

In today's society, both physical and psychological diseases are on a high toll. Besides diseases, learning disabilities rise out in the people, including children. One of the examples of learning disabilities that occur at all ages but especially in children is dyslexia. According to Mayo Clinic (n.d.), Dyslexia is a learning disorder that causes reading difficulties due to phonetic sounds and how they relate to letters and words. Dyslexia is also recognized as a reading disability that affects part of the brain that processes language. This disorder has four main branches that should be examined and considered carefully. The causes & symptoms of dyslexia, types of dyslexia, the society's mindset to the people with dyslexia and treatment ways of dyslexia are the main things that should be kept in mind.

Hereditary and genetic conditions are the main cause of having dyslexia. It's passed onto families and according to The Reading Well (n.d.), if the one of the parents inherit dyslexia, there is a 50 percent chance to pass dyslexia to their children. Siegel (2006) discovered that some chromosomes appear to have same kind of gene or genes that indicate the existence of dyslexia. As The Reading Well (n.d) stated, dyslexia is a brain-based disorder. While dyslexic children are reading, the different parts of the brain which are frontal lobe are highly activated compared to non-dyslexic children. Galaburda, Sherman, Rosen, Aboitiz & Geschwind (1985) discovered that dyslexic children and dyslexic adults between 14 and 32 years have showed asymmetry and abnormalities of the brain. As Galaburda & Kemper (1979) found, dyslexic people show high amount of left hemisphere activity in their daily lives and this results in wider left-hemisphere in the brain. Moreover, children may have two disorders at the same time rather than just having dyslexia. According to the Centers for Disease Control and Prevention (CDC) (n.d.), almost 50% of the children diagnosed with dyslexia also have Attention Deficit Hyperactivity Disorder

(ADHD). Along with dyslexia, many other disorders such as SLD (Specific Learning Difficulties), Dyscalculia, Autism may exist in the children's life (McIver, n.d.). Furthermore, it's proven that environment and the gender of the individual has no effect on having dyslexia. Even though gender has no effect on getting dyslexia, the study conducted by Siegel (2006) showed that 8.7% of the boys and 6.9% of the girls were dyslexic in grade 2 and 9.0% of the boys and 6.0% of the girls were dyslexic in the grade 3. More dyslexic boys were reported than the girls. Shaywitz, Escobar, Shaywitz, Fletcher, Makuch (1992) explains that the boys are identified because of behavioural difficulties in the classroom which drew the teacher's attention to them. The girls were much less likely to have behaviour problems and thus, leads to not being identified as having reading difficulties, even though they are almost as likely as boys to have a disability. The dyslexia have wide range of symptoms which enables parents or professionals to diagnose dyslexia at an early age. The children with dyslexia usually display reading and writing difficulties in primary schools. Before starting to reading and writing, the toddlers may exhibit difficulties in counting numbers, lacing shoelaces, telling time in the analog clock and lack of interest in reading and drawing.

Dyslexia is not limited to one type, it has many types which can occur in children and adults. The first type is Phonological Dyslexia which is deep and extreme reading disorder. The person with phonological dyslexia cannot sound words out but s/he can read the familiar words that they know. They have difficulties in decoding words and sounding letters while writing a group of words. The second type of dyslexia is Surface Dyslexia which is being unable to recognize the words as a whole rather than the sounds of the letters. The Understood Team (n.d.) stated people with surface dyslexia have troubles with the words that sounds different than the pronunciation rules. For example, weight and pint don't sound as they're spelled. The third type

is Visual Dyslexia which is difficulties in reading and remembering what is on the page. In this type, the brain doesn't have access to full picture of eye vision. The fourth type is Primary Dyslexia which happens as a result of genetically inherited condition. People with primary dyslexia have troubles in understand and processing letters, numbers and sounds. The fifth type is Secondary Dyslexia, which is the less effective type among the other types. According to Cicerchia (n.d.), before the birth, some babies may have brain development issues which cause neurological impairments, and results in dyslexia. Both Primary and Secondary Dyslexia occur before birth and last for a life time. The other type is Acquired Dyslexia, which happens as a result of trauma or disease in the adult or child. Math Dyslexia, Dyscalculia, is type of dyslexia which children have difficulty in understanding math concepts or numbers. Perceptual Dyslexia is disorder that is related to visual and perception of people, and Spatial Dyslexia is the last one where the people has difficulty in perceiving the directions and locations. Perceptual Dyslexia and Spatial Dyslexia are the types which occurs rarely among the humans.

People are supposing to be living in a modern society where every difference is embraced; however, this assumption is wrong. According to Brazier (2020), "Ten to fifteen percent of the US population has dyslexia, yet only five out of every one hundred dyslexics are recognized and receive assistance." This shows that the society and the system are inefficient to provide services and help for dyslexic people, and indicates that only small amount of dyslexic people receive the help and the attention they need. Besides attention, although dyslexic people have same intelligence as the other people, they are seen stupid and lazy (Al-Lamki, 2012). This can cause student to have low self-esteem and resulting in clinical depression. Since dyslexic people have poor memory, they may not be able to remember or understand the courses, and this results in conflicts with the teacher and with the parents. For example, Peter Kyle, who is MP

and has a dyslexia has been receiving comments that he should resign due to his misspelling caused by dyslexia. He also mentioned that his teacher forced him to read stories aloud in the classroom, and this caused him embarrassment and anxiety at school. As seen from the example, rather than embracing dyslexic people, the society is pushing and belittling them. Moreover, people with dyslexia often suffer from the lack of services and support from the environment. For example, the companies or organization usually don't have services or staff that are dyslexia-friendly services or more written information to help them to understand (LostandFoundBooks, 2017). Even though it's a crime to discriminate dyslexia in a workplace, some people may refuse to hire dyslexic people to work (LostandFoundBooks, 2017). Not just in workplace but also in the family, dyslexic people are seen as problematic and expensive. They require professional staff for their education and this may result in heavy burden for the families as well as the child. As a result of these treatments and prejudices in the workplace, in the family and in the society, dyslexic people are inclined to have more mental health problems and have higher rates of committing a suicide.

There are numerous and wide variety of treatments to help people who have dyslexia. As the people with dyslexia usually have difficulty in reading and writing, the followed treatment way is offering students reading sessions and preparing one-to-one pronunciation sessions to help them overcome issues in their daily lives. Working with a reading specialist will provide dyslexic children to sound out letters and words, read faster, understand what they read and help them to write clearly. Other reading program which is provided to dyslexic children is Orton-Gillingham which offers children to match letters with sounds and recognize letter sounds in words. Multi-Sensory Instructions are another way to help them. This allows children to experience their senses-smell, touch, see, hear, taste-to have new skills. The education system

offers IEP (Individualized Education Program) to the dyslexic children who are troubling at school. IEP is a program where consists professional medical staff and competent educators to support children in terms of behavioural and learning or cognitive skills (Bachrach, 2016). The treatment for dyslexia is not limited to the school and professionals, and also, parents can do activities at home or outside to help their children to overcome this learning activity. For example, parents may encourage reading in children by reading together or they can assist their children by providing high-tech devices (Bachrach, 2016). Technology will make the learning enjoyable and help them to build up their weak skills. Parents will contribute to their children's learning and reading by praising them and understanding the effort they are showing.

The dyslexia is serious issue in the society and the four main branches of analyzing dyslexia are the causes & symptoms of dyslexia, types of dyslexia, the society's mindset towards dyslexic people and treatment ways to dyslexia. These branches should be considered and be aware of when talking to children and adults with dyslexia.

REFERENCES

- Symptoms and Causes of Dyslexia*. (n.d.). Mayo Clinic. Retrieved March 15th, 2020 from <https://www.mayoclinic.org/diseases-conditions/dyslexia/symptoms-causes/syc-20353552>
- Causes of Dyslexia*. (n.d.). The Reading Well. Retrieved March 17th, 2020 from <https://www.dyslexia-reading-well.com/causes-of-dyslexia.html>
- Siegel, S., L. (2006). Perspectives on Dyslexia. *Paediatr Child Health*, 11(9), 581-587.
<https://doi.org/10.1093/pch/11.9.581>
- Galaburda, M. A., Sherman, F. G., Rosen, D. G., Aboitiz, F. & Geschwind, N. (1985). Developmental dyslexia: Four consecutive patients with cortical anomalies. *Annals of Neurology*, 18(2), 222-233.
<https://doi.org/10.1002/ana.410180210>
- Galaburda, M., A. & Kemper, L., T. (1979). Cytoarchitectonic abnormalities in developmental dyslexia: A case study. *Annals of Neurology*, 6(2), 94-100. <https://doi.org/10.1002/ana.410060203>
- McIver, M. (n.d.). *Co-existing Conditions of Dyslexia*. Orton Gillingham Online Academy.
<https://ortongillinghamonlinetutor.com/co-existing-conditions-of-dyslexia/#:~:text=According%20to%20research%2C%20nearly%2050,norm%20rather%20than%20the%20exception.>
- Shaywitz, E., S., Escobar, D., M., Shaywitz, A., B., Fletcher, M., J., Makuch, R. (1992). Distribution and temporal stability of dyslexia in an epidemiological sample of 414 children followed longitudinally. *New England Journal of Medicine*, 326, 145-150.

The Understood Team. (n.d.). *Types of Dyslexia: What researchers are studying and why*. Understood.

<https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/dyslexia/different-types-of-dyslexia>

Cicerchia, M. (n.d.). *Different types of dyslexia*. Read and Spell.

<https://www.readandspell.com/different-types-of-dyslexia>

Brazier, Y. (2020). *What to know about dyslexia*. Medical News Today.

<https://www.medicalnewstoday.com/articles/186787#adults-vs-children>

Al-Lamki, L. (2012). Dyslexia: Its impact on the individual, Parents and Society. *Sultan Qaboos University Medical Journal*, 12(3), 269-272.

Young, S. (2019). Dyslexic MP Peter Kyle Hits Back at Twitter Trolls for 'Brutal' Criticism of His Spelling Mistakes. *Independent*. <https://www.independent.co.uk/life-style/peter-kyle-dyslexic-labour-mp-twitter-thread-spelling-mistakes-a9174661.html>

LostandFoundBooks. (2017). *What barriers to equality do people with dyslexia face?* Dyslexic Library.

<https://dyslexiclibrary.com/2017/12/03/international-day-of-persons-with-disabilities-can-you-see-me/>

Bachrach, J. S. (n.d.). *Individualized Education Programs*. KidsHealth.

<https://kidshealth.org/en/parents/iep.html>

