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Attention Deficit Hyperactivity Disorder (ADHD) is considered as among the most common yet serious brain disorders significant number of children are subjected to; the seriousness of which manifests in the ability of the disorder to continue to show up even after the childhood years, during the period of adolescence as well as adulthood. Considering the findings delivered by Brain Imaging Studies conducted on youth, it is revealed that people suffering from ADHD experiences delayed development of brain. Although, the pattern following which the brain matures is predominantly normal, when seen on average, the maturity or development of the brain is delayed by approximately 3 years. It is a chronic medical condition, to which millions of children are subjected, and which more than often persists in their adulthood as well. Identified as a common behavioral disorder affecting around 8 to 10 percent of the school going children, as highlighted by the statistics, boys are more likely to be diagnosed as suffering from this disorder than girls, however the precursor behind this finding is not yet clear. This research paper will be focusing on the specifics of Attention Deficit Hyperactivity Disorder (ADHD) so as to understand about the disorder on a more empirical level, as a result of which the prevalence of the disorder could be altered along with the breakthroughs in the treatment for the disorder.

Prevalence

The prevalence of this disorder is alarming and it is as a result of this that this disorder is important to be studied. As stated by American Psychiatric Association in Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), around 3 of 7 percent of school-aged children suffer from ADHD. This rate however, has been found to be not in conformance with the samples drawn from the community which are estimated as being inclusive of higher rates of

children suffering from ADHD. The percentage of children suffering from ADHD has been seen as changing over time. As per the reports filed in by parents, 9.5% of the children between the age group of 4 to 17 years have been diagnosed as suffering from behavioral disorder ADHD. This makes 9% of 5.4 million children between the age bracket of 4 to 17 years as of the year 2007 (http://www.cdc.gov). Rise in the proportion of children being diagnosed of ADHD as a result parent reporting was around by 22% during the year 2003 to 2007. This particularly indicates an increment in the rate of diagnosis of the condition; in addition to the rising prevalence rate as well, as the rate of diagnosis increased by 3% per year during the time period extending from year 1997 to 2006. This average further increased during 2003 to 2007 by 2.5% making the rate of ADHD diagnosis rise to 5.5% per year (http://www.cdc.gov). Boys at 13.52% emerged as having greater likelihood than girls, at 5.6%, to be ever diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Furthermore, it was noticed that the rates of diagnosis has been increasing at an increasing rate among older teens as compared to that of children.

As indicated by one of the studies, the increasing prevalence rate manifests in the fact that every 1 in 20 children is found as affected by this behavioral disorder under examination in the United States of America. One of the studies reported that the prevalence rate of childhood ADHD among children has risen by around 28% in the last 10 years in the United States. The 10 year period that was studied to deduce such findings started from 1998-2000 ending in 2007-2009. This established the credibility of the research study. Prevalence rates are also indicated as varying between states with the state of Colorado having the lowest prevalence rate at 5% and Alabama having the highest prevalence rate at 11.1%. In the research study National Comorbidity Survey Replication (NCS-R); which was funded by National Institute of Mental Health (NIMH), it was found that among adults the prevalence rate lies at around 4.4%. The age

group under consideration in this study was 18-44 and the findings of the study indicated that in this age bracket, 4.4% of the adults suffer from ADHD experiencing some symptoms as well as disabilities from the behavioral disorder. Another publication supported the findings delivered by the above mentioned study, highlighting the prevalence rate as about 4% of the US adult population. However, as also mentioned above, recent years not only indicated the rise in the prevalence rate of ADHD but also in doing so it highlighted the increase in the rate of diagnosis concerning Attention Deficit Hyperactivity Disorder, and as a result of this it sometimes evoke doubt as whether the increase in the prevalence rate is the real increase or if it is the aggressive diagnosis following increased awareness and consequently increased reporting of the medical condition. It is generally believed that it could be due to the latter, however regardless in the recent decades, prevalence rate has been noticed as risen by significant magnitude.

Etiology

The cause of ADHD is not yet crystal clear to the scientists and researchers in the field; however it is generally believed as stipulated by various studies that a significant role is played by genes. Yet it is not the only factor that lies behind the prevalence of ADHD in any individual, but rather there exists combination of factors that could be associated with the prevalence of ADHD. Environmental factors are also highlighted as having a possibility of playing a major role in the occurrence of this condition (Millichap, 2008, pp. e361). Brain injuries and nutrition in addition to the social environment are also being studied excessively as they are identified as possible triggers of the behavioral disorder under consideration. Several research studies conducted on international level have indicated that ADHD runs in families and so is a genetic condition. Researchers are looking into the genes that could be associated with the development

of the condition so that the condition could be altered and effective treatment could be provided. As a result of this probing, it was identified that children who possess a certain type of a particular gene possess thinner brains tissues ass attached to that parts of brain that is associated with maintaining attention or being attentive. Genetic variations as duplication and deletion associated with a segment of DNA are also being studied as increased Copy Number Variations (CNVs) are found among those who suffer from ADHD than those who are normal, thereby predicting its important role in the development of ADHD (Williams, Franke, Mick, Anney and Freitag, 2012, pp. 200). Smoking and alcohol consumption during pregnancy are also considered as being associated with the emergence of ADHD among children (Froehlich, Lanphear, Auinger, Hornung, Epstein, Braun and Kahn, 2009, pp. e1058). Preschoolers who are exposed to increased amount of lead also run a risk of developing ADHD. Traumatic brain injury is also considered as being behind the occurrence of ADHD however this finding is not as plausible, as explored by the research studies, as others. The use of refined sugar is also considered as a cause behind the occurrence of ADHD or the factor that contributes to the worsening of ADHD symptoms (Wolraich, Milich, Stumbo and Schultz, 1985, pp. 678).

Treatment

Treatments primarily include medications, psychotherapy, training and education in addition to combination of these treatments. Stimulants such as amphetamines and methylphenidate are considered as the most common medications used to treat ADHD. These stimulants are associated with the activation of brain circuits thereby triggering attention and resultant focused behavior. These ADHD medications reduce the level of hyperactivity and impulsivity among children suffering from ADHD thereby making them better able to focus and

learn (Wigal, Greenhill, Chuang, McGough and Vitiello, 2006, pp. 1299). The prime con lies in the fact that this is not a one size fits all approach, and hence what might be favorable to one could be injurious to others. Therefore, there needs to be significant trying before prescribing the medication to any one and even then, close vigilance and monitoring of children is important by doctors as well as care givers. Side effects primarily include decreased appetite and sleep problems. Less prevailing side effects revolve around the development of tics; which is repetitive, sudden movements or sounds. They are considered by FDA as safe to be sued as they do not result in children feeling high, however children acting differently or being funny following the use of the stimulant has been commonly noticed. Psychotherapy and behavioral therapy are used to change the attitude and behavior of the children who are suffering from ADHD. Here students are taught to monitor their own behaviors in addition to being provided with practical assistance as a result of which they become able to focus and being attentive. Due to lesser cost involved due to self-monitoring, it is considered as cost effective.

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Data retrieved from: http://www.cdc.gov/ncbddd/adhd/data.html Data retrieved on: 14th October, 2013.