Infection, Antibiotics, and Mental Illness in Children

A recently published study found a connection between a range of infections, their treatments, and mental illnesses like schizophrenia, depression and bipolar disorder. Researchers in Denmark looked at national registries associated with severe infections requiring hospitalization and less severe infections requiring antibiotics or anti-parasitical and found that both of those treatment modalities for infections resulted in an increased risk of mental illness later in life. Going to the hospital resulted in the highest increase in the likelihood of receiving a mental health diagnosis and also receiving a prescription for it. The study also noticed a particular connection between the prescription of antibiotics and greater risk. Accounting for the children's genetics and home environment didn't erase the increased likelihood of a mental health diagnosis. That points to a definite link between infections, their treatment, and mental illness. According to Dr. Ole Köhler-Forsberg of Aarhus University Hospital, a neuroscientist and one of the authors of the study,

> *That's also another finding that made us more confident that there is some link between infections, or the immune system and mental disorders…And also we found that the more the infections, and the more severe the infections, then the risk increased as well…So there is this load of infection that seems to impact the brain and mental disorders."*

Break It Down

Children admitted to the hospital for the treatment of a serious infection were 84 percent more likely to be hospitalized for mental illness and 42 percent more likely to

be prescribed anti-psychotics. Those who received a prescription for an antibiotic or similar medication were 40 percent more likely to be hospitalized for mental illness and 22 percent more likely to receive antipsychotic scripts. Researchers found that antibiotics were more likely to bring about these changes.

The percentage of children diagnosed with mental illness was small, with 4 percent of subjects diagnosed with conditions like schizophrenia, attention deficit hyperactivity disorder, anxiety and personality disorders. Four percent doesn't seem like much, but those numbers are based on treatment for a single infection. A study by researchers from Children's Hospital in Philadelphia found that children were given antibiotics an average of 2.3 times before the age of 5. Sixty-nine percent of the nearly 70,000 studied received an antibiotic prescription before the age of two.

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Antibiotics and Hospital Settings

Antibiotics in a hospital setting do damage even if you aren't the one taking them. They greatly disrupt the microbiome, eliminating the beneficial bacteria that balance harmful pathogens, and hospitals are hotbeds of antibiotic activity. Studies have found that a person in the same room as someone who has received antibiotics is more susceptible to serious pathogens like C. diff. A 2016 study found that one out of every two patients checked into the hospital is given an antibiotic. The Danish study ties these two together, linking changes in the children's mental state with a hospital visit or taking antibiotics. In fact, those treatment methodologies seem to leave some of the children in the study in a more challenging place than they were before.

Fragile Brains

It’s plausible that we’re seeing an increase in mental health issues, inflammation, infections, and other chronic health conditions because of our increased evaluation capabilities. But it’s not likely.

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Studies like this one point a healthcare system that has wrongfully equated quick fixes with actual solutions, without fully understanding the consequences of said fixes. Even worse, the system is set up to financially reward the use of those fixes, making the move to a healthier way of dealing with infections and chronic illness an uphill battle. Children are especially vulnerable to the damaging effects of antibiotics, making it more crucial than ever to look for alternative solutions whenever possible.

Sources:

- *Infections May Raise The Risk Of Mental Illness In Children* – NPR
- *A Nationwide Study in Denmark of the Association Between Treated Infections and the Subsequent Risk of Treated Mental Disorders in Children and Adolescents* – JAMA Psychiatry
- *Antibiotic Side Effects Are Contagious – C. Diff Infections Are On the Rise* – Organic Lifestyle Magazine
- *69 Percent of Kids Exposed to Antibiotics Before Age 2; Exposure Raises Obesity Risk* – Healthline
- *CDC: Half of US Hospital Patients Taking Antibiotics; 25 Percent on Two or More* – Healthline