

The Association between Food Additives and Learning Disabilities – A Review

**G. Hemanatchatra, Ph.D. Research Scholar and
Dr. B. J. Geetha, Assistant Professor**

Learning is the basic requirement for everything and one's behaviour is the learning. Learning also reflects on individual's cognitive process. The learning happened when individual involves in to the process. When they could not involve, learning is affected and so is the behaviour, cognition and personality traits. There are reasons for not involving; scientifically brain dysfunction is the major cause. The dysfunction leads to Learning Disabilities.

Learning Disabilities become an increasing focus of attention for many modern psychologists and educators. The rationality behind this reflects the acknowledged learning difficulties many students face. The debate addresses the necessity of making the educational process manageable and successful for every student, regardless of his or her individual learning abilities and styles. A great deal of work has been successfully gone into the investigation of the exploration of a little-known territory, to better define such Learning Differences as Dyslexia (reading difficulties), ADHD (Attention Deficit Hyperactivity Disorder) (Turketi 8) and other LD.

“Dyslexia refers to a specific difficulty in the area of reading. Other terms frequently used are severe reading disabilities, primary reading disabilities, specific reading disabilities, and word blindness” (Nakra 46).

Attention Deficit Hyperactivity Disorder has long been considered a Learning Disability called a Minimal Brain Dysfunction that results in the lack of concentration, impulsivity, restlessness and a way of processing information that is different from that of other learners (Turketi 9).

Learning disabilities is caused by genetic and environmental factors. Food is the major environmental factor that causes LD. In this review, analyse how food and the additives in them affects children and their learning. The food can also be remedial to Learning disabilities, some researchers find out that additive free diet act as remedial tool for LD children. Comparatively, taking additive food has high risk of ADHD than Dyslexia.

Food additives are chemical substances which are added to the food in order to make them attractive. It will enhance the taste, odour, flavour, appearance and nutritional value. These

substances are always affecting our physical and mental health. “The relation between food additives and behaviour is evaluated rather considering the effects of additives increasing hyperactivity” (Gultekin et al 27). According to park Et al, “high intake of sweetened desserts, fried food, and salt is associated with more learning, attention, and behavioural problems” (Park et al 3) the food additives are one of the reasons for Learning and behavioural disorder. In 2018 researcher Dr. Holton has done a study in which he examines the effects of food additives on children with ADHD. After the intervention with 60 samples, he finds out that children consuming food without additives are showing improvement in their behaviour. They became attentive, their impulsivity has reduced. The scale of hyper activity, impulsivity, learning problems have reduced.

Spring and his colleagues had done a study on additive free diet for 6 hyperactive children. They surprised by the results that all the 6 children were shown the decreased rate of ADHD symptoms. Another study by Connors and his friends concludes after the experiment with 15 hyperactive children, symptom of hyperactivity decreased after following preservative and added colour free food. The same results was given by researchers matte and Gittleman, they experimented on eleven ADHD children.

On the whole,

Behaviours are outward reflection of personality and are shaped by genetic and environmental factors. Nutrients, one of the environmental factors and consumed with foods, are indispensable elements for both prenatal and postnatal life to lead a healthy life at every stage of life and to demonstrate healthy behaviours (Gultekin et al 9).

Parents have predominant role in child’s health and behaviour. It begins right from the pregnancy period; mother has to avoid taking additive foods. If she does, it automatically affects the fetus. An article from *the new Indian express indicates that*, High intake of unsaturated fat and sugar during pregnancy causes Attention Deficit hyperactivity disorder in children with behavioural problems early in life. “The researchers assessed how the mothers’ nutrition affected epigenetic changes (or DNA methylation) of IGF2, a gene involved in foetal development and the brain development of areas implicated in ADHD - the cerebellum and hippocampus” For the healthy brain development and to avoid the risk of Learning Disability, every mother should intake sufficient vitamins, minerals, amino acids and fatty acids in order to thrive healthily.

Works Cited

Gultekin, Faith. Husamettin Vatansev, et al. “The Effects of Food and Food Additives on Behaviors” *International Journal of Health and Nutrition*, vol.4 no.1 2013 pp. 21-29, *Research Gate*, <https://www.researchgate.net/publication/236626781>

“Junk food during pregnancy may increase ADHD risk in kids.” *The New Indian Express*, 18

Aug. 2016. The New Indian Express,
<http://www.newindianexpress.com/lifestyle/health/2016/aug/18/Junk-food-during-pregnancy-may-increase-ADHD-risk-in-kids-1510603.html>

Nakra, Onita. *Children and Learning Difficulties*. Allied Publishers Private Limited, 2017.

Park S, Cho Sc, et al. *Association between dietary behaviors and attention-deficit/hyperactivity disorder and learning disabilities in school-aged children*. Elsevier Publication. 2012

Turketi, Natalia. "Teaching English To Children With ADHD" *MA TESOL Collection*. 2010
Pp.483, https://digitalcollections.sit.edu/ipp_collection/483

G. Hemanatchatra
Ph.D. Research Scholar
Department of English
Periyar University, Salem
hemanatchatraelt@gmail.com

Dr. B. J. Geetha
Assistant Professor
Department of English
Periyar University, Salem