

Trauma, Abuse and Foster Placement and the Development of ADHD

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Received date: April 21, 2014, Accepted date: May 21, 2014, Published date: May 27, 2014

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Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopment disorder with a multifactorial basis that is derived from the dynamic interplay that exists between genetic and environmental determinants. ADHD childhood symptoms include pronounced hyperactivity, impulsivity and/or a relative lack of age-appropriate executive function. Depression, Obsessive Compulsive Disorder, Bipolar Disorder, Oppositional Defiant Disorder, Conduct Disorder and substance abuse are common comorbid conditions found in ADHD patients. Trauma, abuse and placement stability may contribute to the development course of ADHD. Inadequate sleep hygiene compounded by sleep deprivation may exacerbate the symptoms of ADHD in children, namely, attention difficulties and restless behavior. Instability in foster care placement is often accompanied with childhood disturbances in sleep.

DSM-IV categorizes ADHD by the following symptom domains: (a) Inattention (b) Impulsivity and (c) Hyperactivity. Inattentive symptoms can be further subdivided, operationally, based on difficulty concerning selective attention and difficulty maintaining attention for problem solving [1]. NIMH recognizes three ADHD subtypes, namely, predominantly hyperactive-impulsive, predominantly inattentive and combined hyperactive-impulsive and inattentive. The case presented below involves a patient that conforms to the combined hyperactive-impulsive and inattentive subtype; it is also the most frequent subtype found in the pediatric populations according to NIMH.

Objective

Our goal is to evaluate the role of abuse, trauma, and foster care placement in the development of ADHD. The focus of this case report will be limited to ADHD symptomatology in childhood populations. The paper will also discuss the importance of sleep hygiene on cognitive function. Gender variations in ADHD symptom expression will be highlighted.

Method

A literature search via Pubmed and neiglobal has been conducted on abuse, trauma, and placement instability along with a case report on a 10-year-old African American male who was recently placed with a new foster mother.

Case Report

The patient is a 10-year-old African American male with 2 siblings, an incarcerated father, and a history of ADHD-combined type, recently placed into his fifth foster home. He was found near the train tracks and the police escorted the patient for psychiatric evaluation to Bergen Regional Medical Center. The patient's past psychiatric history

is notable for a history of physical abuse by his mother's girlfriend at the age of 9. There is no history of prior suicidal or homicidal attempts. The patient has a history of being on Adderall with limited response.

It is reported that the patient was discharged in November of 2013 from a local hospital and the patient has been in DYFS custody due to an incident involving physical abuse directed to him by his mother's girlfriend. After his last foster home placement, the patient became upset and proceeded to run away. As per collateral information, the patient narrowly missed being struck by a motor vehicle. When the police arrived at the scene, the patient claimed the devil went inside his head and advised him to run away and to hang himself by means of a rope and/or to cut his head off, altogether. The patient confirms being upset, but denies any symptoms associated with Depression. Furthermore, he reports having good sleep and appetite. As per collateral information, the patient has been observed to have been hyperactive and rather difficult to redirect.

On exam, the patient appeared stated age, and maintained good eye contact. The patient was visibly hyperactive and hyper-talkative. The patient's thought processes were coherent and his thought associations were also intact. The patient denied the presence of hallucinations of an auditory or a visual nature. He denied homicidal or suicidal ideation, and had no plan or intent. However, the patient's insight was minimal at best, and his judgment was poor. He was awake, alert and oriented to person and place and his memory was intact. Euthymic mood was displayed during the course of the exam and his affect remained neutral. Admitting Diagnosis: include Axis I: ADHD-combined type. Adjustment Disorder, Axis II: Deferred, Axis III: None, Axis IV: problems with primary support, DYFS involvement, Axis V: GAF 28

During his hospitalization, he was started on Hydroxyzine 25 mg p.o. every 6 hours p.r.n. for agitation. The patient appeared depressed and maintained minimal eye contact. However, he was compliant with the interview and denied suicidal or homicidal ideations. Since the patient was still not redirectable, Hydroxyzine was continued on a p.r.n. basis. As of 12/26/13, the patient was characterized by the presence of labile, irritable, aggressive and impulsive tendencies. Therefore, the patient was started on Clonidine 0.1 mg p.o. 8:00 in the morning, 4:00 p.m. and 8:0 p.m. As of 12/27/13, the patient was not redirectable and appeared impulsive so he was continued on Clonidine 0.1 mg three times a day. On 12/30/13, the patient was still not redirectable, and was therefore started on Risperidone 0.25 mg at 8:00 p.m. and Clonidine was continued b.i.d. On 01/02/14, the patient remained irritable and failed to follow through with directions with sexually inappropriate behavior which was on CO. The patient was continued on Clonidine 0.1 mg t.i.d and the Risperidone 0.25 mg p.o b.i.d. On 01/03/14, the patient became intrusive, remained non-redirectable, compliant with medications, despite being hyper-talkative and sexually inappropriate at times, and was therefore continued on

CO precaution. The patient was continued on Clonidine 0.1 mg p.o t.i.d. and Risperidone 0.5 mg p.o. was increased to t.i.d. on 01/08/14. The patient appeared to be improving and became redirectable. CO precautions were removed, and he was continued on the Risperidone and Clonidine. The Clonidine was also increased at night to 0.2 mg at bedtime. The patient displayed clinical improvement and was discharged on 01/17/14 to follow-up with a behavioral health program.

Discussion

Trauma, abuse and placement instability may impact the development course of ADHD. Moreover, recent research has emphasized the restorative and protective function of sleep on the cognitive health of children.

I. The Role of Trauma and Abuse on the Development of ADHD

One study examined whether a prior history of abuse can be ascertained in girls that overtly exhibited ADHD symptomatology [2]. The study discovered significantly higher rates of all forms of abuse in the sample of ADHD girls. Furthermore, the study maintained that all girls in the ADHD and abuse subgroups had a comorbidity, namely, Oppositional Defiant Disorder (ODD) as opposed to the ADHD girls that were lacking a positive history of abuse; half of ADHD girls without a history of preexisting abuse were comorbid with ODD [2]. The author of the study stated that abused children and ADHD children have overlapping behavioral manifestations, in particular, aggression and externalizing behavior. According to researchers, externalized behavioral dysfunction is more directly associated with physical abuse, while internalization seems to accompany sexual abuse [2]. However, there are exceptions, sexual abuse also seems to correspond with a very specific set of externalized behaviors, including sexualized talk, sexual preoccupation and sexual acting out. In our case report, the patient is male and experienced physical abuse stemming from an incident that involved his family. The patient displayed unpredictable, erratic behavior and was hyper-talkative and sometimes sexually inappropriate during his hospitalization.

II. The Role of Placement Stability on the Development of ADHD

In a Norwegian study of comorbidity, prevalence and risk factors for mental disorders in foster children, it has been unequivocally established that a younger age at first placement increases the risk of ADHD [3]. Interestingly enough, the aforementioned study maintains that a lower number of placements were associated with ADHD, while a higher number of placements were associated with Reactive Attachment Disorder (RAD). Violence stemming from the family served as an independent risk factor for increased prevalence of mental disorders in ADHD foster children [3].

III. The Importance of Sleep Hygiene on Cognitive Function

It seems possible that qualitative factors may exert more influence on exacerbating ADHD symptomatology than, say, the absolute number of foster placements. Another study delineated the role of disruptive sleep patterns as it relates to ADHD children, in particular, children placed in the care of foster homes. The study demonstrated a far greater susceptibility for inattentive/hyperactive behavioral dysfunction at shorter sleep durations for foster care children than their community care counterparts [4]. Furthermore, the study recognized pronounced gender disparities with respect to the development of ADHD alongside sleep deprivation. Apparently, boys are more at risk for developing inattentive/hyperactive behavioral dysfunction at shortened intervals [4]. A link between sleep and ADHD has been noted by several researchers, and children with ADHD and concomitant sleep deprivation are more likely to display marked restlessness, for example, inattentiveness and hyperactivity [5]. Moreover, one might expect frequent disturbances in day-to-day sleep patterns when anticipating and/or transitioning into foster home placement.

Conclusions

There is a sizable foster care population in the U.S with considerable behavior dysfunction and sleep disruption found in foster children. Environmental determinants such as trauma, abuse and placement instability have considerable influence on the development course of ADHD. In many ways, the lack of sleep appears to exacerbate the symptoms of ADHD, in particular, restlessness. In our case, the patient appeared to be refractory to the psychostimulant, Adderall. It may be prudent to target sleep-related pathologies in ADHD children, especially individuals placed in foster care. In the future we may consider therapeutic intervention for sleep as an adjunctive treatment option for ADHD patients.

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