

**ADOLESCENT ADHD SYMPTOMS CAN BE AMELIORATED
WITH HOME AND SCHOOL INTERVENTIONS**

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Abstract

Over 10 percent of children in school over the age of 12 have been diagnosed with Attention Deficit Disorder ADD or Attention Deficit Hyperactivity Disorder (ADHD) which increased to 3 percent in 15 years from 2002 to 2017 (Centers for Disease Control 2017). This number translated to over 5 million of the 50 million children attending school in the US. Most recently the number of US school children identified as ADD or ADHD increased to 6.7% (Prezler et. al, 2020). Effective diagnosis and interventions were needed to collaboratively control ADHD symptoms. Applying consistency in the child's environments such as school, home, and social life had been found to produce better outcomes. Collaborative interventions permitted a child with ADHD to become more successful in important avenues of their lives.

Keywords: Attention Deficit Hyperactivity Disorder (ADHD), Attention Deficit Disorder (ADD), interventions, and medications.

There had not been sufficient awareness of the severity of potential problems caused by Attention Deficit Hyperactivity Disorder (ADHD) identified in more than 5 million US school students (Centers for Disease Control, 2018). ADHD was characterized as a neurodevelopmental disorder with a persistent pattern of inattention and/or hyperactivity and impulsivity (Del-Ponte, 2019). This disorder could obstruct a child's daily functioning achievements, successes, and goals. Children with ADHD tended to have lower rates of retention in grade school (Ewe, 2020). In addition, children with ADHD were more likely to drop out of high school than their non-ADHD peers (Yue et. al, 2022). In addition to high dropout rates, children with ADHD were less likely to attend post-secondary education, which then reduced their career options (Yue et al., 2022). Studies have shown that post-education led to better health, lower chances of committing crimes, lower chances of incarceration, better sense of purpose, and higher self-esteem (Yue et al., 2022). There were also concerns with the number of accidents that occurred with these children compared to their peers. Accidents tended to occur more than average because of symptoms and personality traits that make children with ADHD predisposed to accidents. It was common for children and adolescents with ADHD to also have increased emergency department visits, and driving accidents (Yue et al.,2022).

As a means of coping, adolescents with ADHD could self-medicate through alcohol or drugs more frequently than their peers (Liu et al., 2021). Lower employability and substance abuse could result in criminal activity (Brunkhorst-Kanaan et al.,2021; Van der Maas et al, 2017). It was also noted that ADHD could coexists with other disorders, further complicating diagnosis and treatment (Sciberras et al., 2019).

Statement of the Problem

The problem to be addressed is what strategies and interventions are most effective to ameliorate symptoms of children with attention deficit disorder (ADHD). What therapeutic techniques can be taught to parents and teachers to yield better results for the children? Will crisis prevention for caregivers and educators promote better success for children with ADHD? Will cognitive behavioral therapy and medication reduce impulsiveness in children with ADHD?

Significance of the Study

It is important to study Attention Deficit Hyperactivity Disorder because the American Center for Disease Control and Prevention (CDC) reported that the prevalence of physician-diagnosed attention deficit disorder with or without hyperactivity (ADHD) in the US with children aged 4 to 17 years old, as reported by parents, had risen by more than a third, from 7.5% to 10.8%, between 2002 and 2017 (Centers for Disease Control and Prevention, 2018). The prevalence of ADHD had also increased in other countries, varying according to data sources, reaching up to 5% for annual prevalence (Hauck et al., 2017). Untreated, the impulsivity and failure to address educational needs could result in much higher levels of juvenile delinquency, higher dropout rates, and lower levels of employability and educational attainment (Brunkhorst-Kanaan et al., 2021; Van der Maas et al, 2017; Roseneau et al., 2017). This study will benefit the field and the ADHD population by identifying successful strategies for parents and educators to use with children with ADHD. In addition, ADHD children without successful treatment and intervention struggle to adapt to traditional schooling or social situations.

Purpose of the study

The purpose of this study is to link what has previously been understood about treatment and interventions for ADHD children with the new findings in this study, particularly new behavioral cognitive therapies, and new medications. This study will also examine the effectiveness of interventions such as cognitive behavioral therapy, intervention for parents, academic support, and medication management to reduce impulsivity and other symptoms of ADHD in children.

Definition of Terms.

ADHD – A disorder characterized by the presence of symptoms of inattention and/or hyperactivity/impulsivity, together with a level of intensity inappropriate for the child's age, all of which have a negative impact at school or the family. ADHD was the most frequent disorder in childhood psychopathology (Del-Pointe et al,2019).

Cognitive Behavioral Therapy- Cognitive Behavioral Therapy was orientated on thinking, judging, deciding, and analyzing, and with medication serving as a balancer to decrease symptoms in children (Sciberra et al., 2019).

The Diagnostic and Statistical Manual of Mental Disorders-VI - American Psychiatric Association's Diagnostic and Statistical Manual of Mental Health disorders classifies mental disorders with associated criteria designed to facilitate more reliable diagnoses of disorders. (American Psychiatric Association, 2013)

Intervention- a strategy or practice to improve practice and performance through different supports to implement new behaviors and habits (Gould et al.,2022).

Medication management-monitoring prescription medications to help control the symptoms of ADHD (Yue et al., 2022).

Parenting style- Parent's actions and reactions towards their child's behavior. Parenting style was related to parents' expectations and discipline techniques toward their child with ADHD (Thorell et al., 2017).

Psychological review– Psychological reviews were conducted by a psychiatrist who monitored symptoms and the effectiveness of treatments for a child with ADHD (Yue et al., 2022).

Delimitations of Research

The research for this paper happened between the Fall of 2017 and the Summer of 2022. Search terms included: ADHD, ADD, interventions, cognitive behavior therapy, parenting styles, and ADHD medication. The online search were through EBSCO host Database. Resources were limited to peer-reviewed articles published in the last five years. The Karmann Library at the University of Wisconsin Platteville were utilized.

Method of Approach

A brief review of the history of ADHD were conducted for background information. A review of literature relating to research and studies related to ADHD children and medication to help children with their impulsivity. Another related review of the literature on ADHD and cognitive behavior therapy and other behavioral therapies were conducted. A related study examined which strategies were used by parents to help them with their ADHD children. Search terms included: ADHD, interventions, behavioral therapy, parenting styles, educator training, special education, therapeutic interventions, and impulsivity. EBSCO online databases were used through UW-Platteville Karmann Library. The findings were summarized and synthesized in Chapter 2 of this paper. Conclusions and recommendations are included in Chapter 3.

Chapter 2: Review of Research

ADHD: Incidence, Development, and Symptoms

Attention Deficit / Hyperactivity Disorder (ADHD) was a common mental health disorder, first identified in 1960 (APA, 2022). ADHD originally was called a hyperkinetic reaction of childhood. Up until the 1960s, the American Psychiatric Association (APA, 2022) formally recognized ADHD as a mental disorder, and in the 1980s, the diagnosis became known as attention deficit disorder with or without hyperactivity. Since the identification of ADHD, there have been considerable studies, reports, and research about the diagnosis, and more children have been identified with ADHD (Centers for Disease Control 2017). The research was conducted in the past, but the findings became a widely accepted fact.

Previous research found formal heritability of ADHD was 80% and therefore higher than most other psychiatric diseases (Grimm et al., 2020). Since ADHD had a high heritability component, there were strong opinions that there were genetic components of the disorder. ADHD diagnosis has been most often made during childhood and male children were more likely diagnosed with ADHD than female children. However, studies have shown that female children were likely to be underdiagnosed as there were differences in symptoms and an unequal focus on males in research (Centers for Disease Control 2017). According to studies, female children have experience symptoms such as daydreaming, feeling anxious or sad, and acting shy or inattentive or focused on perfection. Female children with ADHD were found to be less disruptive (Davidovitch et. al, 2017). As a result, from those studies, ADHD has been identified as a major public health problem because of the connection to a broad range of negative outcomes over the individual's lifetime (Quintero et. al, 2018).

Incidence of ADHD in the United States

The Centers for Disease Control and other studies showed in the United States there were 6.4 million children diagnosed with ADHD from the ages 4 to 17 (Prezler et al., 2020). The number of identified children increased significantly over 20 years (Center for Disease Control 2017). These findings show there was a greater state of awareness in the US regarding the impact and long-term effects of ADHD. The outcomes from the research have heightened the awareness of the child's interpersonal connections. For instance, parents, daycare providers, and preschool teachers have noticed the behavior and discussed the need for interventions along with support. The wide range of difficulties linked to ADHD led to its worldwide recognition as a public health problem (Editors, 2019). Since 1999, ADHD has also been treated as a special education category (Prezler et al., 2020). The Individuals with Disabilities Education Act (IDEA) had regulations issued by the U.S. Department of Education in March of 1999. The Individuals with Disabilities Education Act stated that attention deficit hyperactivity disorder (ADHD or ADD) would be included in the list of conditions to make a child eligible for special education services (Editors, 2019). The disadvantage of the process was that ADHD linked to the medical diagnosis, without the guarantee of special education services, left parents without good options. The IDEA rules specified that the diagnoses must cause impairment in the school setting (Prezler et al., 2020).

Previous research recognized ADHD as one of the most common disorders of childhood. In addition, there tended to be a presence of comorbid externalizing and internalizing symptoms, consequentially leading to severe negative long-term consequences (Davidovitch et al., 2017). The National Survey of Children's Health found 35% of the children with ADHD had co-existing conditions 16% had two, and 18% had three or more comorbid conditions (Del-Pointe et

al., 2019). Children with ADHD could have co-occurring disorders such as a conduct disorder, anxiety, depression, speech problems, oppositional defiance disorder, depression, dysthymia, or generalized anxiety disorder. In addition, adolescents with ADHD were more likely to have co-existing conditions of learning and writing disabilities. The association between ADHD and suicide were exhibited in many clinical-based studies of children and adolescents, with a greater risk evident among those diagnosed with an ADHD diagnosis (Nock et al., 2018).

Development of ADHD in children

Although there have still been questions about how children develop ADHD, there has been evidence in research of links between ADHD and hereditary factors (Dawson et al., 2016), brain changes, poor nutrition (Pressler et al., 2017), unhealthy pregnancies (Rosenquist et al., 2020) and environmental conditions. Research has shown that ADHD could have been inherited through the spread of genetic characteristics from parents to their children. The research confirmed children who were diagnosed with ADHD have generally had a close family member with ADHD such as a parent or sibling in the home (Del-pointe et al., 2019; Rowland et al., 2018). Also, brain changes could exist as a primary reason children developed ADHD because of chemical imbalances. If a child had a chemical imbalance, the brain could have too many neurotransmitters or not enough, creating an imbalance. This imbalance could create emotional behaviors that could harm a child (Rosenquist et al., 2020). Children who were in environments where they were neglected or abused or that had high lead levels were also linked to having a higher incidence of ADHD (Lin et al., 2019; Wong et al., 2017). Furthermore, family relationships have been shown to influence the persistence of ADHD and the severity of symptoms (Vijverberg et al., 2020). Since ADHD has had multifaceted origins, researchers have

not discovered a simple answer to why children developed this mental health disorder, nor has there been a cure developed for ADHD.

Symptoms of ADHD

The Diagnostic and Statistical Manual of Mental Disorders-VI (American Psychiatric Association, 2013) identified three main symptoms of ADHD. The core symptom found in individuals with ADHD involved hyperactivity. Hyperactivity was defined as squirming, fidgeting, or bouncing when sitting, restiveness, and or talking excessively. The second main symptom was inattentiveness, where the child became easily distracted. Examples of would have included where the child would not follow directions or finish tasks, appeared to not listen, made careless mistakes about daily activities, lacked organization, lacked interest in sedentary activities, often misplaced items and daydreamed. The third symptom impulsivity is where the child incorporated little or no forethought about consequences. The child made decisions that were poorly conceived or unjustifiably risky (American Psychiatric Association, 2013).

Findings have shown that ADHD symptoms affected the schoolwork, social interactions, peer relations, and home life of children and their families. Children with ADHD had their brains mature in a normal way, but some parts of their brain development could have been delayed three years, compared to other adolescents without the disorder (Grimm et al.,2020). The delay in adolescents with ADHD was shown to be greatest in that brain areas that help control thinking, attention, and planning (Grimm et al.,2020). Other functions that appeared to have been delayed in a child that had ADHD included difficulties with: goal setting, decision making, coping strategies, and assessing risk (APA, 2022). Moreover, behavioral disturbances in ADHD could result in work incapacity, inappropriate sexual behaviors, excessive medical utilization, or other detrimental life outcomes that could persist into adulthood (Hsu et al., 2022).

Peer Interactions.

Peer interactions have served as a foundation for children in the classroom and the community and have been a tool for children to develop emotionally and socially. One core area of social difficulty with children and ADHD were peer interactions, particularly within the context of play (Thorell et al., 2019). The social difficulties of children with ADHD were profoundly greater than those experienced by typically-developing peers (Ahmad et al., 2020). Many children with ADHD had social complications including characteristics of faulty social cognition. When interacting with peers; children with ADHD could have a challenging time developing friendships because of impulsivity. Studies have shown the child could have shown little forethought to process manners or respect for others when excited during activities. Researchers suggested that a child with ADHD could have difficulties observing their peer's responses or reactions to their behaviors (Xing-Tan et al, 2020). In peer-to-peer interactions, children with ADHD had difficulties, sharing, supporting, and responding to social cues, cooperative play, and perspective-taking, and were more focused on exchanging, compared to children that do not have ADHD (Fogelman et al., 2018). Activities that required critical thinking or patience would have been difficult for a child with ADHD. A child with ADHD could have been viewed as uncooperative, not a collaborator, negative, or uninterested (Thorell et al.,2019) Therefore, peer interactions were difficult for a child with ADHD if the proper interventions were not implemented. Children with ADHD had experienced rejection by their peers and had fewer meaningful friendships. In addition, parents of children with ADHD experienced difficulties supporting friendships or helping their children behave at social gatherings such as birthday parties or play dates. As a result children with ADHD could have formed insecure attachments with their parents and peers without proper intervention.

School Life

In the United States, children with ADHD typically received 80% of their academic instruction in the general education classroom (Thorell et al., 2019). The other 20% of the student's time were in a special education classroom where individualized instruction, support, and accommodation were provided (Thorell et. al, 2019). Children with ADHD required Individual Educational Plans (IEPS) as part of special education services (Ewe et al., 2022). Children with ADHD could often have been derailed during assignments because of the lack of attentiveness caused by their mental health disorder (Plantin et al, 2021). Studies suggested that the child with ADHD could have begun their day attentive in the classroom, but the ability to stay attentive became a challenge for them later in the day. The challenge to remain focused could have caused the child to stop paying attention when reading as they drifted to different areas of the text. According to findings, children with ADHD frequently completely lost focus in class, when communicating with classmates because the child with with ADHD disengaged with the curriculum. This disengagement resulted in differences and predisposition views in the classroom (Evans et. al, 2016). Children that did not have the proper support in school were deemed to be disruptive to other students and targeted for behavioral interventions because of the manifestation of their disability (Evans et. al, 2016). Findings confirmed relationships between teachers and students with ADHD were more strained, compared with relationships between teachers and typically-developed students (Ewe et al., 2022).

Studies have shown that individuals with ADHD have highly creative traits and could become inventors of new methods and routines. Children that were diagnosed with ADHD tended to have creative talents because they were open to trying new things, optimistic, were not limited to routines, and were risk seekers. Researchers have shown factual evidence that children

with ADHD were triggered by their creative interests. Knowledge of the child with ADHD interests and talents could help teachers build proper interventions better matched to the child's strengths (Plantin et al., 2021).

Relevance concerning the gap between the educator and the student included the teachers' knowledge about ADHD in educational institutions. This resulted in, educational institutions that provided the opportunity for teachers and school staff to participate in knowledge-based training sessions. Teacher's participation did not result in greater implementation of effective classroom interventions, because the imparted general knowledge, did not predict the specific behavior or action (Dort et al., 2020). Results from the research revealed educators struggled with other stressors in the academic setting such as large classroom sizes, lack of funding, long hours, and staff shortages. Research showed the stress levels with educators were amplified in minority communities and results of successful interventions exhibited racial disparities. However, evidence-based education training that were developed with mental health professionals for proper knowledge-based training sessions were more successful.

Home Life

When the child's family was strengthened to serve as a protective factor for children with ADHD, then the family-created environment helped combat the child's difficulties and helped the child develop natural coping mechanisms, based on strengths (Yue et al., 2020). It has been commonly reported that parents of children with ADHD, struggled with managing and helping their child stay on task with daily activities and schoolwork (Chacko et al., 2016). Parents and caregivers of children with ADHD could have been embarrassed because of their child's behaviors, which could lead to isolation for the child and their caregiver. A difficult temperament

in children with ADHD was related to negative parenting strategies which lead to emotional dysregulation. Furthermore, it became more difficult for parents to manage behaviors when the parents had to manage their own ADHD also, due to the genetic component. (Chacko et al., 2016). Parents tended to have elevated levels of stress while having problems managing their child's behaviors. As home life stressors evolved, family systems were not refined enough to deal with the children's symptoms. In addition, the parental capacity to redirect their child during impetuous moments could have been inadequate (Vijverberg et al., 2020). Research has shown that crisis planning and self-care strategies helped the child and the caregiver. These strategies were essential to prevent caregiver burnout and increase caregiver capacity (Yue et al., 2020). Effective parenting strategies helped serve as a protective and preventable measure to strengthen the family unit.

Interventions

Parenting Interventions

Successful intervention required consistent commitment from parents. Caregivers and parents that met their child's needs as they cared for their own needs, increased their caregiver capacity (Lin et al., 2019). Those parents that were too stressed or lost hope due to their confusion about their parental role and their child's special needs, were less successful. Studies specified, reducing stress and practicing self-care helped parents cope more effectively (Chacko et al., 2016). Research found that parents reduced their own stress when they were actively involved in their children's school life and social life as support. Actively participating in daily activities reduced impairments in the family environment. Caregivers that formed ongoing active support that engaged with the child such as friends, family members, religious supports, therapists, and other community supports allowed most families to succeed. According to

research, parental involvement with a higher level of commitment, enhanced the children's behavior results (Rowland et al., 2018). Uninformed parents would struggle when they were not supported or educated about ADHD. Researcher found some parental communication barriers existed due to the lack of understanding of their child's efforts. Parents that understand the approaches that were more successful in assisting their children, were more effective at helping their children with ADHD adjust to home and school life. In addition, families that had professional support as well as peer support, such as parent support groups, eliminated many of the communication barriers (Lin et al., 2019). Families benefited from professional counseling also as it helped with coping and communication skills. Counselors could help parents process events and evaluate situations, obstacles, and achievements in the parent-child relationship.

Parent School Communication

Meetings with parents and education staff was an effective intervention (Russell et al., 2019). Parents that were actively involved in their child's school life, had a clearer understanding of their child's struggles, challenges, and strengths. Parent communication included active coordination with teachers as strategies were developed for managing classroom behaviors. The most effective model was where the parent supported the school's strategies at home, and the teacher supported the parents in class with behavioral plans (Russell et al., 2019).

Another acceptable intervention for teachers and parents were team support groups. Support groups were helpful because of the commonality of the individuals in the group (Taylor et al., 2016). Within group meetings, individuals were able to web ideas and experiences to support the child. The support groups gave a sense of hope to teachers and parents when successes and benchmarks were monitored (Taylor et al., 2016). Studies have shown that parents and teachers were enthusiastic about the need for parenting groups in the school environment and

agreed with the importance of parent-school collaboration (Taylor et al., 2016). Within the research, parents that had the intervention of support groups, communicated a preference for universal recruitment approaches to support programs. Furthermore, parents that had taken part in parenting interventions, described favorable changes and success that lead to long-term benefits. However, barriers to support groups were consistent attendance, fear of attending a group, previous use of the program, work, and other parental commitments (Taylor et al., 2016).

School Interventions

Training of classroom teachers and staff has continued as an ongoing concern in many classroom settings. Staff who were not trained to teach special needs students were less likely to utilize behavioral interventions than special education teachers (Dort et al., 2020). Integrated approaches in teaching students with ADHD with normal classroom models were ineffective. Regularly structured traditional classroom models were not appropriate for students with ADHD but changing the environment could promote beneficial stimulation (Dort et al., 2020). The integrated classroom model was deemed successful as it promoted normalcy for the student with full inclusion. The integrated classroom encouraged classroom participation of the child with ADHD in a normal classroom settings. In this format, the student with ADHD were educated with their peers, but were also allowed time for specific instructions and frequent check-ins with the teacher, especially during group activities. In addition, students with ADHD were more successful if they were informed of the exact materials needed for each activity. This method supported the processing of situations by identifying the problem and developing strategies that helped the child succeed. Research has revealed that instruction needed to be divided into smaller segments with breaks to help the child focus. Utilizing these successful strategies aided

the academic success of students with ADHD in their long-term academic and life success (Nilsson et al., 2019).

Research has shown that ADHD hides abilities so that the and the adolescent's behavior and academic performance appeared to be average or below average. Children could have been recognized as having ADHD, but not as being talented. Promoting the talents and strengths of the child and building their self-esteem, could offer the child the opportunity to work in areas of strength. Educators that provided positive reinforcement and created opportunities promoted positive peer interactions by modeling positive behaviors (Fogelman et al., 2018). Research found that students with ADHD that were encouraged to interact with other students in group settings, developed more positive peer relations (Fogelman et al., 2018; Thorell et al., 2017). Structure and a consistent environment decreased disruptions in the classroom (Fogelman et al., 2018). In addition, involvement in extracurricular activities was found to promote peer relations. Activities such as sports and art promoted natural self-regulation. Self-regulation activities could help prepare children with ADHD for self-control throughout adulthood (Fogelman et al., 2018). Children with ADHD could manage to have successful academic careers, with constructive support in the school setting as educators accepted and encouraged the promotion of their talents.

Therapeutic Services

Federal law required school districts to provide standardized testing of a child identified as potentially having ADHD (Editors, 2019), but additional testing or other services were also often required, but not provided by schools. Parents had to search for family therapists and other services to help diagnose their child's exceptional needs. Mental health professionals could provide assessments of the child that combined the child's functioning in all aspects. A treatment plan could then be developed that included monitoring the progress of the child's behavior.

Therapeutic services could benefit the families that were managing events at school, home, or the community. Researcher have shown that family participation in therapy strengthened the family unit and functioning (Sciberras et al., 2019). Cognitive Behavioral Therapies (CBT) were identified as an effective approach to challenge thoughts and identify positive behaviors that assisted with regulation (Sciberras et al., 2019). CBT has been recommended as a therapeutic approach for children with ADHD (Wong et al., 2017). CBT helped reduce the child's impulsiveness and supported positive thoughts with the correlation of feelings, actions, and consequences (Gould et al., 2018). Cognitive intervention were able to help the parent identify substantial risk situations, emotions, negative train of thought, and belief systems. The effects of cognitive-behavior therapy (CBT) positively influenced parental cognitions, parenting self-efficacy, and mental health to improve the overall parent-child relationship (Rofiah et al., 2021).

Medication and Management

Children that were unable to regulate their emotions displayed emotion dysregulation, or the inability to control their psychological experiences and behaviors. The failure to regulate could cause the child to function below optimal levels. ADHD medication usage by children and adolescents were 3.57% in 2005 and 8.51% by 2014 ($p < 0.001$) (Davidovitch et. al, 2017). This represented a significant need and increase for medication management, as more children were diagnosed with ADHD. Family psychiatric practitioners monitored symptoms and guided decisions with parents to continue or modify medications depending on how well the child adjusted (Bachman et al., 2017; Keilow et al., 2018). Children with ADHD were at risk for developing internalized and externalized symptoms, however, proper treatment plans have led to fewer symptoms (Renoux et al., 2016; Sasaki et al., 2021). Studies have demonstrated an increased risk of accidents and injuries in children, adolescents, and adults with attention

deficit/hyperactivity disorder (Van der Maas et al.,2018). ADHD has also been linked with increased mortality rates due to unnatural causes, such as accidents (Bunkhorst et. al., 2022). ADHD has been known to cooccur with emotion regulation deficits. (Fogelman et al., 2018). Fortunately, ADHD medication has been reported to alleviate increased accident risk in both children and adults. Racial and ethnic differences in health conditions, income, and insurance coverage provided some explanations for disparities between African American children and Latino children and white children (Fogelman et al., 2018). As a result, more resources and accessibility were needed in the African American and Latino communities.

Summary

There were many reasons for a child to develop ADHD from genetic to environmental factors (Lin et al., 2019). There were different symptoms of ADHD with the most commonly reported as impulsivity and inattentiveness (Wong et al., 2017). It has often been difficult for children with ADHD to have appropriate interactions with their peers because the child with ADHD could have been identified as aggressive, intrusive, or non-compliant. Children with ADHD were unable to reflect on their behavior because they were unaware of the unsuitability of the behaviors (Editors, 2019). Proper intervention and support for children and caregivers included therapy, medication, and accommodations at school to help the child adjust (Editors, 2019). Furthermore, effective communication between the parents, school staff, medical staff, and other providers led to more successful treatment. Furthermore, individual or family therapy was beneficial for children with ADHD to monitor their behavior and change behaviors appropriately. Children with ADHD profited from skills training, peer support group, and their parents being involved in the therapeutic process for parenting skills.

Chapter Three: Conclusions and Recommendations

In summary, cognitive behavior therapy is a useful corroborative treatment that directly addresses impairments and coping issues associated with ADHD. Children with ADHD will encounter situations in which they feel unregulated, and out of control, and develop negative thinking habits. CBT for ADHD can be an effective treatment option for children that will assist with coping strategies and skills for successful self-regulation. CBT strategies for ADHD may reduce the impact of anxiety by minimizing the power of discouraging thoughts which may include blaming themselves for occurrences out of their control, seeing only the negative, and feeling outcasted by their peers because of the inability to slow down and recognize appropriate social cues.

Medications are considered the first line of treatment for ADHD in terms of treating the core symptoms of ADHD. The medication treatments for ADHD assist with brain functioning, producing improvements in sustained attention, managing distractions, and impulse control. For children and families, these symptom improvements lead to functional improvements in their daily lives.

Teaching parents strategies to help their children at home as well as nutritional benefits will assist with reducing family stress. Children with ADHD need structure because of the symptoms of impulsivity, anger, and inattentiveness. Providing the structure combined with other interventions will reduce symptoms and family stress.

Providing educators with specialized training in working with students with ADHD will promote educational achievement. Educators cannot diagnose ADHD in adolescents or provide therapeutic strategies for children with ADHD. However, they are essential to providing structure and self-control because school is the first professional environment a child enters.

Educators. Counselors and parents will need the input of the teacher, as the teacher can view the child in a different core component of their life. The child's school will need to be aware of the diagnosis so the school nurse can provide medication if needed, the school psychiatrist can provide interventions, and the child will need to have direct contact with a special education teacher. Usually, special education teachers provide one on one support at separate times of the day for the child. The special education plan would allow normalcy and support throughout the school year for personal development.

Summary

The behavioral disturbances that are caused by the negative influence of ADHD on children result in further impairment. The increase in ADHD prevalence, incidence, and treatment by medication may partly reflect changing attitudes toward the disorder and its treatment (Davidovitch et. al, 2017). In theory, a child's emotional and behavioral disturbances can be categorized into internalizing and externalizing behaviors, as the child will severely suppress or express behaviors often leading to negative outcomes than those without such behaviors.

ADHD has biological factors such as genome variants, which are sequences of DNA that influence biological functions in children with ADHD. However, studies have shown that exposure to environmental toxins, dietary factors, low income, and family adversity is related to ADHD. Although effective treatments are available, children and adolescents with psychiatric disorders remain undertreated in over 40% of patients, and the proper implementation of psychiatric treatment interventions is hampered by non-attendance, non-compliance, or drop-out (Vijverg et al., 2020). A contributing factor to the unmet needs of children and adolescents with ADHD is the perception of the child and the perception of the parent/ caregiver. When treatment

needs are unresolved the child can operate at a sub-optimal level in each domain of their life. Mental Health providers will need to clarify any possible different perceptions of care needs and exploring differing perceptions of necessary treatment may help prevent barriers (Vijverg et al., 2020).

Despite academic challenges for children and adolescents with ADHD fostering healthy relationships in schools are extremely important. Supportive teacher-student relationships are a necessity for student development. As well as creating healthy attachments with their peers for development. Creating relationships requires teachers to observe, interpret, and reflect on teacher-student interactions (Ewe et al., 2022).

Children with ADHD have lower grade point averages and perform below standard on academic tests. They are also known to have higher maintenance rates and truancy rates in the school setting. Children that do not have support in school, at home or proper mental health treatment have lower high school and college completion rates (Kielow et.al, 2018). When dealing with a child that has ADHD teachers as well as parents will need to demonstrate patience and avoid power struggles with the child. As the adults in their lives will need to model self-control and structure to assist with behaviors. Regularity in the child's environments such as school, home, and social life has been found to generate improved results. Joint interventions permit a child with ADHD to become more successful in important avenues of their lives.

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