ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD): A CASE REPORT

Devkota N [1], Subba S [2] and Sharma N [2]

[1]Child and Adolescence Psychiatry OPD, Kanti Children's Hospital, Maharajgunj, [2]Central Department of Psychology, Tribhuvan University, Kirtipur, Kathmandu, Nepal

ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a neuro-developmental disorder. It is one of the most common presentations in child guidance clinic which needs prolonged treatment and management to improve quality of life and may become very costly. ADHD is a major public health concern as it has marked long-term impairment on academic performance, vocational success and social-emotional development which have a profound impact on individuals, families, schools and society. In this paper, a case of ADHD is presented.

KEYWORDS

ADHD, long-termed impairment, Nepal, neuro-developmental disorder

CORRESPONDING AUTHOR

Ms. Narmada Devkota,
Child and Adolescence Psychiatry OPD,
Kanti Children's Hospital,
Kathmandu, Nepal.
Email : devkotanaru@gmail.com

INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a neuro-developmental disorder that significantly affects in executive functions.[1-4] ADHD has been reported from almost every part of world. In many cases, it can persist for whole life. The prevalence of ADHD is estimated between 5.29% to 7.1% in children and adolescents.[5] Diagnostic and Statistical Manual of Mental Disorder (5th edition) [6] suggests that cultural attitudes towards the interpretation of behavior may contribute to differences in prevalence estimates across studies. Assessment of ADHD typically involves the comprehensive evaluation of information gathered from a number of sources, including parents/care givers, family members, teachers, partners and colleagues.[7] In this paper, we report a case of ADHD presented at Kanti Children Hospital, Kathmandu, Nepal.

CASE REPORT

An 11 years old male child brought by parent in Out Patient Department (Kanti Children Hospital, Kathmandu, Nepal) with the complaints of disobedience with parent and school teachers, ignorant while talking directly to him, not attentive at school work (home work), talking excessively and loudly, and other aggressive behavior. Parent mentioned that the child was very active since he was very young. After starting school, he became less attentive to academic activities. As he was unable to organize his own tasks, family members arranged thing required for him. He usually avoided tasks requiring prolonged mental efforts. His performance level, with the guidance of parent, was average. The boy, however, had keen interest in watching television (particularly at cartoon and films), playing video games and mobile games. When asked to stop, he used to be aggressive and do verbal abuse using foul language and throwing toys, goods and utensils existed nearby. On the contrary, when the child was asked about his behaviors, boy mentioned that this happened because of repeated disturbance by parents and family members.

For parents, the boy was precious as he was born after two daughters and usually ignored his arrogant behaviors in spite of complaint from school teachers. They thought that the behavior may be corrected with his growth and continued to fulfill his demands. Their primary concern was only his academic performance rather than other behaviors. However, boy became very demanding of luxurious things rather than focusing in his academic activities. He started avoiding school works and became disobedient to school teachers (being too loud while trying to control him). As a result, his academic performance deteriorated day by day. School advised parents either to seek help from health professional/neurologist or to take him out of school for the safety of other children. Parents shifted him to another school and also put him in hostel where was punished for his poor academic performances as well as for disturbing other children. After six months, he ran away from the hostel and went to one of the close relative's house with lots of bruises on his body. He explained that the bruises were due to hitting by teachers. The teachers, on the contrary, denied boy's accusation and said that it could be due to fighting with friends.

During pregnancy the boy's mother was diagnosed as pregnancy induced hypertension after 15weeks of gestation. Due to preeclampsia, emergency caesarean section was done before due date (i.e. in 36 weeks of gestation). Boy's birth weight was very low (i.e. 1.2 Kg) and was really a difficult to handle since early childhood and needed "repeat instructions over and over". He was breast-fed for up to three years. His first eye contact, smile, relation sign had appeared within first two months after birth. He began to sit at the age of 6 months, started crawling at the age of 7 months, stood up at the age of 11 months and walked at 13 months. As the boy was quite active, was sent to school earlier than other children same age. At school, from the very beginning, he made friendship with few children, had poor relationship with teachers, and had average rather below average level of performance. He couldn't follow the steps to complete the tasks and performance got worse each year.

Boy feels that he has been rejected by parents and school teachers due to his weak academic performance. He hates the school not only because of feeling bored of studying but also being punished by parents and teacher for his poor performance and arrogant behavior. The family history suggested that his father also had symptoms of inattention and hyperactivity-impulsivity.

The semi structured questionnaire - Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime Version (KIDDI-SADS-PL)[8] was done with both child and parent. Wechsler Intelligence Scale for children (4th edition)[9] was used to obtain the level of intelligence. Child and adolescence symptoms Inventory-5 (Parent version)[10] was given to the mother to rule out comorbid diagnosis. Clinical history and semi structured interview findings suggested that the boy had attention deficit hyperactivity disorder (combined type) and Wechsler Intelligence Scale for children showed that the boy had average level (IQ=100) intelligence. Sub-scores were weakest in the areas of attention and memory. Based on these findings, the case was considered (diagnosed) to be of ADHD and was planned for behavior therapy and parent/teacher–management training. Gradually, improvement has been noticing with behavior modification therapy where current treatment is focus on teaching new skills to parents, teachers and children about how to improve problematic behavior in daily life functioning.

DISCUSSION

According to Global Burden of Disease Study, the disease burden of conduct disorder (CD) and ADHD the worldwide Years Lived with Disability (YLDs) / Disability-Adjusted Life Year (DALYs) of CD was 5.75 million

and CD with ADHD a further 491,500, respectively. [11] These altogether accounted for 0.80% of global YLDs and 0.25% of global DALYs.[11] Like other psychological disorders, ADHD is also caused by a multitude of factors, including biological, psychological and social factors. Many study findings show that ADHD runs in families with greater frequency than in the general population. ADHD is one of the more highly heritable psychiatric disorders in which heritability rates of around 80% have been consistently documented.[12] Structural imaging studies showed that brains of children with Attention-Deficit/Hyperactivity Disorder are significantly smaller than unaffected controls.[13] The prefrontal cortex, basal ganglia and cerebellum are differentially affected and evidence indicating reduced connectivity in white matter tracts in key brain areas is emerging.[13] The maternal environment might increase the risk for ADHD. Previous study findings have showed that smoking during pregnancy, low birth weight and maternal mental health, preschool children exposed to high levels of lead are the reasons for increasing the risk for ADHD.[14] On parents' evaluation, birth rank among siblings, mother's education, exposure of aggressive television programs were found as the causes of ADHD.[15] Fatal exposure of teratogen substances like nicotine or alcohol, reportedly increases the risk of developing ADHD.[16]

The case of ADHD presented in this report was diagnosed after a full clinical and psychosocial assessment of the child as well as parents. A full developmental and psychiatric history, observer reports and assessment of the child's mental state were considered. Though ADHD cases are rare, it is a highly problematic case involving not only patients (person) concerned but also the family, educational institutions and society as whole. Therefore, people with ADHD should be diagnosed properly and the diagnosed person must get a comprehensive, holistic shared treatment addressing psychological, behavioral and occupational or educational needs to improve their quality of life.

ACKNOWLEDGEMENTS

Prof. Dr. Annika Melinder, Oslo University, Norway kindly support in making this case report. This case report is the part of PhD Fellowship and the research supported by PhD Fellowship grant (No. PhD/73-74/H & S09) of University Grants Commission of Nepal.

REFERENCES

1. Barkley RA. Behavioral inhibition, sustained attention, and executive functions: constructing a unifying theory of ADHD. *Psychol Bull* 1997; 121: 65-94.
2. Dias TGC, Kieling C, Graeff-Martins AS, Moriyama TS, Rohde LA, Polanczyk GV. Developments and challenges in the diagnosis and treatment of ADHD. *Rev Bras Psiquiatr* 2013; 35: S40–50.
3. Vaidya, C. J., Austin, G., Kirkorian, G., Ridlehuber, H. W., Desmond, J. E., Glover, G. H., & Gabrieli, J. D. E. (1998). Selective effects of methylphenidate in attention deficit hyperactivity disorder: a functional magnetic resonance study. Proceedings of the National Academy of Sciences, 95(24), 14494–14499.
4. Frances A, Pincus HA, First MB. Diagnostic and statistical manual of mental disorders: DSM-IV. American Psychiatric Association Washington DC; 1994.
5. Willcutt EG. The prevalence of DSM-IV attention-deficit/hyperactivity disorder: a meta-analytic review. *Neurotherapeutics* 2012; 9: 490-9.
6. Edition, F., & Association, A. P. (2013). Diagnostic and statistical manual of mental disorders. Arlington: American Psychiatric Publishing.
7. Health NCC for M, Britain G. Attention deficit hyperactivity disorder: diagnosis and management of ADHD in children, young people and adults. National Collaborating Centre for Mental Health; British Psychological Society, United Kingdom, 2008.
8. Kaufman J, Birmaher B, Brent D, Rao U, Ryan N. (1997). The Schedule for Affective Disorders and Schizophrenia for School-Age Children. Pittsburgh: University of Pittsburgh Medical Center.
9. Wechsler D. (2003). Wechsler Intelligence Scale for Children, 4th Edn San Antonia, TX: Psych Corp.
10. Gadow KD, Sprafkin J. (2015). The Symptom Inventories: An annotated bibliography. Stony Brook, NY: Checkmate Plus.
11. Erskine HE, Ferrari AJ, Polanczyk GV *et al*. The global burden of conduct disorder and attention/deficit/hyperactivity disorder in 2010. *J Atten Disord* 2002; 6(1_suppl): 7-16.
12. Biederman J, Faraone S V. Current concepts on the neurobiology of attention-deficit/hyperactivity disorder. *J Atten Disord* 2002; 6 (1_suppl): 7-16.
13. Curatolo P, D'Agati E, Moavero R. The neurobiological basis of ADHD. *Italian J Pediatr* 2010; 36: 79-84.
14. Brondum J. Environmental exposures and ADHD. *Environ Health Perspect* 2007; 115: A398-A399.
15. Meysamie A, Fard MD, Mohammadi MR. Prevalence of attention-deficit/hyperactivity disorder symptoms in preschool-aged Iranian children. *Iran J Pediatr* 2011; 21: 467-472.
16. De Zeeuw P, Zwart F, Schrama R, Van Engeland H, Durston S. Prenatal exposure to cigarette smoke or alcohol and cerebellum volume in attention-deficit/hyperactivity disorder and typical development. *Transl Psychiatr* 2012; 2: e84-e92.