

HOW CAN I FIND OUT WHAT CAUSED MY CHILD'S AUTISM?



WRITTEN BY
DR. P. SUMITHA HEMAVATHY (PT)
Founder & Director - CAPAAR

The **cause of autism** in a child still remains a mystery for all the parents as well as medical professionals and many children fall under the spectrum in spite of complete care during pregnancy and delivery. As suggested by the recent research, parents say that autism spectrum disorder affects 1 in 45 children through ages 3 to 17. This figure is considerably higher than the official government estimate of 1 in 68 Indian children with autism as suggested by the Centers for Disease Control and Prevention (CDC).

It is still not known with clarity which genes are responsible for autism spectrum disorder and heritability of autism is complex. In rare cases, agents that cause birth defects are also suspected to be responsible for autism.

The needle of suspicion also points towards childhood immunizations but numerous epidemiological studies have revealed that there is no scientific evidence to prove any association between immunization and autism.

In a recent data by researchers, it is suspected that autism is not caused by a single phenomenon but is instead a complex disorder. The cause of autism is attributed to a set of underlying brain dysfunctions which then lead to the **common symptoms of autism** similar to the way different brain problems result in intellectual incapacity. Even though heritability is considered as a strong reason for ASD, most of the children falling under autism spectrum have no family history of autism.

**BELOW ARE SOME OF THE CAUSES
SUSPECTED TO BE THE MAIN
FACTORS FOR AUTISM:**



1. PRENATAL ENVIRONMENT



Children of mothers suffering with type 1 diabetes and bleeding disorders are at greater risk of falling under autism spectrum. Furthermore, use of psychotropic drugs during pregnancy and advanced parental age are some of the other **risk factors of autism**.

2. INFECTIOUS PROCESSES



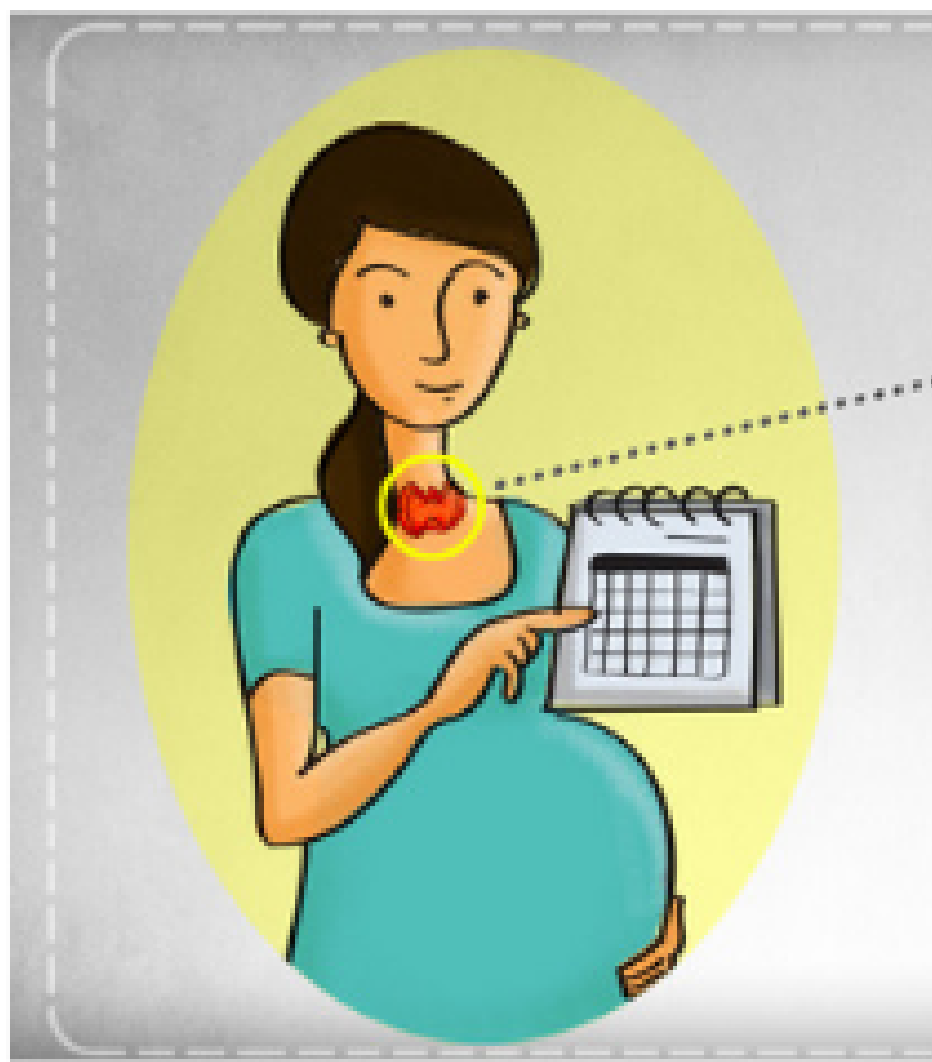
If the mother has suffered a viral infection during pregnancy, then children of these mothers are at greater risk of acquiring **autism spectrum disorder**. Exposure to rubella or cytomegalovirus triggers an immune response in a mother and increases the risk of autism.

3. ENVIRONMENTAL AGENTS



Exposure of the embryo to environmental agents like teratogens during pregnancy can disrupt the development of the fetus thereby increasing the **risk of autism**. Some teratogens that are considered to be culprits in causing birth defects are also suspected to cause autism; however, these suspicions are baseless and without proof. A few of them are paracetamol, misoprostol, thalidomide, valproic acid, etc, but these cases are few and far between.

4. OTHER MATERNAL CONDITIONS



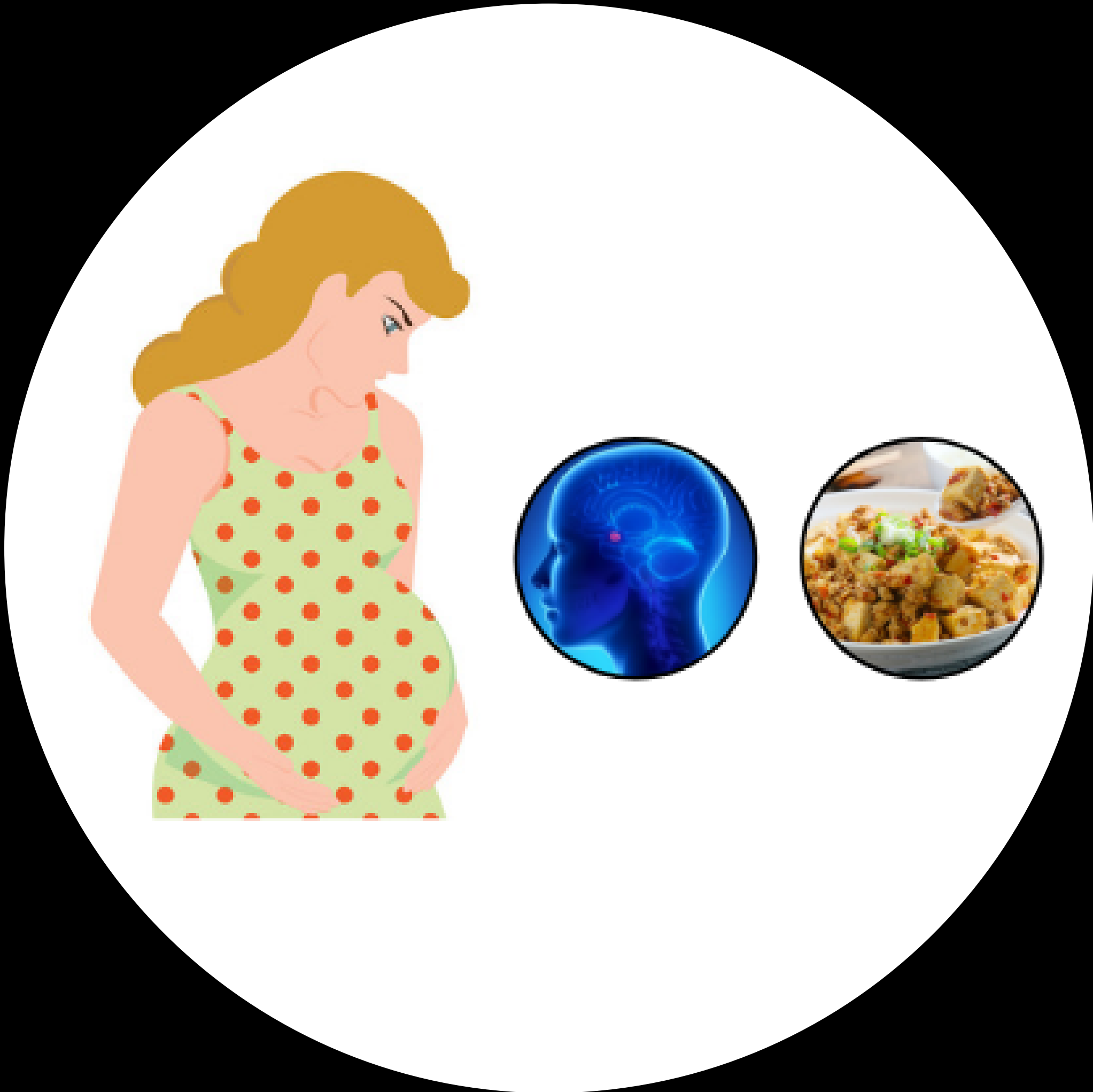
Children of mothers suffering with thyroid disorders, type 1 diabetes, maternal obesity are at greater risk of developing autism, however, this is just a theory and need to be backed by more scientific evidence. Stress or psychological trauma during pregnancy has also been hypothesized to cause **autism** as part of a genetic and environmental interaction.

5. OTHER IN UTERO



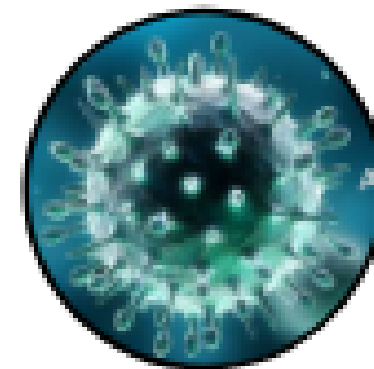
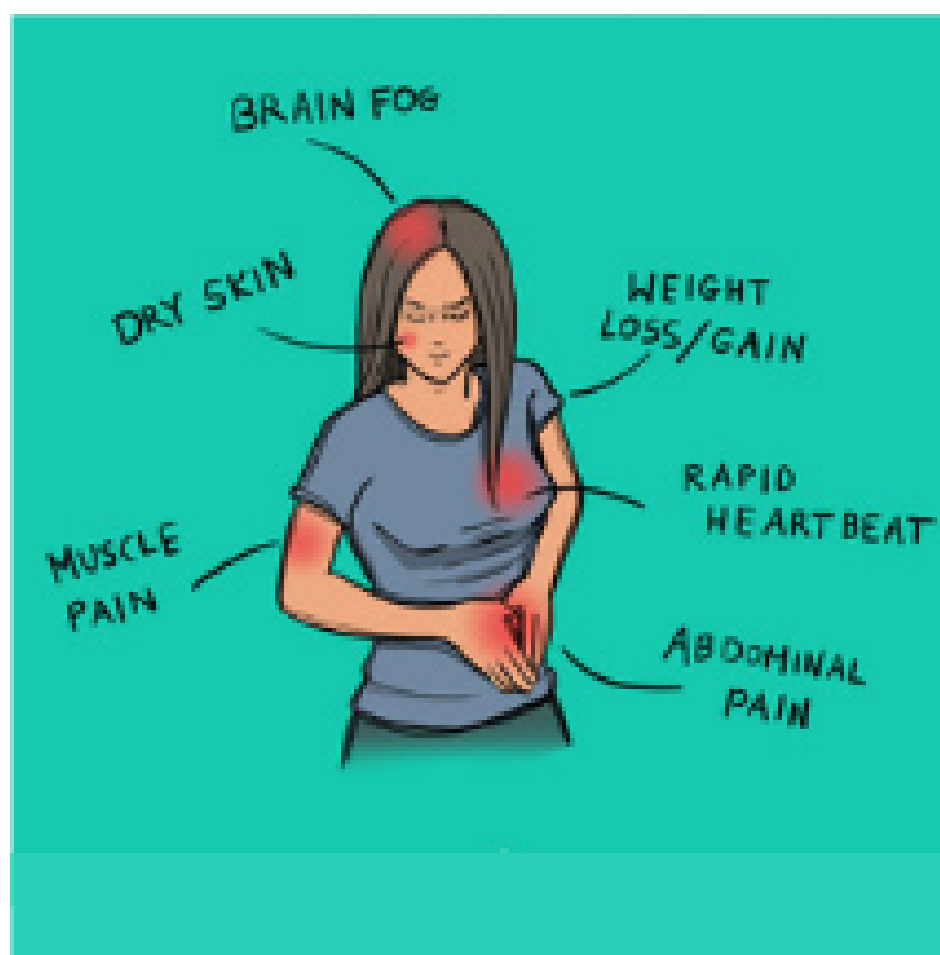
Folic acid taken during pregnancy may be instrumental in reducing the risk of autism, by altering the genetic makeup through an epigenetic mechanism; however, this still remains a hypothesis supported by multiple studies. On the other hand some research propose that exposure during pregnancy to selective serotonin reuptake inhibitors is related to a greater risk of autism, however, the relation between SSRIs and autism is not yet proven.

6. AMYGDALA NEURONS



If the amygdala (a region in the brain responsible for experiencing emotions) fails to develop, this can result in under development of cerebral cortex which plays a key role in memory, awareness, perception, etc. Children **suffering with autism** have trouble in these areas.

7. AUTOIMMUNE DISEASE



Auto antibodies which affect the brain or component of brain metabolism may result in autism

8. ENDOGENOUS OPIATE PRECURSOR THEORY



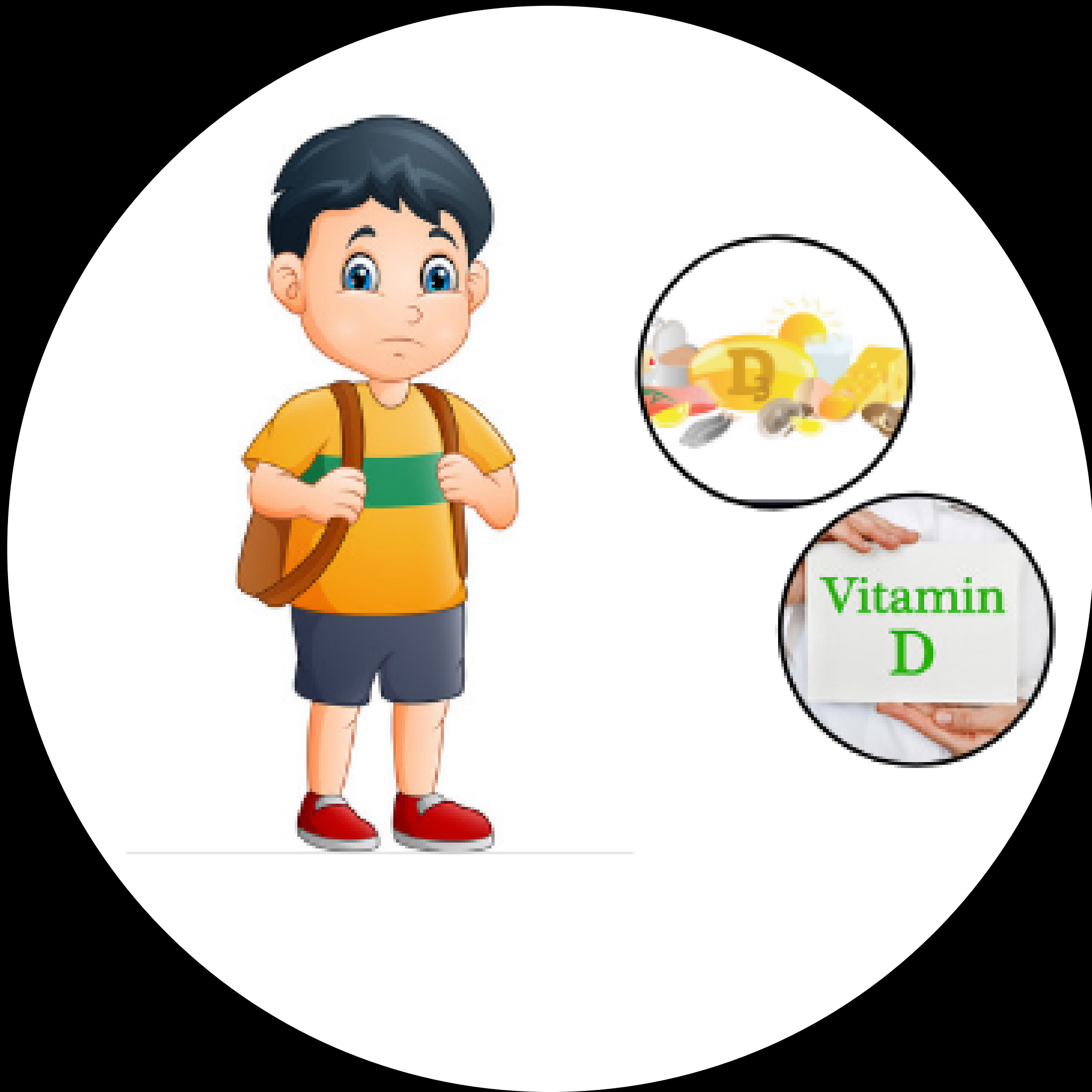
Children suffering from a congenital disorder of the digestive tract in which gluten and casein are converted to opioid peptides gliadorphin (gluteomorphin) and casomorphin are at greater risk of developing autism.

9. GASTROINTESTINAL CONNECTION



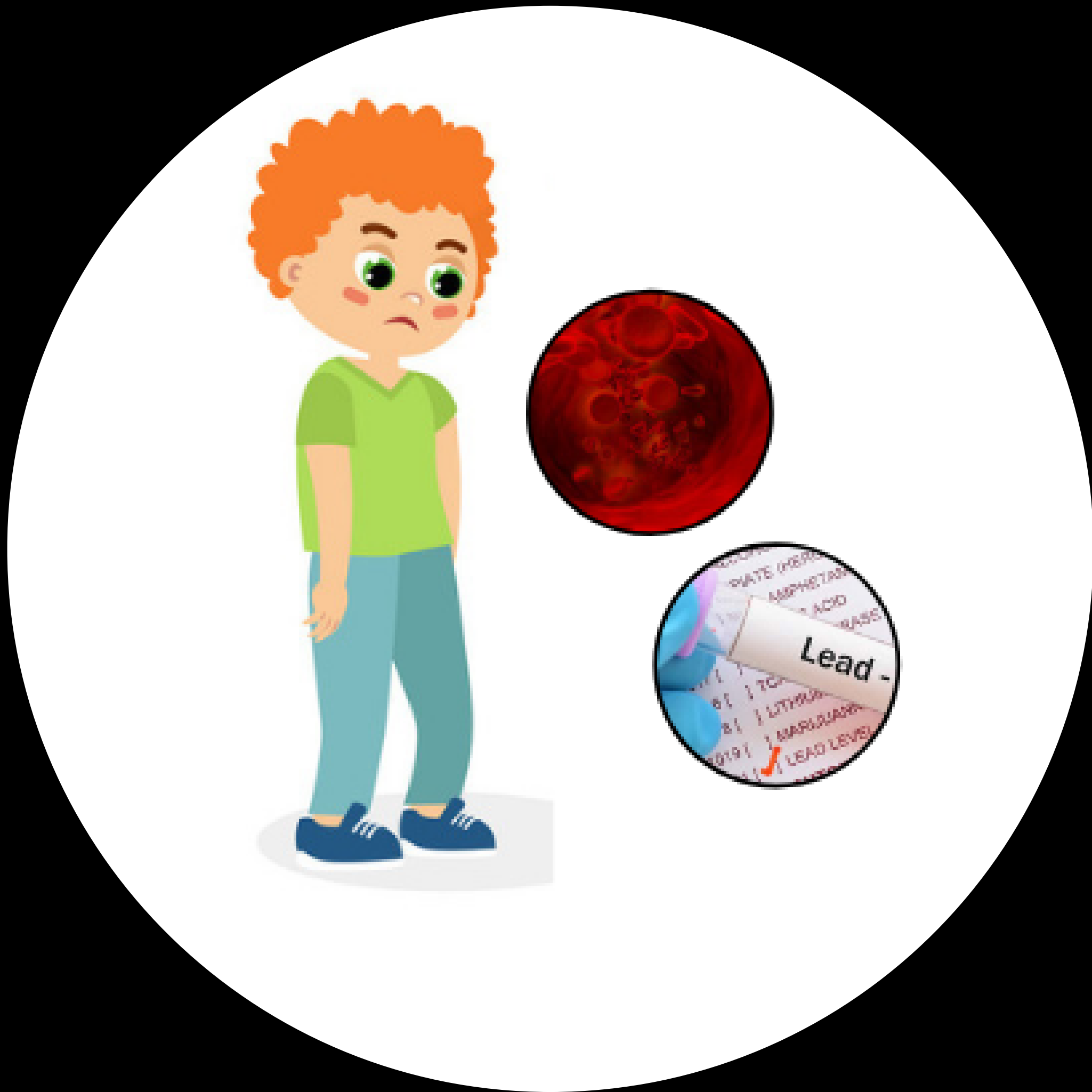
Gastrointestinal (GI) problems are common in **children suffering with autistic spectrum disorder** and many research studies have investigated the possible link between autism and the GI tract but have not been able to prove this beyond doubt.

10. LACK OF VITAMIN D



Deficiency of vitamin D is hypothesized to play a role in autism. Although this theory is biologically plausible, there is insufficient evidence to prove this.

11. LEAD



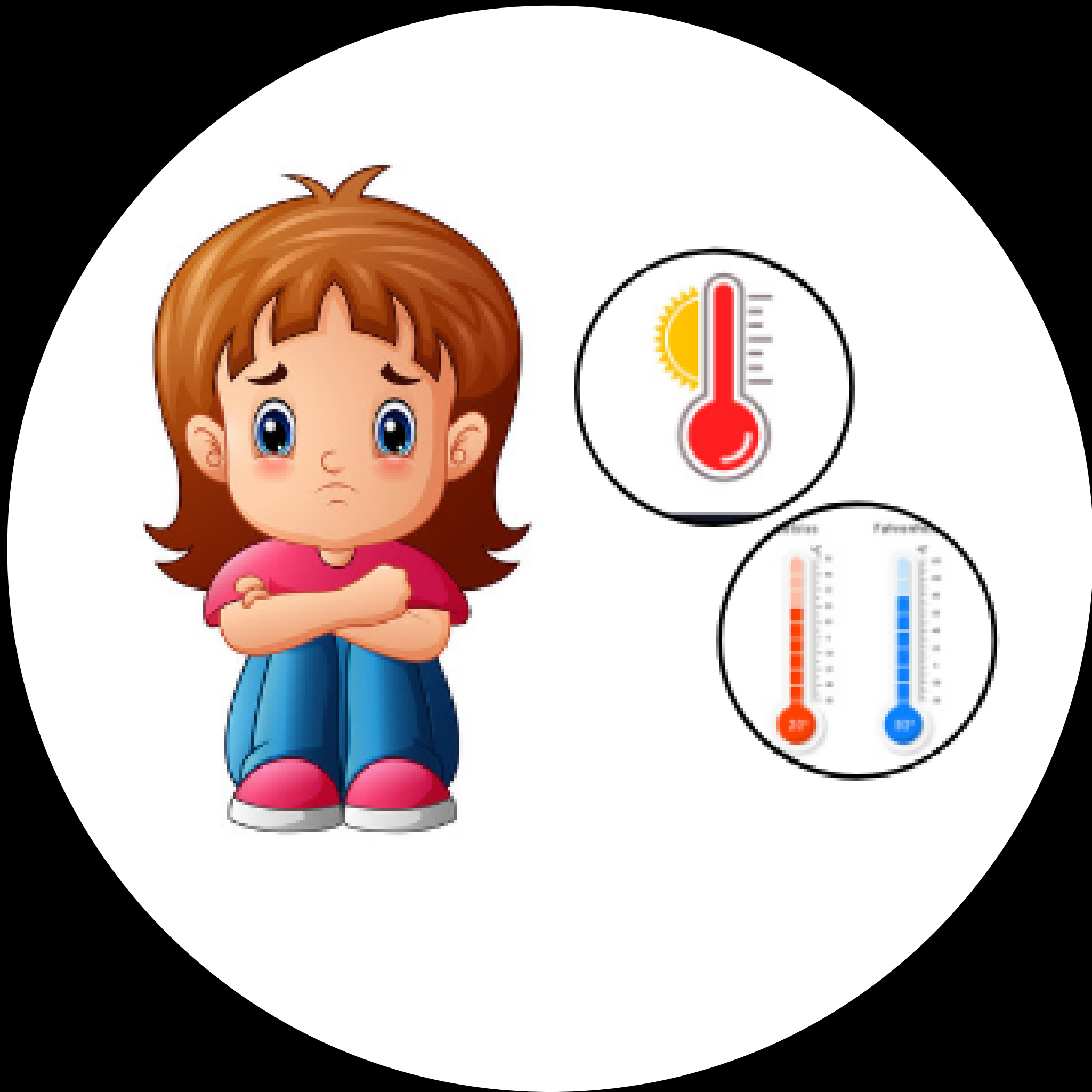
As levels of lead in blood of autistic children are found to be significantly higher than normal, lead poisoning has been proposed as a possible **risk factor for autism**.

12. LOCUS COERULEUS– NORADRENERGIC SYSTEM



It is also theorized that autistic behaviors are at least in part due to an imbalance during development that results in functionally impaired locus coeruleus–noradrenergic (LC-NA) system.

13. MERCURY



Mercury poisoning is also theorized to be linked with autism based on the level of mercury in the blood of autistic children and similar symptoms, however, a meta-analysis published in 2007 rejects this theory.

14. OXIDATIVE STRESS



This theory proposes that toxicity and oxidative stress may play some role in **cases of autism**. This theory is based on genetic effects on metabolic pathways, reduced antioxidant capacity, enzyme changes, and enhanced biomarkers for oxidative stress; however, there is very little evidence to link OS with autism.

15. REFRIGERATOR MOTHER



Child psychologist Bruno Bettelheim theorized the link between autism and early childhood trauma and this theory was very popular for decades in the medical sphere.

16. VACCINES



Scientific studies have concluded that there is no link between vaccinations and autism; however, there are some parents who have accepted this theory that vaccinations can cause autism and delay or avoid giving vaccines. They believe that giving too many vaccines within a short period may overburden the child's immune system and cause autism even though research has shown this to be completely baseless. By doing this parents are exposing their child to developing the diseases for which vaccines are given.

17. MMR VACCINE



Perhaps the most debated hypothesis is the link between autism and MMR vaccine. This link has been thoroughly investigated and the Centers for Disease Control and Prevention, the UK National Health Service, and the Institute of Medicine of the National Academy of Sciences are all in agreement that there is no evidence that MMR vaccine has any role to play in the development of **autism**.

18. VIRAL INFECTION



Studies to establish a link between autism and viral infection after birth again show conflicting reports arguing for and against it. Tests conducted on laboratory rats infected with Borna disease did develop some symptoms of autism, but blood samples of children with autism spectrum disorder revealed no trace of the virus.

Studies so far have been inconclusive in establishing any link between strains of herpes virus and autism. Viruses have long been considered as culprits for causing immune-mediated diseases like multiple sclerosis, however, proving that there is any link between these two has been difficult. Likewise, any link between autism and viral infection still remains only in theory and further evidence is required.

In spite of many theories floating around in the medical world as to the causes of autism, the real cause of autism still remains a mystery. We are thankful to you for reading this blog. You can **contact CAPAAR** Best Centre for Autism in Bangalore if you have any queries or visit our Autism Center in Hulimavu, Bangalore. You can also visit our website frequently as we will be updating it from time to time and provide more informative articles.

CONCLUSION

If you live in or near Bangalore, you'll be relieved to know that the CAPAAR – Best Centre for Autism in Bangalore is currently operating in these areas.

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GET UP! GET HERE! GET WELL!

Dr. P. Sumitha Hemavathy (PT)

Founder & Director

(CAPAAR)

**Centre for Advanced Pediatric
And Adult Rehabilitation**



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