t know why those children have their autism to start. A likely explanation is whatever’s causing the autistic disorder is also causing these abnormalities in immune function. As far as we know, these children don’t have a greater chance of having significant immune problems in comparison to the general population. On the other hand, there are data telling us that in some children with autism, there’s a higher prevalence within their family units of relatives with autoimmune disorders, such as rheumatoid arthritis, disorders such as thyroid dysfunction, again, suggesting that there may be an impact. There’s even a model that’s been put together suggesting prenatally there may be some maternal antibodies that are made that then attack the fetal brain and cause you to develop an autistic picture. That needs more work to be done.

One of the things that has been found in the brains of individuals with autism, obviously because we’re studying the brains it’s after they’ve died, is that there’s the presence of certain pro- and anti-inflammatory factors, such as cytokines and similar substances. There’s an elevation in the levels of these substances in the brain.
Today we can’t say that actually causes it because we can find that profile in other medical conditions also. To date we can’t state that the presence of pro- and anti-inflammatory factors in the brain actually has a causal association with autism. We know that that is there and it’s worthy of further research to determine whether this is potentially a cause, or whether this is actually a consequence of the presence of autism.

Q: What about vaccines and autism?

**Dr. Wiznitzer:** The clear fact that we know about vaccines and autism is vaccines do not cause autism. This is a very highly studied area. There have been claims made about vaccines being associated with autism from the DTP days, and more recently claims were made about MMR causing autism and DTaP causing autism and various other vaccines causing autism.

These models that people have proffered include, one, that the measles virus in the MMR vaccine itself somehow causes the brain of susceptible individuals to develop autism. That model clearly has been disproven. There’s no epidemiologic data and, in fact, the core features of that model have been discredited. It was discovered that pathologic findings in the gut that were described as having measles virus were not supported with later analysis of the lab results. In other words, these were all false positives from the lab.

The second model was that mercury that was used as part as a preservative in certain vaccines, that this heavy metal exposure caused autism. That also cannot be supported. Epidemiologic work has not supported that. In fact, the removal of thimerosal from the vaccine has not been associated with a drop in the prevalence of autistic spectrum disorder. We’ve noticed that the prevalence continues to rise, even though thimerosal has been removed.

Thirdly, people have made claims that it’s the total number of vaccines that you get exposed to antigenic overload, that the immune system cannot handle this load. That also cannot be supported. Numbers that people have proffered state that even if we gave 10 vaccinations in one day, only 0.1 percent of the immune system would be devoted to the processing of those vaccines, which means 99.9 percent of the immune system is present and functioning.

In addition, the total number of antigens in today’s vaccine schedule basically pales in comparison to the amount of antigens that were present in the vaccine schedule prior to 1990. Prior to 1990, we have thousands of antigens present because the whole-cell pertussis vaccine had at least 3,000 antigens included within it. Nowadays at the most we have several hundred with the entire schedule. It’s a lower antigenic exposure. There’s no data to support that this antigenic exposure itself can cause an autism spectrum disorder.

Q: Is there a relationship between autism and gastrointestinal disorders?

**Dr. Wiznitzer:** There is no causal association between autism and gastrointestinal disorders. A different area of inquiry is, is there a greater amount of gastrointestinal disorders in children with autism? From a hypothetical or theoretical standpoint the answer may be yes. The gastrointestinal system actually has a very well-elaborated nervous system that allows it to...
function adequately to continue with peristalsis and movement of substances from the stomach all the way to very end of the GI tract. If the brain, which is, obviously, the nervous system, isn’t working right, the gut’s brain may not also work right and may cause dysfunction. We know that this is hypothetically possible.

People have also made statements that you may find some abnormalities in the gut in certain individuals with autism in comparison to the general population. We do know that children with autism also have GI problems, similar to children without autism. They have gastroesophageal reflux, they have constipation, they can have diarrheal illnesses. But what we know for certain is that there’s no relationship between autoimmune disorders, such as celiac disease and autism. There’s no relationship between the intake of certain food substances and the occurrence of autism.

Q: Can autism be prevented?

Dr. Wiznitzer: To date, we have no data telling us that autism can be prevented. Once a child’s identified as having an autistic spectrum disorder what we do know is that quality intervention can ameliorate or lessen the severity of the disorder, with our goal being that the individual with this condition is fully functional as an adult. That is the goal that we’re all seeking, but unless you change your family’s genetics you can’t prevent it.

Q: So, what would you tell parents who are worried about their chances of having a child with autism?

Dr. Wiznitzer: Any parent who has concerns about the numbers of autism needs to do one simple thing; they need to become an informed consumer from reliable sources. For instance, the American Academy of Pediatrics. We have to realize that even if the numbers are 1 in 100, 1 in 150, the odds are far in their favor that a child will not have the condition.

Number two is if the parent has any concerns with a child during times of development, raise that concern with the child’s primary care provider, with the child’s pediatrician or family practice doctor, and analyze what the child is doing so that we can alleviate any concerns that are present.

Number three, parents need to recognize, yes, there are some risk factors, for instance, older parent age. Certain medications are potential risk factors, but the vast majority of parents are not on these medications. The odds are you’re not going to have a child with this condition. And if you do, early identification and appropriate intervention is helpful.