

Children with Neurodevelopmental Disorders from the Islamic Perspective

Khairul Azhar Idris*

khairul@ikim.gov.my

Abdul Latif Abd. Razak**

al_nuha@iium.edu.my

Abstract

Children with neurodevelopmental disorders are considered as individuals with special needs. They have multiple levels of severity such as cognitive functioning deficits, emotional hypersensitivity and behavioural problems. From the Islamic perspective, these children should be treated with dignity as they have their own rights and needs. Islam discourages any attempt to neglect and marginalise them based on their weaknesses and disabilities. This article will examine the Islamic approach in dealing

* Fellow, Centre of Economics and Social Studies, Institute of Islamic Understanding Malaysia, Kuala Lumpur. Khairul Azhar contributes much of his ideas on the psychopathology of neurodevelopmental disorders that include criteria of diagnoses, nosology of the disorders and some evidence-based psychosocial and neurocognitive interventions.

** PhD, an Assistant Professor at the Department of Fundamental & Inter-Disciplinary Studies, Kulliyah of Islamic Revealed Knowledge and Human Sciences, International Islamic University Malaysia (IIUM), Kuala Lumpur. Abdul Latif contributes inputs from the Islamic perspective.

with children with neurodevelopmental disorders, especially those with cognitive functioning deficits.

Keywords

Neurodevelopmental disorders, neurocognitive, autism, ADHD, dyslexia

Introduction

Neurodevelopmental disorders such as autism, Attention-Deficit/Hyperactivity Disorder (ADHD) and other specific learning difficulties such as dyslexia are unique problems which occur among children and adults. This is due to the complexities of the issues in addition to some of the symptoms being relatively invisible and unnoticeable, which give rise to difficulties not only in recognising and providing better services for them but also in differentiating the disabilities due to symptoms or signs of disorders which are less noticeable. Consequently, those who have the symptoms remain unrecognised and are left untreated. As a result, they are seen to be normal, not requiring any special treatment or intervention. But in reality, those with such disorders have the same rights as patients or other individuals with disability who need to be treated and assisted in terms of their shortcomings.

Children with neurodevelopmental disorders and learning problems are often considered as stubborn, lazy, stupid, ignorant, and so on. In fact, the symptoms and signs resulting from the disorders put them into wide arrays of difficulties in functioning as compared to other normal individuals, although their appearances look normal, like any other normal individuals. Among the few signs of these disorders are the difficulty to focus, weak and limited capacity to concentrate on tasks, the disadvantages of self-immobilisation, memory function weaknesses, difficulty in writing, reading and counting, and failure in social communication and interaction.

However, among those children and individuals with neurodevelopmental disabilities, there are few who have high IQ with high intelligence level of cognitive functioning, compared to their peers of the same problems, or even excel more than the normal individuals. This poses difficulty to parents and teachers in selecting types of treatment activities and appropriate interventions for them. As a result, some of them are not receiving proper treatment and intervention.

Difficulties in recognising the problems occur among teachers and parents during the process of identifying weakness and strengths of IQ, as well as executive functions caused by a variety of factors such as lack of equipment and testing for diagnostic purposes. This eventually affects the provision of good quality services to them in terms of good treatment, recovery and learning services. In addition, the difficulties in designing training modules and rehabilitation due to the absence of expertise dampen the right intervention programmes for them. Moreover, most existing tools and programmes at present do not have a specific background in understanding this learning problem from a perspective based on intelligence paradigm and associated executive and cognitive functions. Treatments and rehabilitations aimed at increasing their ability and functionality are very much required.

Islam, the religion (*al-Dīn*) of blessings for all mankind (*rahmatan lil ālamīn*) with its objectives (*Maqāsid al-Sharī'ah*), accords serious attention to help them improve themselves from various aspects of life, especially those related to the executive and thinking functions and aspects of personal care and roles in society. There are many cited cases in the Islamic literature showing how Islam upheld the rights of people with disability. One such role-model is 'Umar Ibn Al-Khattab, the third caliph, who provided a blind man with housing near the mosque after his father complained to 'Umar about his son being unable to reach the mosque. Another example was in the second Islamic state in Damascus, when the Umayyad caliph, Al-Walid ibn Abd al-Malik, established the first care home for

intellectually disabled individuals. He also built the first hospital which accommodated the intellectually disabled as part of its services. It is reported that he also assigned each disabled and needy individual a caregiver. All these examples are concrete evidence of practical assistance being given to the less able in Islamic societies in the past.¹

Definition of Neurodevelopmental Disorders

Neurodevelopmental disorders are neurologically based conditions that can interfere with the acquisition, retention, or application of specific skills or sets of information. They may involve dysfunction in attention, memory, perception, language, problem-solving, or social interaction. These disorders may be mild and easily manageable with behavioural and educational interventions, or they may be more severe and affected children may require more support. Neurodevelopmental disorders include attention-deficit/hyperactivity disorder, autism spectrum disorders, intellectual disability, and Rett syndrome, and specific type of learning disabilities, such as dyslexia, dyscalculia, dysgraphia, and any other impairments in important academic and social area of functioning.

Attention-deficit/hyperactivity disorder (ADHD) is poor or short attention span and/or excessive activity and impulsiveness inappropriate for the child's age that interferes with functioning or development. Autism spectrum disorders are conditions in which people have difficulty developing normal social relationships, use language abnormally or not at all, and show restricted or repetitive behaviours. Learning disorders involve an inability to acquire, retain, or broadly use specific skills or information, resulting from deficiencies in attention, memory, or reasoning and affecting academic performance. Intellectual disability (ID)

1. Hiam Al-Aoufi et al, "Islam and the Cultural Conceptualisation of Disability," *International Journal of Adolescence and Youth* 17, no. 4 (2012): 205–219.

is significantly below average intellectual functioning present from birth or early infancy, causing limitations in the ability to conduct normal activities of daily living. Rett syndrome is a rare neurodevelopmental disorder caused by a genetic problem that occurs almost exclusively in girls and affects development after an initial six-month period of normal development.²

Patterns of Cognitive Functions in Individuals with Learning Disabilities

In general, neurodevelopmental disorders consisting of autism spectrum disorders, attention deficit and hyperactivity disorders, specific learning disorders such as dyslexia, and others will have other simultaneous disorders or comorbidity disorders. The clinical presentation of the problem with cognitive functioning is described as being low and weak compared to other normal individuals. However, this does not mean that all individuals who have these neurodevelopmental problems will be automatically falling into and suffering from low and weak cognitive functioning problems. For there are certain groups of people with these problems who have good cognitive functioning, even better than individuals with normal cognitive functioning.

Cognitive function generally refers to any process or activity performed by the human brain involving various processes or activities such as thinking, remembering, planning, interpreting and formulating, and analysing. The literature have found that some problems associated with weak cognitive functioning among them are memory and concentration functions, perceptions, speech and language, and interference in the function of brain executive functions. In fact, memory is known as the ability of the brain to store something or any information for a particular

2. See <https://www.msmanuals.com/home/children-s-health-issues/learning-and-developmental-disorders/definition-of-developmental-disorders> (accessed 25 May 2021).

period of time.³ Some researchers state memory as a method or ability for individuals to use past information for the present good.⁴

Speech disorder is a major problem among individuals with autism problems—especially among classical autism—and this is illustrated when they cannot even speak even after being over two year old. However, this situation does not necessarily apply. This is because there are some children with autism who are still able to talk and communicate, especially in children with Asperger’s syndrome, which is also a type of autism spectrum disorder.

Memory deficiency is a common problem in neurodevelopmental disorders, especially among individuals with autism problems. Some of them indicate the level of memory functionality that is too weak especially when it involves a number of information that is too much to be processed at one time.⁵ Additionally, they also show weaknesses in terms of methods to process or compile such information for their convenience to use at later time. This condition is known as the difficulty occurring at the level of brain executive functions, which is a disorder of high-level thinking also occurring among autism, and in other groups with this disorder. The problem also occurs in attention deficit and hyperactivity disorder as well specific learning problems such as dyslexia, dyscalculia, and sensory processing weakness and so on.

Meanwhile, executive function of the brain refers to any activity performed by the human brain purposefully, well planned and done in a state of consciousness. Among examples of executive functions are the management, planning,

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3. Margaret W. Matlin, *Cognition* (Crawfordsville: John Wiley and Sons, 2005).
 4. Robert J. Sternberg, *Cognitive Psychology* (Ford Worth, TX: Harcourt Brace College Publishers, 1999).
 5. Diane L. Williams et al., “Verbal and Spatial Working Memory in Autism,” *Journal of Autism and Developmental Disorders* 35, no. 6 (2005): 747–756.

analysis, monitoring and determination of decisions, as well as selecting appropriate emotions and behaviours, judgments and determining actions and so on.⁶ These functions are important to every human being as they help in improving physical and mental well-being, enhance the individual's ability to function daily, and ensure success in their schooling, career and social life.

In children and adults with autism disorders, some studies suggest that they also have executive function deficits, though not all will experience them.⁷ Most will experience weakness or deficit in executive functions such as management functions and planning problems, emotional control function deficit and impulse control problem, concentration and memory, and behavioural control deficits. Similar problems are also reported in children from other categories of neurodevelopmental problems such as dyslexia, ADHD and others.

Dyslexia is also a disorder in the category of neurodevelopmental disorders and belongs to a specific learning disorder spectrum. In general, it refers to interruptions related to reading and spelling and thus affects writing and understanding. Children with this problem are described as individuals who have failed to recognise the alphabets or have difficulty identifying the words resulting from multiple alphabetical combinations. This problem results in difficulties in reading and writing perfectly like other normal children. Often they are also experiencing difficulties in the ability to spell words, causing difficulty in reading, writing and understanding the structure and content of the verse and sentence.

Some studies also report that they also have problems related to the weakness of executive function. For example, a study by Willcutt found that the children had a weakening

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6. Anne Collins and Etienne Koechlin, "Reasoning, Learning, and Creativity: Frontal Lobe Function and Human Decision-Making," *PLoS Biology* 10, no. 3 (2012): e1001293.
 7. Elisabeth L. Hill, "Executive Dysfunction in Autism," *Trends in Cognitive Sciences* 8, no.1 (2004): 26-32. <https://doi.org/10.1016/j.tics.2003.11.003>.

memory and memory function.⁸ They also experience weakness in focusing ability,⁹ and difficulty in orientation, focus and concentration and visualisation work.¹⁰ Another study by Barbosa found that such problematic children experience weaknesses in terms of manual hand dexterity and the efficacy of verbal and figural functions, and the weakness of self-indulgence against inappropriate responses.¹¹ For children with focus and hyperactivity problems, studies have shown that they also experience weaknesses in executive functions.¹²

Other studies have found that the weaknesses in this executive function have a biological basis and can be detailed using the same approach and technique. For example, Marcel Adam discovered that by means of functional magnetic resonance imaging or fMRI, individuals with autism biologically have weaknesses and disorders in the function of social interaction.¹³

Likewise for individuals with disabilities and hyperactivity or ADHD, studies by Hoogman also find that their deficiencies have biological basis.¹⁴ Using the same approach and method of imaging techniques, it has been found that ADHD individuals

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8. Erik G. Willcutt et al., “Neuropsychological Analyses of Comorbidity between Reading Disability and Attention Deficit Hyperactivity Disorder: In Search of the Common Deficit,” *Developmental Neuropsychology* 27, no. 1 (2005): 35–78.
 9. Turid Helland and Arve Asbjørnsen, “Executive Functions in Dyslexia,” *Child Neuropsychology: A Journal on Normal and Abnormal Development in Childhood and Adolescence* 6, no. 1 (2000): 37–48.
 10. Cara Casco and Elena Prunetti, “Visual Search of Good and Poor Readers: Effects with Targets Having Single and Combined Features,” *Perceptual and Motor Skills* 82, no. 3 Part 2 (1996): 1155–1167.
 11. Thais Barbosa, “Executive Functions in Children with Dyslexia,” *Arquivos de neuro-psiquiatria*, 77 (4) (2019): 254–259.
 12. Joseph A. Sergeant, Hilde Geurts, and Jaap Oosterlaan, “How Specific is A Deficit of Executive Functioning for Attention-Deficit/Hyperactivity Disorder?” *Behavioural Brain Research* 130, no 1–2 (2002): 3–28.
 13. Marcel Adam Just et al., “Identifying Autism from Neural Representations of Social Interactions: Neurocognitive Markers of Autism,” *PLoS ONE* 9, no. 12 (2014): e113879.
 14. M. Martine Hoogman et al., “Subcortical Brain Volume Differences in Participants with Attention Deficit Hyperactivity Disorder in Children and Adults: A Cross-Sectional Mega-Analysis,” *The Lancet. Psychiatry* 4, no. 4 (2017): 310–319.

have smaller brain volume than normal individuals. This situation proves that ADHD's individual brain structure has a deficit which eventually affects their brain function when compared with normal individuals.

Neurocognitive Interventions for Learning Disabilities

Individuals with nervous system developmental disorders such as autism, ADHD and dyslexia will show some specific symptoms and signs related to the disorders. In autism, they will experience some difficulties in social communication, social interactions, and with restricted and repetitive behaviour. Furthermore, some of them may have difficulties in cognitive functioning and executive function deficits. Dyslexia will similarly indicate some symptoms with learning disorder syndrome, including reading, writing and spelling difficulties.

In addition, individuals with ADHD also will show cognitive and executive function deficits such as weakness in concentration and hyperactivity. Although they are categorised as specific syndromes and vary according to different symptoms and signs, they still have major difficulties related to cognitive and executive functions needing treatment and intervention at the neurocognitive level in order to empower the functionality of their brain and cognitive function, and thus improve their behaviour with the objective of increasing the level of good quality of life.

Some studies have shown that there are several types and forms of intervention carried out on some neurodevelopmental problems such as autism, dyslexia or ADHD. For autism patients, there are various methods and forms of intervention that are used to address the problems encountered, either improving communication and social interactions or improving cognitive and executive functions. For example, a treatment known as Picture Exchange Communication Systems or PEC is performed to enhance the ability of communication and social interaction

functions among autism children.¹⁵ Whereas for dyslexia, treatment is more focused on improving the ability of language function, reading, spelling and writing. PEC's intervention can also be used in treating dyslexic disorders as they can stimulate verbal or lingual functions through visual or graphic stimuli. Executive training, for example, is a form of intervention to treat and enhance executive function capabilities and is also appropriate for children with autism, ADHD and dyslexia as it targets cognitive issues and executive deficits that they experience.

In addition, there are several other methods of treatment and other interventions also proven to be effective in enhancing the individual's ability to deal with these neurodevelopmental problems. Among them is known as cognitive enhancement therapy or CET.¹⁶ This treatment is aimed at enhancing the ability of focussing, memory and problem solving function for individuals with autism.

Perspective of Islam on Children with Neurodevelopmental Disorders

Islam is characterised as a comprehensive religion (*shumūl*) in which no fundamental issue is left unattended. With regard to children with neurodevelopmental disorders, Islam guarantees comprehensive right and care for them. This section will explore

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15. Picture Exchange Communication System or PECS was developed in 1985 by Lori Frost and Andy Bondy from Delaware Autism Program. It is designed to develop functional communication skill for individuals with autism spectrum disorder and other disorders. It has specific training protocols that apply the principles of applied behaviour analysis of the psychology of learning and behaviour. Further reading, see also Beverly Vicker, "What is the Picture Exchange Communication System or PECS?" <http://www.autismsupportnetwork.com/resources/autism-what-picture-exchange-communication-system-or-pecs-223321> accessed on 24 May 2021.
 16. Shaun M. Eack, et al., "Cognitive Enhancement Therapy for Adults with Autism Spectrum Disorder: Results of an 18-Month Feasibility Study," *Journal of Autism and Developmental Disorders* 43, no. 12 (2013): 2866–2877.

how Islam via its higher objectives of the Shari‘ah (*Maqāsid al-Shari‘ah*) preserves the interests (*maṣlahah*) or rights (*ḥuqūq*) of these children.

The Right to Religion (al-Dīn)

By right to religion here is meant the practices of religious worships (*‘ibādāt*). Children with neurodevelopmental disorders are endowed with specific religious responsibilities (*‘ibadah khusūs*) and non-specific religious responsibilities (*‘ibadah ‘umūm*) according to their capability as clearly mentioned in the Qur’an: “Allah does not charge a soul except with what is within its capacity.”¹⁷ Allah also says:

There is not upon the weak or upon the ill or upon those who do not find anything to spend any discomfort when they are sincere to God and His Messenger. There is not upon the doers of good any cause [for blame]. And God is Forgiving and Merciful.¹⁸

Growing children with serious mental incapability are even excused from any worship since the condition of worship (*‘ibadah*) is very much related to mental capability (*‘aql*).

The Right to a Good Life (Ḥayāh)

The position of these children as special and disadvantaged persons causes them to be denied the right to have a good comfortable life like other human beings. Allah’s Messenger ﷺ was once reprimanded by Allah when he was visited by Abdullah bin Ummi Maktum, a blind-sighted friend, asking something related to the religion of Islam to the Prophet Muhammad ﷺ when he was carrying his mission to the Meccan elite and the

17. *Al-Baqarah* (2): 286.

18. *Al-Tawbah* (9): 91.

Quraish leader at that time. The Prophet ﷺ turned his face from Abdullah bin Ummi Maktum and focused on his preaching towards the Quraish leaders. The reproof of Allah is a sign that the disabled need to be treated with care and cannot be denied their right in any way whatsoever in receiving equal treatment in religion, knowledge and the like. This is even more necessary when dealing with life's affairs as they are also entitled to life just as they are entitled to be born and raised fairly.

The incident between the Prophet ﷺ and Ummi Maktum might be belittled by certain people and some may normalise it. Had it not been revealed in the Quran, it would have passed unnoticed, but Allah the Almighty, willed to reveal the Qur'anic verses to be recited until the Day of Judgment at the beginning of a chapter named after the incident i.e. “*Abasa*” (He frowned) although the chapter came to handle matters of creed and the Last Day or Hereafter.¹⁹ In commenting on this verse, the Qur'anic interpreter (*mufassir*), Sayyid Qutb, noted:

The matter is greater and more comprehensive than this individual incident and its direct subject matter. Rather, it pertains to the principle that people should receive standards and values from heaven rather than earth and take into account heavenly considerations rather than earthly considerations. Indeed, the noblest of you in the sight of God is the most righteous of you.²⁰

In the sight of God, it is the noblest one (*muttaqī*) that deserves care and attention, even if he lacks all other worldly qualifications. Position, lineage, wealth, and all other values are meaningless when they are void of piety (*taqwā*).²¹ Allah is just (*ʿadl*) when He makes piety as His standard of preference, and

19. See “Quran and People with Disabilities,” by Electronic Da’wah Committee (2015), available at <https://www.muslim-library.com/dl/books/English-Quran-and-People-with-Disabilities.pdf> (accessed 24 May 2021).

20. *Al-Hujurat* (49): 13.

21. See “Quran and People with Disabilities”.

not position, lineage, wealth, and all other values. The Prophet ﷺ said: “God does not look at your forms or your wealth, rather He looks at your deeds and your hearts.”²² With this standard of preference, children with such disabilities will have peace of mind in the sense that their disabilities by no means diminish their potentials of becoming the best of God’s servants.²³

The Right to Education (‘Aql)

From the perspective of their right to education, the *Abasa* incident highlights some major issues such as:

1. Individuals have a right to be educated regardless of disability;
2. Individuals have a right not to be underestimated because of their ability;
3. Individuals have a right to be included within society and to have an effective, valuable role within it;
4. Obligations are placed upon disabled individuals to seek out the proper resources for education and to not underestimate their own ability and societal role.²⁴

Ibn ‘Ashūr, in his *Tafsīr al-Tahrīr wa Tanwīr*, in interpreting the verses in *Abasa* incident, said that it is not only the responsibility of the society to accommodate and fulfil the rights of the disable seekers of knowledge, but it is also the responsibility of the seekers of knowledge to not give up with their conditions. They should struggle with full curiosity to seek knowledge, especially knowledge that makes them a good servant of Allah, who is ever mindful of Him. This insight is indeed also inspired by *Abasa* incident, in which Allah honours Ummi Maktum

22. *Ṣaḥīḥ Muslim* 2564.

23. See “Quran and People with Disabilities.”

24. Hiam Al-Aoufi, Nawaf Al-Zyoud and Norbayah Shahminan. “Islam and the cultural conceptualisation of disability,” *International Journal of Adolescence and Youth* 17, no. 4 (2012): 205–219, DOI: 10.1080/02673843.2011.649565.

because of his curiosity, hardworking and pious qualities. The Qur'an describes: "But as for he who came to you (striving for knowledge), while he fears Allah."²⁵

The Right to Honour (Murū'ah)

The children with neurodevelopmental disorders may become objects of ridicule and mockery. Islam clearly and absolutely prohibits the acts of ridicule and mockery as Allah says:

O you who have believed, let not a people ridicule [another] people; perhaps they may be better than them; nor let women ridicule [other] women; perhaps they may be better than them. And do not insult one another and do not call each other by [offensive] nicknames. Wretched is the name of disobedience after [one's] faith. And whoever does not repent—then it is those who are the wrongdoers.²⁶

The verse also includes prohibition of "insulting" and calling one another by offensive nicknames. There are cases where these children are being addressed as dilatory, weak, delaying, inert and dunce. Those prohibitions may serve as a psychological protection to these categories of children and other people with handicaps and disabilities from any verbal or even gestural abuse so that they can live in an atmosphere of friendliness and peace.

The Right to Wealth (Māl)

The last right of these children is the right to possession of wealth. Allah the Almighty surely knows the condition and abilities of these categories of people in managing their wealth. Allah says in the Qur'an:

25. *Abasa* (80): 8–9. See Ibn 'Ashur, *Tafsīr al-Tahrīr wa Tanwīr*, vol. 30 (Tunisia: Al-Dar al-Tunisiyyah, 1984), 109.

26. *Al-Hujūrāt* (49): 11.

...and do not give the weak-minded your property, which Allah has made a means of sustenance for you, but provide for them with it and clothe them and speak to them words of appropriate kindness. Then if you perceive them to be of sound judgment, release their property to them. And do not consume it excessively and quickly, [anticipating] that they will grow up. And whoever, [when acting as guardian], is self-sufficient should refrain [from taking a fee]; and whoever is poor—let him take according to what is acceptable. And then when you release their property to them, bring witnesses upon them. And sufficient is Allah as accountant.²⁷

As the subject matter is children, specifically children with neurodevelopmental disorders, definitely the issue of guardianship is very much relevant. From the verse, the Qur'an emphasised that guardianship is subject to a sense of duty, fairness and kindness. In addition, guardianship ceases once the individuals can be held accountable for their own decision-making ability.

Some Privileges for Children with Neurodevelopmental Disorders in Islam

In this life, those children with neurodevelopmental disorders may enjoy fewer privileges, but they are promised with guaranteed eternal and ultimate privileges in the next life. It is indeed a blessing from Allah for the families with these children on two grounds. First, if they have mental incapability that excuses them from religious responsibilities, they are then the people of the paradise which are given the privilege to give intercession (*shafā'ah*) to their parents in the next world. The Prophet ﷺ said:

Children who died before puberty are very lively in Heaven, they are like rattling fish. One of them

27. *Al-Nisa* (4): 4-6.

meets his/her parents and takes hold of their clothes and does not let it go until Allah lets his/her parents into Heaven with him/her.²⁸

Second, if their parents have contentment (*ridā*) and patience (*sabr*), they will be granted paradise and unlimited rewards as Allah says: “Only those who are patient shall receive their rewards in full, without being brought into account (*ḥisāb*).”²⁹ The reward of patience is the best of Divine blessings as the Prophet Muhammad ﷺ said: “Whoever persists in being patient, Allah will make him patient. Nobody can be given a blessing better and greater than patience.”³⁰ Moreover, as a manifestation of God’s justice, He makes the person who loses one of his potentials be compensated with another advantage. This insight is beautifully described in an article about Qur’an regarding people with disabilities:

Allah (Exalted be He) is full of grace for man; He created him in the fairest stature, and has subjected to his use all things in the heavens and on earth. But, out of His will and wisdom, He takes away from some people some of these bounties, whether they are injuries or disabilities, whether being born with it, or becoming disabled afterwards. No matter what caused it, the disabled suffers both physically and psychologically. Given that God has ordained justice on Himself, they, the disabled, are compensated fairly for it by Him; they have the same bounties in some other ways. For example, blind people have superior memory skills. Also, persons with hands disabilities have many other skills.³¹

28. *Jami’ al-Saghīr*, 3/2364. Hadīth quoted from *Jami’ al-Saghīr* is a collection of 10,031 Prophetic traditions compiled by Imām Suyūṭī (1445–1505 CE). There are certain *hadīths* explaining about children who died before puberty through the authoritative narrations of Imām Suyūṭī himself, Imām Bukhārī and Imām Aḥmad.

29. *Al-Zumar* (39):10.

30. This is the *hadīth* of the Prophet Muhammad on the rewards of being patient as narrated by Imām Bukhārī.

31. See “Quran and People with Disabilities”.

Discussion

Children with cognitive functional problems are groups of individuals categorised as disabled. From the perspective of humanity, they are entitled to have their own rights as human and citizen in the sense of living the life as others as well as the right to seek equal treatment as other individual. This is particularly appropriate in accordance with the People with Disabilities Act or the Disabled Act 2008.

In fact, while individuals with neurodevelopmental problems have various disadvantages and weaknesses, they also have some strengths and capabilities that exceed or surpass the abilities of other normal individuals. Even though they are physically or mentally very disadvantaged, they still have *‘aql* or mind and some of them have extraordinary capabilities better than those of the normal persons. The only difference is that their own brain and mind are not functioning the same way as do those of other normal persons. They have different mechanisms in the way their brain processes and receives information from others and their environment. Although they have disability in terms of brain and cognitive function, they are not defective. In fact, they are also capable of being independent, self-reliant, as well as having their own life, jobs and families. The shortage they experience is not a barrier to success in their lives.

Furthermore, their problems also impact the way they communicate with other people. This eventually leads to communication and social interaction difficulties among them. There are several studies that have shown that there are several reasons for the disorder and the difficulties they experienced. One of them is related to mirror neurons or mirror nerves.³² The mirror nerves function in viewing and analysing their and others' behaviour. This is very important in understanding and interpreting motives and goals behind the thoughts and actions

32. M. Guedes Neta, and C. Varanda, "The Role of Mirror Neurons in Autism Impairment," *European Psychiatry* 33, no. S1 (2016): S374-S375.

that others do. It is stated that individuals with ASD experience damaged or non-functional mirror nerves. In addition, other studies show that ASD individuals experience disorders and problems related to Theory of Mind or mind theory.³³ According to this theory, each individual has the ability to anticipate and guess what is being felt in the minds of others and what kind of action is expected next. However, such capabilities do not occur in individuals with ASD.

Due to their disabilities, they are in need of special intervention that will help them improvise themselves. This would include special class, requiring special and specific assistance and interventions or treatments. Hence, providing supportive assistance and treatment to them is a requirement as this will enable them to improve their standard of living and level of functioning, leading to them being more independent. The support provided will also help them become a healthy and more productive member of the community contributing to the well-being of their family, community and nation.

Muslims need to understand that this kind of neurodevelopmental disorder is not a catastrophe. It is a problem that can be treated and improved accordingly. In fact, there are various ways and methods of effective treatment and intervention that can be used for recovery purposes. This is also in line with the Islamic law which demands that those people be treated well and with noble intention. As humans, they too have dignity and self-esteem. Serving them well and respecting them can be described and demonstrated in many ways. For example, providing treatment and rehabilitation facilities as well as equipping support facilities is seen as a good service to this group and this suits the Islamic laws well.

As a matter of fact, Islam respects people with disabilities. This situation is evident in al-Qur'an, in Surah *Abasa* verses 1 to 11, which relates about a Prophet's companion, Abdullah bin

33. Simon Baron-Cohen, *Mindblindness: An Essay on Autism and Theory of Mind* (Cambridge, MA: MIT Press, 1995).

Ummi Maktum, who has vision problems. The narration from the Qur'an is indeed a tribute and recognition for the disabled. Such verses have shown how respect is taught by Allah, and the recognition finally made him a pious and righteous person before Allah. Despite the blindness of sight, the rights of God have never been ignored; even the honour that God gives to the disabled as this has made him more motivated and more obedient to the command of Allah. This is the justification that there should be serious efforts to be undertaken for the good and well-being of the people with disabilities, as exemplified in the Qur'an.

Next, God knows more about the instinct and nature of the events and life of all His creatures. Also, naturally, and deeply in the heart and mind of every disabled individual, he or she will feel a feeling of sadness and sorrow, gluttony and low self-esteem over any deficiencies that they experience. They will feel alienated from others because they feel like being more humiliated than others. On this basis, God has made every child of Adam the noblest creature because they have indeed been created the most perfect, regardless of their rank, lineage and property, yet, in regard to the firmness and strength of their faith, and patience nurtured continuously. People with disability need to realise that God has given them a good example by showing in the Qur'an a highly regarded disabled person in Islam.

Supporting and respecting disabled people includes providing them religious and spiritual learning facilities. In this regard, priorities should be on empowering parents and realising their aspiration to carry out trust and responsibility to educate and guide their disabled children in various aspects of creativity and spirituality. There are several instances where spiritual interventions such as al-Qur'an education for autistic children have been done and proven successful in guiding them becoming more controlled individuals in terms of thinking, emotion and behaviour. Examples of such attempts could be found in the University of Malaya's Qur'an Research Centre, the Al-Qur'an Education Foundation for the Special Children

or (the FAQEH Foundation), and the Islamic Science University Malaysia, Studies of the Al-Qur'an Centre (USIM).

Parents should also be made mindful that children are both a test and a trust on them. The parenting and stress management skills in dealing with the emotional and behavioural issues of children should be taught and implemented effectively. In addition, other assistance can be given in the form of behavioural management programmes of children with disabilities, financial assistance, guidance of entrepreneurship programmes, and so on.

Conclusion

Individuals with neurodevelopmental disorders are considered to be people with disabilities, majority of whom have learning difficulties. It is a matter of fact that despite their limitations, they can function effectively as individuals, become self-reliant, and productive people. As humans, they are entitled to be treated well, with dignity and full of honour. In addition, they have their rights to get equal opportunities in terms of education, effective treatment and advanced intervention. The kind of good services that they should be receiving is indeed in line with what Islam has ordained. As learning difficulties among them occur at the level of cognitive functions, it is therefore, important to focus on the treatment and interventions at this level. As they have different levels of cognitive function severity, any intervention must be individualised according to their level of severity. The treatments that target cognitive functions have been found fruitful and beneficial in improving their cognitive and executive functions as well as their quality of life. Treatment and intervention indicated for them are parts of well-being strategies and such efforts are actually in accordance with the teachings of Islam.

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