"ADHD SYMPTOMS CLINIC"[SM]

AN INTEGRATIVE APPROACH TO THE TREATMENT OF ADHD SYMPTOMS IN CHILDREN AND ADOLESCENTS

A dissertation submitted to the Caspersen School of Graduate Studies

Drew University in partial fulfillment of

The requirements for the degree,

Doctor of Medical Humanities

Ivonne Fadel

Drew University

Madison, New Jersey

May 2016

ABSTRACT

"ADHD Symptoms Clinic"[SM]
An Integrative Approach to the Treatment of
ADHD Symptoms in Children and Adolescents

Doctor of Medical Humanities Dissertation by

Ivonne Fadel

The Caspersen School of Graduate Studies
Drew University May 2016

This is an integrative approach, from a psychological perspective model, to the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD) symptomatology that I call "ADHD Symptoms Clinic." It aims to bring new and effective non-pharmacologic treatment of ADHD to children and adolescents as an alternative to medication alone.

Research concerning ADHD symptoms intends to bring some relief to children suffering from ADHD and their families with the incorporation of effective methods of treatment that have been scientifically proven to reduce symptoms of ADHD, at least in children with mild to moderate symptoms of the disorder. The objective of this study is also to find effective school interventions to improve academics and socialization skills, adding alternatives to medication alone.

This integrative treatment of ADHD addresses sleep disorders and other comorbidities associated with this diagnosis, such as oppositional behaviors, depression, and anxiety. It includes regimens of restriction diet and exercise, school and community center interventions, and individual/family psychotherapy offering parents and children a choice of treatment without medication.

There is great controversy surrounding over-diagnosis and over-medication of youth suffering from ADHD symptoms. Parents are sometimes against medication,

creating a burden on families, children, and their school systems. The goal of the ADHD Symptoms Clinic is to benefit all the children suffering from ADHD symptomatology regardless of the diagnosis. Whether or not ADHD is a true illness, the symptoms are present, and the number of children suffering from ADHD symptoms constitutes an alarming proportion of young people.

This study treats every child as a unique entity through understanding, identifying, and treating symptoms of each individual child. The ADHD Symptoms Clinic looks at the person as a whole and emphasizes the mind-body connection and the individual approach to illness.

The ADHD Symptoms Clinic advocates controlling ADHD symptoms by incorporating healthy habits and psychotherapy while reducing or eliminating the need for medication.

CONTENTS

ACKNOWLEDGMENTS

My first debt of gratitude must go to Professor Gimenez, my teacher during my last two years of high school. He encouraged students to be serious and critical in his courses. This rigorous and knowledgeable teacher helped me develop my sense of observation and attention to detail.

Second, I owe a special thank you to Dr. Herman Bleiweiss, late president of the Center of Genetic Psychiatry in Buenos Aires, Argentina. Through working with this eminent psychiatrist I learned that patients have to be observed in detail, physically, emotionally, and behaviorally, to arrive at a precise diagnosis and appropriate treatment. His objective was to provide patients with poor attention and hyperactivity with a mandated individual and family psychotherapy as a complemented by medication, if needed.

Third, I am grateful that I had the opportunity to work at the Mental Health Clinic of Passaic as a Clinical Counselor. I thank my supervisor, Elizabeth Marton-Soltis, the psychiatrists, and peer counselors for the opportunity to share with them their team spirit and commitment to helping our clients and making the MHCP a great place to work.

Fourth, I would like to thank my friend Nancy Pirilli who volunteered for the local public library to teach me English for many years.

Last, I would like to express my appreciation and thanks to three people at Drew University: to my first reader, Dr. Richard Marfuggi, who spent his time applying his knowledge to help convert my ideas into a doctoral dissertation; to Dr. Philip Scibilia, my academic advisor and reader, who believed in my endeavors from the beginning and was

very supportive of this project; and to Nicole Walters, from the Writing Center, who helped me with the delivery of my ideas with her wonderful attitude.

Abbreviations

AA	Arachidonic Acid
AAP	American Academy of Pediatrics
ADHD	Attention-Deficit/Hyperactivity Disorder
ADHD-C	ADHD Combined type
ADHD-H-I	ADHD Hyperactive/Impulsive
ADHD-I	ADHD Inattentive
ADHD-RS-IV	ADHD-Rating Scale-IV
ADSI	Ankara Developmental Screening Inventory
AFCE	Artificial Food Color Elimination
APA	American Psychological Association
ASD	Autism Spectrum Disorder
BRIEF	Behavior Rating Inventory of Executive Function-Parent
CAM	Complementary and Alternative Medicine
CAPD	Central Auditory Processing Disorder
CBM	Cognitive Behavior Modification
CBT	Cognitive-Behavior Therapy
CDC	Centers for Disease Control and Prevention
Conners 3-P	Conners 3-Parent Assessment Report
CPRS	Diagnostic Questionnaire Conner
CSHQ	Children's Sleep Habits Questionnaire
CSO	Chronic Sleep Onset Insomnia

CST	Child Study Team
CT	Cognitive Training
DBD	Disruptive Behavior Disorder
DHA	Docosahexaenoic Acid
DLMO	Dim Light Melatonin Onset
DRP	Daily Report Card
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
DSPD	Delayed Sleep-Phase Disorder
DYFS	Division of Youth and Family Services
EEG	Electroencephalogram
EFD	Executive Function Disorder
EPA	Eicosapentaenoic Acid
ESS	Epworth Sleepiness Scale
FDA	United States Food and Drug Administration
FSS	Family School Success
GAD	Generalized Anxiety Disorder
HUFA	Highly Unsaturated Fatty Acids
ISEPP	International Society for Ethical Psychology & Psychiatry
K-SADS-PL	Kaufman-Schedule for Affective Disorders and Schizophrenia–Present and Lifetime
LPC	Licensed Professional Counselor
NASP	National Association of School Psychologists

NICE	National Institute for Health and Care Excellence
NIMH	National Institute of Mental Health
NPV	Negative Predictive Value
NSCH	National Survey of Children's Health
NWI	Night Waking Insomnia
OCD	Obsessive-Compulsive Disorder
ODD	Oppositional Defiant Disorder
OHI	Other Health Impaired
OSAS	Sleep Apnea Syndrome
PA	Physical Activity
PBSIS	Positive Behavior Support in Schools
PBT	Peabody Picture Vocabulary Test
PEP	Physical Education Program
PPV	Positive Predictive Value
PTSD	Post Traumatic Stress Disorder
RED	Restricted Elimination Diet
REM	Rapid Eye Movement
SB	Sedentary Behaviors
SDB	Sleep Disordered Breathing
SFFA	Supplementation with Free Fatty Acid
SIT	Stress Inoculation Training
SLD	Specific Learning Disability
SOI	Sleep Onset Insomnia

WISC-IV	Wechsler Intelligence Score for Children, Fourth Edition
WISC-R	Wechsler Intelligence Scale for Children–Revised
WMI	Working Memory Index

Glossary

actigraph. Micro-computer that is attached to the hand or leg of the subject and differentiates between sleep and wake based on the amount of movement in the limb.

adenotonsillectomy. Operative removal of tonsils and adenoids.

amphetamine. A racemic drug that stimulates the central nervous system used mainly to lift the mood in depressive states and to control the appetite in cases of obesity.

atomoxetine. A norepinephrine reuptake inhibitor approved for the treatment of ADHD.

clonidine. A synthetic white crystalline substance in the form of its hydrochloride used to treat hypertension (high blood pressure) and ADHD.

dragee. A sugar-coated medicated confection.

elimination diet. A procedure used to identify foods that may be causing an adverse effect in a person, in which all suspected foods are excluded from the diet and then reintroduced one at a time.

guanfacine. A sympatholytic drug used in the treatment of ADHD and hypertension.

Likert scale. The most widely used approach to scaling responses in survey research.

methylphenidate. A central nervous system stimulant used in the control of hyperkinetic syndromes and narcolepsy.

night walking insomnia. Difficulty returning to sleep after waking up during the night, or very early in the morning.

schizophrenia. A psychiatric disorder causing pervasive and profound impact socially, economically, and personally. It typically begins in early adulthood, between the ages of 15 and 25. The incidence in women is noticeably higher after age 30.

short term therapy. Brief therapy, usually 10 to 20 sessions, focused on helping a person to resolve or effectively manage a specific problem or challenge, or to make a desired change.

sleep onset insomnia. Difficulty falling asleep at the beginning of the night.

sleep onset latency. The length of time that it takes to accomplish the transition from full wakefulness to sleep.

symptom burden. Subjective, quantifiable prevalence, frequency, and severity of symptoms placing a physiologic burden on patients and producing multiple negative, physical, and emotional patient responses.

token economy. A system of behavior modification through positive reinforcement derived from the principle of operant conditioning.

Chapter 1

INTRODUCTION

This study presents an integrative approach to the treatment of children and adolescents suffering from symptoms of ADHD, providing alternative non-pharmacologic treatments by balancing medical treatment with the incorporation of healthy habits, psychotherapy, and effective school interventions. This reduces the need for medication to diminish symptoms.

The research presented here integrates new studies about methods and practices that have been proven to improve ADHD symptomatology while reducing dependence on drug regimens. This also provides alternative treatment options for children who have not received any services because either their parents do not agree with medication treatment or they do not have access to medical care.

This integrative treatment of ADHD is based on a psychological perspective model that addresses sleep disorders and co-morbidities associated with this diagnosis, including oppositional behaviors, depression, and anxiety. This approach is called "ADHD Symptoms Clinic" and incorporates regimens of restricted diet, exercise, and individual/family psychotherapy. This approach was developed by looking at the person as a whole, emphasizing the mind-body connection and the individual approach to illness, and analyzing one child at a time. The purpose is to find ways of treating children presenting with ADHD symptoms instead of treating children diagnosed with ADHD.

The exact cause of ADHD is unknown, but many researchers think that ADHD may be related to a chemical imbalance in the brain, inherited, or linked with other physical causes or the environment. Other professionals have proposed "arguments that

ADHD is not a valid disorder, is over-diagnosed, is excessively treated with medication, or represents a dangerous reductionism that mistakenly views all behavioral and adjustment problems merely in terms of biology."[1]

Children and adolescents suffering from ADHD are commonly inattentive, hyperactive, and have worrisome academic problems at school. These symptoms provoke low functional achievement, prevent educational progress, and create behaviors of concern. The symptoms frustrate the children who, most of the time, do not understand what they are doing wrong because they are unaware of their difficulties. They are more physically active than other children and have low working memory skills; as a consequence, they do not have the same social skills as the rest of the children their age. Low working memory skills are categorized by the inability to sustain attention, concentrate, and exert mental control. Early in life, ADHD children start noticing that their classmates or neighbors do not want to play with them and, little by little, they become marginalized by their own peers.

According to the official updated publication of the American Psychiatric Association, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5), to be diagnosed with ADHD a child needs to have six or more symptoms of "inattention and/or hyperactivity-impulsivity that interferes with functioning or development,…and that negatively impacts directly on social and academic/occupational activities."[2] It also requires that symptoms of ADHD have to be present before 12 years

---

[1] Joel T. Nigg, *What Causes ADHD? Understanding What Goes Wrong and Why* (New York: Guilford Press, 2006), 6.

[2] *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*, 5th ed. (Washington, DC: American Psychiatric Association, 2013), 59.

of age in at least two different settings; this is not a genetic illness but it is considerably influenced by biological relatives with ADHD.[3]

The ADHD symptoms described by the DSM-5 for inattention are that the individual:

- often fails to give close attention to details
- often has difficulty sustaining attention in tasks or play activities
- often does not seem to listen when spoken to directly
- often does not follow through on instructions
- often has difficulty organizing tasks
- often is reluctant to engage in tasks that require sustained mental effort
- often loses things needed for tasks or activities
- often is easily distracted by extraneous stimuli
- often is forgetful in daily activities.

The ADHD symptoms described by the DSM-5 for hyperactivity and impulsivity are that the individual:

- often fidgets with hands or feet or squirms in seat
- often leaves seat when is not expected
- often runs about or climbs excessively in situations in which it is inappropriate
- often unable to play quietly
- often is restless
- often cannot wait for turn in a conversation
- often has difficulty waiting in line
- often interrupts others
- often talks excessively.

The DSM-5 states that "Visual and hearing impairments, metabolic abnormalities, sleep disorders, nutritional deficiencies, and epilepsy should be considered as possible influences on ADHD symptoms."[4]

---

[3] *DSM-5*, 59-66.

[4] Ibid., 62.

If a child has normal comprehension and cognitive abilities and is able to socialize with peers, the exhibited symptoms of ADHD can be caused by other issues or disorders such as emotional problems and/or distress, social maladjustment, and/or cultural related difficulties. The presence of these variables increases the diagnosis of ADHD and, in turn, the prescription of stimulant medication. The over-diagnosis of ADHD in children in the United States is controversial because of the high number of children and adolescents taking medication for ADHD symptoms in comparison to other developed countries, e.g. the United Kingdom. This suggests there is an over-diagnosis resulting in an over-medication practice.

Some scientists oppose this "explosion" of ADHD diagnoses and accuse physicians of mismanagement of the children's symptoms. Several studies go further and question the validity and evidence of ADHD as a genuine disorder.[5] Whether or not ADHD is a distinct entity, in my experience as a counselor, the symptoms are real, and the number of children suffering from those symptoms is alarming. The ADHD Symptoms Clinic emphasizes treating the ADHD symptoms, not the disorder, without the use of medication, if possible, to diminish these symptoms in a child.

There are several mental health disorders presenting similar symptoms to those of ADHD. The DSM-5 lists best practice guidelines for the diagnosis of ADHD, and noting that most ADHD symptoms may indicate of other mental health disorders and will need to be treated differently. The DSM-5 describes sixteen other diagnoses having overlapping symptoms with ADHD symptoms. Relatives to attention, concentration, and hyperactivity/impulsivity are present in a variety of mental health illnesses, such as:

---

[5] Nigg, 6.

- Oppositional Defiant Disorder (ODD) is diagnosed when the child is hostile or negative to other people's demands. This disorder can be seen in students suffering from ADHD who have not been understood at school or by their parents due to poor mental control and inability to concentrate as required.
- The Intermittent Explosive Disorder shows children who are impulsive and highly aggressive but whose attention and concentration span are appropriate. Children suffering from ADHD differ from those with Intermittent Explosive Disorder because they are not aggressive, but display distractive and disorganized behaviors that are not due to defiance or lack of comprehension.
- Neurodevelopmental disorders include repetitive motor activity, such as Tourette's disorder. Motor repetition is not prevalent in children suffering from ADHD; they are fidgety and restless, but their movements are not fixed.
- Compromised intellectual ability or specific learning disabilities may manifest as a lack of attention or interest and the inability to do the work, but such students do not necessarily have ADHD.
- Autism Spectrum Disorder (ASD) includes deficits in social communication and social interaction, inattention, and inability to control behaviors, but children with ADHD symptoms can socially communicate with other children and do not tend to isolate.
- Reactive Attachment Disorder, in contrast to ADHD, presents as social disinhibition, failure to smile, and lack of permanent connections.
- Anxiety is sometimes characteristic of ADHD; children may be anxious for the desire to change the subject or find pleasurable activities. However, the anxiety in the Anxiety Disorder diagnosis differs from the ADHD symptomatology because it is associated with fears and thoughts.
- Depressive disorders, mood disorders, and bipolar disorders all present with poor concentration, but they differ from ADHD because their symptoms are episodic, with elevated mood or changes in mood, and with severe irritability and possible angriness, as opposed to the lack of depressive disorders and moodiness found in ADHD patients according to the DSM-5 Diagnostic Criteria.
- Disruptive Mood Dysregulation Disorder patients do not present with the impulsivity and disorganized behaviors found in ADHD students.
- Substance use or abuse must be assessed before making the ADHD diagnosis, as drugs may produce hyperactive and/or inattentive behaviors.

The DSM-5 cautions that it is difficult to assess symptoms of ADHD when personality disorders are present in teenagers because they all show "features of disorganization, social intrusiveness, emotional dysregulation, and cognitive dysregulation. However, ADHD is not characterized by fear of abandonment, self-injury,

extreme ambivalence, or other features of personality disorder."[6] ADHD should not be diagnosed when psychotic symptoms are present or when symptoms may be side effects of medications and/or a consequence of a neurocognitive disorder or dementia.

All practitioners need to review ADHD symptomatology their young patients display across different settings. They need to rule out other possible causes for those symptoms before making an ADHD diagnosis, lest other medical conditions such as thyroid disease; side effects from medications; seizure disorders; lead exposure; alcohol exposure in utero; other neurological disorders; hearing disorders; social problems; sleep difficulties; and psychiatric problems like depression, anxiety, and/or oppositional behaviors be misdiagnosed as ADHD.

There is a great controversy about the over-diagnosis of ADHD in children. Sometimes doctors do not take the time to properly assess the cause of their patients' symptoms, or they misinterpret symptoms from different illnesses as ADHD symptoms, such as medical problems (difficulty falling asleep) and other psychiatric problems (depression and anxiety). In 2012, Dr. Fred Baughman, a neurologist, stated that "500,000 children in the U.S. were diagnosed ADHD in 1985 and between five and seven million were today, with prescription drug usage increasing accordingly."[7]

A study that was published by the Centers for Disease Control and Prevention reported that in the United States, the state-based prevalence of ADHD in children from 4 to 17 years old, ever diagnosed by their health care provider but reported by their parents,

---

[6] *DSM-5*, 65.

[7] Markus Thiel, "Thiel: Study Ponders Over-Diagnosis of ADHD in Children," *Kelowna Capital News*, March 16, 2012.

indicated that in 2011, two million more children were diagnosed by a doctor having ADHD, and a million more were taking medication in comparison to 2003. The data is from the 2011 National Survey of Children's Health (NSCH).[8] In 35 states ADHD prevalence diagnosed by a health care professional and reported by parents was greater than 10%, including six states surpassing 15% of children having that illness. The study found that "in 2011, 11% of children/adolescents aged 4 to 17 years had ever received an ADHD diagnosis (6.4 million children)."[9] The diagnosis of ADHD in children by their health care providers was lower than their parents' report. However, in 17 states the prevalence of this illness was still greater than 10% of children. The study concluded that "69% of children with current ADHD were taking medication for ADHD (6.1%, 3.5 million children)… Prevalence of medicated ADHD increased by 28% from 2007 to 2011."[10] (Appendix Figure 1)

Is this an epidemic? Dictionary.com describes an epidemic as "a disease affecting many persons at the same time… A rapid spread or increase in the occurrence of something." Before the popularity of prescribing Ritalin® for ADHD in the 1990s, where were these children? Is this the consequence of change in diagnosis trend, ecological factors, environmental pollutants, or something bigger in our universe, like astronomical influences? Whatever the cause, changes need to happen, among doctors and

[8] Susanna N. Visser et al., "Trends in the Parent-Report of Health Care Provider-Diagnosed and Medicated Attention-Deficit/Hyperactivity Disorder: United States, 2003–2011," *Journal of the American Academy of Child & Adolescent Psychiatry* 53, no. 1, accessed March 20, 2016, http://dx.doi.org/10.1016/j.jaac.2013.09.001.

[9] Ibid., 34.

[10] Ibid.

psychotherapists, as well as school and community centers, to confront and address this new reality.

The Chair of the DSM-IV Task Force, Dr. Allen Frances, Professor Emeritus and former chair of the Department of Psychiatry and Behavioral Science at Duke University School of Medicine, wrote that despite "the false epidemic of ADHD already running rampant among kids, DSM-5 has set the stage for creating a new epidemic of ADHD in adults."[11] Dr. Frances opined that concentration problems are "really caused by something else–e.g., substance abuse, bipolar disorder, depression, all the anxiety disorders, OCD, autistic disorders, psychotic disorder, and many others."[12] He added that difficulties people have in meeting society's expectations should not all be labeled as mental disorders.

Children suffering from ADHD can be oppositional: refusing to do something assigned to them. This symptom seems to be a psychological response to their inability to perform like the rest of the children or is related to their inability to concentrate on the task and resolve it even though they may know they are able to do the work. Symptoms of ADHD are commonly associated with other psychological, psychiatric, and/or neurological disorders, which makes the illness difficult to assess and treat.

I have a vested interest in this topic because it constitutes a marriage of my current employment as a school psychologist at a large school district in New Jersey, and as a Licensed Professional Counselor (LPC) at the In-Home Counseling program through

---

[11] Allen Frances, *Saving Normal: An Insider's Revolt against Out-of-Control Psychiatric Diagnosis, DSM-5, Big Pharma, and the Medicalization of Ordinary Life* (New York, NY: William Morrow, an imprint of HarperCollins publishers, 2013), 184.

[12] Ibid.

the Division of Health and Family Services. I obtained my Bachelor's and Master's degrees in Psychology at the National University of Buenos Aires, Argentina, in 1988, and my School Psychology Certification at Montclair State University in 2003.

For more than 25 years I have been providing psychological evaluations and counseling in both public and private settings. In my daily work, I observe that most children suffering from ADHD symptoms also present with problems falling asleep at night before being medicated. Furthermore, I noticed that after they start taking stimulant medication, their sleeping difficulties become more severe, and as a consequence, they continue to have problems waking up early in the morning to go to school.

Once doctors determine that their patients do have ADHD and may benefit from medication, they should follow the National Institute for Health and Care Excellence (NICE) guidelines: "Drug treatment for children and young people with ADHD should always form part of a comprehensive treatment plan that includes psychological, behavioural and educational advice and interventions."[13] The NICE also reported that 3 to 9% of children in the United Kingdom have ADHD symptoms, but less than 3% of school-age children and young adults carry a diagnosis of ADHD.

Children who show impulsivity, distractibility, hyperactivity, and poor attention span, concentration, and alertness may have academic difficulties and may benefit from Child Study Team (CST) evaluation to assess their need for special accommodations or special education.

---

[13] National Institute for Health and Care Excellence, "Attention Deficit Hyperactivity Disorder: Diagnosis and Management of ADHD in Children, Young People and Adults," accessed November 2, 2014, http://www.nice.org.uk/guidance/cg72/chapter/key-priorities-for-implementation.

When I assessed the intellectual potential of students with the Wechsler Intelligence Score for Children, fourth edition (WISC-IV), I observed that children with symptoms of ADHD test low on working memory skills assessed by the Working Memory Index (WMI): ability to sustain attention, concentration, and mental control. Their WMI scale score was lower than 80. But they scored in the average range, between 90 and 110, on intellectual potential in other intelligence areas, such as the Verbal Comprehension, Perceptual Reasoning, and Processing Speed Indexes. "The WMI in the WISC-IV is a measure of working memory. It assesses children's ability to memorize new information, hold it in short-term memory, concentrate, and manipulate that information to produce some result or reasoning processes."[14] However, when students also had lower scale scores than average in the Verbal, Perceptual, and Processing Indexes a possible learning disability or a problem other than ADHD was most likely causing the lower results.

Teachers, sometimes, tend to believe that children are lazy and/or immature when they do not work at their capacity. Not fully aware of the situation, teachers put a lot of pressure on these students, compounding or exacerbating symptoms. Children may display symptoms of ADHD or have executive dysfunction. According to Dr. Larry Silver,[15] to express appropriate executive function in any given problem people should be able to: analyze, plan, organize, develop, adjust, and complete. To be successful, some of these steps need to be finished in a given time and some require remembering to carry the

[14] "Wisc IV - Low Working Memory Scores," accessed March 24, 2015, http://www.brainy-child.com/experts/WISC-IV-low-memory-score.shtml.

[15] Larry Silver, "Is It Executive Function Disorder (EFD) or ADHD?," New Hope Media, accessed October 16, 2014, www.additudemag.com/adhd/article/print/7051.html.

information from one step to another. Children may have both problems: ADHD and Executive Function Disorder (EFD). To be diagnosed with ADHD children need to present with inattention, the inability to stay on task. This is very different than EFD, "which involves a pattern of chronic difficulties in executing daily tasks."[16]

Children with ADHD symptoms, like all children, need to be motivated to do something. The challenge that children with ADHD face is the lack of incentive and inspiration. The right stimulus appears to be very important to overpower their weakness of not producing useful results, decisions, or achievements. But, curiously, these children are great at playing video games for hours and capable in computers and technology. Therefore, it is important to acknowledge that children with ADHD can be very functional in some areas of their interest where attention and concentration are needed, but fail in other areas where still attention and concentration are required.

The DSM-5 indicated that differential diagnosis of ADHD is complex because "Signs of the disorder may be minimal or absent when the individual is receiving frequent rewards for appropriate behavior, is under close supervision, is in a novel setting, is engaged in especially interesting activities, has consistent external stimulation (e.g., via electronic screens), or is interacting in one-on-one situations (e.g., the clinician's office)."[17]

The American Academy of Pediatrics recently published an article about the over-diagnosis of children. This special article tried to increase consciousness about the tendency to overdiagnose ADHD, bacteremia, food allergy, hyperbilirubinemia,

---

[16] Silver.

[17] *DSM-5*, 61.

obstructive sleep apnea, and urinary tract infections. It concluded that "overdiagnosis occurs when a true abnormality is discovered, but detection of that abnormality does not benefit the patient."[18] Overdiagnosis is a problems found in all groups. Adult abnormalities diagnosed as "disease," such as overdiagnosis of breast and prostate cancer, "may be harming the very people they were designed to protect."[19] In the same way, we need to protect our children and youth from overdiagnosis and medical social control through medication.

[18] Eric R. Coon et al., "Overdiagnosis: How Our Compulsion for Diagnosis May Be Harming Children," *Pediatrics* 134, no. 5 (2014): 1, http://dx.doi.org/10.1542/peds.2014-1778.

[19] Ibid.

Chapter 2

CURRENT APPROACHES OF TREATMENT

The overmedication of children suffering from ADHD symptoms has been denounced since drug treatment became popular in the 1990s. According to Jacobelli and Watson, "in 2000, more than 19 million prescriptions for ADHD drugs were filled, a 72 percent increase over 1995, representing possibly the most dramatic increase over any previous five-year period."[20] The tendency has been to prescribe not just one but often two medications to those suffering from ADHD symptoms. This spike in prescriptions has been linked to the abuse of ADHD medications by students and adults with and without ADHD symptoms. The abuse stems from the belief that use of ADHD drugs improves concentration and performance.[21]

At a gathering sponsored by Johnson and Johnson, 11 international experts in child and adolescent psychiatry concluded that "physicians involved in the early treatment of youngsters with ADHD, suggested first-line treatment is psychostimulant medication aided by psychosocial intervention."[22] Despite the undesired side-effects of the stimulant medications, like appetite reduction, sleep disturbances, and growth suppression, the increase in prescriptions has continued often without the proper psychosocial intervention.

---

[20] Frank Jacobelli and L. A. Watson, *ADD/ADHD Drug Free: Natural Alternatives and Practical Exercises to Help Your Child Focus* (New York: AMACOM/American Management Association, 2008), 33.

[21] "More Students Abusing 'Study Drug' Adderall," accessed March 24, 2015, http://www.elementsbehavioralhealth.com/drug-abuse-addiction/student-adderall-abuse/.

[22] S. Kutcher and et al., "International Consensus Statement on Attention-Deficit/Hyperactivity Disorder (ADHD) and Disruptive Behaviour Disorders (Dbds): Clinical Implications and Treatment Practice Suggestions," *European Neuropsychopharmacology* 14, no. 1 (Jan 2004): 11.

"Why did this problem not exist in such a high proportion before the 1980s?"[23] Jacobelli and Watson presented the historical perspective explanation, stating that today's society is full of distractions in comparison to society hundreds of years ago. Before, it was necessary "to hunt, gather, and reproduce; not much more was expected nor was more necessary to maintain the lifestyle of the time."[24] They also added that the Discovery Channel program aired on July 5, 2007, *Rise of Man*, reported that the human brain grew in size as a result of a way to survive as a species.[25] I think this can be the reason for the alarming proportion of children suffering symptoms of ADHD lately: the great cultural changes prepare them to survive the robotic new millennium, while classic school methods will be obsolete for their computerized minds.

When a child shows symptoms of ADHD in a school setting, the guidance counselor and/or the CST intervene to make a direct referral to a specialist treating the disorder. If that child is diagnosed with ADHD, the public school system can find the student eligible for Section 504 accommodations provided for by the Rehabilitation Act of 1973.[26] This is a federal law designed to protect the rights of individuals with disabilities through programs and activities that receive federal financial assistance from the United States Department of Education.

---

[23] Jacobelli and Watson, 33.

[24] Ibid., 33-34.

[25] Ibid., 34; *The Rise of Man*, directed by Jacques Malaterre (Boreales Productions Discovery Channel, 2007).

[26] U. S. Department of Education, "Section 504 and the Education of Children with Disabilities," accessed March 24, 2012, www.2.ed.gov/about/offices/list/ocr/504faq.html.

If the student has been diagnosed as suffering from ADHD and requires more help due to poor academic functioning, the student may be placed in a special education program under the category of Other Health Impaired (OHI).[27] The special education program usually involves small group remediation class, Resource Center Pull Out, Support or Replacement, In-Class Support, and/or weekly School Counseling to address the inevitable misbehaviors. The New Jersey Administrative Code for Special Education defines OHI as a "disability characterized by having limited strength, vitality or alertness…due to chronic or acute health problems, such as attention deficit disorder or attention deficit hyperactivity disorder."[28]

When students present with a severe discrepancy between their intellectual potential and their functional academic achievement in their CST evaluations, the school can place them in Special Education under the category of Specific Learning Disability (SLD), and provide them with a small group remediation class (self-contained) or give them the opportunity to attend a resource center.[29] SLD is defined as a "disorder in one or more of the basic psychological processes…that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations…including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia."[30]

---

[27] State Board of Education, *New Jersey Administrative Code, 6A Chapter 14* (2006), 48.

[28] Ibid., 3.5-9

[29] US Department of Education, "Disabilities Education Act - Idea 2004," accessed August 8, 2014, http://idea.ed.gov.

[30] State Board of Education, 48.

Children suffering from poor attention span, hyperactive behaviors, and other ADHD symptoms often present with a severe discrepancy between their intellectual potential and their academic functioning for their age. The inability to concentrate and follow teachers' directions may be associated also with poor executive functioning.

Working in a large school system, I see that academic remediation is not enough to make these children behave appropriately and perform academically at their grade level. Some public schools in New Jersey use Positive Behavior Support in Schools (PBSIS), which helps schools build system of support through Rutgers, The State University of New Jersey. This is another tool to prevent and/or remediate academic and disciplinary issues. NJ PBSIS seeks

> to build capacity among school personnel to create proactive and positive school systems that increase available instructional time, encourage and support pro-social student behavior, use a continuum of function-based problem solving to address behavior and conduct issues, and create environments conducive to including students with disabilities and behavior support needs.[31]

Despite this new program, when ADHD symptoms are present in a student, school staff still prefer to have that student on medication and they often encourage parents to have a pediatric evaluation with a specialist treating the disorder, i.e., neurologist, psychiatrist, or developmental pediatrician, rather than a clinical counselor or a psychologist for psychotherapy. Some parents are against medication, creating a burden not only for the child but also for the public school system which may have scarce programs for students suffering from ADHD symptoms. In a survey of parents of

[31] NJ PBSIS, "PBSIS: Helping Schools Build Systems of Support," accessed March 29, 2016. http://www.njpbs.org.

children taking medication for ADHD, "44 percent said they wished there was another way to help their child."[32]

Dr. Gretchen LeFever compared the ADHD medication rates in Virginia with those in other states. She found that medication treatment for ADHD from two Virginia school districts alone was two to three times higher than the average rate for the whole country. "LeFever found that 84 percent of children with ADHD received medication at some point in time… The only children who had never received drug treatment were uninsured."[33]

In inner cities, it is very difficult to find covered Medicaid psychological services for children with ADHD symptoms. The free In-Home Counseling services for children and adolescents provided through the NJ Children's System of Care have been helping tremendously to address the problem. This is a great opportunity for the clinical counselor to develop ways of working with one family and one child at a time; but without the proper knowledge and training of integrative methods to control ADHD symptoms, this intervention may not be enough to avoid the next step of referring the child to a medical evaluation with the intent of consuming medication.

A study concluded that methylphenidate for the treatment of ADHD, "given twice daily, induces a slight but significant sleep disturbance."[34] Another study reported that

---

[32] Linda Carroll, "ADHD Meds Help, but Many Parents Still against Them," accessed March 24, 2015, http://www.nbcnews.com/id/38315906/ns/health-childrens_health/t/adhd-meds-help-many-parents-still-against-them/#.VRF7R7d0zIU.

[33] Eileen M O'Connor, "Medicating ADHD: Too Much? Too Soon?," *Monitor on Psychology* 32, no. 11 (2001): 50.

[34] George Schwartz et al., "Actigraphic Monitoring During Sleep of Children with ADHD on Methylphenidate and Placebo," *Journal of the American Academy of Child & Adolescent Psychiatry* 43, no. 10 (2004): 1276, http://dx.doi.org/10.1097/01.chi.0000135802.94090.93.

school-age children with ADHD treated with stimulant medication were "larger than expected from norms before treatment but show stimulant-related decreases in growth rates after initiation of treatment."[35] Charach, Ickowicz, and Schachar's research study also concluded that stimulant medications improve ADHD symptoms but "clinically significant adverse effects were present for five years, most commonly loss of appetite."[36] The increase in prescriptions for ADHD has continued despite the reported side-effects like appetite reduction, sleep disturbances, and growth suppression.

A study investigated the growth of children with ADHD while attending preschool before and after the initiation of treatment with methylphenidate; children received medication three times daily, every day for a year. Results for the 95 children taking the medication indicated that "annual growth rates were 20.3% less than expected for height…and 55.2% [less] for weight."[37] Conclusion of this study revealed that "risks of reduced growth rates should be balanced against expected benefits when preschool-age children are treated with stimulant medication."[38]

Recent research, conducted in Korea, studied the effect of methylphenidate on height and weight. The study tracked 157 children and adolescents suffering from ADHD for a period of one year and concluded that "weight Z score decreased during the 1st year

---

[35] James M. Swanson et al., "Effects of Stimulant Medication on Growth Rates across 3 Years in the MTA Follow-Up," *Journal of the American Academy of Child & Adolescent Psychiatry* 46, no. 8 (2007): 1015, http://dx.doi.org/10.1097/chi.0b013e3180686d7e.

[36] Alice Charach, Abel Ickowicz, and Russell Schachar, "Stimulant Treatment over Five Years: Adherence, Effectiveness, and Adverse Effects," *Journal of the American Academy of Child & Adolescent Psychiatry* 43, no. 5 (2004): 559, http://dx.doi.org/10.1097/00004583-200405000-00009.

[37] James Swanson et al., "Stimulant-Related Reductions of Growth Rates in the PATS," *Journal of the American Academy of Child & Adolescent Psychiatry* 45, no. 11 (November 2006): 1304, http://dx.doi.org/http://dx.doi.org/10.1097/01.chi.0000235075.25038.5a.

[38] Ibid.

of medication…and did not change or increase after the 1st year… Height Z score significantly decreased during treatment…but did not change after the 1st year."[39] According to the World Health Organization, "there are two ways of expressing child growth survey results using Z-scores. One is the commonly used cut-off-based prevalence; the other includes the summary statistics of the Z-scores: mean, standard deviation, standard error, and frequency distribution."[40]

On April 27, 2012, psychiatrists Dr. Gabriel Kaplan and Dr. Bennett Silver presented a "newly approved combination therapy"[41] to reduce their patients' persistent sleep problems while on stimulant medication for ADHD symptoms; it involved the "use of a stimulant and a non-stimulant at the same time."[42] They claimed that the side effects of the morning stimulant medication (Amphetamine or Methylphenidate) including "anorexia, insomnia, and hypertensive" were diminished by the side effects of the second medication (Clonidine or Guanfacine) taken in the evening. The recently approved non-stimulant medications (Kapvay®: Clonidine extended release and Intuniv®: Guanfacine extended release) increase "appetite, sedation, and hypotension."[43] They explained that providing the second medication to children and adolescents with ADHD during the

---

[39] Kim Hyo-Won et al., "Effect of Methylphenidate on Height and Weight in Korean Children and Adolescents with Attention-Deficit/Hyperactivity Disorder: A Retrospective Chart Review," *Journal of Child and Adolescent Psychopharmacology* 24, no. 8 (2014), http://dx.doi.org/10.1089/cap.2014.0025.

[40] World Health Organization, "Global Database on Child Growth and Malnutrition," accessed March 24, 2015, http://www.who.int/nutgrowthdb/about/introduction/en/index5.html.

[41] Gabriel Kaplan and Bennet Silver, "New Developments in Pharmacological and Therapeutic Interventions," (Powerpoint Presentation), 2012, accessed April 27, 2012, www.newallianceacademy.com/assets/documents/ADHD-New%20Developments-April%2027%202012-Website%20Version.ppt.

[42] Ibid.

[43] Ibid.

evening, i.e. Clonidine or Guanfacine, counteracted the undesired side effects of the first medication.

These doctors confirmed that ADHD was a real disorder because "statistics were replicated by several scientific studies throughout the world."[44] They added that "as many as two thirds of children and adolescents with ADHD have at least one other co-existing condition."[45]

Since two-thirds of children have co-existing conditions which mimic ADHD symptoms, then it could be that only one-third are suffering from ADHD alone. This dissertation targets the two-thirds of children who present with ADHD symptomatology associated with another disorder. Children presenting with ADHD symptoms benefit from an integrative approach to control those symptoms. Using this integrative approach, doctors will be less likely to overmedicate.

Drs. Kaplan and Silver cautioned that "even those who benefit from medication may still have difficulties with primary ADHD symptoms or associated problems which must be targeted via other means."[46] They explained that medication alone does not always correct the ADHD symptoms. This means that medicated children still benefit from other treatments, as well as psychological and/or academic programs, in order to be productive and functional at school and at home.

---

[44] Kaplan and Silver, Slide 10.

[45] Ibid., Slide 52.

[46] Ibid., Slide 36.

A research article published in the *Journal of Pediatric Psychology* reported that 29% to 50% of children with ADHD will also meet criteria for another disorder such as oppositional defiant disorder, conduct disorder, anxiety disorder, and mood disorder.[47]

According to the National Institute of Mental Health (NIMH), the largest scientific organization in the world dedicated to research focused on the understanding and treatment of mental health disorders, ADHD is one of the most common diagnosed childhood disorders and can continue through adolescence and adulthood.[48] The NIMH reported that the Lifetime Prevalence of ADHD from 13 to 18 years old is 9% of the population. However, the Lifetime Prevalence of "Severe" Disorder for the same population is only 1.8%.[49] (Appendix Figure 2)

Medication is often the first-line treatment for management of ADHD symptoms. However, 20 to 35 percent of children do not respond positively to the standard medication regimens and require combination therapy. Childress and Sallee recommended that "for patients who are partial responders to stimulants, despite adequate adherence and dose optimization, the addition of atomoxetine or guanfacine extended release or clonidine extended release may help them achieve adequate response."[50]

---

[47] Thomas J Spencer, Joseph Biederman, and Eric Mick, "Attention-Deficit/Hyperactivity Disorder: Diagnosis, Lifespan, Comorbidities, and Neurobiology," *Journal of Pediatric Psychology* 32, no. 6 (2007): 631.

[48] National Institute of Mental Health NIMH, "Attention Deficit Hyperactivity Disorder (ADHD)," NIH Publication No. 08-3572, http://www.nimh.nih.gov/health/publications/attention-deficit-hyperactivity-disorder/adhd_booklet.pdf.

[49] Ibid.

[50] Ann C. Childress and Floyd R. Sallee, "Attention-Deficit/Hyperactivity Disorder with Inadequate Response to Stimulants: Approaches to Management," *CNS Drugs* 28, no. 2 (2014), http://dx.doi.org/10.1037/ a0029451.

Schachar and Ickowicz reported that one in five children and adolescents diagnosed with only ADHD received a combination treatment of a stimulant and another psychotropic medication during a one-year study period; ten percent of those children diagnosed with only ADHD received a combination which included an atypical antipsychotic medication.[51] Atypical antipsychotics drugs "are used in the treatment of psychosis…by blocking the receptors in the brain's dopamine pathways."[52] This practice may reveal that children are treated for comorbidities, conditions other than ADHD, without the appropriate diagnoses.

Russell and Ickowicz reported that one-third of patients receiving drug therapy needed to switch medications because those with comorbidities did not show satisfactory responses with stimulant medication alone, and "about 15% of patients without a comorbid condition were given a combination treatment, including a small group of about 4% of patients who received an atypical antipsychotic despite the absence of a reported comorbidity."[53]

The above results show that some children were diagnosed with onlyADHD, with no comorbidities, but received antipsychotic medication that is not recommended for treating ADHD symptoms.[54] Therefore, in addition to treating ADHD symptoms, doctors are giving medication treatments for comorbidities without the proper diagnosis.

---

[51] Russell Schachar and Abel Ickowicz, "Mental Illness in the Real World," *Journal of the Canadian Academy of Child and Adolescent Psychiatry* 23, no. 3 (2014): 156.

[52] "Difference between Typical and Atypical Antipsychotics," accessed March 24, 2015, http://www.differencebetween.com/difference-between-typical-and-vs-atypical-antipsychotics/.

[53] Schachar and Ickowicz, 156.

[54] Steering Committee on Quality Improvement and Management Subcommittee on Attention-Deficit/Hyperactivity Disorder, "ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and

The Society for Humanistic Psychology, a division of the American Psychological Association (APA), reported that the atypical antipsychotic medication has doubled in the past ten years for the treatment of ADHD in children with other syndromes.[55] The book *Drugging Our Children*[56] describes the push to create a child market for antipsychotics by the pharmaceutical industry. This trend fails to evaluate the impact medications have on the youths' developing brains and bodies, nor does it encourage the children's healthy psychological development. Using only psychiatric medication reinforces the idea that "behavior and emotional issues are biochemical processes that can be fixed with a pill."[57]

Professionals against providing medication in mild and moderate cases of ADHD have raised their voices, arguing that prescribing stimulants to children is a way of social control,[58] mostly to regulate children that are not conforming in the public school system. Many of the ADHD symptoms that contribute to social and academic impairments[59] are associated with other syndromes, making it very difficult to properly diagnose and prescribe medication in a single medical session.

Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents," *Pediatrics* 128, no. 5 (November 2011), http://dx.doi.org/10.1542/peds.2011-2654.

[55] "The Overmedication of Our Youth: An Interview with Brent Dean Robbins, PhD," American Psychological Association, last modified Nov. 2012, accessed Jan. 19, 2016. http://www.apadivisions.org/division-32/publications/newsletters/humanistic/2012/04/drugging-our-children.aspx.

[56] Sharna Olfman and Brent Dean Robbins, *Drugging Our Children : How Profiteers Are Pushing Antipsychotics on Our Youngest, and What We Can Do to Stop It*, *Childhood in America* (Santa Barbara, CA: Praeger, 2012), xii.

[57] "The Overmedication of Our Youth."

[58] Peter Conrad, *The Medicalization of Society :On the Transformation of Human Conditions into Treatable Disorders* (Baltimore: Johns Hopkins University Press, 2007), ix-xi.

[59] Nigg, 171.

Dr. Sundar Gnanavel published a case study regarding the misdiagnosis of Smith-Magenis syndrome as ADHD.[60] The patient was a seven-year-old male whose cognitive level was mild. He presented with inattention and hyperactivity and was initially diagnosed with ADHD. After a careful review of his symptoms and the revision of his facial dysmorphism, the child was sent for genetic screening. He was found to have Smith-Magenis, a genetic syndrome with a behavioral phenotype close to ADHD. Smith-Magenis syndrome is a developmental disorder that causes "mild to moderate intellectual disability, delayed speech and language skills, distinctive facial features, sleep disturbances, and behavioral problems."[61]

A study of 420 Iranian children, 210 with ADHD and 210 without ADHD, between the ages of 5 and 12 years, reported that "development of executive functions is rising in children with and without ADHD."[62] However, the group of children with ADHD had executive functions "significant[ly] lower than children without ADHD."[63] But this impairment can also be found in children suffering from other disorders such as learning disabilities and the autism spectrum.[64]

---

[60] Sundar Gnanavel, "Smith-Magneis Syndrome: Behavioural Phenotype Mimics ADHD," *BMJ Case Reports* (2014), accessed March 29, 2016, http://dx.doi.org/10.1136/bcr-2013-201766.

[61] US National Library of Medicine, "Smith-Magenis Syndrome," last modified December 2013, accessed April 2, 2016, https://ghr.nlm.nih.gov/condition/smith-magenis-syndrome.

[62] Ahmad Abedi et al., "Development of Executive Functions in 5- to 12- Years Old Iranian Children with and without ADHD," *Journal of Educational and Developmental Psychology* 4, no. no. 2 (2014): 134.

[63] Ibid., 140.

[64] M. Semrud-Clikeman, J. Goldenring Fine, and J. Bledsoe, "Comparison Children with Autism Spectrum Disorder, Nonverbal Learning Disorder and Typically Developing Children on Measures of Executive Functioning," *Journal of Autism and Developmental Disorders* 44, no. 2 (2014): 331, http://dx.doi.org/10.1007/s10803-013-1871-2.

Central Auditory Processing Disorder (CAPD) is another diagnosis in childhood which can mimic symptoms of poor attention and concentration. This disorder shares some symptoms with ADHD, like academic and/or behavior problems, easily and frequently distracted from tasks, and requiring increased time to answer questions. The Super Duper Handy Handouts[65] #42 and 43 made a clear difference in recognizing ADHD in comparison to CAPD. Children suffering from ADHD will say "I understand what you say, I just can't do it!" On the other hand, children diagnosed as having CAPD will say: "I can hear what you say, but I don't understand!"

A new finding or area of interest is the association of ADHD, allergies, and asthma. Researchers found an increased risk of ADHD in boys with a history of allergies or asthma. Eelko Hak's team studied 884 boys with ADHD and 3,536 boys without the disorder. They found that 34% of children with ADHD had asthma and 35% had an allergic disorder. The study reported that 60 to 80% of children with asthma also have an allergy, and both conditions often run in their families. The causal links between ADHD, allergy, and asthma are still unknown but they are all thought to run in families.[66]

The American Academy of Pediatrics (AAP) most recent published its guidelines for the clinical practice, diagnoses, evaluation, and treatment of children suffering from ADHD in 2011. It stated that primary care clinicians should start an "evaluation for ADHD for any child 4 through 18 years of age who presents with academic or behavioral

---

[65] Keri Spielvogle, "USPTO Issues Trademark: Handy Handouts," *US Fed News Service, Including US State News*, September 29, 2011.

[66] Eelko Hak et al., "Association of Childhood Attention-Deficit/Hyperactivity Disorder with Atopic Diseases and Skin Infections? A Matched Case-Control Study Using the General Practice Research Database," *Annals of Allergy, Asthma, & Immunology* 111, no. 2 (August 2013): 102.

problems and symptoms of inattention, hyperactivity, or impulsivity;"[67] information needs to be obtained from parents, teachers, and mental health clinicians. Proper evaluations should identify coexisting conditions such as emotional or behavioral disorders, (anxiety, depression, oppositional defiant, and/or conduct), developmental disorders (learning and language), and/or physical disorders (tics and/or sleep apnea).

The AAP recommendation for first line treatment for preschool-aged children is evidence-based parent and/or teacher-administered behavior therapy and that health care providers "may prescribe methylphenidate if the behavior interventions do not provide significant improvement and there is moderate-to-severe continuing disturbance in the child's function."[68] For elementary school-aged children the pediatrician should prescribe approved medications for ADHD and/or evidence-based parent and/or teacher-administered behavior therapy, preferably both. "The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended-release guanfacine, and extended-release clonidine (in that order). The school environment, program, or placement is a part of any treatment plan."[69] This means that school will be responsible for providing efficient programs and counseling to mitigate ADHD symptoms in a student.

The AAP also recommended treatment for adolescents: physicians "should prescribe Food and Drug Administration-approved medications for ADHD with the agreement of the adolescent and may prescribe behavior therapy as treatment for ADHD,

---

[67] Steering Committee on Quality Improvement and Management, Subcommittee on Attention-Deficit/Hyperactivity Disorder, 1.

[68] Ibid., 2.

[69] Ibid.

preferably both."[70] The AAP further noted that pediatricians have limited time with patients and families and to making appropriate contacts for the continuation of care. For that reason, physicians need to relegate patient care to mental health practitioners, but the AAP realizes that these resources are very scarce in some areas and that school psychologists are restricted by third-party payers. The AAP also argued that to relegate "mental health conditions exclusively to mental health clinicians also is not a viable solution for many clinicians, because in many areas access to mental health clinicians to whom they can refer patients is limited."[71]

According to the AAP, physicians do not have enough time to take care properly of those suffering from ADHD because this illness needs a lot of time to be properly diagnosed and assessed. However, due to the lack of available mental health treatment options, the AAP recommended physicians prescribe stimulant medication to all 6- to 18-year-old ADHD patients, and some 4- and 5-year-old patients. These recommendations may be risky and harmful, and against the welfare of children.

The United States Food and Drug Administration (FDA) required in 2007 that all makers of ADHD medications develop "Patient Medication Guides" that contain information about the possible cardiovascular risks associated with their medications. The FDA found that medication for ADHD can cause serious heart events, including sudden death as well as an increase in mental disorders "such as hearing voices,

[70] Steering Committee on Quality Improvement and Management, Subcommittee on Attention-Deficit/Hyperactivity Disorder, 2.

[71] Ibid., 3.

becoming suspicious for no reason, or becoming manic, even in patients who did not have previous psychiatric problems."[72]

This supports the need for an alternative treatment for symptoms of ADHD. The health risks of stimulant medications are well documented and the side effects of poor appetite and flattening emotions of children are clearly observable. Students take their ADHD medication in general after breakfast but some do not like eating breakfast; as a result, the medication reduces appetite during the day and sometimes through the evening, causing weight loss. Patients look languid and lethargic.

As a Medical Humanities student, I include interdisciplinary fields of humanities, like ethics, history, and psychology, to advocate for humane medical care. I consider the practice of medical ethics to be very important as developed by philosophers over time, like the historical code of ethics, the Hippocratic Oath. The ethical principles of beneficence and nonmaleficence require that medication and medical procedures benefit patients, according to the best knowledge of doctors, and as a consequence, doctors should not harm or cause injustice to their patients.[73]

Medical practice has changed considerably in the last 50 years. As David Rothman explained in his book, *Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making*,[74] historically physicians were well

---

[72] US Food and Drug Administration (FDA), "FDA Directs Adhd Drug Manufacturers to Notify Patients About Cardiovascular Adverse Events and Psychiatric Adverse Events," accessed August 11, 2014, http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2007/ucm108849.htm.

[73] Bonnie Steinbock, John Arras, and Alex John London, *Ethical Issues in Modern Medicine: Contemporary Readings in Bioethics*, 7th ed. (Boston: McGraw-Hill, 2009), 61.

[74] David J. Rothman, *Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making* (New Brunswick NJ: AldineTransaction, 2008), 127.

known and trusted by their patients. He wrote that doctors knew their patients from birth to adulthood. Since the 1960s, doctors have become increasingly estranged from their patients for three reasons: first, the concept of patient autonomy developed; second, healthcare moved patient care from the family doctor to large hospitals; and third, medical technology replaced the laying on of hands. In today's healthcare model, the patient is evaluated and educated by the professional and encouraged to make some determination about the course of treatment.

As a counselor provider, I have to deal with the problem that faces children taking ADHD medication and their families as they are frustrated and insecure about the treatment and its side effects. During this long and arduous process to get the right help for their symptoms, children with ADHD and their families are left in limbo; children lose important learning time at school and their grades continue to drop while their families seek answers. As a consequence, the children's self-esteem and their relationship with other students and their teachers worsen.

In the following chapters I will present specific strategies and remedies that psychotherapists or school counselors can utilize with their clients, students, and the children's parents under their care. The remedies include the adoption of healthy habits of sleep, exercise, diet, psychotherapy, and school interventions. ADHD manifests itself in a wide variety of ways, each requiring individualized treatments.

The goal for this integrative approach to treatment is to be able to provide effective interventions without medication as often possible to children suffering from ADHD symptoms. The ADHD Symptoms Clinic will be implemented inside and/or outside schools by mental health providers.

Chapter 3

SLEEP THERAPY

Drs. Judy Owens and Jodi Mindell in their book *Take Charge of Your Child's Sleep* argue that treatments to address sleep problems may benefit symptoms of "ADHD, the most commonly diagnosed psychiatric disorder in children, affecting about five to ten percent of children in the US."[75] In the UK, it is estimated that ADHD affects around two to five percent of school-aged children and young people.[76] The behaviors associated with not getting a good night's sleep are directly related to and sometimes overlap with symptoms of ADHD. As a consequence, it is imperative to make effective assessments and evaluations of the children suffering from ADHD symptoms and ask the right questions about sleep; if the child is suffering from a sleep disorder, it is important to treat it rather than ADHD.

According to Owens and Mindell, stimulant medications "may have a rebound effect when they wear off at the end of the day, resulting in an increase in ADHD symptoms, hyperactivity, and impulsivity that may lead to difficulty in settling and falling asleep at bedtime."[77] This means that the stimulant medication provided to children to treat ADHD symptoms is exacerbating the main symptoms that I have noticed in my counseling patients; these patients already had problems falling asleep when they still did not take any medication.

---

[75] Judith A. Owens and Jodi A. Mindell, *Take Charge of Your Child's Sleep: The All-in-One Resource for Solving Sleep Problems in Kids and Teens* (New York, NY: Marlowe & Co., 2005), 207.

[76] NHS choices in England, "Attention Deficit Hyperactivity Disorder (ADHD)," accessed November 8, 2015, http://www.nhs.uk/Conditions/Attention-deficit-hyperactivity-disorder/Pages/Introduction.aspx.

[77] Owens and Mindell, 213.

The NIMH brochure about ADHD explains that the available treatments are medication as well as psychotherapy, including family therapy. Sleep problems are only listed as side effects of stimulant medications together with decreased appetite, development of sudden and repetitive movements (tics), or appearing flat or without emotions, blunting of affect.[78]

The DSM-5[79] reported that sleep disorders can possibly impact ADHD symptoms, but does not list the problem of falling asleep as a main symptom of ADHD. The problem falling asleep needs to be treated and resolved before diagnosing ADHD because, in my experience, more than seventy percent of children with attention, concentration, and hyperactivity problems have difficulties falling asleep earlier at night. As a way to control the overdiagnosis of ADHD, treating the sleep disorder first will show who is improving academically and behaviorally from sleeping better, and who is really suffering from ADHD.

A study of 183 children admitted to an early childhood psychiatric day treatment program found that "41% of children met criteria for a sleep disorder; 23% met diagnostic criteria for SOI [Sleep Onset Insomnia] and 4% met criteria for NWI [Night Waking Insomnia], with an additional 14% meeting criteria for both (SOI + NWI)."[80] This research found that 30% of preschool children present with behavioral insomnias; the number is much higher for those with neurodevelopmental impairments such as

---

[78] National Institute of Mental Health NIMH.

[79] *DSM-5,* 59-66.

[80] John R. Boekamp et al., "Sleep Onset and Night Waking Insomnias in Preschoolers with Psychiatric Disorders," *Child Psychiatry & Human Development* 46, no. 4 (2014): 622, http://dx.doi.org/10.1007/s10578-014-0505-z.

autistic disorders and learning difficulties. The investigators questioned whether the difficulties falling asleep cause the problems with behavior and emotional dysregulation or vice versa, whether the psychiatric symptoms disrupt the sleep pattern or impede the sleep regulation.

A study was conducted to relate ADHD symptoms and problems with sleep in children and adolescents. The study included 325 children between 10 and 17 years of age, of whom 257 children did not present with ADHD. They concluded that children with ADHD symptoms had "increased rates of sleep problems/disorders."[81] The problems were associated with "earlier bedtime, later rise time, longer nocturnal sleep, more frequent daytime napping, insomnia, sleep terrors, sleep-talking, snoring and bruxism."[82]

Sleep Terror Disorder includes recurrent episodes of abrupt awakening from sleep; it begins with a panicky scream followed by intense fear, tachycardia, and sweating.[83] Under my clinical observation it seems to happen when the child is having more emotional difficulties, is not relaxed at the time of sleep, and the brain seems to continue working at an extra speed. It can be caused by sleep deprivation, fatigue, stress, and/or anxiety. "Sleep terrors may require treatment if they cause problems getting enough sleep or they pose a safety risk."[84] Mayo Clinic Staff also indicated that

---

[81] Huey-Ling Chiang et al., "Association between Symptoms and Subtypes of Attention-Deficit Hyperactivity Disorder and Sleep Problems/Disorders," *Journal of Sleep Research* 19, no. 4 (2010): 535.

[82] Ibid.

[83] *DSM-5*, 59-66.

[84] Mayo Clinic Staff, "Sleep Terrors (Night Terrors)," accessed April 2, 2016, http://www.mayoclinic.org/diseases-conditions/night-terrors/basics/definition/CON-20032552?p=1.

nightmares differ from sleep terrors because the dream can be remembered from a nightmare, but the person does not remember anything from a sleep terror because he or she remains asleep during the episode.

Another study associating sleep problems with ADHD, conducted by Weiss and Salpekar, reported that "an estimated 25-50% of children and adolescents with ADHD experience problems with sleep."[85] They concluded that "medication for ADHD and/or co-morbid disorders may also contribute to sleep disturbances." Interventions to target sleep difficulties, whether it is delayed sleep onset, bedtime resistance, prolonged tiredness upon waking, and/or daytime sleepiness, needs to be the first line of treatment when ADHD symptoms are present. The diagnosis and treatment of sleep disorders is conducted by certified physicians experienced in sleep disorders.

A paper presented at the 5th World Congress on Sleep Medicine associated sleep disturbances with ADHD. Children were diagnosed according to the DSM-IV and Conner's rating scale for ADHD. The participants, 24 children, were assessed with an IQ test, sleep habit questionnaire, digital electroencephalography and polysomnogram study, and were compared with 20 healthy children.

The study showed that children with ADHD had a "significant decrease in the sleep efficiency, number of the stage shifts, number of REM periods, REM stage percentage and total sleep time.[86] REM is the rapid eye movement sleep stage and is indicative of a behavioral sign of the phase of sleep during which the sleeper is likely to

---

[85] Margaret D. Weiss and Jay Salpekar, "Sleep Problems in the Child with Attention-Deficit Hyperactivity Disorder," *CNS Drugs* 24, no. 10 (2010): 811, http://dx.doi.org/10.2165/11538990-000000000-00000.

[86] S. Ashou Helal, "Sleep Disturbances in Children with Attention Deficit," *Sleep Medicine* 14, Supplement 1 (2013): e65, http://dx.doi.org/10.1016/j.sleep.2013.11.125.

be experiencing dreamlike mental activity. There was a significant increase in the number of awakenings. "41.7% of the patients had abnormal digital EEG, 75% had bed time resistance and increased movement during sleep."[87] The study affirmed that ADHD is clearly associated with sleep disturbances.

If children have problems falling asleep, parents usually realize this once the children start kindergarten. They are unable to wake up for school as a consequence of poor hours of sleep. This vicious cycle of getting to sleep late at night and waking up at noon is the complaint and concern of young parents during their children's first years of school.

A study conducted by van der Heijden, Smits, and Gunning, evaluating the sleep characteristics of children with ADHD and sleep onset insomnia (SOI), concluded that "sleep latency were significantly longer in ADHD with SOI compared to ADHD-noSOI."[88] The study assessed seventy-four children with ADHD and SOI between the ages of 6 and 12 years, and twenty-three children with ADHD without insomnia (ADHD-noSOI) who had not previously used medication for ADHD. Both groups were scrutinized for sleep log, actigraphically evaluated sleep onset, sleep latency, total sleep duration, actual sleep time, and sleep hygiene as measured with the Children's Sleep Hygiene Scale. The authors concluded that "there were differences in sleep onset and sleep latency in ADHD children with chronic SOI and those without insomnia; however, sleep hygiene practices were similar and did not relate to sleep characteristics."[89]

---

[87] Helal, e65.

[88] Kristiaan B. van der Heijden, Marcel G. Smits, and W. Boudewijn Gunning, "Sleep Hygiene and Actigraphically Evaluated Sleep Characteristics in Children with ADHD and Chronic Sleep Onset Insomnia," *Journal of Sleep Research* 15, no. 1 (March 1, 2006): 55.

[89] Ibid.

Another actigraphic study, conducted at the Tel Aviv University Sleep Disorders Laboratory, supported the hypothesis that children di Heijden agnosed with ADHD suffer more from reduced sleep quality than children without ADHD according to the actigraphic measure.[90] The study compared the sleep of 12 children with ADHD to that of twelve children without ADHD. Children were examined at home over several nights through actigraphic monitoring and parents' responses. The authors concluded that the sleep quality was different in both groups over the night, and it was reduced in children with ADHD.

A study of sleep and ADHD was presented at the 5th World Congress on Sleep Medicine in September to October 2013 in Valencia, Spain.[91] Researchers examined the sleep problems of children suffering from different ADHD subtypes. They differentiated the hyperactive/impulsive (ADHD-H-I), inattentive (ADHD-I), and combined type (ADHD-C) subtypes. They included 24 boys and 1 girl between the ages of 6 and 17 years. According to the DSM-IV criteria, 5 of those children were diagnosed with ADHD-H-I, 10 with ADHD-I, and 10 with ADHD-C. The results of this study showed that more than 50% of children suffered one or more sleep symptoms, like motor activity (60%), sleep talking (56%), grinding of teeth (56%), and "awakening from sleep (56%)."[92] The ADHD-I "had the highest percentage of daytime sleepiness… Motor activity during sleep was more common in ADHD-H-I (100%)."[93]

---

[90] Yaron Dagan et al., "Sleep Quality in Children with Attention Deficit Hyperactivity Disorder: An Actigraphic Study," *Psychiatry and Clinical Neurosciences* 51, no. 6 (December 1, 1997): 383.

[91] O. Ciopat et al., "Sleep and ADHD," *Sleep Medicine* 14, Supplement 1 (2013): e245.

[92] Ibid.

[93] Ibid.

The *Journal of the American Academy of Child and Adolescent Psychiatry* published a study examining sleep problems co-occurring with other problems, such as psychiatric disorders, to determine which of them occurred first. Examiners included 1,420 children between ages 9 and 16 years. They were assessed from 4 to 7 times per person over the course of the study for mental disorders and sleep problems with the *Diagnostic and Statistical Manual-Fourth Edition* (DSM-IV).

The results noted that sleep problems were common in children and adolescents, and sleep problems co-occurred with many psychiatric disorders.[94] Shanahan's team found that "sleep problems predicted increases in the prevalence of later generalized anxiety disorder (GAD) and high GAD/depression symptoms, and oppositional defiant disorder (ODD). In turn, GAD and/or depression and ODD predicted increases in sleep problems over time."[95] These results are important because ODD is frequently a co-occurring diagnosis with ADHD. Also, it suggests that sleep problems described in many children suffering from ADHD symptoms can be caused by the ODD co-occurring condition with sleep problems instead of ADHD. The study concluded that sleep problems should be screened in children to reduce mental illnesses during childhood.

Another area of concern regarding sleep difficulties relates to breathing problems. A recent meta-analysis evaluated the relationship between ADHD and sleep disordered breathing (SDB) in children and adolescents, and whether the ADHD symptoms were prevalent after the children's adenoids were removed. The researchers analyzed 18

---

[94] Lilly Shanahan et al., "Sleep Problems Predict and Are Predicted by Generalized Anxiety/Depression and Oppositional Defiant Disorder," *Journal of the American Academy of Child and Adolescent Psychiatry* 53, no. 5 (May 1, 2014): 550.

[95] Ibid.

studies that included 1,113 children. One group, totaling 874, was diagnosed with SDB and was assessed for ADHD symptoms; another group of 239 children were diagnosed with ADHD and were assessed for SDB; another group of 1,405 children were in the control group. Results indicated that "there is a medium relationship between ADHD symptoms and SDB."[96] Twelve studies were used to know the pre- versus post-surgery ADHD symptoms. Results suggested "a medium effect, adenotonsillectomy was associated with decreased ADHD symptoms at 2-13 months post-surgery."[97] Conclusions of this study "suggest that ADHD symptoms are related to SDB and improved after adenotonsillectomy. Therefore, patients with ADHD symptomatology should receive SDB screening. Treatment of comorbid SDB should be considered before medicating the ADHD symptoms if present."[98]

Lack of sleep also has been found in children suffering from asthma; they, too, can develop the symptoms of ADHD. Case studies have reported that asthma can cause a range of sleep problems, from simple sleep insomnia to sleep apnea. The problem for the specialists is to know if asthma causes sleep problems or the sleep difficulties themselves can worsen an asthmatic's breathing. Dr. Barbara Phillips stated that "people with asthma often suffer from nighttime coughing, wheezing and breathlessness that disturb their sleep."[99]

---

[96] Karim Sedky, David S. Bennett, and Karen S. Carvalho, "Attention Deficit Hyperactivity Disorder and Sleep Disordered Breathing in Pediatric Populations: A Meta-Analysis," *Sleep Medicine Reviews* 18, no. 4 (2014): 349, http://dx.doi.org/10.1016/j.smrv.2013.12.003.

[97] Ibid.

[98] Ibid.

[99] Barbara Phillips, "Asthma and Sleep," National Sleep Foundation, accessed March 2, 2014, www.sleepfoundation.org/article/sleep-topics/asthma-and-sleep.

Dr. Phillips reported that asthma can be controlled with activities such as exercise and childhood play, while asthma medication can cause sleep disturbances or insomnia. "According to the National Sleep Foundation's 2004 Sleep in America poll, about 10% of parents say their children have trouble breathing (including heavy or loud breathing) while sleeping at least a few times per week."[100]

Another association with poor sleep is the impediment of neurocognitive functions. A recent study examined the effects of sleep deprivation and obesity on cognition.[101] The sample included 121 obese men and pre-menopausal women who got less than 6.5 hours of sleep every night. Over 468 days, subjects achieved sleep extension with life-style modifications. They were evaluated for neurocognitive functions, sleep quality, and sleep duration. At the final evaluation it was found that subjective sleep quality improved by 24%, self-reported sleep duration increased 11% as indicated by questionnaires and 4% as indicated by diaries, and daytime sleepiness also tended to improve. Global cognitive function improved 7% and attention improved by 10%. Memory and executive functions also tended to improve. The authors concluded that "chronically sleep-deprived obese individuals exhibit substantial neurocognitive deficits that are partially reversible upon improvement of sleep in a non-pharmacological way. These findings have clinical implications for large segments of the US population."[102]

---

[100] Phillips.

[101] Eliane A. Lucassen et al., "Sleep Extension Improves Neurocognitive Functions in Chronically Sleep-Deprived Obese Individuals," *PLoS One* 9, no. 1 (2014), http://dx.doi.org/10.1371/journal.pone.0084832.

[102] Ibid.

Young children with sleep fragmentation have been studied to assess possible side effects on mental development and neurocognitive effects, according to a journal article published in *Sleep and Biological Rhythms*.[103] Researchers investigated the effects of snoring and sleep fragmentation on children's neurocognitive function. They examined how fragmented sleep may be affecting the mental development of 212 healthy preschool children. The subjects were between 3.1 and 6 years of age, 112 boys and 100 girls. The investigation used the Ankara Developmental Screening Inventory (ADSI), the Peabody Picture Vocabulary Test (PBT), and the Children's Sleep Habits Questionnaire (CSHQ) completed by their parents.

Results indicated that "snoring children had lower scores of language/cognitive skills, social/activities of daily living skills, and general development compared to controls… Children with fragmented sleep had lower scores of language/cognitive skills, fine motor skills, social/activities of daily living skills, and general developmental compare to controls."[104] No significant difference was found in sleep duration between the snoring children and controls. The conclusion of the study suggested that "uninterrupted sleep may be more important than sleep duration for the development of the various mental abilities in healthy preschool children."[105]

Obstructive sleep apnea syndrome (OSAS) in children has been linked to adenoid problems. A case report from Japan documented that untreated adenoid enlargement can

---

[103] Ozgur Yorbik et al., "Possible Negative Effects of Snoring and Increased Sleep Fragmentation on Developmental Status of Preschool Children," *Sleep and Biological Rhythms* 12, no. 1 (January 1, 2014): 30.

[104] Ibid.

[105] Ibid.

cause OSAS and in consequence can cause children to show symptoms that mimic ADHD symptoms. The authors reported that the surgery for adenotonsillar hypertrophy "may make it possible to improve behavioral and cognitive performance, although parents and even physicians do not necessarily associate these behavioral and neurocognitive deficits with OSAS."[106] The case discussed presented an 11-year-old boy who was showing symptoms of ADHD with nocturnal enuresis. He presented with snoring and adenotonsillar hypertrophy. A sleep study concluded that the youngster was suffering from OSAS. He was treated with the removal of the adenoids. His apnea decreased after surgery and his nightly enuresis was reduced to 2 to 3 times per month. The authors concluded that "neurocognitive and behavioral assessment after the treatment of OSAS showed significant improvement in cognitive functions, especially attention capacity and considerable amelioration of behavioral problems including ADHD-like symptoms."[107] They also added that the child was suspected first of having ADHD with drug-resistant enuresis. However, after treatment for OSAS, he showed significant improvement in enuresis, misbehaviors, academic and cognitive functioning.

Sleep evaluation for children presenting with ADHD symptoms has been emphasized in research and case studies. It has been reported that the prevalence of

[106] Fumie Horiuchi et al., "Effects of Adenotonsillectomy on Neurocognitive Function in Pediatric Obstructive Sleep Apnea Syndrome," *Case Reports in Psychiatry* (September 25, 2014): 2, http://dx.doi.org/http://dx.doi.org/10.1155/2014/520215.

[107] Ibid., 3.

pediatric OSAS is up to 5.7%,[108] with a world prevalence of school children having ADHD at 5.29%.[109] These occurrences are similar in OSAS and ADHD.

Ren, Wang, Wang, and Zhang reported that sleep problems are highly prevalent in children; about 20 to 30% of children experience later bedtimes, insomnia, and excessive daytime sleepiness; these problems are connected with many psychiatric disorders, including ADHD, autism, cognitive functioning problems, and behavioral problems.[110] Also, medical providers need to consider the real demands children have from school, pressure from parents and peers, and social expectations that may impact their sleep.

Most of the time children are first referred from school as having inattention and behaviors of concern, but parents in general do not correlate their problems with sleep to their school problems. Symptoms continue to be related to ADHD difficulties. When the sleep problems are discovered, the sleep assessment will probably diagnose them as having OSAS. At this point, making the right diagnosis is difficult for the specialists because they do not know which of the disorders came first and which one is the consequence of the other.[111]

---

[108] Carole Marcus et al., "Diagnosis and Management of Childhood Obstructive Sleep Apnea Syndrome," *Pediatrics (Evanston)* 130, no. 3 (September 1, 2012): e714.

[109] Guilherme Polanczyk et al., "The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis," *The American Journal of Psychiatry* 164, no. 6 (2007): 942.

[110] F. Ren et al., "A Taxometric Analysis of the Children's Sleep Habits Questionnaire," *Sleep Medicine* 14, Supplement 1 (2013): e241, http://dx.doi.org/10.1016/j.sleep.2013.11.584.

[111] Esther Ganelin-Cohen and Arie Ashkenasi, "Disordered Sleep in Pediatric Patients with Attention Deficit Hyperactivity Disorder: An Overview," *The Israel Medical Association Journal* 15, no. 11 (November 1, 2013): 705.

My observations, coupled with several studies of ADHD and sleep disorders, suggest a strong correlation between ADHD symptoms and problems falling asleep. I found that when children have onset sleep difficulties, they have more hyperactive behaviors, corresponding to the ADHD hyperactive/impulsive type; however, when children present with symptoms of excessive sleepiness, the ADHD type diagnosed is mostly inattentive. According to the Robert Wood Johnson University Hospital there are several sleep-related disorders that can cause a multitude of other symptoms, including ADHD symptoms, and "many children whose sleep is broken by a disorder are swept into a growing tide of ADHD diagnoses."[112]

Melatonin and Tryptophan

The Sleep Disorder Center at the University of Maryland Medical Center reported that melatonin, a hormone secreted by the pineal gland, plays a critical role in when we fall asleep and when we wake up.[113] Melatonin is found in the over-the-counter food supplement section of a pharmacy and may be another optional treatment for ADHD symptoms of delayed onset sleep.

A study assessing long-term melatonin treatment, effectiveness, and safety in children with ADHD and chronic sleep onset insomnia (CSOI) was conducted in 2009. This study followed the participants who took melatonin for three years and seven months. A questionnaire was distributed to parents and 93% responded (94/101).

---

[112] "Children Sleep," Robert Wood Johnson University Hospital, accessed September 1, 2014. http://www.rwjuh.edu/sleepcenter/WoStasleepdisorder.aspx.

[113] University of Maryland Medical Center Sleep Disorder Center, "Melatonin," accessed September 1, 2014. http://www.umm.edu/altmed/articles/melatonin-000315.htm#ixzz223p9pAB1.

Researchers found that “no serious adverse events or treatment related co-morbidities were reported.”[114] Of those taking melatonin, 60% continued taking it daily and 12% took it occasionally; “long-term melatonin treatment was judged to be effective against sleep onset problems in 88% of the cases.”[115] When discontinued, children experienced delay of sleep onset in 92% of the cases; only 9% had improved sleep onset after discontinued treatment.

Physicians specializing in ADHD are scarce; getting an appointment with one through Medicaid takes between 6and 12 months. For this reason, pediatricians need to inform parents about the natural benefits of melatonin when children present with difficulties falling asleep. In this way, while they are still waiting to have their appointments with an ADHD specialist, parents have an option of accessible treatment that might improve sleep and, possibly, ADHD symptoms in their children. A case study by Dahl, Pelham, and Wierson described a ten-year old girl diagnosed with ADHD and delayed sleep phase syndrome. Authors concluded that through correcting the sleep disorder the girl showed “marked improvement in behavior and attention.”[116]

Another study sought to determine if ADHD could be diagnosed through measuring melatonin in saliva.[117] The authors reported that ADHD had a worldwide

---

[114] Michel Hoebert et al., "Long-Term Follow-up of Melatonin Treatment in Children with ADHD and Chronic Sleep Onset Insomnia," *Journal of Pineal Research* 47, no. 1 (August 1, 2009): 1.

[115] Ibid.

[116] Ronald E Dahl, William E Pelham, and Michelle Wierson, "The Role of Sleep Disturbances in Attention Deficit Disorder Symptoms: A Case Study," *Journal of Pediatric Psychology* 16, no. 2 (1991): 229.

[117] I. Pitarch Castellano, F. Puertas Cuesta, and A. Perez Pitarch, "Salivary Determination of Dim Light Melatonin Onset as a Tool in Attention Deficit Hyperactivity Disorder Diagnosis," *Sleep Medicine* 14, Supplement 1 (December 2013): e93, http://dx.doi.org/http://dx.doi.org/10.1016/j.sleep.2013.11.197.

estimated prevalence of 6.48% in children. The research tried to determine if children with ADHD "show alterations of melatonin circadian rhythm by means of Dim Light Melatonin Onset (DLMO) salivary determination and to evaluate the suitability of this test as a tool in ADHD diagnosis."[118]

Examiners used a sample of 146 children from 6 to 11 years old, 98 children with ADHD and 48 children without ADHD as controls. Salivary melatonin was measured five times in each child to detect circadian variations and compare levels by groups. The findings indicated that "DLMO determination as a test for ADHD detection had a SENSIBILITY of 34.69%, a SPECIFICITY of 97.92%, a positive predictive value (PPV) of 53.57% and a negative predictive value (NPV) of 95.58%."[119] The study concluded that "salivary determination of DLMO…can be a useful confirmatory test in ADHD diagnosis. The high specificity of the proposed test makes it suitable for false positive diagnosis prevention."[120]

Smits' team reported that "Dim Light Melatonin Onset (DLMO) plays a key role in the diagnosis of circadian rhythm sleep disorders."[121] The studies established that there are genetic influences on sleep and circadian systems and circadian rhythm disorders. They reported that "efficacy of melatonin treatment depends not only on its personalized time of administration, but also on the speed of its metabolization."[122]

---

[118] Castellano, Cuesta, and Petarch, e93.

[119] Ibid.

[120] Ibid.

[121] M. Smits et al., "Personalized Sleep Medicine Applied to Melatonin Treatment for Circadian Rhythm Sleep Disorders: Current Status and Future," *Sleep Medicine* 14, Supplement 1 (December 2013): e271, http://dx.doi.org/http://dx.doi.org/10.1016/j.sleep.2013.11.661.

[122] Ibid.

Over-the-counter melatonin is a synthetic or animal form of a substance produced by humans that is linked to sleep.[123] It has been used for sleep disturbances in different populations. A retrospective case note analysis evaluated the prescribing practices of melatonin, its tolerability, and its perceived effectiveness in patients hospitalized with intellectual disabilities.[124]

The study included 119 patients of whom 103 had Autism Spectrum Disorder (ASD). After treatment with melatonin, 73.9% improved their sleep pattern. The doses were variable and no side effects were associated with melatonin treatment. The authors reported that "melatonin appears to represent an effective treatment for sleep disorders in children and adults with intellectual disability (ID), patients with ASD are [also] likely to be responders."[125]

Mark A. Snitselaar and Marcel G. Smits documented that "chronic sleep onset insomnia in ADHD has been described as a key characteristic of circadian rhythm problems. ADHD patients are more often and more extreme evening chronotypes and more often meet the criteria for delayed sleep-phase disorder (DSPD). DSPD is associated with delayed dim-light melatonin onset (DLMO)."[126] DLMO was found in patients with ADHD who have sleep onset insomnia, both children and adults;

---

[123] J. Christian Gillin, Timothy Roehrs, and Thomas Roth, "Sleep Aids and Insomnia," National Sleep Foundation, accessed March 2, 2012, www.sleepfoundation.org/article/sleep-related-problems/sleep-aids-and-insomnia.

[124] Fran Ward et al., "Use of Melatonin for Sleep Disturbance in a Large Intellectual Disability Psychiatry Service," accessed March 29, 2016, www.maneyonline.com/doi/abs/10.1179/2047387714Y.0000000051.

[125] Ibid.

[126] V. Srinivasan et al., *Melatonin and Melatonergic Drugs in Clinical Practice* (New York: Springer, 2014), 379.

medication for ADHD may disturb the circadian rhythm. The authors suggested that "treatment with melatonin in the evening or light therapy in the morning, which results in greater morningness, could decrease ADHD symptoms."[127]

An article on sleep habit and dietary intake of preschool children reported that "sleep habits and total sleep duration are essential factors for healthy growth and development of children."[128] They investigated the relationship between sleep disorders and nutrients, to determine how food consumption might affect normal sleep in young children. They analyzed 210 children between three and six years old. Children were randomly selected from a pediatric clinic; 108 were boys and 102 were girls. They were assessed through questionnaires about their sleep habits and food intake for breakfast, lunch and dinner for one weekend and two weekdays. The results did not show any significant relationship between food intakes and sleep patterns.

> Another study reported on the effects of tryptophan, an essential amino acid precursor to neurotransmitters serotonin and melatonin, given to children at breakfast. The research included 1,055 children up to six years old, 751 children who were attending elementary school, and 473 children who were attending junior high school. The authors evaluated the correlation between the intake of tryptophan at breakfast and the ability to concentrate and sleep at regular bedtime.[129] A morning-evening questionnaire was filled out by parents about sleep habits, mental symptoms, and contents of meals. Results of the study showed that "tryptophan ingested at breakfast is very important for children to keep a morning-type diurnal rhythm, high quality of sleep, and indirectly good mental health, presumably, through the metabolism of tryptophan to serotonin in daytime and further to melatonin at night."[130] It was also

---

[127] Srinivasan, 379.

[128] Maryam Javadi et al., "Sleep Habits and Dietary Intake among Preschool Children in Qazvin," *Journal of Comprehensive Pediatrics* 4, no. 1 (2013): e5134.

[129] Tetsuo Harada et al., "Correlation between Breakfast Tryptophan Content and Morning-Evening in Japanese Infants and Students Aged 0-15 Yrs," *Journal of Physiological Anthropology* 26, no. 2 (March 1, 2007): 201.

[130] Ibid.

> explained that "lack of serotonin in body fluid in the brain during daytime can lead to several psychiatric disorders, while shortage of plasma-melatonin at night can be related to sleep disorders."[131]

Sleep Hygiene

Sleep hygiene is defined as "the controlling of all behavioural and environmental factors that precede sleep and may interfere with sleep."[132] During school hours, sometimes students are tired and are not able to learn and function to their potential. They get lethargic and/or moody. In order to promote a restful and effective sleep, it is imperative to work on sleep hygiene. When students do not sleep enough hours, they may present with "irritability, temper tantrums, decreased patience, hyperactivity, crying, fussiness, tiredness when they wake-up in the morning, poor concentration, poor school performance, poor impulse control, clumsiness etc."[133]

A study on sleep hygiene presented "guidelines to ensure more restful, effective sleep which can promote daytime alertness, memory, performance & growth of children."[134] In this study, 300 students, aged 6 to12, from different geographical areas of India participated. A pretest questionnaire was completed by their mothers, including the scoring in Epworth Sleepiness Scale (ESS). The data suggested that "all affected children

---

[131] Harada et al., 201.

[132] Kristiaan B. Heijden, Marcel G. Smits, and W. Boudewijn Gunning, "Sleep Hygiene and Actigraphically Evaluated Sleep Characteristics in Children with Adhd and Chronic Sleep Onset Insomnia," *Journal of Sleep Research* 15, no. 1 (March 1, 2006): 584, http://dx.doi.org/10.1111/j.1365-2869.2006.00491.x.

[133] Suraj Sanjay Dixit and Suraj Sirohi Sanjay Dixit, "A Cross Sectional Study on Sleep Hygiene among Morning Shift School Going Children," *National Journal of Community Medicine* 4 (January 1, 2013): 584.

[134] Ibid.

need intervention to conquer and to prevent future risk of becoming sleep deprived, their parents should also be given health education and should be counselled about the proper methods of promoting sleep hygiene."[135]

Cognitive-Behavior Therapy (CBT) also has been very effective in the improvement of sleep-onset insomnia. CBT is short-term therapy that involves active participation of both the therapist and the client. The therapist makes interventions after identifying any irrational thoughts in the child. The therapist teaches the child how to replace inappropriate actions with healthier coping techniques. A study conducted by Gregg Jacobs' team concluded that "young and middle-age patients with sleep-onset insomnia can have significantly greater benefit from CBT than pharmacotherapy and that CBT should be considered a first-line intervention for chronic insomnia."[136]

Another treatment option for the treatment of ADHD symptoms in children is "complementary and alternative medicine (CAM), including meditation, acupuncture, dietary supplements, and the like."[137] The *Annals of the New York Academy of Sciences* published an article about the benefits of meditation for sleep problems. The authors reported that Buddhist meditation is "a state of relaxed alertness that must guard against both excessive hyperarousal (restlessness) and excessive hypoarousal (drowsiness, sleep)."[138] They concluded that the initial stages of meditative development need more

---

[135] Sanjay Dixit and Sanjay Dixit, 584.

[136] Gregg D. Jacobs et al., "Cognitive Behavior Therapy and Pharmacotherapy for Insomnia," *Archives of Internal Medicine* 164 (2004): 1888.

[137] Stephen P. Hinshaw and Richard M. Scheffler, *The ADHD Explosion: Myths, Medication, Money, and Today's Push for Performance* (New York, NY: Oxford University Press, 2014), 41.

[138] Willoughby B. Britton et al., "Awakening Is Not a Metaphor: The Effects of Buddhist Meditation Practices on Basic Wakefulness," *Annals of the New York Academy of Sciences* 1307, no. 1 (January 1, 2014): 64.

mental or physical energy and may produce tiredness and sleep propensity. This practice might help also to reduce problems and distractions, and focus on the body and mind connection.

The Centers for Disease Control and Prevention (CDC) recommended between 16 and 18 hours of sleep for newborns a day; preschool-aged children should sleep eleven to 12 hours a day; school-aged children should sleep at least 10 hours a day; teens should sleep 9 to 10 hours a day; and adults, including the elderly, should sleep from 7 to 8 hours a day.[139] Children and teenagers are very distracted by numerous new influences in society, transforming their sleep habits. The basic guidelines for a good sleep in children are:

1. A bedtime determined by the parents
2. A healthy and nutritious diet
3. Avoidance of any caffeine at night
4. Keeping the bedroom quiet and free from distractions
5. Maintaining a routine at bedtime
6. Precise habits making the child understand that it is a non-negotiable situation.

The Harvard Mental Health Letter, in 2010, stated that "insomnia and other sleep problems may worsen symptoms of ADHD."[140] They reported that diagnosing ADHD is challenging because of the presence of sleep problems and advocated ruling out sleep difficulties before diagnosing ADHD, adding that treatment choices should include "sleep hygiene, avoidance of caffeine, and increased physical activity."

---

[139] Centers for Disease Control and Prevention, "How Much Sleep Do I Need?," accessed February 3, 2015, http://www.cdc.gov/sleep/about_sleep/how_much_sleep.htm.

[140] "Attention Deficit Hyperactivity Disorder and Sleep. Insomnia and Other Sleep Problems May Worsen Symptoms of ADHD; Treatment Options Exist," *The Harvard Mental Health Letter* 27, no. 6 (December 1, 2010): 6.

According to the National Sleep Foundation, basic guidelines for better sleep are:[141]

1. Exercise regularly, about six hours before you want to sleep.
2. Avoid napping.
3. Go to sleep and wake at the same time every day.
4. Save your worries for daytime. If concerns come to mind in bed, write them down in a book, then close the book until the next morning.
5. Select a relaxing bedtime ritual, such as a hot bath or listening to calming music.
6. If problems with sleep persist, seek help from your doctor and/or a sleep specialist.

[141] Gillin, Roehrs, and Roth.

Chapter 4

EXERCISE

A second important facet of the integrative approach of the ADHD Symptoms Clinic is physical activity, which has been demonstrated to improve attention span and decrease hyperactive and impulsive behaviors.

Dr. John Ratey described how exercise is a good defense against malfunction of neurotransmitters and is effective in controlling several neurological and mental disorders including ADHD symptoms, depression, and anxiety.[142] In his subchapter "The Mind-Body Connection," Dr. Ratey stated "when we exercise, particularly when the exercise requires complex motor movement, we are also exercising the areas of the brain involved in the full suite of cognitive functions. We are causing the brain to fire signals along the same network of cells, which solidifies their connections."[143] He recommended practicing aerobics to increase serotonin, dopamine, and norepinephrine. Dr. Ratey noted that serotonin "influences mood, impulsivity, anger, and aggressiveness."[144]

Serotonin is a substance stimulated by drugs such as Prozac® used to treat depression, anxiety, and obsessive-compulsiveness; norepinephrine acts on "mood, attention, perception, motivation, and arousal…and dopamine, which is thought of as the learning, reward (satisfaction), attention, and movement neurotransmitter" is the

[142] John J. Ratey and Eric Hagerman, *Spark: The Revolutionary New Science of Exercise and the Brain*. (New York: Little, Brown, 2008), 43.

[143] Ibid., 41.

[144] Ibid., 37.

substance elevated by the stimulant medication methylphenidate (Ritalin®) to treat ADHD symptoms.[145]

An assessment of the relationship between physical activity with mental health and neurocognitive function was published in 2013. The study implemented a before-school physical activity intervention for young children. Seventeen children from Kindergarten to 3rd grade showing four or more symptoms of hyperactivity and/or impulsivity on the Disruptive Behavior Disorders Rating Scale[146] completed the training. They participated in about 26 minutes of continuous moderate-to-vigorous physical activity every day for more than eight weeks. Children were assessed with cognitive, motor, social, and behavioral functioning evaluations before and after participation in this program. The results showed significant change. "Most participants (64% to 71%) exhibited overall improvement according to post program parent, teacher, and program staff ratings."[147] The study concluded that "physical activity shows promise for addressing ADHD symptoms in young children."[148]

Another study was conducted at the National Taiwan Normal University. The research evaluated the electroencephalograms (EEGs) of 32 children suffering from ADHD taken before and after they were assigned to the exercise group or the control group. The exercise group participated for eight weeks in a water aerobics program. The

---

[145] Ratey and Hagerman, 38.

[146] William E. Pelham Jr. et al., "Teacher Ratings of DSM-III-R Symptoms for the Disruptive Behavior Disorders," *Journal of the American Academy of Child & Adolescent Psychiatry* 31, no. 2 (1992): 70, http://dx.doi.org/10.1097/00004583-199203000-00006.

[147] Alan L. Smith et al., "Pilot Physical Activity Intervention Reduces Severity of Adhd Symptoms in Young Children," *Journal of Attention Disorders* 17, no. 1 (2013): 70.

[148] Ibid.

control group did not receive any intervention. All the children received resting EEGs under open-eyes conditions; there were 15 children in the exercise group (11 boys and 4 girls) and 14 from the control group (all boys). Results suggested that "aerobic exercise may enhance the cognitive functions of children with ADHD, as reflected in resting EEG."[149]

Results of the last two studies have important correlations between them. In both, symptoms of ADHD were reduced with different but intensive and constant exercise programs.

A randomized study evaluated children with ADHD and/or Disruptive Behavior Disorder (DBD) in an evidence-based 10-week after-school aerobic activity. The children were living in an urban poor community where it was estimated by epidemiological studies that the prevalence of ADHD was between 8% and 23%, and DBD prevalence was between 5% and 9%. These rates were higher than the national prevalence of ADHD because these "disorders are highly comorbid and rates are reported to be nearly three times higher among African American and urban poor communities where the resources available to meet the need are severely limited."[150]

The study sought to determine the efficacy of the physical intervention activity in children's behavior and academic performance via teacher and parent reports, direct observations, and school grades. The participants were 56 children from 35 families; 43

---

[149] C. J. Huang et al., "A Preliminary Examination of Aerobic Exercise Effects on Resting EEG in Children with ADHD," *Journal of Attention Disorders* (2014).

[150] Eduardo Esteban Bustamante, "Physical Activity Intervention for ADHD and DBD" (PhD diss., University of Illinois at Chicago, 2013), xv, http://search.proquest.com/docview/1468954505?accountid=10558.

children were suffering from ADHD or DBD and 13 children were non-disruptive siblings.

The analysis for the above study included only students who completed physical activity (PA) three or more days a week. The enrollees had an attendance rate of 63% and a retention rate of 89%. Results indicated that PA interventions in this population improved social relationships of children suffering from ADHD or DBD symptoms.[151] The conclusions also showed that these children are more immature for their chronological age than their peers, and in consequence they tend to be uninvited within groups of children.

Another study conducted in classrooms implemented yoga-based activities from 5 to 15 minutes daily for a year. Data from participants, 102 teachers, 550 parents, and 661 students, were evaluated. "Triangulation of data provided solid evidence suggesting that yoga-based activities produced perceived benefits in such areas as mental well-being, social well-being, physical well-being, and daily behaviors."[152] Teachers were trained in advance during a 2-day workshop to learn how to implement simple yoga exercises inside the classroom for a short period of time. It was reported that this activity did not require extra space, equipment, or previous yoga experience. This short-time yoga-based activities training implemented "effective behavior and class management techniques."[153]

---

[151] Bustamante, xviii.

[152] David Chen and Linda Pauwels, "Kids Yoga Research Study on Use of Yoga Tools in Classrooms," accessed January 29, 2015, http://move-with-me.com/kids-yoga-research-study-benefits-of-incorporating-yoga-into-classroom-teaching/.

[153] David Dapeng Chen and Linda Pauwels, "Perceived Benefits of Incorporating Yoga into Classroom Teaching: Assessment of the Effects of 'Yoga Tools for Teachers,'" *Advances in Physical Education* 4, no. 3 (2014): 138.

Yoga has been proven to diminish hyperactivity and increase attention in children. Another study investigated the "effectiveness of yoga for improving time on task with 10 elementary school children who evidenced attention problems."[154] A videotape of yoga[155] was made for students with an adult instructor. Students practiced deep breathing, physical postures, and relaxation techniques for 30 minutes, twice a week, for a period of three weeks. The time on task was measured by students' responses to teacher's directions in performing the requested classroom assignments.

The author concluded that yoga may become a promising alternative or complement to behavioral and medical interventions that are commonly used for children with attention problems.[156] This practice might be implemented for a small group of students in the school psychologist's office or with the whole class. It is most effective before taking tests or after recess to settle into work.

Anxiety is always associated with hyperactivity and distractive behaviors. Yoga has been compared with relaxation in a randomized study. The study compared 130 subjects with mild to moderate level of stress over a 10- and 16-week period. The results showed that "Yoga was found to be as effective as relaxation in reducing stress, anxiety and improving health status… Yoga was more effective than relaxation in improving mental health."[157]

---

[154] Heather L. Peck et al., "Yoga as an Intervention for Children with Attention Problems," *School Psychology Review* 34, no. 3 (2005): 415, http://dx.doi.org/10.1177/1359104504046155.

[155] "Gaiam Introduces Scooby Doo Fitness Products for Kids," *PR Newswire*, June 20, 2005, http://search.proquest.com/docview/447118554?accountid=10558.

[156] Peck et al., 415-24.

[157] Caroline Smith et al., "A Randomised Comparative Trial of Yoga and Relaxation to Reduce Stress and Anxiety," *Complementary Therapies in Medicine* 15, no. 2 (2007): 77, http://dx.doi.org/10.1016/j.ctim.2006.05.001.

In my practice as a counselor, I have noticed that when hyperactive children stop moving they tend to start yawning. When children are moving it seems that their attention to details is difficult but possible, but when they need to stop moving and pay attention and concentrate on the task given to them, they are not able to execute mental control, including concentration, and then they become tired and lethargic. It seems that hyperactive children need movement in order to pay attention. This observation is in agreement with Dr. Ratey's regarding the production of serotonin, dopamine, and norepinephrine. Exercise or simple moving increases these substances that are lacking in the brains of inattentive children. When they are hyperactive, their bodies may generate those neurotransmitters, giving them the possibility of a minimal attention span and partial concentration; their hyperactive behaviors seem to compensate for the need for neurotransmitters. This hypothesis requires further study.

Research conducted at the University of California offered an alternative theory: that the underlying mechanism of ADHD is "catecholamine dysfunction."[158] Psychostimulants are catecholamine agonists and have shown great efficacy in treating ADHD symptoms. "Exercise affects the same dopaminergic and noradrenergic systems that stimulant medications target and is a stressor, which elicits measurable physiological changes."[159]

ADHD symptoms are universal; the disorder has been described in multiple cultures and latitudes. Exercise has been an important, economical, and practical

---

[158] Sharon B. Wigal et al., "Exercise: Applications to Childhood ADHD," *Journal of Attention Disorders* 17, no. 4 (2013): 279.

[159] Ibid.

management option. A study conducted at the Isfahan University, Faculty of Medicine, in Iran, investigated the effects of 12-week aerobics training on ADHD treatment, primarily in males. Three hundred boys suffering from ADHD were selected from primary schools using the Diagnostic Questionnaire Conner (CPRS) and the Diagnostic and Statistical Manual (DSM). They were grouped randomly into an intervention group or a control group.[160]

The experimental group exercised for 12 weeks, 3 times a week, achieving 60 to 85% of their reserved heart rate. The control group continued with their normal routines. Results showed a significant difference in the experimental group and no significant difference in the control group. "Findings pointed to the role and importance of sports and regular and organized exercises, as a non-invasive and non-medicinal method, in preventing and treatment of child behavior disorders."[161]

Jump rope is a good exercise that can be played year round in different settings, inside or outside. Some schools have developed jump rope programs to encourage children to exercise for fun. Jump rope requires moderate effort and produces emotional and physical wellness.

In Florida, a school in North Palm Beach offers students a jump rope program from 8:00 a.m. to 8:45 a.m. twice a week. School staff noticed that children did not want to play outside because of the South Florida heat. However, despite the heat, most attended the program so they could play with their friends and have fun before school

---

[160] Mohammad Ebrahim Bahram, Negar Akkasheh, and Mohammad Javad Pourvaghar, "Effect of Twelve Weeks of Aerobic Training on Treatment of Attention Deficit/Hyperactivity Disorder in Children," *Iranian Journal of Health and Physical Activity* 5, no. 1 (2014): 50.

[161] Ibid.

starts. The school provided music and prizes during the program and encouraged students to jump often and for as long as they could. This program emphasized the importance of heart fitness through changing the lifestyle of playing from video games and watching television to PE. Ms. Cunningham, who runs the jump rope program, stated that "it keeps their cholesterol down, it keeps their muscles strong and flexible…so if they are frustrated about something, teaching the kids that by exercising, you can get those frustrations out."[162] Simultaneously, they will also be fighting obesity.

Exercise is very important for the production of neurotransmitters that enhance the children's ability to concentrate and pay attention right before school starts, when they need it the most. However, a study timing perception and motor coordination on rope jumping in children with ADHD suggested that they presented with some difficulties. The research was designed to measure the timing variation while jumping, timing variation while whirling, and hand-foot deviation time to evaluate their time estimation ability. The results indicated that the ADHD group was lower in all three measures and concluded that "impaired timing perception leads to less accurate performance during rope jumping for ADHD children. Poor hand-foot coordination results in poor control of simultaneous movements of the upper and lower limbs during rope jumping."[163] The results of this study show that children with ADHD will be physically challenged while jumping rope.

---

[162] Jodie Wagner, "Jump Rope Program Encourages Kids to Exercise," *Palm Beach Post*, August 14, 2002, http://search.proquest.com/docview/326882330?accountid=10558.

[163] Ying-Yi Chen et al., "Timing Perception and Motor Coordination on Rope Jumping in Children with Attention Deficit Hyperactivity Disorder," *Physical Therapy in Sport* 14, no. 2 (2013): 105, http://dx.doi.org/10.1016/j.ptsp.2012.03.012.

Martial arts programs ease hyperactive behaviors.[164] Young children have been helped by karate to unwind and get their energy out in a positive way while interacting with other children. Parents stated that their children transformed their lives thanks to the movement and exercises; their children's lives changed for the better, exceeding their expectations.

Dr. Salvato from the Edmund Ervin Pediatric Center at Maine General Medical Center stated that martial arts can be beneficial to children with ADHD because they "stay in equilibrium through its methodical, predictable routines and incremental reward system."[165] Children receive ribbons as well as belts as rewards. The activity keeps them as busy as possible, while boosting their self-esteem.

Nineteen studies comparing early childhood PA, sedentary behaviors (SB), and psychosocial well-being were published in the *Journal of Preventive Medicine*. The studies concluded that PA is positively, and SB inversely, associated with psychosocial well-being."[166]

School districts, before and after school programs, and community-based programs need to offer exercise programs for all children—especially for those having hyperactivity, distractibility, and behavioral problems. Frequent exercises including games and competitions mentally and physically benefit all children and adolescents.

---

[164] Colin Hickey, "Parents: Karate Eases Hyperactivity," *Kennebec Journal*, October 5, 2005, http://search.proquest.com/docview/241731046?accountid=10558.

[165] Ibid., 5b.

[166] Trina Hinkley et al., "Early Childhood Physical Activity, Sedentary Behaviors and Psychosocial Well-Being: A Systematic Review," *Preventive Medicine* 62 (May 1, 2014): 182.

Since children and adolescents like to spend hours playing video games, it is recommended that play be tied to an exercise machine that controls game function. To play the video game children must pedal a bike or walk on a treadmill. Several types are currently on the market:

1. Project ExciteBike: This system is basically an exercise bike hooked up to an Xbox 360 game. "The point of the device is to capture the pedaling speed from an exercise bike and make it control a single button on a gamepad, which in turn can be the 'gas pedal' for racing games."[167] It can be adapted for other game systems.
2. ExerGame Fitness Bike: This is a home fitness bike that connects to PlayStation, Xboxes, and the Internet, as a fitness-oriented game controller encouraging exercising while racing cars, etc.[168]
3. GAMEbike system "turns your current bicycle into a game controller for use with PlayStation 1 or 2."[169]
4. Nintendo Power Pad: Created in 1986 as a promotional game, the Power Pad is laid out in front of the video display for various games, with players stepping on large buttons to control gameplay.[170]
5. Dance Dance Revolution: This game is adapted for Wii, PS2, PS3, Xbox 360 and PC. Also known as Dancing Stage or DDR, this is a more sophisticated version of the Nintendo Power Pad. Players test their timing, coordination, memory, and running speed; it allows users to play music with their steps. Players stand on a dance platform or stage with four arrows (up, down, left, and right) that players need to hit with their feet in response to musical and visual cues. DDR has been given good reviews for its originality and stamina in the market of video games.[171]

---

[167] John Brownlee, "Project Excite Bike Brings Exercise to the Xbox 360," accessed January 18, 2016, http://www.geek.com/games/project-excite-bike-brings-exercise-to-the-xbox-360-1054392/.

[168] "Playstation Exercise Bike," accessed 01/18/2016, http://www.strangenewproducts.com/2005/08/playstation-exercise-bike.html.

[169] "Gamebike Turns the Playstation into an Exercise Machine," accessed January 18, 2016, http://www.strangenewproducts.com/2005/08/playstation-exercise-bike.html.

[170] RoG, "Nintendo, the Good, the Bad, and the Ugly. The Power Pad!," accessed January 18, 2016. http://www.i-mockery.com/minimocks/nes/9.php.

[171] "About DDR," accessed January 18, 2016, http://www.ddrfreak.com/aboutddr.php.

The ADHD Symptoms Clinic emphasizes exercise as a way to boost neurotransmitters enhancing attention span and concentration while decreasing the excessive energy and motion that is present in a fidgety child with ADHD symptoms.

Chapter 5

RESTRICTION DIET

Another staple of the ADHD Symptoms Clinic is a restriction diet. A healthy diet has been proven to promote neurogenesis and benefit ADHD symptomatology.

A study conducted by Pelsser, Frankena, Buitelaar, and Rommelse reported that "an elimination diet may be an effective instrument to reduce physical complaints in children with ADHD."[172] A group of 27 children between 3.8 to 8.5 years old, who were diagnosed with ADHD, were assigned randomly to either five weeks of elimination diet (15 children) or to a control group (12 children). Pelsser et al. reported that "physical and sleep complaints were significantly decreased in the diet group compared to the control group," a 77% reduction in "headaches or bellyaches, unusual thirst or unusual perspiration, and sleep complaints."[173]

Joel Nigg, Kara Lewis, Tracy Edinger, and Michael Falk concluded that "a restriction diet benefits some children with ADHD."[174] The study reported that "approximately 33% of children with ADHD may respond to a dietary intervention" and that "as many as 8% may have symptoms related to food colors."[175] Nigg et al. concluded that restriction diets reduced ADHD symptoms. This study comes at a time when the

---

[172] Lidy M. Pelsser et al., "Effects of Food on Physical and Sleep Complaints in Children with Adhd: A Randomised Controlled Pilot Study," *European Journal of Pediatrics* 169, no. 9 (2010): 1129, http://dx.doi.org/10.1007/s00431-010-1196-5.

[173] Ibid.

[174] Joel T. Nigg et al., "Meta-Analysis of Attention-Deficit/Hyperactivity Disorder or Attention-Deficit/Hyperactivity Disorder Symptoms, Restriction Diet, and Synthetic Food Color Additives," *Journal of the American Academy of Child & Adolescent Psychiatry.* 51, no. 1 (January 2012): 86.

[175] Ibid., 96.

FDA is evaluating food dyes to determine if there is a "link between food dyes and hyperactivity in children."[176] National Public Radio reported on an article by April Fulton that "artificial food dyes are made from petroleum and approved for use by the FDA to enhance the color of processed foods."[177] The artificial food dyes that the Center for Science in the Public Interest is asking the FDA to ban are Red # 40, Yellow # 5, Yellow # 6, Red # 3, Blue # 1, Blue # 2, Green # 3, and Orange B, which are contained in most of the colorful food eaten by children.

Michael Bloch and Ahmad Qawasmi studied the effects of omega-3 fatty acid supplementation as a treatment for children with ADHD. Their results indicated a "small but statistically significant effect in improving ADHD symptoms."[178] They reported that omega-3 fatty acids have anti-inflammatory properties which can alter serotonin and dopamine levels. The study concluded that "omega-3 fatty acid supplementation, particularly with higher doses of Eicosapentaenoic Acid (EPA), is a reasonable complement to traditional pharmacotherapy or an option for those families reticent to use psychopharmacologic agents."[179]

---

[176] April Fulton, "FDA Proves Link between Food Dyes, Kids' Behavior," accessed June 24, 2012, www.npr.org/2011/03/30/134962888/fda-pr0bes-link-between-food-dyes-kids-behavior.

[177] Ibid.

[178] Michael H. Bloch and Ahmad Qawasmi, "Omega-3 Fatty Acid Supplementation for the Treatment of Children with Attention-Deficit/Hyperactivity Disorder Symptomatology: Systematic Review and Meta-Analysis," *Journal of the American Academy of Child & Adolescent Psychiatry* 20, no. 10 (2011): 991.

[179] Ibid., 998.

The omega-3 highly unsaturated fatty acids (HUFA) have been reported to be critical for both structure and function of the brain.[180] Investigators from the National Institutes of Health reported that the omega-3 HUFA, docosahexaenoic acid (DHA), and the omega-6 HUFA arachidonic acid (AA) are especially critical for the development of the central nervous system. They found lower concentration of omega-3 fatty acids in both the plasma and red blood cells of children and young adults with ADHD in comparison with the corresponding concentration in healthy controls. They found some improvement in learning capacity and behavior in youths who were academically underachieving, and had ADHD-like symptoms and/or severe misconduct behavior. They concluded that the EPA was linked to improvements in mood and symptoms of ADHD.

The efficacy of three dietary treatments for ADHD was repeated in randomized controlled trials. The trials looked at restricted elimination diets (RED), artificial food color elimination (AFCE), and supplementation with free fatty acids (SFFA). The conclusions were suggestive that restricted elimination diets and food color elimination were beneficial; large-scale studies are required for verification. Similarly, in the area of food supplements, therapy trials were suggestive for diminishing symptoms of ADHD, but also more studies are needed.[181]

Dr. Bose Ravenel, a pediatrician, advocated for a functional medicine approach to chronic health problems in children. He identified two factors associated with emotional

---

[180] "Pediatric Psychology and Psychiatry; Investigators from National Institutes of Health Zero in on Pediatric Psychology and Psychiatry (Omega-3 Fatty Acid and Nutrient Deficits in Adverse Neurodevelopment and Childhood Behaviors)," *Pediatrics Week* (Aug 23, 2014): 200.

[181] Jim Stevenson et al., "Research Review: The Role of Diet in the Treatment of Attention-Deficit/Hyperactivity Disorder - an Appraisal of the Evidence on Efficacy and Recommendations on the Design of Future Studies," *Journal of Child Psychology and Psychiatry* 55, no. 5 (2014): 416.

syndromes such as ADHD, anxiety, and depression. First was gluten sensitivity, and the second was the genetic variation known as single nucleotide polymorphisms that have been shown to be present in a high percentage of children suffering from these disorders. Dr. Ravenel argued for the "successful resolution of ADHD behaviors and clinically significant anxiety with a non-pharmacological approach relying upon dietary changes and additional nutritional interventions."[182] He emphasized that gluten sensitivity is causing a wide array of clinical manifestations that can be "effectively managed by dietary change and avoiding drugs that are otherwise commonly used to mask symptoms and which may have significant adverse effects."[183]

Questioning Dr. Ravenel's assertions, Michael Miller reported that "Research does not support radical diets such as those that eliminate nearly all processed foods and many fruits and vegetables for most children with ADHD. And there is no easy way to identify the few children who might benefit from diets that bar particular foods."[184] He concluded there was only limited evidence in control studies about the benefits of diminishing symptoms of ADHD by restricting preservatives or artificial food colorings, consuming more omega-3 or 6 fatty acids, or taking specific vitamins or minerals.

Despite the fact that the above study indicated that a single diet is not a driving force to control ADHD symptoms, Miller concluded that children suffering from ADHD

---

[182] International Society for Ethical Psychology & Psychiatry, "Rethinking Mental Health Care for Children & Adolescents: Evidence-Based and Experience-Based Alternatives to the Medical Model," accessed September 24, 2013, http://www.psychintegrity.org.

[183] Ibid.

[184] Michael Craig Miller, *Diet and ADHD* (Norwalk: Belvoir Media Group, LLC, 2010), http://search.proquest.com/docview/1370178320?accountid=10558.

have nothing to lose by following the same sensible diet advised for all children to improve overall health and nutrition:

1. Emphasize fruits and vegetables, whole grains, good sources of protein, and healthy unsaturated fats such as almonds, peanuts, hazelnuts, avocados, soymilk, walnuts, tofu, peanut butter, olives, and vegetable oils.
2. Diminish unhealthy saturated and trans fats such as real butter because they are dangerous to human health, rapidly digested carbohydrates, and fast food.
3. Include plenty of physical activity.
4. Reduce artificial colors and additives.
5. Increase omega-3 fats. "For children this means up to 12 ounces (two average meals) a week of a variety of fish and shellfish that are low in mercury: shrimp, canned light tuna, salmon, and pollock, plus daily plant sources of unsaturated fats."[185]
6. Increase micronutrients such as vitamins and minerals. These include vitamin C, A, D, E and K, as well as B-complex; and minerals such as fluoride, selenium, sodium, copper, zinc, and iodine. All of these are necessary for the healthy functioning of all body systems, from bone growth to brain function.

A proper, healthy diet is much needed for children with impulsive and hyperactive behaviors; ADHD has been associated with obesity and eating pathology. Dr. Russell Barkley has proposed a reason for a healthy diet after documenting the relationship between ADHD and obesity. He stated that the combination of impulsivity in ADHD and the junk food availability have developed into what it is called a "trait-by-environment resource interaction that has resulted in a marked increase in these eating problems in association with ADHD in the current generation of children –not evident in prior generations."[186]

A large study of more than 7,000 children diagnosed with ADHD in France, concluded that children who did not take medication were somewhat taller and heavier

---

[185] Miller.

[186] Russell A. Barkley, "ADHD, Obesity, and Eating Pathology," *The ADHD Report* 22, no. 5 (2014): 1.

than non-ADHD children. The authors speculated that results of this study might reflect a problem with growth regulation in children suffering from ADHD or that "ADHD is associated with dysregulated growth."[187] The study concluded supporting "the idea that, in the absence of medication exposure, ADHD is associated with dysregulated growth."[188]

Some herbal medicines contribute to diminishing symptoms of poor concentration, hyperactivity, and impulsiveness according to some studies. One such study was conducted with 169 primary school children suffering from hyperactivity and concentration difficulties without having diagnoses of ADHD. They were all younger than 12 years of age. Several pediatricians from 27 offices participated in the study. The children took the recommended daily dose of 640 mg of valerian root extract and 320 mg of lemon balm extract (Sandrin®). Children's behaviors were evaluated by pediatricians and parents using standardized questionnaires at baseline, week two, and week seven.[189]

The results showed that "children having strong/very strong symptoms of poor ability to focus decreased from 75% to 14%, hyperactivity from 61% to 13%, and impulsiveness from 59% to 22%. Parent rated social behavior, sleep and symptom burden showed highly significant improvements."[190] Only two cases of adverse side effects from

---

[187] Stephen V. Faraone, Michel Lecendreux, and Eric Konofal, "Growth Dysregulation and ADHD: An Epidemiologic Study of Children in France," *Journal of Attention Disorders* 16, no. 7 (2012): 572.

[188] Ibid.

[189] Jürgen Gromball et al., "Hyperactivity, Concentration Difficulties and Impulsiveness Improve During Seven Weeks' Treatment with Valerian Root and Lemon Balm Extracts in Primary School Children," *Phytomedicine* 21, no. 8–9 (2014): 1098-103, http://dx.doi.org/10.1016/j.phymed.2014.04.004.

[190] Ibid., 1098.

the given drugs were reported. Valerian has been shown to improve sleep disturbances and lemon balm is known to promote relaxation, help with sleep, and improve attention.

The combination of lemon balm and valerian was investigated in an open, multicenter study in children younger than 12 years old suffering from restlessness and dyssomnia. Researchers evaluated the therapeutic effectiveness and tolerability in 918 children receiving the valerian/lemon balm preparation. They were treated with Euvegal Forte; 1 Dragee contained 160 mg drug extract of Valerian roots and 80 mg drug extract of lemon balm.[191]

Conclusions of the above study stated that "a distinct and convincing reduction in severity was found for all symptoms in the investigators' and parents' ratings."[192] The core symptoms dyssomnia and restlessness were reduced from moderate/severe to mild or absent in most of the patients. Children suffering from dyssomnia improved their symptoms nearly 80%, and those presenting with restlessness improved close to 70% of the time. No adverse side effects from the herbal medicine were reported.[193]

---

[191] S. F. Müller and S. Klement, "A Combination of Valerian and Lemon Balm Is Effective in the Treatment of Restlessness and Dyssomnia in Children," *Phytomedicine* 13, no. 6 (June 12, 2006): 383, http://dx.doi.org/10.1016/j.phymed.2006.01.013.

[192] Ibid.

[193] Ibid.

Chapter 6

PSYCHOTHERAPY

Children with academic and adjustment problems may exhibit a range of behaviors commonly associated with ADHD, but their symptoms may have other explanations and are not always due to ADHD. They may be due to emotional or environmental factors such as anxiety or inconsistent discipline practices that need to be corrected with psychological treatments and healthy habits. Addressing and diagnosing young children is challenging because they all sometimes have inattention, outbursts, and hyperactivity; they are not yet able to communicate what is really going on in their homes and lives in general. For these reasons, individual and family psychotherapy should be the first line of treatment for children suffering from ADHD symptoms.

Child abuse has been associated with symptoms of ADHD. A study was conducted in Turkey to determine if the abuse discipline attitude of mothers were more severe when their children displayed symptoms of ADHD.[194] The study included 100 children with ADHD as the study group, and 25 children without psychiatric diagnoses as the control group. All mothers answered questionnaires and open-ended questions about the type and frequency of parental abuse discipline.

Participants were between the ages of 5.9 and 13.1 years. All children were assessed according to the Schedule for Affective Disorders and Schizophrenia for School-Age Children Present and Lifetime version (K-SADS-PL). This instrument

[194] S. Gülin Evinç et al., "Child Maltreatment and Associated Factors among Children with ADHD: A Comparative Study," *The Turkish Journal of Pediatrics* 56, no. 1 (2014): 11.

screens for psychopathology in children.[195] Children were also assessed using the Wechsler Intelligence Scale for Children Revised (WISC-R) to measure intelligence. Children with neurological disorders, scoring below average Verbal IQ, Performance IQ, and Total IQ, or with learning disorders were excluded from this study.

Both parents and children were interviewed about the actual verbal and physical abuse discipline practices. The authors concluded that "parents of children with ADHD are more prone to use abusive discipline methods. In addition, parents' abusive discipline methods increase the child's behavioral problems."[196] In order to break this vicious cycle parents were encouraged to "participate in a parent training program that includes information about how they can best handle their children."[197] Parenting skill programs are effective in giving parents resources for better management of their children.

Another study had shown that children exhibiting ADHD symptoms had an increased risk of receiving verbal and physical abuse discipline from their parents. Parents of children with ADHD often had problems with impulse control themselves and exhibited aggressive behaviors towards their children.[198]

Psychotherapy for children and their families has great success in resolving individual and relationship problems; it also increases self-esteem and self-awareness. Children from age three through adolescence are able to express their feelings and needs,

---

[195] B Gökler et al., "Reliability and Validity of Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version-Turkish Version (K-Sads-Pl-T)," accessed February 15, 2015, http://www.scopemed.org/?mno=33747.

[196] Evinç et al., 14.

[197] Ibid.

[198] R. McAllister, "Impulsivity and Aggression," *Criminal Behaviour and Mental Health* 6, no. 3 (1996): 287-88, http://dx.doi.org/10.1002/cbm.109.

sometimes with the help of play therapy. In short-term therapy children work on improving their academics and social skills, while their parents work on providing less distracting and more organized learning environments.

Play time with parents and/or peers can be an important learning opportunity to increase attention, motor skills, and executive functioning. Halperin's team published a study examining cognitive and ADHD symptoms enhancement while playing.[199] The study analyzed 29 preschool children between the ages of four and five years old; parents participated in separate group sessions.

Children were placed in groups of three to five and were invited to play games intended to increase inhibitory control, working memory, attention, visuospatial abilities, planning, and motor skills. Parents were encouraged to play the same games with their children with the goal of learning how to cope while dealing with obstacles with their children. Results of this study showed through their parents' ratings on the ADHD-Rating Scale-IV (ADHD-RS-IV) a "significant improvement in ADHD severity from pre- to post-treatment, which persisted 3 months later."[200] The authors suggested that this play-based intervention remained effective even after the end of the active treatment. The ADHD-RS-IV is a reliable and easy-to-administer instrument both for diagnosing ADHD in children and adolescents and for assessing treatment response.[201]

---

[199] Jeffrey M Halperin et al., "Training Executive, Attention, and Motor Skills. A Proof-of-Concept Study in Preschool Children with ADHD," *Journal of Attention Disorders* (2013): 711.

[200] Ibid.

[201] G DuPaul et al., "ADHD Rating Scale-IV: Checklists, Norms, and Clinical Interpretation," *Journal of Psychoeducational Assessment* 24, no. 2 (1998): 172-78.

Joel Nigg reported that psychological trauma, early parental deprivation, and attachment problems are associated with hyperactivity, anxiety, and inattention. Nigg concluded that "reconsidering multiple pathways" and a more aggressive and integrative assessment gives tremendous opportunity for more successfully understanding social and behavioral problems.[202]

The "cold approach" described by Carl Rogers of understanding and helping an individual through testing, diagnostic interviews, and prescriptive advices is neither enough nor efficient. He stated that the individual "cannot be understood without an exhaustive case history seventy-five pages or more in length" including individual and family history.[203] To avoid over diagnosing and overmedication of children presenting with ADHD symptoms, it is imperative that mental health professionals assess and treat the social and psychological conditions affecting the person with disequilibrium or poor stabilization.

Rogers argued that the "individual has within himself vast resources for self-understanding, for altering his self-concept, his attitudes, and his self-directed behavior" when he has the opportunity to examine his life.[204] Humanistic psychotherapy opens the possibility to everybody, including a child suffering from symptoms of ADHD, to be heard and understood. This allows for growth and change in attitude and unwanted behaviors. Whitaker expanded this introspection to the family, the extended family, and

---

[202]Nigg, *What Causes ADHD? Understanding What Goes Wrong and Why*, 315.

[203] Carl R. Rogers, *A Way of Being* (Boston: Houghton Mifflin, 1980), 33.

[204] Ibid., 49.

the cultural system in order to conduct an effective psychotherapy resulting in personal growth.[205]

The Humanistic Psychology theory emphasizes "distinctively human and individual self-actualization."[206] This relies on the tendency humans have to work in themselves in order to achieve full potential. Rogers created client-centered therapy[207] in an attempt to produce an increase in insightful statements, maturity of reported behaviors, and positive attitudes. This type of therapy also seeks to produce changes in perception of, and acceptance of, the self; other changes include differences in personality structure, behavior, and physiological conditions. These changes give the person an opportunity to experience more freedom, becoming the person who he/she really is, knowing through experience, and being more creative.

As Rogers indicated, this therapy is designed to build and/or increase acceptance of self, positive attitudes toward the self, and appreciation of self.[208] He postulated that people need to develop a relationship in which they are accepted, using "empathy and unconditional positive regard."[209] This can be achieved because a person is positive in nature, basically socialized, forward-moving, rational, and realistic.[210]

---

[205] Carl A. Whitaker, John R. Neill, and David P. Kniskern, *From Psyche to System, the Evolving Therapy of Carl Whitaker* (New York: Guilford Press, 1982), 31.

[206] Frederick J. Wertz, *The Humanistic Movement: Recovering the Person in Psychology* (Lake Worth, FL: Gardner Press, 1994), 37.

[207] Carl R. Rogers, *On Becoming a Person: A Therapist's View of Psychotherapy* (Boston: Houghton Mifflin, 1961), 87.

[208] Ibid., 87-88.

[209] Ibid., ix.

[210] Ibid., 91.

The therapeutic client-centered approach helps bring an "enriching relationship marked by genuineness, prizing, and understanding."[211] Through this approach, persons move away from rigidity toward flexibility exhibiting an increase in actualizing tendencies. In this growth-promoting climate, people are able to develop a deeper trust in themselves and in others.[212] Rogers stated that the philosophy of interpersonal relationships is applicable to all situations, including teacher-student relationships. These relationships need respect from both parties, recognizing that the teacher has the knowledge the children need to acquire and the children need to trust in their teacher.

The Humanistic Psychology theory emphasizes understanding a person's meanings and feelings. This happens when the therapist shows sensitivity to the client's attitude, has a warm interest without any emotional over-involvement, and self-awareness of the therapist's attitude. This parallels the relationship of teachers to students.

In general, children's inappropriate behaviors first draw attention at school. Parents report observing fidgeting and distraction earlier but they did not think these symptoms required treatment. But, when students do not get the special attention at school that their ADHD symptoms require, they start getting into trouble.

When stimulant medication for ADHD is provided to students, teachers in general report that children improve their behavior in the classroom. This makes teachers happy; parents do not have to be called, and the relationship with the students seems to be less negative. The same advocates for medication admit that students improve their

---

[211] Rogers, *A Way of Being*, 43.

[212] Ibid., 44.

"compliance" or "blind obedience," but it is not proven that the student is "wiser, more thoughtful, or better informed."[213]

Peter Breggin argued that stimulant drugs reduce one's ability to make "rational choices or acts of will." The student is not motivated; his/her natural attention is diminished producing a "loss of brain function." As a result, the "child becomes more obedient without learning to be self-motivated, to make rational choices, and to exert will power."[214] When medicated, children do not learn to express themselves or to interact well with others because an external force, the pill, is dominant.

Teachers are under pressure to ensure their students function at appropriate grade levels. Sometimes teachers may single out the students that are not able to sit or be attentive. This, in turn, may cause the relationship of those students with others to deteriorate, creating incapacity for and/or weakening healthy relationships, personal development, change, and finally growth. Teachers often refer students with inattention, hyperactivity, and/or anxiety for CST evaluations. These referrals may isolate the deviant children instead of helping them with integration, causing even more problems.

A study examining teachers' knowledge of ADHD in New Zealand primary schools documented that teachers play a central role in referral and monitoring of students with ADHD. The author of this study assessed the knowledge and perceptions of ADHD disorder and whether teacher characteristics, such as demographic variables and

---

[213] Peter Roger Breggin, *The Ritalin Fact Book: What Your Doctor Won't Tell You About ADHD and Stimulant Drugs* (Cambridge, Mass.: Perseus Pub., 2002), 23.

[214] Ibid., 25.

experiences, were associated with their knowledge of ADHD.[215] Eighty-four primary school teachers' postal surveys were analyzed. Results from this study showed that all teachers believed ADHD impacted students' educational experiences. However, most of the teachers did not receive in-service training about ADHD characteristics and management, suggesting that "New Zealand primary school teachers do not in fact have the level of knowledge about the disorder required to effectively participate in the referral, diagnosis, treatment, or monitoring of students with ADHD."[216]

A phenomenological study done at the University of Missouri–Kansas City examined teachers' perceptions of their students who were medicated for ADHD. Its aim was to learn how children with ADHD performed academically and behaviorally, and the impact of their medication in the classroom. Data were collected through the use of teacher-created documents, interviews, and classroom observations. The results of the study did not answer the formulated questions, but concluded that "teachers need to have an increased knowledge of ADHD and should be provided with more training around the condition, in order to best meet the needs of these students."[217]

Rogers reported that our "technological oriented society, with its steady emphasis on a greater control of human behavior, should be enamored of a behavioristic approach where the intellect is all."[218] But this ignores the humanistic approach which is effective

---

[215] Alia Dilaimi, "New Zealand Primary School Teachers' Knowledge and Perceptions of Attention-Deficit/Hyperactivity Disorder (ADHD)" (master's thesis, Massey University, Albany, New Zealand, 2013), ii.

[216] Ibid., iii.

[217] M. Amanda Kain, "The Unexplored Achievement Gap: A Phenomenological Study of the Experiences of Teachers of Elementary Students with Attention-Deficit/Hyperactivity Disorder" (PhD diss., University of Missouri-Kansas City, 2014), iv.

[218] Rogers, *A Way of Being*, 57.

in treating and correcting many emotional difficulties. To create a beneficial relationship, therapists have to show that they are trustworthy, have a congruent transparency, and have a positive attitude. They have to encourage their clients to be open, allowing them to express themselves and their feelings, understand their problems and meanings, be sensitive, and assure the client.[219] Following this model, students with ADHD will be able to grow emotionally and academically when their positive relationships with their teachers become more important than their poor attention and hyperactivity.

Facilitating growth through a helping relationship is the principal vision of the Humanistic Psychology theory. This will be possible when counselors avoid diagnosing the patient because it "is often counterproductive in the everyday psychotherapy of less severely impaired patients."[220] This is not the moment to diagnose patients but rather counsel them; to see the person and not the disease. Irvin Yalom indicated that therapists need to engage the patient, be supportive, be empathic, encourage patient self-disclosure and create a new therapy for each patient. Children suffering from ADHD symptoms need to be helped in assuming responsibility for their actions and decisions.

Every client needs to be approached in an individual way because standardization in therapy is ineffective. Yalom indicated that "a relationship with the patient [is] characterized by genuineness, positive unconditional regard, and spontaneity."[221] That is

---

[219] Rogers, *On Becoming a Person; a Therapist's View of Psychotherapy*, 51-57.

[220] Irvin D. Yalom, *The Gift of Therapy: An Open Letter to a New Generation of Therapists and Their Patients*. (New York: HarperCollins, 2002), 4.

[221] Ibid., 34.

why teachers need to be sensitive to student differences, not only biologically, but also socially and emotionally if they hope to improve their students' academics.

Rogers indicated that "unconditional positive regard" has the benefit of creating a climate for change with acceptance, caring, or prizing.[222] In client-centered therapy the technical skills or the training of the therapist do not make the therapeutic process successful, but he believed "it is the presence of certain attitudes in the therapist, which are communicated to, and perceived by, his client, that effect success in psychotherapy."[223] Therapists and teachers need to be trustful in their relationships with clients and students.

Peer relations are also very important in the improvement of ADHD symptoms. Plans of treatment need to include interventions to improve social skills and relationship difficulties that are frequent issues with ADHD students. Group play therapy or play therapy sessions may be effective in improving social skills in ADHD students. Table games, like cards, can be mediators of social skills training and can be used as a social reinforcement.

In a three-year-long treatment study of a school-based training and consultation program for middle school youth with ADHD, it was reported that students had "cumulative long-term benefits"[224] as measured by parent ratings of ADHD symptoms and social functioning. In this study, when group participants were told of a need for

---

[222] Rogers, *A Way of Being*, 115.

[223] Carl R. Rogers, Howard Kirschenbaum, and Valerie Land Henderson, *Carl Rogers--Dialogues: Conversations with Martin Buber, Paul Tillich, B.F. Skinner, Gregory Bateson, Michael Polanyi, Rollo May, and Others* (Boston: Houghton Mifflin, 1989), 10.

[224] Steven W. Evans et al., "Cumulative Benefits of Secondary School-Based Treatment of Students with Attention Deficit Hyperactivity Disorder," *School Psychology Review* 36, no. 2 (2007): 256.

additional treatment, in "92% of the cases parents opted for adjustments in psychosocial interventions rather than medication trials."[225]

Another alternative to treatment is to implement special psychosocial programs for ADHD children after school hours. In the Netherlands, children with behavioral and emotional problems usually attend school until 3:00 p.m., followed by a day treatment center program allied to the school, where they are cared for by mental health professionals. The centers provide an extensive plan with parent participation in which children play with others, read, do homework, cook, and have dinner together. Activities are regulated through the use of a token economy system, verbal reprimands, time out, manipulation of attention, and denial of privileges. Techniques to control behavior range from appreciation for the appropriate behaviors to disapproval for the wrong ones.[226]

A study was conducted involving 86 children having ADHD from 29 community-based day treatment centers in middle to low socio-economic neighborhoods. The children ranging from 3 to 16 years of age were followed during nine months of treatment. Results suggested that "symptoms of ADHD were increased when professional care-givers had exerted only behavioral control and were decreased when their behavioral control attempts were mixed with affectionate emotional support."[227]

Conclusions of the above study showed that emotional affection can improve symptoms of ADHD. It is very clear that children want to please their teachers at school,

---

[225] Evans et al., 267.

[226] E. M.. Scholte, I. A van Berckelaer-Onnes, and J. D. van der Ploeg, "The Development of Children with ADHD in Day Treatment Centres after School Hours," *European Journal of Special Needs Education* 22, no. 1 (2007): 94-95.

[227] Ibid., 103.

but children suffering from ADHD are always moving and attracting the wrong attention and, as a result, fail in their efforts.

After school treatment centers for children with emotional problems, including ADHD, are offered in New Jersey to children between the ages of 2.5 and 18 years at "partial care" programs. Some of these programs operate year round providing treatment for three hours daily, Monday through Friday, during the school year, and all day during the summer. Children receive individual and family counseling at the same time that they are monitored by the on-site psychiatrist.[228] Children learn positive and "developmentally appropriate socialization skills through modeling, shaping and reinforcement. Families also learn to function more positively, supportively, and effectively."[229] These programs are located in hospitals and non-profit organizations, but access is limited and the programs are expensive when not covered by Medicaid.

Family therapy is another important ingredient in the treatment of children suffering from ADHD symptoms. This condition affects the entire family, creating interactional problems, stresses, and frustrations that are complex and difficult to handle in the family context.[230] Family therapy increases communication and understanding of the weaknesses that those symptoms are causing in a person and a family. The family is given then the opportunity to recognize and deal with the problems ADHD creates within the family and in every family member.

---

[228] Mental Health Clinic of Passaic, "Partial Care Programs," accessed March 25, 2016. http://mhcp.org/part_care_pro.html.

[229] Ibid.

[230] Craig A. Everett and Sandra Volgy Everett, *Family Therapy for Adhd. Treating Children, Adolescents, and Adults* (NY: The Guilford Press, 1999), 3-4.

Another method of emotional treatment therapy is picturing stories. Children are invited to draw a narrative of their lives with stories in order to express their needs and goals. An article in the *International Journal of Narrative Therapy & Community Work* proposed working primarily with drawings within the family therapy framework while including other family therapy techniques. Anik Serneels is a Belgian narrative family therapist interested in ways of combining the learning and principles of family therapy with narrative practices. She reported that the narrative through drawings "can contribute to alternative story development and the co-creation of joint family actions, whereby the family can achieve their preferred ways of living."[231] The non-verbal medium gives children the opportunity to better express themselves. This therapy centers on the relationship and interactions of the family members and reinforces healthy therapeutic changes in the family.

Anxiety has been associated with ADHD symptoms. Techniques and procedures have been developed to treat the stress in a person to avoid trigger symptoms of anxiety. One of them is Stress Inoculation Training (SIT). It consists of three phases of treatment. The first phase is the conceptualization as an education phase in which the therapist educates the patient about the general nature of stress. The second phase is the acquisition and rehearsal of coping skills to reduce anxiety. These are a variety of emotion regulation, relaxation, problem-solving, communication, and socialization skills that are taught according to the unique needs of a patient. The third phase is applying and transferring the cognitive coping skills to real life. The therapist provides the patient with

[231] Anik Serneels, "Picturing Stories: Drawings in Narrative Family Therapy with Children," *The International Journal of Narrative Therapy and Community Work*, no. 4 (2013): 1.

opportunities to practice coping skills and encourages using simulation methods and increasing coping practice, including visualization exercises and repetition of coping routines.[232] "Stress Inoculation Training involves increasing the child's awareness of his/her signals of stress or strong emotions and helping the child develop a menu of different coping methods to be used when faced with stressors."[233]

Individual and family psychotherapy plays a pivotal role in the ADHD Symptoms Clinic which looks at the child as a whole, emphasizing the mind-body connection, and the individual approach to illness. The counseling sessions will address not only ways of dealing with symptoms and behaviors, but also family communication and an understanding of ADHD symptomatology. This is crucial for the person exhibiting ADHD symptoms and for the whole family as a system.

[232] Donald H Meichenbaum and Jerry L Deffenbacher, "Stress Inoculation Training," *The Counseling Psychologist* 16, no. 1 (1988): 69-90.

[233] Lauren Braswell and Michael L. Bloomquist, *Cognitive-Behavioral Therapy with ADHDildren : Child, Family, and School Interventions* (New York: Guilford Press, 1991), 91.

Chapter 7

THE SCHOOL SYSTEM

Ana Miranda, Sonia Jarque and Raul Tarraga found that medication for ADHD does not correct all the problems associated with it and does not "produce long-term changes in the general academic performance of children with ADHD or in specific areas."[234] This study analyzed data from research studies conducted between 1996 and 2005, and also included excellent reviews published before 1996 assessing psychosocial treatments and classroom interventions. Sixteen studies were selected and categorized as simple interventions or interventions with multiple components which showed positive results in the reduction of ADHD symptomatology.

Miranda et al. reported that the most effective interventions were those which incorporated behavior modification techniques, cognitive-behavioral techniques, and changes in the environment that modified the dynamics of the class. These interventions diminished disruptive behaviors and improved attention span by rewarding the student frequently, giving immediate feedback when student broke the classroom's rules, and withholding rewards from the student if rules were broken for the third time in a day.[235]

In the same study, Miranda et al. report that psychosocial interventions led to less disruptive behaviors which allowed students to complete more mathematical problems. There were teacher reprimands and instantaneous reactions when the students demonstrated improper conduct. Reprimands included the "brief non-exclusory time-out"

---

[234] Ana Miranda, Sonia Jarque, and Raul Tarraga, "Interventions in School Settings for Students with Adhd," *Exceptionality* 14, no. 1 (2006): 36.

[235] Ibid., 35-52.

during which the student's chair was instantly turned to face away from the class and the teacher; the "no interaction" reprimand in which the teacher moved close to student (about 10 feet) while ignoring the behavior; and the "alone" technique in which the student was given an activity to complete without the teacher's presence.[236]

Miranda et al. found that "accuracy training" is an important way of managing symptoms of ADHD. It involves teaching students step by step how to behave or conform at school. The research proved that when the accuracy training diminished, the disruptive behaviors increased in students. Authors emphasized the importance of recess during the school day, noting that free time diminishes misbehaviors and "inappropriate verbalizations, getting out of one's seat, being disobedient, and playing with objects."[237]

Recreation at schools is a very important part of student socialization. It helps students learn how to behave in a friendly way towards others and how to be part of a group of peers. This is a very important issue for children suffering from ADHD symptoms because they have more interpersonal and self-control problems than their peers. Schools in New Jersey offer only one short recess in the whole day, making students extremely active and desperate to play in a very short period of time. In other countries, recess happens for 10 or 15 minutes after every class with at least one recess of 30 minutes a day, giving students the opportunity to be relaxed and distracted and follow their own interests.

---

[236] Miranda, Jarque, and Tarraga, 40.

[237] Ibid., 42.

The Miranda et al. study combined interventions with "counseling sessions, training in social skills, or training in study skills."[238] The multiple components utilized token economy, extinction, response cost, time out, self-instructions, reinforcing self-evaluation, training in social abilities, and training in study skills or instructional management procedures. Some treatments also taught students how to identify their signs of anger and used relaxation techniques to control their own behaviors. They also provided assessments for parents and teachers.[239]

Miranda et al. found it useful to pair the ADHD student with a non-ADHD peer in a buddy system, which helped the student with ADHD develop friendship and socialization skills. This training was aimed at improving management techniques and positive praising, setting up a home token system to include homework, and supporting positive peer relationships. Teachers were also trained in management and procedures of how to teach and control children with ADHD. The study concluded that significant improvements were noted in students' academics when teachers received the appropriate training.[240]

Cognitive Behavior Modification (CBM) was a good approach to help students suffering ADHD to control their behaviors. The self-evaluation task gave students feedback on effective on-task behaviors. The students given self-evaluation tasks were able to control their behaviors by using a token economy system as a positive reinforcement.[241] Positive reinforcement is very important for all children working

---

[238] Miranda, Jarque, and Tarraga, 42.

[239] Ibid., 45.

[240] Ibid.

[241] Miranda, Jarque, and Tarraga, 41.

through hard situations because it is "the best way to get rid of negative behaviors in your kid."[242]

There is no doubt that schools need to make every effort to accommodate and plan effective interventions—other than special education— for children suffering with ADHD because special accommodations are not enough to manage the behavioral dynamics of this disorder. The persistent behavioral problems that children suffering from ADHD symptoms present interfere with their learning and the learning of others. Their behaviors are frequently disrupting other students.

Working as a school psychologist for the CST in a large school district, I am responsible for the evaluation, accommodation and referral of all children, including those suffering from ADHD symptoms. When children start having behavioral problems, their confidence and success deteriorate rapidly and as a consequence, their academics suffer greatly. Sometimes, parents are resistant to disclosing their children's behaviors at home. They usually point at the school staff as incompetent in addressing their children's behaviors. However, sometimes children do not display those behaviors at home because they are all day long sitting in front of a TV without any behavior expectation from their families. In consequence, poorly performing students are sent to doctors for ADHD evaluations or they may be placed in special education classes to improve their poor grades.

The National Association of School Psychologists (NASP) recommended that students with attention problems due to a disorder or as a reflection of emotional or

---

[242] "Positive Reinforcement," accessed February 11, 2015, http://kidsmakingchange.com/positive-reinforcement/.

environmental factors, such as anxiety or inconsistent discipline practices, need to be addressed early to reduce the need for special education. NASP listed the effective interventions schools need to provide for students with attention problems to enhance their strengths and academic functioning as follows:[243]

1. Classroom modifications
2. Behavior support systems
3. Direct instruction in study strategies and social skills
4. Collaboration and consultation with students' families to facilitate consistent approaches in all settings
5. Monitoring by a case manager to guarantee effective implementation of interventions and any support students may need
6. Education of school staff about the individual characteristics of children, with attention problems and management of these problems to meet academic goals
7. Referral to special education services when attention problems are significantly impacting students' performance at school
8. Collaboration with community agencies providing medical and related services to students with low attention span
9. Individual and/or group counseling to help these students value their unique abilities and to increase their self-esteem.

As recommended by NASP, modifications, adjustments, or services for students with ADHD at schools need to be made on a case-by-case basis with the intention to improve their learning and communication with peers. These accommodations have to be reasonable and are intended to provide compensation for their functional limitations. Children with ADHD may receive appropriate accommodations and modifications.[244] It is recommended that instructors provide students with a daily or weekly assignment planner and teach students to check for precisely recorded information. Teachers should

[243] National Association of School Psychologists, "Position Statement: Students with Attention Deficit Hyperactivity Disorder," National Association of School Psychologists, accessed April 5, 2016, http://www.nasponline.org/assets/documents/Research%20and%20Policy/Position%20Statements/Students_With_ADHD.pdf.

[244] "Section 504 - Sample Accommodations and Modifications," accessed March 25, 2016, http://www.warmlinefrc.org/uploads/5/9/5/8/5958794/section_504_accomodations.pdf.

provide extra time for students to check binders and organize their lockers and desks, give verbal, visual, and written advance notice of class assignments, and obtain models or examples of work. It is suggested that teachers break assignments into manageable parts, permit students to read aloud to process text, use frequent review and practice, allow varied responses including tape recorder instead of writing, and provide manipulatives and lined or graph paper to align math problems.

Teachers should instruct students with rules about procedures for movement within the room, using a timer to designate time allowed for transitions, and using consistent signals to identify a change in activity. It is recommended that students with ADHD be seated near the center of instruction, avoiding high traffic areas.

Students need visibility in order to learn, and teachers should arrange the room in a way that permits the frequent monitoring of students. Teachers can post a visual schedule to show a sequence of activities. They need to practice deep breathing exercises with students for calming down, and should plan activities that involve student movement. They may use visual prompts, cues, and signals in place of verbal reminders. Students should be given stretch breaks between lengthy presentations, and may receive rewards when they complete smooth transitions. Teachers should prepare and inform students in advance of any changes in routines, and should use a timer to encourage students to remain on task.

Teachers should provide instructions using multi-sensory strategies including illustrations, diagrams, demonstrations, charts, and manipulatives to secure the attention of students. They should vary their voice tone and provide a copy of presentation notes with blanks in place of words to guide listening and allow students to complete blanks

during instruction. It is recommended for teachers to allow students movement between activities, and have students work with a clean desk, free of distractors. It is also suggested that teachers use preferential seating, increase modeling, provide a peer tutor or helper, and allow students to share responses with another student before being called upon. The introduction of new concepts should be limited and students with ADHD should be allowed extra time to process information for the completion of certain tasks.

Instructors must be flexible and sensitive to students' needs and focus on providing positive discipline, teaching them how to work independently but communicate and enforce clear, fair, and consistent consequences. Teachers should allow students to work in a variety of ways, e.g., sitting; standing; and working alone, in pairs, or in groups, and provide classroom accommodations for different seating options. They should have the goal of establishing a school/home behavior management program that reinforces appropriate behavior and adapts to the environment to avoid distractions.

Teachers should initiate frequent parent communication and provide a checklist for students and parents to record assignments and completed tasks. It is a good practice to utilize pro-social skills with students suffering from ADHD symptoms to encourage positive self-talk, to teach self-control techniques, to rehearse appropriate social behaviors, and to develop communication skills. It is beneficial for educators to teach phrases to use in certain social interactions to prevent antisocial behaviors. Teachers should provide small rewards to promote behavior change and give frequent positive feedback and reinforcement. According to NASP, these modifications will help "to ensure optimal student behavior and school performance."[245]

[245] National Association of School Psychologists, 1.

An example of possible school accommodations is shown in a study evaluating the improvement of students diagnosed with ADHD after they received in-school computer attention training intervention using neurofeedback. One hundred four children suffering from ADHD, between the ages of 7 and 11 years, participated. All of the children were randomly assigned to receive neurofeedback, cognitive training (CT) or a control condition. They were evaluated after 6 months of training through the Conners 3-Parent Assessment Report (Conners 3-P), the Behavior Rating Inventory of Executive Function Parent Form (BRIEF), and a systematic double-blinded classroom observation (Behavioral Observation of Students in Schools).

The study determined that children exposed to neurofeedback benefited significantly according to Conners 3-P and BRIEF subscales, meaning that children receiving neurofeedback reduced their ADHD symptoms much more effectively than did children under CT or control conditions. Dosage of stimulant medication for students receiving neurofeedback was not increased during the six-month program. However, the children receiving CT or in the control group had medication increased significantly (9 mg and 13 mg respectively). According to this randomized controlled trial, "neurofeedback participants made more prompt and greater improvements in ADHD symptoms, which were sustained at the 6-month follow-up, than did CT participants or those in the control group. This finding suggests that neurofeedback is a promising attention training treatment for children with ADHD."[246]

[246] Naomi Steiner et al., "In-School Neurofeedback Training for ADHD: Sustained Improvements from a Randomized Control Trial," *Pediatrics* 133, no. 3 (2014): 2013.

According to the executive director of the International Society for Neurofeedback and Research, Cynthia Kerson, neurofeedback is an alternative to medication for treating children with ADHD. The treatment is painless and consists of attaching electrodes to the child's head and computer. As the child works, the computer records his or her brain activity. When the brain activity is positive, indicating a desired brain activity, the child is able to continue playing the game on the computer; this reinforces better behavior. The treatment usually is programed to provide up to 40 sessions, 30 minutes long that include breaks, to sustain improvements in children with ADHD.[247]

Three studies of neurofeedback had supported the conclusion of the American Academy of Pediatrics in 2012 to report that biofeedback, a.k.a. eurofeedback, was a "Level 1 Best Support' intervention, the highest level of support"[248] in the treatment of child and adolescent psychosocial interventions for attention and hyperactivity behavior problems.

Children with ADHD symptoms have significant impairments functioning at home, school, and in their communities. For this reason, psychosocial programs must be offered at schools to include students, parents and teachers. Mautone, Lefler, and Power presented the Family School Success (FSS) program as an intervention that links the family and school systems to address the needs of elementary school children with

---

[247] Jon Hamilton, "Train the Brain: Using Neurofeedback to Treat ADHD," accessed February 11, 2015, http://www.npr.org/templates/story/story.php?storyId=130896102.

[248] BrainTrainUK Changing Lives with Neurofeedback, "How the American Academy of Pediatrics Reached the Conclusion That Eeg Biofeedback, (Aka Neurofeedback) Is a Level 1 Evidence-Based Practice for Attention and Hyperactivity, and Other Recent Evidence of the Efficacy of Neurofeedback for ADHD," accessed March 26, 2016, http://www.braintrainuk.com/wp-content/uploads/2013/07/How-AAP-reached-conclusion-other-recent-evidence-July-2013-V3.pdf.

ADHD.[249] The strategy of the FSS program is to promote home and school functioning. This approach focuses on both the family and school, and promotes family-school cooperation.

The FSS model consists of "12 weekly sessions, including six group sessions for parents with concurrent child groups, four individual family behavior therapy sessions, and two conjoint behavioral consultation sessions held at the school."[250] The goals are to improve parent and child communication, parenting skills, management skills, and to increase family involvement and collaboration with their child's education.

Improving the relationship between parents and children through the FSS program encourages children to learn self-regulation skills as a foundation for future relationships with peers and other adults outside their homes. Parents learn how to be positive in their interactions with their children and facilitates making children feel important through playing games together.[251]

The goal of parents participating in FSS programs is to learn how to set consistent rules for their children and give them instructions in a clear and steady way. The behavioral intervention aims to increase attention to wanted behaviors as a positive reinforcement and to decrease attention to or ignore those behaviors that are not desired. Token economy is introduced as a strategy to encourage good behaviors.

---

[249] Jennifer A. Mautone, Elizabeth K. Lefler, and Thomas J. Power, "Promoting Family and School Success for Children with ADHD: Strengthening Relationships While Building Skills," *Theory into Practice* 50, no. 1 (2011): 43-44.

[250] Ibid., 45.

[251] Ibid., 45-46.

The six-session parents' groups in FSS train parents about reinforcements. Parents are taught about punishment strategies as a way to decrease inappropriate behaviors along with positive reinforcements to emphasize and build the parent-child relationship. Positive reinforcements must be applied at least four times more frequently than punishment to be effective. Parents learn how to give remedial disapproval quietly, steadily and efficiently; later parents learn about response-cost, a strategy in which freedoms or tokens are removed because of inappropriate behaviors.[252]

A study published in the *Journal of Attention Disorders* reported "the need for early interventions to address social skills and homework difficulties for children with ADHD and comorbid externalizing disorders."[253] The authors examined the impact of internalizing and externalizing comorbidities associated with ADHD on academic and social functioning. They cited conduct and defiant disorders as externalizing disorders, and anxiety and mood disorders as internalizing disorders. The participants in this study were 416 children with ADHD and comorbid disorders. It was found also that "older children displayed significantly poorer social skills and greater homework problems than younger children."[254]

The persistent behavioral problems that children suffering from ADHD symptoms present interfere with their learning and the learning of others. Their behaviors are mostly disruptive to other students.

---

[252] Mautone, Lefler, and Power, 46.

[253] Genery D Booster et al., "Functional Impairments in Children with ADHD: Unique Effects of Age and Comorbid Status," *Journal of Attention Disorders* 16, no. 3 (2012): 179.

[254] Booster et al., 179.

The FFS program promotes family involvement in education at home, including supervision of homework and studying. It is important to establish a home learning environment and basic daily routine to facilitate consistency and efficacy with homework. Parents need to be clear about TV, games times, and when it is time for homework. To make the task easier, homework assignments may be split into two or more periods of time, giving some breaks in the middle for short distractions or snacks. Positive reinforcement continues to be very important to reduce argumentative attitudes about homework. If the goal has been met in the period of the time set, the reinforcement is given through token economy or in another way.[255]

FSS also promotes family and school collaboration. This program includes two private family-school sessions to address the student academic and behavioral problems. The first meeting is used to recognize environmental problems at school and at home that can exacerbate student problems including difficulties in completing homework; appropriate strategies are recommended and implemented. During the second meeting, the child's progress is evaluated with adjustments suggested as needed.

Another effective way of family communication for the FSS is the daily report card (DRC). Every day the student will bring home the daily teacher commentary about academics and behaviors to be signed by parents, who, in turn, can communicate with teachers, writing down any difficulties the student may have had at home. The DRC can bring extra opportunities for positive reinforcement and is an excellent means of communication.[256]

---

[255] Mautone, Lefler, and Power, 46-47.

[256] Mautone, Lefler, and Power, 47.

In order to help their children with ADHD do their homework parents must understand the assignment as well as the methods and techniques schools use in teaching. Parents must help students learn to copy information and bring home the right books, and then parents must aid in completing the task.

The *Grimsby Telegraph* suggested ideas that may help parents ensure completion of homework:[257]

1. Create a set homework routine.
2. Speak with your child's teachers to reinforce details of what homework is being set, what is expected, and by when.
3. Ask your child's teachers to give the student time to copy the homework into a planner and for the teachers to check if all the requirements written by the student are correct.
4. Encourage your child to check the planner before leaving school to be sure he or she is bringing home all of the books and materials needed.
5. Give your child a snack and a brief down time when arriving home before getting started at the set time each day for homework.
6. Create a quiet dedicated location with good lighting for their homework to be done with minimal visual distractions.
7. Check all the items to be done and ensure all elements are completed before they are checked off in the planner.
8. Read the instructions for each task together and discuss how to do it before leaving your child to complete the assignment independently. Make yourself available if your child has questions about the material.
9. Timers work well for daydreamers. Depending on your child's age, after 5 to 20 minutes, encourage your child to move, walk around or jump rope for two or three minutes.
10. If your child becomes distracted during the segment of work, tap him or her on the shoulder, comment on how well the child is doing, and help him or her refocus on the task at hand.

School-based interventions seem to be a critical component of a comprehensive plan with students suffering with ADHD. DuPaul, Weyandt, and Janusis from the University of Rhode Island, Department of Psychology, described effective school-based

[257] "Helping Children with ADHD Do Homework: Homework Help," *Grimsby Telegraph / Scunthorpe Evening Telegraph*, April 17, 2014, accessed February 2, 2015, http://www.search.proquest.com/docview/1517118728?.

interventions for ADHD students. Interventions included behavioral, academic instructions, and home-school communication programs presented as "multiple treatment strategies implemented in a consistent fashion across school years."[258] The behavioral interventions consisted of antecedent and consequence interventions. Antecedent interventions try to prevent the child from having inattentive and disruptive behaviors by making changes in the environment to prevent triggering the behaviors while emphasizing what to do rather than what not to do, posting rules close to the student and praising the student when the rules are followed. The assignments should be short, increased gradually, and teachers should allow students to choose assignments whenever possible because motivation is a big concern with children suffering from ADHD. Students reinforce their own appropriate behaviors through self-regulation strategies. Using a Likert scale, students and teachers were able to evaluate the students' behaviors and could correct their performance, thereby reducing behaviors teachers deemed poor or in need of improvement.[259]

When students are provided with personal options in the work to be performed, they show more engagement and less distractive behaviors. The consequence strategies include teacher praise and varied reinforcement. The reinforcement should be provided as close to the occurrence of the target behavior as possible. Response cost is also used. This involves removing the token when the student does not respond appropriately. Time-out

[258] George J. DuPaul, Lisa L. Weyandt, and Grace M. Janusis, "ADHD in the Classroom: Effective Intervention Strategies," *Theory into Practice* 50, no. 1 (2011): 35.

[259] DuPaul, Weyandt, and Janusis, 38.

may be used to diminish undesired behaviors, but should only be used if the student likes to be in the classroom.

Enrichment programs at school and community centers are a successful way to engage members of the neighborhood in understanding families with children dealing with ADHD. Brett Novick noted that school staff often encounter the same parents at those meetings and, in general, they are mostly the ones whose children are doing better at school. To resolve this issue, Novick presented 15 ways to involve "at-risk parents" in enrichment programs. He listed tactics to help encourage new parents to attend events and parenting skills meetings and to keep them returning. He recommended that enrichment programs:[260]

1. Hold the programs where the at-risk families are located, such as local schools or community centers; make the program accessible to them.
2. Offer food or dinner at the gathering. This will be a strong incentive, especially for those families who are struggling economically.
3. Involve children in an activity at the same time their parents attend their classes. Parents want to be involved when their children are having a good time.
4. Discuss topics that are more practical and less theoretical; make presentations interesting and short (e.g., "How to Deal with Temper Tantrums").
5. Offer other parent-based resources, such as unemployment, health care, abuse counseling, etc.
6. Advertise throughout the community together with sending a flyer home with the children. A phone call to the parents is the most engaging way to encourage their presence at the meetings.
7. Make the congregation fun for both children and their parents.
8. Involve teachers in this program. Invite children to the meeting and give homework passes to those children whose parents attended the program.
9. Give things away (e.g., door prizes or other goodies) that parents and children can bring home to make the encounter more interesting and so that they will look forward to coming back.
10. Do not require pre-registration. On-site registration engages more participation.
11. Keep the presentation short, no longer than an hour; emphasize quality rather than quantity.

---

[260] Brett Novick, "15 Ways to Involve 'At-Risk Parents' In Enrichment Programs," *Review* 88, no. 5 (2014): 28-29.

12. Have parents sign an attendance sheet and call them to thank them and get feedback. Use this as a physical reminder to call them again for the next meeting.
13. Look for funding from private grants to help cover the expenses of the meetings.
14. Put forth a positive message encouraging good behaviors and healthy lifestyles. Staff should never complain about parental weaknesses or poor parenting skills.
15. Involve Social Services and case managers in the enrichment programs and, if possible, inspire attendance to encourage families to work together for the welfare of all.

In my experience, another way to recruit the greatest number of parents to attend an enhancement program is to offer the program weekly at the same time and day. A preliminary survey may determine the best possible time to attract the most parents. This fixed schedule provides parents with continuous help and support, a place for community communication, and a room of belonging. If possible, an alternative meeting time would accommodate parents with conflicting work schedules.

Chapter 8

COMPASSION

Medicine has been transformed from an art into a sophisticated enterprise science.[261] However, the Humanities will always remind doctors to take care of their patients first and not their illnesses.[262] The issue of compassion is an attribute that doctors need to prioritize.

Compassion is a "feeling of deep sympathy and sorrow for another who is stricken by suffering or misfortune, accompanied by a strong desire to alleviate the pain or remove its cause."[263] Stronger than empathy, compassion incorporates the wish to ease other people's suffering. It is a key factor within the social context of altruism, selflessness, and humanity. In ethical terms, the various expressions of the Golden Rule echo the principle of compassion: Do to others what you would have them do to you.[264]

The word *compassion* translates as suffer together. Derived from the Latin *compati*, *com*—with and *pati*—to bear, suffer, compassion is regarded in major religious traditions and philosophy as one of the greatest of virtues.

Clinicians, in their daily practices, need to be aware of their ability to be compassionate. According to the Dalai Lama, compassion or loving-kindness does not develop spontaneously but rather evolves through training and reasoning. Once a person

---

[261] Lewis Thomas, *The Youngest Science: Notes of a Medicine-Watcher*, *Alfred P. Sloan Foundation Series* (New York: Viking Press, 1983), xi, 55.

[262] Kathryn Montgomery Hunter, *Doctors' Stories: The Narrative Structure of Medical Knowledge* (Princeton, N.J.: Princeton University Press, 1991), xxii.

[263] *Webster's Encyclopedic Unabridged Dictionary of the English Language*, s.v. "Compassion."

[264] Jacob Neusner, *The Golden Rule: The Ethics of Reciprocity in World Religions* (Continuum International Publishing, 2008), 1.

develops compassion, he or she must renew it daily.[265] This means that compassion must be nurtured in the human being.

Most have a natural desire to be happy and to relieve suffering. We transform our heart and mind to find happiness.[266] The transformation has the potential to bring happiness to our lives, not the short-term sense of gratification from pleasures like sex, drugs or gambling, but something that brings true and lasting happiness. The key to developing and generating compassion in one's life is to make it a daily practice. We can train our minds, we can transform our minds; both require inner discipline.

Zen is an important school of East Asian Buddhism that means "meditation." Central to Zen teaching is the belief that "awakening can be achieved by anyone but requires instruction in the proper forms of spiritual cultivation by a master."[267] Cultivating compassion in our lives requires a devotion to do it during the day; as you live, compassion has to be a constant part of your life. It can be become a part of your life and bring you happiness to you and to those around you.[268]

Compassion develops by following these habits:[269]

1. Morning ritual: The Dalai Lama suggested greeting each morning with a ritual like this: "Today I am fortunate to have woken up, I am alive, I have a precious human life, and I am not going to waste it. I am going to use all my energies to develop myself, to expand my heart out to others, to achieve enlightenment for

---

[265] Paul Ekman, *Emotional Awareness: Overcoming the Obstacles to Psychological Balance and Compassion: A Conversation between the Dalai Lama and Paul Ekman* (Henry Holt and Co., 2008), 140.

[266] His Holiness the XIV Dalai Lama, *Transforming the Mind: Teaching on Generating Compassion*, ed. Dominique Side and Geshe Thupten Jinpa, trans. Geshe Thupten Jinpa (Thorsons, 2000), 1.

[267] *Zen* (Encyclopædia Britannica Inc., 2013).

[268] "Guide to Zen Habits," accessed February 28, 2015, www.zenhabits.net.

[269] Leo Babauta, "A Guide to Cultivating Compassion in Your Life, with 7 Practices," accessed March 27, 2016, http://zenhabits.net/a-guide-to-cultivating-compassion-in-your-life-with-7-practices/.

the benefit of all beings, I am going to have kind thoughts towards others, I am not going to get angry or think badly about others, I am going to benefit others as much as I can."[270]

2. Empathy Practice: Try to imagine the pain other people are going through. Keep your focus on the other person to avoid shifting the attention to your own experience and memory of suffering and turning into sympathy instead of empathy.[271] After doing this you should be able to empathize with anyone you know eventually instead of just those who are close to you. Empathy means supporting people to their freedom while receiving wisdom of lived experience.[272]
3. Commonalities practice: Recognize what you have in common with other people, like places you live, interest, feelings, etc. We all need kindness, gratitude, love, and joy. While looking at another person, tell yourself:
   "Just like me, this person is seeking happiness in life;
   Just like me, this person is trying to avoid suffering in life;
   Just like me, this person has known sadness, loneliness and despair;
   Just like me, this person is seeking to fill needs; and
   Just like me, this person is learning about life."[273]
4. Relief of suffering practice: The next step is to want the suffering of another person to end, as you would like someone to wish for you. That intention can be grown with practice. The body and mind depend on each other. Mental suffering may be caused by the suffering of the body as well as physical suffering may be produced by the suffering of the mind. However, reducing the pain of the body sometimes does not reduce the suffering of the mind.[274]
5. Act of kindness practice: Try doing something small each day to help end the suffering of another person; even a smile or kind word helps ease the suffering of others. Random acts of kindness ideas help spread kindness and prevent people from losing faith in humanity.[275]
6. Those who mistreat us practice: It is not good to act in anger, instead withdraw. When you feel better, reflect on that person who mistreated you. Try to understand and do not take that personally. It might not be about you, but what that person is going through. If you are mistreated and you respond with kindness,

---

[270] Dalai Lama XIV, accessed April 16, 2016, http://www.goodreads.com/quotes/29007-every-day-think-as-you-wake-up-today-i-am.

[271] Bex Huff, "Empathy Vs Sympathy," accessed March 27, 2016, http://bexhuff.com/2008/05/empathy-vs-sympathy.

[272] Teaching Zen, "Zen and Empathy," accessed March 27, 2016, http://teachingzen.org/blog/2012/05/31/zen-and-empathy/.

[273] "Guide to Zen Habits."

[274] Dharma, "From Relieving the Suffering of the Mind to Relieving the Suffering of the Body," accessed March 27, 2016, http://www.buddhanet.net/cbp2_f11.htm.

[275] Anna Newell Jones, "134 Ideas for Random Acts of Kindness," accessed March 27, 2016. http://andthenwesaved.com/random-acts-of-kindness-ideas/.

that person will be more likely to become kind towards you next time. With practice, you can learn to treat everyone with kindness, even people who mistreat you. Forgiving relieves stress. It can be a long and hard process but it may be a better option than holding resentment.

7. Evening routine: Before you go to bed, think about your day and reflect on how you treated other people. Ask yourself if you acted with compassion towards others, and how well you did.

Compassion helps to develop empathy between the caregiver and the patient, making the caregiver more effective in his or her practice. However, caregivers need to balance their own emotions and involvement regarding their patients' suffering. The difference between sympathy and empathy in psychotherapeutic literature is that empathy refers to understanding the other's experience and "maintaining a dual perspective, imagining oneself in the same situation as the other without forgetting that this experience is not one's own but the other's."[276] On the other hand, sympathy denotes just "reactivity and advocacy."[277]

Consider the pediatric oncology nurse, who works with young children and their grieving parents, as a witness of enormous suffering. Some children survive but many do not. Some argue that if a nurse feels the suffering of all of the children and all the parents, he or she would burn out. But one need not feel the suffering of others to be motivated to act compassionately in order to help to relieve their suffering.[278] Maybe practitioners are not able to cure a person's illness, but they can heal their suffering through compassion.

---

[276] J. Ruusuvuori, "'Empathy' And 'Sympathy' In Action: Attending to Patients' Troubles in Finnish Homeopathic and General Practice Consultations," *Social Psychology Quarterly* 68, no. 3 (2005): 205, http://dx.doi.org/10.1177/019027250506800302.

[277] Howard M. Spiro and Yale University School of Medicine, *Empathy and the Practice of Medicine: Beyond Pills and the Scalpel* (New Haven: Yale University Press, 1993), 164.

[278] Ekman, 173.

Providers will be more effective if they empathize with their patients without getting into mourning with them.

Burnout of clinicians and mental health professionals is known as compassion fatigue. Most often the phenomenon is associated with the "cost of caring for others in emotional pain."[279] This secondary traumatic stress can result from absorbing and internalizing the pain and suffering of the people clinicians care for. Compassion fatigue is nearly identical to post-traumatic stress disorder (PTSD), except that it affects those who are witnesses of another's trauma. It includes physical, emotional, mental, and even spiritual exhaustion that can result from absorbing and internalizing the pain of the people they care for.

PTSD is common in medical doctors and primary care, but studies have shown poor levels of knowledge about it among general physicians. When the diagnosis is delayed or missed, the caregiver is at risk of developing complications such as depression or alcohol abuse.[280]

An awareness of the symptoms of compassion fatigue and their negative effect on health care providers' lives can lead to positive change, personal transformation and a new resiliency. Symptoms of compassion fatigue include:[281]

1. excessive blaming
2. bottling up of emotions
3. isolating oneself from others

---

[279] C. R. Figley, "Traumatization and Comfort: Close Relationships May Be Hazardous to Your Health" (paper presented at Families and close relationships: Individuals in social interaction, Texas Tech University, Lubbock, Texas, November 28, 1982).

[280] Joy Wright and Ben Robinson, "Post-Traumatic Stress Disorder," *InnovAiT* 6, no. 9 (September 1, 2013): 586.

[281] "Compassion Fatigue Awareness Project," accessed February 28, 2015, www.compassionfatigue.org.

4. receiving an unusual amount of complaints from others
5. voicing excessive complaints about administrative functions
6. using substance abuse to mask feelings
7. compulsive behaviors such as overspending, overeating, gambling, and sexual addictions
8. poor self-care
9. legal problems, indebtedness
10. recurring of nightmares and flashbacks of traumatic events
11. chronic physical ailments such as gastrointestinal problems and recurrent colds
12. apathy, sadness, no longer finding activities pleasurable, loss of joy
13. difficulty concentrating
14. mental and physical tiredness
15. preoccupation
16. being in denial about problems.

Compassion fatigue poisons the cultural environment of hospitals and private medical offices. Doctors who fail to deal with their emotions often develop sickness and fatigue symptoms. Dr. Sepkowitz stated, "I almost cried in front of a patient and her family."[282] Few expect to see a weeping doctor and it is not well regarded by the other members of the staff. Given the intense anxiety of serious illness, public crying in hospitals, by patients, family, or staff is less common than generally expected; people often remain buttoned up, dry-eyed, and determined to maintain composure.

If clinicians were better able to deal with their feelings they would also be able to express more compassion and give more attention to their patients and be therapeutic for both patients and clinicians. Health care educators must teach all their staff to deal with their feelings, including sadness upon the uncomfortable truth, to prevent burnout. Providers must relieve their emotions to avoid becoming sick through the mind-body connection or entering the compassion fatigue zone. An important part of our health,

[282] Kent Sepkowitz, "Why Hospitals Are Cold, and Doctors Don't Cry (in Public)," *New York Times*, November 28, 2006.

well-being, and recovery process is to interconnect our behavioral and emotional health to our body and physical symptoms.

Compassion teaches that:[283]

1. Fixing a problem is easy but sitting with another person who is suffering is hard.
2. Doing all we can is not the same as as doing what we should.
3. Patients are concentrated in their pain. Clinicians must advocate for their relationship to build bridges.
4. Time is priceless; we spend it on what we are interested in.
5. The most common disease clinicians treat is unhappiness and the greatest impediment treating their patients' unhappiness is their own discontent.
6. Clinicians expect a lot from data and too little from conversation.
7. Community is the ideal place of healing, to receive and give compassion.

The School of Medicine at Michigan State University gained national status for its innovation and excellence in humanistic medical student education. They are committed to teaching core institutional values: respect of and care for patients; commitment to community; and the incorporation of psychological, social, and spiritual elements into care delivery. The school's curriculum has been guided by the philosophies of William Osler and Francis Peabody, nineteenth-century physicians who asserted, "The secret to the care for the patient is caring for the patient."[284]

Compassion is considered among the greatest of virtues. What characterizes virtuous clinicians? They possess courage, humility, and mercy together with competency, social responsibility, professional responsibility, honesty, compassion, and respect for others. There is a need to foster and promote the integration of professional

---

[283] David Loxterkamp, interview by Liane Hansen, Weekend Edition Sunday, New Jersey Public Radio, May 29, 2011, accessed April 16, 2016, http://www.npr.org/2011/05/29/136765593/a-follow-up-visit-with-a-country-doctor

[284] Michigan State University, "MSU College of Human Medicine," accessed April 12, 2016, https://www.midmichigan.org/Microsites/medical-students/about/college-of-human-medicine/.

values and virtues into the daily practice of medicine, thereby promoting the dignity and inclusion of all people while responding to those most in need of care.

Clinicians who are already burned out and suffering from compassion fatigue are in need of care themselves and less able to help others. Humor and laughter are therapeutic tools. Laughter is usually an unconscious response to social and linguistic signals. The psychodynamic viewpoint of Sigmund Freud described humor as one of the strongest of the defense mechanisms that allows an individual to face problems and avoid negative emotions. It is believed to be effective in distancing oneself, framing problems with perspective, and proactively managing distress.[285]

Humor can be used by health care professionals to manage feelings, hide embarrassment, reduce tension, share a sense of solidarity with others or encourage others to convey messages about difficult subjects, such as death, that might be deemed more difficult if communicated seriously. Patients with chronic or terminal illnesses or disabilities often use humor in an attempt to be more socially acceptable, to identify with others and to detach themselves from their troubles.

Clinicians may use humor in a therapeutic way for themselves to prevent compassion fatigue while also helping their patients by creating a more relaxed atmosphere and helping break down communication or relationship barriers. Humor helps to build trust and empathy if used appropriately and sensitively. Clinicians should never laugh about race, religion, sexual orientation, nationality, or disability. Humor helps the patient be more open and forthcoming and conveys the message that the

[285] Robert Kennedy, "Humor in Medicine -- Part I: Humor and Laughter as a Therapeutic Tool," accessed June 14, 2011, www.neurosciencecme.com/email/2011/061411.

clinician is human. Humor facilitates the expression of feelings or impulses in a safe, nonthreatening way.[286]

Laughter therapy, humor therapy, laughter meditation and laughter clubs have unique implications for group programs and self-management techniques. Dr. Madan Kataria, who practiced and taught laughter yoga, started the Laughter Club in Mumbai, India in 1995. The first session had five participants, but today, an estimated 300,000 people worldwide regularly practice Laughter for Health. Dr. Kataria's next project is the Laughter University, which will have campuses on five continents.[287]

[286] Robert Kennedy, "Humor in Medicine -- Part 2: The Clinician-Patient Relationship," accessed June 14, 2011, www.neurosciencecme.com/email/2011/061411.

[287] Madan Kataria, "Laughter for Health," accessed February 28, 2015, http://www.laughteryoga.org/english/diary/laughter_quotes.

Chapter 9

CASE STUDIES

The diagnosis of ADHD may be easily confused with other social problems and/or illnesses. Doctors and mental health care providers need to make every effort to be careful while diagnosing and especially if medicating patients they suspect are suffering from ADHD.

1

I received a referral for the school counseling of a six-year-old boy. The principal reported that he displayed severe disruptive behaviors with angry outbursts. He was waiting to be placed into a self-contained special education class for behavioral difficulties called Behavioral Disabilities class. Some of his tantrums were precipitated by frustration when he was not permitted to play continuously.

However, his mother stated that his behaviors only occurred at school. She claimed that her son behaved well at home with his family and that he was making good progress academically. The boy had had a neurodevelopmental consultation two months before my first interview with his family; the doctor reported that the boy was sensitive to loud sounds, covered his ears when people were talking, occasionally hit himself, and had poor eye contact most of the time during the evaluation. The doctor also observed that the boy had problems shifting his attention and was intensely selective of preferred activities. His motor coordination was poor with moderate dyspraxia.

Otherwise, the neurologist reported that the boy was healthy with no known family history of childhood developmental disorder, ADHD, or autism. In spite of the

reported atypical behaviors, this doctor stated there was not enough information to consider a diagnosis on the autism spectrum. This specialist diagnosed the boy with "stable neurologic dysfunction causing severe ADHD and mild motor incoordination, with social impairment and difficulty with peer social interaction." The doctor added, "his behavior is strongly environmentally influenced." The boy was prescribed ADHD medication treatment because of significant moderate attention and impulsivity problems consistent with the diagnosis of ADHD. Family counseling and/or individual or group psychotherapy was not recommended.

This may be a typical case of misdiagnosis of ADHD. It seems that because the student had attention and impulse control problems, he was being treated with ADHD medication despite symptoms indicative of ASD. At the same time, this doctor did not refer the family for counseling or a partial care program where the boy could have been more extensively observed, assessed, and afforded behavior modification therapy. A lack of family history of autism and ADHD does not guarantee exclusion from these illnesses. Early diagnosis gives a child more opportunities to be placed into the right academic and therapeutic programs and receive the appropriate therapies.

The boy and his family were referred by this counselor to in-home counseling services to work on behavior modification and parenting skills. Also he was referred for an evaluation to the autistic center of the local hospital looking for a second opinion on his diagnosis. A child suffering from autism will be placed in a very different class from Behavioral Disabilities, into a self-contained autistic class, to receive more services regarding poor social and neurological development, such as more intense speech and language therapy, occupational and physical therapy, and socialization skills group

participation. The boy was properly diagnosed as having ASD and was placed at a self-contained autistic class. He also started receiving related services of speech/language therapy three times a week, occupational therapy, and school transportation.

 # 2

A referral for In-Home counseling was assigned to me through the Division of Youth and Family Services (DYFS) to help two little boys, ages five and seven, with hyperactive, inattentive, oppositional, distracted and anxious behaviors. They had been having severe behavioral problems at school and at home. Both children were on medication for ADHD to control their behavior.

As I would for any client, I called the family in advance to schedule the first appointment to go to their house. The mother of the children, I will call her Nancy, answered the phone and cordially accepted my visit. Her voice was smooth and fragile. She stated that she was anxious to receive the counseling services and that she would wait for me on the day we agreed on. When I arrived at the house, the whole family was home: mother, father, and two children. Everyone was quiet. The children were watching TV in the living room, the mother was cooking, and the father was fixing something around the house.

From the beginning I noticed that both children became very anxious when their father left the room, although they knew that their father was around working on the house. They did not accept their father going away even for a short amount of time. They started crying and screaming, throwing things, being desperate, opening windows to call

to their father from inside and trying to leave the house to reach their father. These behaviors continued throughout my initial visits.

The children's mother did not have an explanation for that behavior. She told me that they wanted to be with their father and that they did not respect or listen to her at all. She blamed her husband for their children's behavior because he was not strong enough to tell them to stop following him everywhere. Nancy stated that the children were more in control when they did not see their father while he was at work but that he provoked intolerable situations when he returned home. She was afraid that DYFS would take her children away if they escaped looking for their father around the neighborhood. She felt powerless and helpless. The children did not listen and wanted to do things their own way; they were aggressive with their mother and to each other. They were angry and unable to control themselves. They were both receiving special education at school.

My contact with their father was somewhat difficult at the beginning. He never had the time for a thorough conversation and our communication was always interrupted by his children crying to take them with him. He explained that his older son had a short temper but thought it was nothing to worry about. He insisted that his children were having normal social development and that he did not see anything out of the ordinary for children. He seemed uninterested in the possibility of counseling.

When Nancy was questioned about her marriage, she responded that they were having some arguments but in general they did not have major problems. Nancy did not work outside the home but she complained she did not have enough time to do everything for the family, including doctor and school appointments. Nancy looked sad and anxious. At this point, the house was in chaos. Every time I arrived and their father was not there,

the children were fighting; they were aggressively demanding that their mother do something unsuitable, like going to the park at that moment, eating sweets or watching inappropriate shows on the Internet; they were constantly whining. They both were throwing tantrums; one was pulling at his hair and scratching himself.

Nancy was unable to enforce consequences for their behaviors. She was working with me on effectively imposing rules in her house as part of the parenting skills development, but she was not able to carry it out. Over time Nancy was deteriorating. Her concentration and attention decreased; she was moving and thinking slowly, her memory was impaired; she was always cooking and constantly eating in front of this counselor. It was very evident after my fifth session that she was in extreme need of help.

After my insistence on knowing her husband's whereabouts, Nancy finally told me he was seeing another woman and sleeping somewhere else, but that he was still coming to see the children every day. Nancy told me that she was feeling worse every time her children spent some time with their father eating at McDonalds or going to the mall. When the children left she felt empty, desperate, and very sad. She reported that she had been hospitalized in the past for having suicidal thoughts because she was feeling sad and anxious. She was having low weight despite eating constantly during the counseling sessions. She reported hearing voices, and felt she could not take care of her children anymore.

At this point, my interventions and counseling centered on Nancy's emotional health. All the agencies were advised of Nancy's situation to provide back up and security for the family. Despite Nancy being on medication and receiving individual

counseling once a week, it was not enough for her to handle all the problems she was having.

The children's behaviors and poor attitude around their father made sense to me. The children felt very insecure living only with their mother who was unable to concentrate and pay attention to them. Their father minimized his children's problems in contraposition to Nancy. Neither parent wanted to say anything because they were very afraid that their children would be taken away from them. The father was starting another family and his new partner was pregnant; he knew he could not take his children with him because it would upset Nancy.

Nancy started telling this counselor about her childhood and adolescence. She said that since she was very young she had problems concentrating in school. She could not think very well and her memory was always impaired. She felt different from her friends and felt they did not want to be with her. Her parents had been very protective of her and constantly controlled her. They did not let her eat as much as she wanted to. Paradoxically, before her first hospitalization she was hearing voices saying "do not eat." During that first hospitalization, Nancy was diagnosed as suffering from schizophrenia.[288]

Nancy escaped from a European country with her then boyfriend, later the father of her two children, to come to the United States, leaving all her family behind. She did not have any relatives nearby. She was happy to be in this country initially; however, as soon as she was settling in the new place, her emotional problems started forcing her to act erratically and to feel anxious. Her children were born but she continued having fears

[288] Jerrold S. Maxmen and Nicholas G. Ward, *Essential Psychopathology and Its Treatment*, 2nd ed. (New York: W.W. Norton, 1995), 173-94.

and obsessions. She was always hearing voices, feeling empty, and terribly sad. She had problems falling asleep and was waking up in the middle of the night. She became very tired and life with her husband became much more difficult. She was calling him at work more than 10 times a day to say she needed different things or to complain about something that had happened.

Nancy frequently went to the supermarket spending hours looking at products. She liked having appointments and doing things outside her home to make her day busy. She was exhausted every day after her rounds; when she came back home she did not have the concentration, mental energy, or mental control to provide for her children, much less to discipline them. She became confused at times and needed quiet time to recover in order to start thinking right again.

One day I found her on the phone speaking very sweetly with a man. Nancy was trying to find the right person for her. However, very soon she felt frustrated, empty and sad with this new relationship because the other person did not want to make commitments to her and her two children. Her cognitive and perceptual abilities were affected by her major mental health illness as she could not understand why the man she was having a relationship with did not call her anymore. Nancy started dressing provocatively and inappropriately for the weather, she did not feel any hot or cold temperature; she was obviously exposing her weaknesses to everyone on the street because she was not aware of her appearance or actions.

Nancy was outside her parents' controlling attitude to look for her right partner, she said, but now she felt controlled by her children's father. According to her, he was impeding her freedom because he did not allow another man to enter the house he was

still paying for, to protect their children's safety. Nancy intended to look for another place to move with her children to have more freedom, but all her efforts were insufficient due to her lack of income and lack of help from the public agencies.

With the help of the counseling and other agencies that intervened in this case, the children's behaviors became better, but Nancy became more anxious and desperate. Her husband was helping her with the children every time she wanted, but she became sadder and unable to cope with her feelings. As soon as the children's father had a baby with the other woman, one of her boys told his teacher that his mother wanted to kill his father's new baby. DYFS intervened again and Nancy had to defend herself from her awful feelings under the threat of losing her children.

Nancy was unable to communicate and healthily relate to her children, but she felt more alone when they were not around her; she needed them very badly. She wanted to do everything to make them happy but she was constantly having thoughts in her head to attend to, making her unable to concentrate, control them, and bring them some security and happiness.

By the end of the counseling, Nancy was frequently calling me to know when our appointment was set. She refused to speak or socially share with people from church or her husband's relatives because she did not trust them. Nancy became more disoriented and unable to think. Finally, she was re-hospitalized and her children were the witnesses of her deterioration. She was using all the services available to her, taking her medication, and having different psychotherapies, but nothing alleviated her symptoms. The mental illness was implacable for her.

Soon after this, the children went to live with their father. They did not take any more medications for ADHD. They looked happier and more functional. Their father stated that they did not fight with each other anymore and their behaviors were appropriate. They continued attending school and no incidental problems were reported at school. A week after their mother's hospitalization, the children's father called me to continue with the counseling because he was feeling they now needed to speak to somebody since their mother was not living with them and they were missing her. One month later their mother was discharged from the hospital and had visitation rights to see her children every day.

The brothers were both diagnosed as having ADHD and had taken medication from a young age. Their social problems put them in the position to scream for help and desperation about their mother's illness. At the same time, their mother was constantly knocking on the doors of the pediatric specialists looking for more medication to control her children. Their behaviors improved when their father was able to take proper care of them and when they stopped taking the ADHD medication.

I have shown through my arguments and these case studies that in some cases children and adolescents are misdiagnosed as having ADHD and given unnecessary medication. As demonstrated in these cases, misdiagnosis can sometimes cover up underlying problems.

CONCLUSION

My interest in ADHD is the reason for this dissertation. Children suffering from ADHD have substantial problems in academic achievement and psychosocial skills that impact not only their childhood but also their families. ADHD can limit success, strain relationships, and diminish well-being. In this paper, I explored methods of treatment from different perspectives and schools of thought to approach and treat the controversial and challenging symptoms of ADHD in children in an attempt to reduce or avoid taking stimulant medication.

Medication for ADHD is not always helpful because it does not correct all of the problems, some parents are opposed to medicating their children, side effects can cause additional problems or exacerbate existing ones, and medications carry the possibility of masking other underlying or untreated medical conditions. Additionally, lack of access to appropriate medical/medication care makes appropriately medicating children difficult, and medication does not teach children how to attenuate their symptoms and be more socially accepted when they stop taking that medication.

ADHD and its symptomatology have been researched worldwide in the last decade due to the alarming proportion of children diagnosed with the disorder. In 2001, the APA published an article on the controversial issue of medicating children, and expressed their concern that the medication administered at schools for ADHD surpassed medication for any other chronic health condition.[289] It is imperative that schools and private practitioners implement programs to address ADHD symptoms with the incorporation of psychological treatments including interventions that lead to better sleep,

[289] O'Connor, 50.

obtaining benefits also from exercising and proper nutrition as the preferred alternative to stimulant medication whenever possible.

In my opinion, our failure in schools is the lack of psychosocial interventions needed to help ADHD children because medication and special education are not enough to change their behaviors; they are often only putting a bandage on a much bigger problem. Suffering from ADHD symptoms may potentially have damaging life-long consequences, and given the number of children suffering from the disorder more specialized services like psychosocial interventions are needed. Schools are the perfect place to work on daily prevention and to serve as laboratories to conduct accurate assessments and evaluations of children presenting with ADHD symptomatology. Schools must create the opportunity to discover other problems like social factors that may contribute to the ADHD symptoms of their students.

It would be interesting to see how attention and concentration in classrooms could be improved by making changes to school schedules for children suffering from ADHD symptoms. Even creating a pilot program for the whole student body, including more periods of recess at school during the day, may improve not only attention but also academics.

Doctors better understand suffering when they hear their patients' stories. Doctors who show compassion know their patients' stories. Reading and writing narratives helps doctors to be more compassionate and facilitates learning more about their patients. This exercise helps doctors fill in the gaps in their patients' stories. From the perspective of patients this is also a part of their healing process; if doctors listen when patients cry out

they will be more willing to share their stories and will thereby arrive at more accurate diagnosis and treatments.

Experienced doctors have reported that their profession as doctors is worsening due to external forces that take away their time from their patients. This problem is provoking a big twist in medicine preventing doctors from building the right relationship to care and cure. This affects patients' recovery. In the healing relationship between doctor and patient, Dr. Edmund Pellegrino explained that the "character of the physician is an irreducible factor in the healing relationship."[290]

There is a tendency in this new age of medicine to study the cases, not the patients, losing sight of the individual. At a recent medical residents' conference about humanities that I attended as part of my doctoral study, medical students were asked why they were in the field of medicine. Only 1, of about 20 medical residents, responded "to take care of patients." Dr. Carola Eisenberg, a distinguished psychiatrist who has taught both at Johns Hopkins and at Harvard Medical School, wrote: "The satisfaction of being able to relieve pain and restore function, the intellectual challenge of solving clinical problems, and the variety of human issues we confront in daily clinical practice will remain the essence of doctoring, whatever the changes in the organizational and economic structure of medicine."[291]

Pellegrino stated that "medicine is a moral community because it is at heart a moral enterprise and its members are bound together by a common moral purpose."[292]

---

[290] Edmund D. Pellegrino and David C. Thomasma, *The Virtues in Medical Practice* (New York: Oxford University Press, 1993), 29.

[291] Richard C. Reynolds et al., *On Doctor[i]ng : Stories, Poems, Essays*, New, revised, and expanded edition. ed. (New York: Simon & Schuster, 1995), 20.

[292] Pellegrino and Thomasma, 3.

Nature, disposition, and knowledge must be the most important qualifications of doctors. He reported that the source of the goals and purposes of medicine for centuries "was the character of the physician… In modern times…virtue has been supplanted by principle- and rule-based ethics."[293] It is difficult to find a solution to this problem. In his chapter "Medicine as a Moral Community," he wrote that many doctors want to emphasize "the patient's welfare and the idea of a profession. Others see no reason why physicians should be held to a higher standard of ethical conduct than anyone else."[294] Pellegrino responded that doctors must have a higher standard of ethical conduct because "the healing relationship is itself the foundation for the special obligation of physicians as physicians."[295] All of us, as patients, can see the distinct difference between the two kinds of doctors. Dr. Rene Favaloro, who was an Argentine cardiac surgeon best known for his pioneering work on coronary artery bypass surgery, expressed his concern about the future of medicine. He stated that the medical profession has been influenced by the mercantilist society where doctors are more interested in money than in prescribing the right treatment to their patients.[296]

Prevention and early intervention of ADHD symptoms are very important to correcting problems before they become overwhelming difficulties. Preschool children need to be assessed for symptoms of inattention, hyperactivity, and impulsivity. DuPaul

---

[293] Pellegrino and Thomasma, 3.

[294] Ibid., 31.

[295] Ibid., 40.

[296] René G. Favaloro, *De La Pampa a Los Estados Unidos*, 4a ed. (Buenos Aires: Editorial Sudamericana, 1992), 178.

and Kern asserted in their book *Young Children with ADHD: Early Identification and Intervention* that it is important to provide young children with psychosocial interventions specifically designed for treating preschool children experiencing ADHD symptoms. They stated that "the behaviors that attention deficit/hyperactivity disorder (ADHD) compromises…are relatively common among preschool children."[297] The authors also encouraged screening young children for disorders that may be comorbid with ADHD, such as oppositional defiant disorder, generalized anxiety disorder, separation anxiety disorder, and major depression.

I agree with Nigg's statement that ADHD needs more research of the "complex etiological pathways that involve joint effects of within child and contextual factors in development."[298] One new pathway can be to research the effects of providing the child with a psychological treatment from the Humanistic school of thought for at least one year. Humanistic Psychology might provide an important contribution in controlling the overmedication of youth suffering from ADHD by balancing medical treatment with the incorporation of psychotherapy. Then, it will be important to reassess symptoms of ADHD and how they really affect the whole persona, including academics.

Marianne Leuzinger-Bohleber, Jorge Canestri, and Mary Target, professionals trained in the theory of psychoanalysis, reported that "clinical experience suggests a spectrum diagnosis in reference to ADHD."[299] The authors stated that ADHD symptoms

---

[297] George J. DuPaul and Lee Kern, "Young Children with ADHD Early Identification and Intervention," *Communiqué (National Association of School Psychologists)* 39, no. 7 (May 1, 2011): 20.

[298] Nigg, *What Causes ADHD? Understanding What Goes Wrong and Why*, 338.

[299] Marianne Leuzinger-Bohleber, Jorge Canestri, and Mary Target, *Early Development and Its Disturbances: Clinical, Conceptual and Empirical Research on ADHD and Other Psychopathologies and Its Epistemological Reflections, Developments in Psychoanalysis Series* (London: Karnac, 2010), 82.

are diverse and can be shaped by "stress factors, and different combinations of biological and psychosocial risks."[300] They added that it is essentially important to "differentiate every individual case and to not act on the assumption of a common genesis or a common psychodynamic appearance. The different etiological backgrounds can impact the developmental course quite differently."[301]

The New York Times reported recently in an article by Benedict Carey that "Children with attention-deficit problems improve faster when the first treatment they receive is behavioral–like instruction in basic social skills–than when they start immediately on medication, a new study has found."[302] This conclusion was published in two recent studies in the *Journal of Clinical Child & Adolescent Psychology*, and they are probably the first to evaluate the effect of providing behavior therapy first, following with stimulants as a supplement if needed.

One of the studies assessed which method had better outcomes, the behavioral treatment or the pharmacological treatment initiated first. One hundred forty-six children with ADHD from 5 to 12 years old, 76% male and 80% Caucasian, participated in the study conducted for 1 school year. The behavior intervention treatment provided behavioral parent training for 8 group sessions and brief teacher consultation to create a Daily Report Card. The treatment added other modalities if needed monthly. The medicated group started receiving extended-release methylphenidate equivalent to 0.15 mg and the dose was increased as needed according to the presenting behaviors. At the

---

[300] Leuzinger-Bohleber, Canestri, and Target, 82-83.

[301] Ibid., 83.

[302] Benedict Carey, "Early Behavior Therapy Found to Aid Children with A.D.H.D.," accessed February 22, 2016, www.nyti.ms/1LuhGcF.

end of the study, authors concluded that the "group beginning with behavioral treatment displayed significantly lower rates of observed classroom rule violations…and tended to have fewer out-of-class disciplinary events."[303] Results of this study sustained the idea that beginning treatment with behavioral intervention produced better outcomes overall than beginning treatment with medication.

The second study cited by *The New York Times* showed a comparison of costs from the above behavioral intervention, pharmacological intervention, and the combined intervention. Authors concluded that

> Beginning treatment with a low-dose/intensity regimen of behavior modification (large-group parent training) was less costly for a school year of treatment ($961) than beginning treatment with a low dose of stimulant medication ($1,669), regardless of whether the initial treatment was intensified with a higher "dose" or if the other modality was added…these findings suggest that initiating treatment with behavior modification rather than medication is the more cost-effective option for children with ADHD.[304]

Alfred Sommer stated in his chapter "U.S. Health Care System*"* that a reformed health care system would ideally have "evidence-based medicine" as the norm in medical practice because physicians had not been attentive to evidence of what works and at what cost.[305] He reported that one size does not fit all, but similar patients and conditions require similar care. If ineffective and unproven interventions are eliminated, public health will improve and costs will be lowered.

---

[303] William E. Pelham et al., "Treatment Sequencing for Childhood ADHD: A Multiple-Randomization Study of Adaptive Medication and Behavioral Interventions," *Journal of Clinical Child & Adolescent Psychology* (2016), http://dx.doi.org/10.1080/15374416.2015.1105138.

[304] Timothy F. Page et al., "Comparative Cost Analysis of Sequential, Adaptive, Behavioral, Pharmacological, and Combined Treatments for Childhood ADHD," *Journal of Clinical Child & Adolescent Psychology* (2016), http://dx.doi.org/10.1080/15374416.2015.1055859.

[305] Alfred Sommer, *Getting What We Deserve: Health and Medical Care in America* (Baltimore: Johns Hopkins University Press, 2009), 106.

My work and study have shown that relief can be achieved with the incorporation of healthy treatments proven scientifically effective in diminishing symptoms of ADHD in children, at least in those with mild to moderate symptoms. The ADHD Symptoms Clinic treats every child as a unique entity by understanding, identifying, and treating the symptoms through an individual approach. If successful, parents will have an alternative to the easy pill for their children through an integrative approach of treatment. Furthermore, the ADHD Symptoms Clinic may be more cost-effective while improving public health, not only in comparison to the cost of medication but with the possibility to avoid the need of special education at school.

Whether or not ADHD is determined to be a distinct illness, the symptoms are real and the number of children suffering from those symptoms constitutes an alarming proportion of young people. The ADHD Symptoms Clinic may benefit all children suffering from mild to moderate symptoms.

After years of practice in the field of counseling and school psychology, I have not had the opportunity to offer an alternative treatment to those children suffering from ADHD without the need of stimulant medication. Now I do. At this time, with all the research done to help reduce ADHD symptoms without medication, different treatments must be promoted to alleviate ADHD symptoms. This is what drives my interest: finding good practices or plausible interventions to be implemented at private practices, schools, and community center through a new way of managing symptoms of poor concentration and attention span, distractive behaviors, hyperactivity, and impulsivity in children and adolescents.

The ADHD Symptoms Clinic includes, but is not limited to, individual and family therapy; participation in psychosocial programs at schools or community centers for children and their parents; intake of herbal products and nutritional supplements; proper counseling for sleep disorders; psychological and/or psychiatric evaluations to assess possible mental health comorbidities, such as oppositional behavior, depression, and anxiety; specialty evaluations to rule out possible physical comorbidities, such as asthma or sleep apnea; CST evaluations when children present with learning disorders; a regimen of exercise that has been proven effective in the neurogenesis of neurological and/or mental health conditions; and a restricted diet to benefit ADHD symptomatology.

This treatment method was developed by looking at the person as a whole: emphasizing the mind-body connection and the individual approach to illness. Scientists have discovered the connection between stress and health and the "powerful mind-body connection through which emotional, mental, social, spiritual, and behavioral factors can directly affect our health."[306] For this reason, the diagnosis and treatment of ADHD symptoms needs to be approached individually, one child at a time.

Treating the Symptoms of ADHD

Treating the symptoms of ADHD as one disease is difficult because of the number of other conditions that have similar symptoms. An alternate psychological model of treatment for ADHD symptoms is currently indispensable to assess and treat their presenting symptoms case by case while acknowledging that some symptoms may need to be treated temporarily with medication.

---

[306] "The Mind-Body Connection," *NIH Medline Plus* 3, no. 1 (2008): 4.

This study has shown that:

1. The medical diagnosis of ADHD in children must be very rigorous; it needs to assess possible psychological and/or psychiatric diagnoses that have overlapping symptoms of ADHD taking into consideration possible comorbidities, such as physical, emotional, and neurocognitive problems that may be causing or mimicking ADHD symptoms and treat them first.
2. Medical problems causing sleep disorders have to be assessed and treated first. Effective forms of treatment are CBT, sleep hygiene programs for parents and children, taking melatonin and/or tryptophan as nutritional supplement, taking valerian root and/or lemon balm extract, participating in practices of meditation, avoiding caffeine, and increasing physical activity.
3. Exercise helps tremendously in increasing neurotransmitters' ability to facilitate neurogenesis and with it the improvement of attention and concentration.
4. By joining psychosocial activities at the local library or community centers, and participating in games or competitions with same age peers, patients improve socialization and increase physical activity.
5. Children can benefit from following a restricted diet by reducing artificial food dyes (food colors), ingesting omega-3 fatty acid supplementation including EPA daily, and having an emphasis on healthy and nutritious meals as a basic diet.
6. Attending individual and family psychotherapy sessions, especially those approached from a humanistic perspective, will give children suffering from ADHD symptoms an opportunity to work on their emotional difficulties. They can also attend other therapies such as neurofeedback and Stress Inoculation Training, and/or a partial care after school program for children with emotional difficulties.
7. Parents and students should participate in psychosocial programs offered at schools or community centers to increase behavior modification, socialization abilities, and parenting skills conducive to improving academics and school functioning.
8. Teachers and parents should apply behavior-changing strategies to deal with difficult situations such as the token reward systems and timeouts.
9. Increasing time that parents spend with their children playing table games will increase appropriate behaviors and neurocognitive functioning.
10. CSTs should consider testing children to assess possible learning disabilities that may be impacting their academics. Psychological and educational evaluations will provide more information about their intellectual potential and achievement level.

There is no way to prevent ADHD symptoms from occurring, but there are healthy habits for parents, good for everyone, that can help children with this disorder to be social, emotional, and physically healthier. These habits include:[307]

[307] Mayo Clinic, "Attention-Deficit/Hyperactivity Disorder (ADHD) in Children," accessed June 11, 2012, www.mayoclinic.com/health/adhd/DS00275.

1. Avoiding alcohol, cigarettes, and drugs during pregnancy to promote healthy fetal development.
2. Protecting children from exposure to pollutants and toxins such as cigarette smoke, industrial chemicals, and lead found in old wall paints.
3. Being consistent setting limits for children with poor behaviors.
4. Following a daily routine with clear expectations about bedtime, morning time, mealtime, simple chores, and time on television and electronics.
5. Advocate that children participate in sports and daily exercise.
6. Making eye contact when speaking to children and praising them for healthy behaviors.
7. Being an advocate for your children at school, trying to identify problems that can impede or interfere with learning or appropriate social interaction.
8. Requiring that homework be done in a quiet place, following a routine and schedule; using a timer for tasks; breaking between assignments; crossing off tasks when completed; encouraging your child to have a study buddy to call for homework clarification; limiting distractions during homework time, and returning all supplies/homework to backpack prior to bedtime.

Raising children with ADHD symptoms requires patience and energy. It can engender confusing emotions about parenting, sometimes resulting in parents blaming themselves for the inappropriate behaviors of their children. It is important that parents share their feelings and experiences with friends, relatives or a parent support group. Practical information about schedules and parenting skills is a valuable resource and may provide emotional support. Parents need to take care of themselves by getting plenty of exercise, enough sleep, learning how to reduce stress through relaxation exercises, and making time for activities they may enjoy.

As Joseph Herman reported in the *Journal of Medical Humanities*, medicine is both a science and an art.[308] It is impossible to reduce medicine to the scientific only because doctors and patients need both the science of objective measurement and the art of clinical proficiency and judgment to effectively ensure health and solve natural

---

[308] J. Herman, "Medicine: The Science and the Art," *Medical Humanities* 27, no. 1 (June 1, 2001): 42-46.

problems of human life. Furthermore, doctors need to understand the psycho-sociological issues of our time.

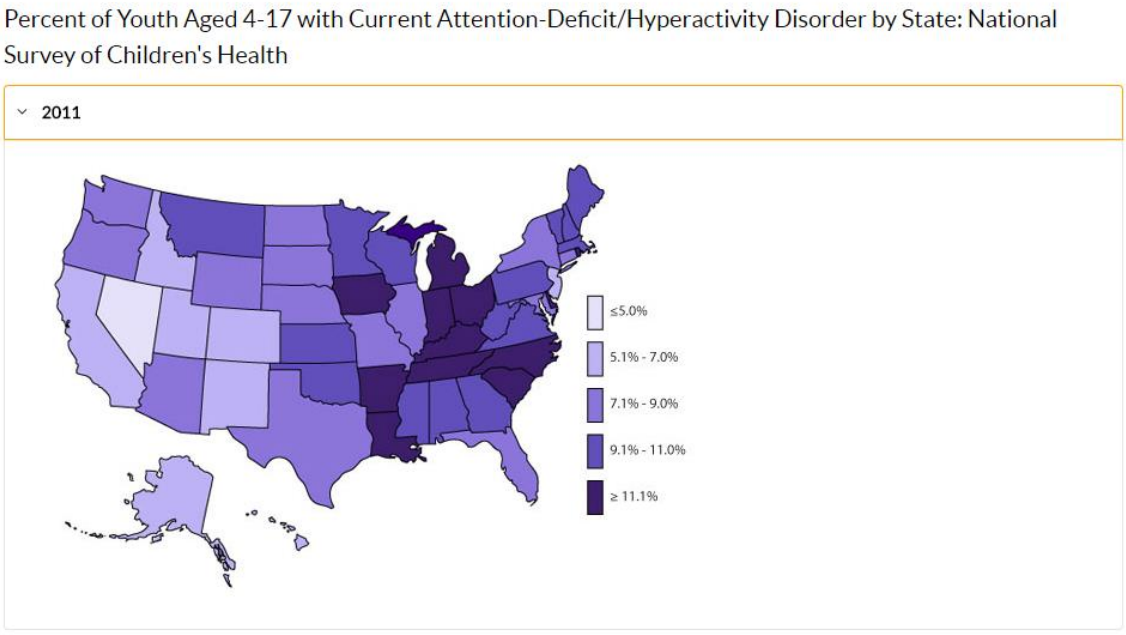
As George Engel stated, patients always ask themselves: "Do my doctors know who I am, who I have been, who I still want to be? Do they understand what I am going through, my suffering, my pain, my distress? Do they understand my hopes and aspirations, my fears and shames, my vulnerabilities and strengths, my needs and obligations and my values? Above all do they sense my personhood and my individuality? Do they acknowledge my humanity? Do they care?"[309] The ADHD Symptoms Clinic strives to answer George Engel's questions with a very strong YES!

[309] George L. Engel, "The Need for a New Medical Model: A Challenge for Biomedicine," *Psychodynamic Psychiatry* 40, no. 3 (2012), http://dx.doi.org/101521pdps2012403377.

Appendix 1

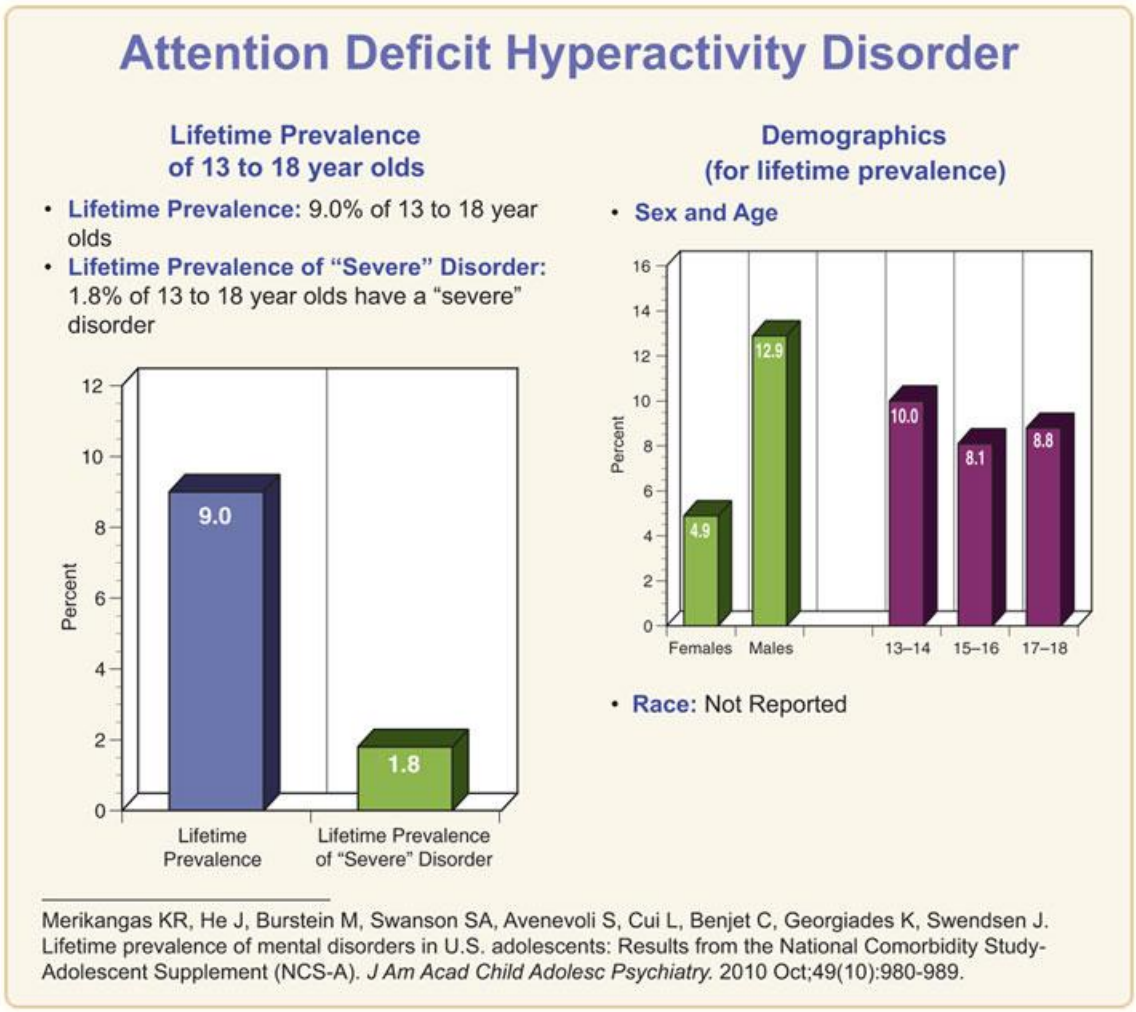
FIGURES

Figure 1.



Graphic courtesy of Centers for Disease Control and Prevention, available from www.cdc.gov/ncbddd/adhd/prevalence.html.

Figure 2.



Graphic courtesy of National Institute of Mental Health (NIMH), "Attention Deficit Hyperactivity Disorder (ADHD)," NIH Publication No. 08-3572, 21, http://www.nimh.nih.gov/health/publications/attention-deficit-hyperactivity-disorder/adhd_booklet.pdf.

Appendix 2

RESOURCES

www.help4adhd.org

This is a government-funded information clearinghouse that offers research findings: information on diagnosis, treatment and interventions about the ADHD disorder. It provides information on the educational rights of children and adolescents with ADHD and how they make a smooth transition to college.

www.chadd.org

This is a national ADHD advocacy organization that shares information about how to be an effective parent through parentto-parent classes and connecting with others in their community through the local CHADD group. Members can receive weekly ADHD tips and tools about the illness.

www.add.org

This site is about research, treatment, and family and legal issues pertaining to ADD and ADHD. It features personal stories and has a Kids' Area in which children are encourage to provide their opinions and thoughts about the disorders. It also contains links to support groups and other Web sites.

Bibliography

Abedi, Ahmad, Sara Aghababaei, Adeleh Sharbaf Zadeh, and Nasrin Zamani. "Development of Executive Functions in 5- to 12- Years Old Iranian Children with and without ADHD." *Journal of Educational and Developmental Psychology* 4, no. 2 (2014): 134-41.

"About DDR." Accessed January 18, 2016. http://www.ddrfreak.com/aboutddr.php.

"Attention Deficit Hyperactivity Disorder and Sleep. Insomnia and Other Sleep Problems May Worsen Symptoms of ADHD; Treatment Options Exist." *The Harvard Mental Health Letter* 27, no. 6 (December 1, 2010): 6-7.

Babauta, Leo. "A Guide to Cultivating Compassion in Your Life, with 7 Practices." Last modified 2007. Accessed March 27, 2016. http://zenhabits.net/a-guide-to-cultivating-compassion-in-your-life-with-7-practices/.

Bahram, Mohammad Ebrahim, Negar Akkasheh, and Mohammad Javad Pourvaghar. "Effect of Twelve Weeks of Aerobic Training on Treatment of Attention Deficit/Hyperactivity Disorder in Children." *Iranian Journal of Health and Physical Activity* 5, no. 1 (2014): 50-55.

Barkley, Russell A. "ADHD, Obesity, and Eating Pathology." *The ADHD Report* 22, no. 5 (2014).

Bloch, Michael H. and Ahmad Qawasmi. "Omega-3 Fatty Acid Supplementation for the Treatment of Children with Attention-Deficit/Hyperactivity Disorder Symptomatology: Systematic Review and Meta-Analysis." *Journal of the American Academy of Child & Adolescent Psychiatry* 20, no. 10 (2011): 991-1000.

Boekamp, John R., Lauren R. Williamson, Sarah E. Martin, Heather L. Hunter, and Thomas F. Anders. "Sleep Onset and Night Waking Insomnias in Preschoolers with Psychiatric Disorders." *Child Psychiatry & Human Development* 46, no. 4 (2014): 622-31. http://dx.doi.org/10.1007/s10578-014-0505-z.

Booster, Genery D, George J DuPaul, Ricardo Eiraldi, and Thomas J Power. "Functional Impairments in Children with ADHD: Unique Effects of Age and Comorbid Status." *Journal of Attention Disorders* 16, no. 3 (2012): 179-89.

BrainTrainUK Changing Lives with Neurofeedback. "How the American Academy of Pediatrics Reached the Conclusion That Eeg Biofeedback, (Aka Neurofeedback) Is a Level 1 Evidence-Based Practice for Attention and Hyperactivity, and Other Recent Evidence of the Efficacy of Neurofeedback for ADHD." Accessed March

26, 2016. http://www.braintrainuk.com/wp-content/uploads/2013/07/How-AAP-reached-conclusion-other-recent-evidence-July-2013-V3.pdf.

Braswell, Lauren and Michael L. Bloomquist. *Cognitive-Behavioral Therapy with ADHD Children: Child, Family, and School Interventions*. New York: Guilford Press, 1991.

Breggin, Peter Roger. *The Ritalin Fact Book: What Your Doctor Won't Tell You About ADHD and Stimulant Drugs*. Cambridge, MA: Perseus Pub., 2002.

Britton, Willoughby B., Jared R. Lindahl, B. Rael Cahn, and Jake H. Davis. "Awakening Is Not a Metaphor: The Effects of Buddhist Meditation Practices on Basic Wakefulness." *Annals of the New York Academy of Sciences* 1307, no. 1 (January 1, 2014): 64-81.

Brownlee, John. "Project Excite Bike Brings Exercise to the Xbox 360." Last modified 2010. Accessed January 18, 2016. http://www.geek.com/games/project-excite-bike-brings-exercise-to-the-xbox-360-1054392/.

Bustamante, Eduardo Esteban. "Physical Activity Intervention for ADHD and DBD." PhD diss., University of Illinois at Chicago, 2013. http://search.proquest.com/docview/1468954505?accountid=10558.

Carey, Benedict. "Early Behavior Therapy Found to Aid Children with A.D.H.D." Last modified 2016. Accessed February 22, 2016. www.nyti.ms/1LuhGcF.

Carroll, Linda. "ADHD Meds Help, but Many Parents Still against Them." Last modified 2010. Accessed March 24, 2015. http://www.nbcnews.com/id/38315906/ns/health-childrens_health/t/adhd-meds-help-many-parents-still-against-them/#.VRF7R7d0zIU.

Castellano, I. Pitarch, F. Puertas Cuesta, and A. Perez Pitarch. "Salivary Determination of Dim Light Melatonin Onset as a Tool in Attention Deficit Hyperactivity Disorder Diagnosis." *Sleep Medicine* 14, Supplement 1 (December 2013): e93. http://dx.doi.org/http://dx.doi.org/10.1016/j.sleep.2013.11.197.

Centers for Disease Control and Prevention. "How Much Sleep Do I Need?" Last modified 2013. Accessed February 3, 2015. http://www.cdc.gov/sleep/about_sleep/how_much_sleep.htm.

Charach, Alice, Abel Ickowicz, and Russell Schachar. "Stimulant Treatment over Five Years: Adherence, Effectiveness, and Adverse Effects." *Journal of the American Academy of Child & Adolescent Psychiatry* 43, no. 5 (2004): 559-67. http://dx.doi.org/10.1097/00004583-200405000-00009.

Chen, David and Linda Pauwels. "Kids Yoga Research Study on Use of Yoga Tools in Classrooms." Last modified 2014. Accessed January 29, 2015. http://move-with-me.com/kids-yoga-research-study-benefits-of-incorporating-yoga-into-classroom-teaching/.

Chen, David Dapeng and Linda Pauwels. "Perceived Benefits of Incorporating Yoga into Classroom Teaching: Assessment of the Effects of 'Yoga Tools for Teachers.'" *Advances in Physical Education* 4, no. 3 (2014): 138-48.

Chen, Ying-Yi, Lih-Jiun Liaw, Jing-Min Liang, Wei-Tso Hung, Lan-Yuen Guo, and Wen-Lan Wu. "Timing Perception and Motor Coordination on Rope Jumping in Children with Attention Deficit Hyperactivity Disorder." *Physical Therapy in Sport* 14, no. 2 (2013): 105-09. http://dx.doi.org/10.1016/j.ptsp.2012.03.012.

Chiang, Huey-Ling, Huey-Ling Chiang, Susan Shur-Fen Gau, Hsing-Chang Ni, and Yen-Nan Chiu. "Association between Symptoms and Subtypes of Attention-Deficit Hyperactivity Disorder and Sleep Problems/Disorders." *Journal of Sleep Research* 19, no. 4 (2010): 535-45.

"Children Sleep." Robert Wood Johnson University Hospital. Accessed September 1, 2014. http://www.rwjuh.edu/sleepcenter/WoStasleepdisorder.aspx.

Childress, Ann C. and Floyd R. Sallee. "Attention-Deficit/Hyperactivity Disorder with Inadequate Response to Stimulants: Approaches to Management." *CNS Drugs* 28, no. 2 (2014): 121-29. http://dx.doi.org/10.1037/a0029451.

Ciopat, O., M. Díaz Román, O. Urdanibia Centelles, P. Rubio Sánchez, E. Gomez Siurana, and D. Goyo Ibarra. "Sleep and ADHD." *Sleep Medicine* 14, Supplement 1 (2013): e245-46.

"Compassion Fatigue Awareness Project." Accessed February 28, 2015. www.compassionfatigue.org.

Conrad, Peter. *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders*. Baltimore: Johns Hopkins University Press, 2007.

Coon, Eric R., Ricardo A. Quinonez, Virginia A. Moyer, and Alan R. Schroeder. "Overdiagnosis: How Our Compulsion for Diagnosis May Be Harming Children." *Pediatrics* 134, no. 5 (2014): 1013-23. http://dx.doi.org/10.1542/peds.2014-1778.

Dagan, Yaron, Shulamit Zeevi-Luria, Yonatan Sever, and Dana Hallis. "Sleep Quality in Children with Attention Deficit Hyperactivity Disorder: An Actigraphic Study." *Psychiatry and Clinical Neurosciences* 51, no. 6 (December 1, 1997): 383-86.

Dahl, Ronald E., William E Pelham, and Michelle Wierson. "The Role of Sleep Disturbances in Attention Deficit Disorder Symptoms: A Case Study." *Journal of Pediatric Psychology* 16, no. 2 (1991): 229-39.

Dalai Lama XIV. Accessed April 16, 2016. http://www.goodreads.com/quotes/29007-every-day-think-as-you-wake-up-today-i-am.

Dharma. "From Relieving the Suffering of the Mind to Relieving the Suffering of the Body." Last modified 1996. Accessed March 27, 2016. http://www.buddhanet.net/cbp2_f11.htm.

Diagnostic and Statistical Manual of Mental Disorders: DSM-5. 5th ed. Washington, DC: American Psychiatric Association, 2013.

"Difference between Typical and Atypical Antipsychotics." Accessed March 24, 2015. http://www.differencebetween.com/difference-between-typical-and-vs-atypical-antipsychotics/.

Dilaimi, Alia. "New Zealand Primary School Teachers' Knowledge and Perceptions of Attention-Deficit/Hyperactivity Disorder (ADHD)." Master's thesis, Massey University, Albany, New Zealand, 2013.

DuPaul, G., T. J. Power, A. D. Anastopoulos, and R. Reid. "ADHD Rating Scale-IV: Checklists, Norms, and Clinical Interpretation." *Journal of Psychoeducational Assessment* 24, no. 2 (1998): 172-78.

DuPaul, George J. and Lee Kern. "Young Children with ADHD Early Identification and Intervention." *Communiqué (National Association of School Psychologists)* 39, no. 7 (May 1, 2011): 20.

DuPaul, George J., Lisa L. Weyandt, and Grace M. Janusis. "ADHD in the Classroom: Effective Intervention Strategies." *Theory into Practice* 50, no. 1 (2011): 35-42.

Ekman, Paul. *Emotional Awareness: Overcoming the Obstacles to Psychological Balance and Compassion: A Conversation between the Dalai Lama and Paul Ekman*. Henry Holt and Co., 2008.

"Emotional Awareness: Overcoming the Obstacles to Psychological Balance and Compassion: A Conversation between the Dalai Lama and Paul Ekman, Ph.D." *The Publishers Weekly* 255, no. 21 (May 26, 2008): 46.

Engel, George L. "The Need for a New Medical Model: A Challenge for Biomedicine." *Psychodynamic Psychiatry* 40, no. 3 (2012): 377-96. http://dx.doi.org/101521pdps2012403377.

Evans, Steven W., Zewalanji N. Serpell, Brandon K. Schultz, and Dena A. Pastor. "Cumulative Benefits of Secondary School-Based Treatment of Students with Attention Deficit Hyperactivity Disorder." *School Psychology Review* 36, no. 2 (2007): 256-73.

Everett, Craig A. and Sandra Volgy Everett. *Family Therapy for ADHD. Treating Children, Adolescents, and Adults*. NY: The Guilford Press, 1999.

Evinç, S. Gülin, Tülin Gençöz, Dilsad Foto-Özdemir, Devrim Akdemir, Ferda Karadag, and Fatih Ünal. "Child Maltreatment and Associated Factors among Children with ADHD: A Comparative Study." *The Turkish Journal of Pediatrics* 56, no. 1 (2014): 11-22.

Faraone, Stephen V., Michel Lecendreux, and Eric Konofal. "Growth Dysregulation and ADHD: An Epidemiologic Study of Children in France." *Journal of Attention Disorders* 16, no. 7 (2012): 572-78.

Favaloro, René G. *De La Pampa a Los Estados Unidos*. 4a ed. Buenos Aires: Editorial Sudamericana, 1992.

Figley, C. R. "Traumatization and Comfort: Close Relationships May Be Hazardous to Your Health." Paper presented at Families and close relationships: Individuals in social interaction, Texas Tech University, Lubbock, Texas, November 28, 1982.

Frances, Allen. *Saving Normal: An Insider's Revolt against out-of-Control Psychiatric Diagnosis, DSM-5, Big Pharma, and the Medicalization of Ordinary Life*. New York, NY: William Morrow, an imprint of HarperCollins publishers, 2013.

Fulton, April. "FDA Proves Link between Food Dyes, Kids' Behavior." Last modified 2011. Accessed June 24, 2012. www.npr.org/2011/03/30/134962888/fda-pr0bes-link-between-food-dyes-kids-behavior.

"Gaiam Introduces Scooby Doo Fitness Products for Kids." *PR Newswire*. June 20, 2005, http://search.proquest.com/docview/447118554?accountid=10558.

"Gamebike Turns the Playstation into an Exercise Machine." Last modified 2004. Accessed January 18, 2016. http://www.strangenewproducts.com/2005/08/playstation-exercise-bike.html.

Ganelin-Cohen, Esther and Arie Ashkenasi. "Disordered Sleep in Pediatric Patients with Attention Deficit Hyperactivity Disorder: An Overview." *The Israel Medical Association Journal* 15, no. 11 (November 1, 2013): 705-09.

Gillin, J. Christian, Timothy Roehrs, and Thomas Roth. "Sleep Aids and Insomnia." National Sleep Foundation. Last modified 2012. Accessed March 2, 2012. www.sleepfoundation.org/article/sleep-related-problems/sleep-aids-and-insomnia.

Gnanavel, Sundar. "Smith-Magneis Syndrome: Behavioural Phenotype Mimics ADHD." *BMJ Case Reports* (2014). Accessed March 29, 2016. http://dx.doi.org/10.1136/bcr-2013-201766.

Gökler, B., F. Ünal, B. Pehlivantürk, E. Ç. Kültür, D. Akdemir, and Y. Taner. "Reliability and Validity of Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version-Turkish Version (K-Sads-Pl-T)." Last modified 2014. Accessed February 15, 2015. http://www.scopemed.org/?mno=33747.

Gromball, Jürgen, Frank Beschorner, Christian Wantzen, Ute Paulsen, and Martin Burkart. "Hyperactivity, Concentration Difficulties and Impulsiveness Improve During Seven Weeks' Treatment with Valerian Root and Lemon Balm Extracts in Primary School Children." *Phytomedicine* 21, no. 8-9 (2014): 1098-103. http://dx.doi.org/10.1016/j.phymed.2014.04.004.

"Guide to Zen Habits." Accessed February 28, 2015. www.zenhabits.net.

Hak, Eelko, Tjalling W. de Vries, Pieter J. Hoekstra, and Susan S. Jick. "Association of Childhood Attention-Deficit/Hyperactivity Disorder with Atopic Diseases and Skin Infections? A Matched Case-Control Study Using the General Practice Research Database." *Annals of Allergy, Asthma, & Immunology* 111, no. 2 (August 1, 2013): 102-06.

Halperin, Jeffrey M., David J. Marks, Anne-Claude V. Bedard, Anil Chacko, Jocelyn T. Curchack, Carol A. Yoon, and Dione M. Healey. "Training Executive, Attention, and Motor Skills. A Proof-of-Concept Study in Preschool Children with ADHD." *Journal of Attention Disorders* (2013).

Hamilton, Jon. "Train the Brain: Using Neurofeedback to Treat ADHD." Last modified Accessed February 11, 2015. http://www.npr.org/templates/story/story.php?storyId=130896102.

Harada, Tetsuo, Masaaki Hirotani, Mari Maeda, and Hiromi Nomura. "Correlation between Breakfast Tryptophan Content and Morning-Evening in Japanese Infants and Students Aged 0-15 Yrs." *Journal of Physiological Anthropology* 26, no. 2 (March 1, 2007): 201-07.

Heijden, Kristiaan B., Marcel G. Smits, and W. Boudewijn Gunning. "Sleep Hygiene and Actigraphically Evaluated Sleep Characteristics in Children with ADHD and Chronic Sleep Onset Insomnia." *Journal of Sleep Research* 15, no. 1 (March 1, 2006): 55-62. http://dx.doi.org/10.1111/j.1365-2869.2006.00491.x.

Helal, S. Ashou. "Sleep Disturbances in Children with Attention Deficit." *Sleep Medicine* 14, Supplement 1 (2013): e65-e66. http://dx.doi.org/10.1016/j.sleep.2013.11.125.

"Helping Children with ADHD Do Homework: Homework Help." *Grimsby Telegraph / Scunthorpe Evening Telegraph*. April 17, 2014. Accessed February 2, 2015. http://www.search.proquest.com/docview/1517118728?.

Herman, J. "Medicine: The Science and the Art." *Medical Humanities* 27, no. 1 (June 1, 2001): 42-46.

Hickey, Colin. "Parents: Karate Eases Hyperactivity." *Kennebec Journal*. October 5, 2005. http://search.proquest.com/docview/241731046?accountid=10558.

Hinkley, Trina, Megan Teychenne, Katherine L. Downing, and Kylie Ball. "Early Childhood Physical Activity, Sedentary Behaviors and Psychosocial Well-Being: A Systematic Review." *Preventive Medicine* 62 (May 1, 2014): 182-92.

Hinshaw, Stephen P. and Richard M. Scheffler. *The ADHD Explosion: Myths, Medication, Money, and Today's Push for Performance*. New York, NY: Oxford University Press, 2014.

His Holiness the XIV Dalai Lama. *Transforming the Mind: Teaching on Generating Compassion*. Edited by Dominique Side and Geshe Thupten Jinpa. Translated by Geshe Thupten Jinpa. Thorsons, 2000.

Hoebert, Michel, Kristiaan B. van der Heijden, Ingeborg M. van Geijlswijk, and Marcel G. Smits. "Long-Term Follow-up of Melatonin Treatment in Children with ADHD and Chronic Sleep Onset Insomnia." *Journal of Pineal Research* 47, no. 1 (August 1, 2009): 1-7.

Horiuchi, Fumie, Yasunori Oka, Kenjiro Komori, Yasumasa Tokui, Teruhisa Matsumoto, Kentaro Kawabe, and Shu-ichi Ueno. "Effects of Adenotonsillectomy on Neurocognitive Function in Pediatric Obstructive Sleep Apnea Syndrome." *Case Reports in Psychiatry* (September 25, 204). http://dx.doi.org/http://dx.doi.org/10.1155/2014/520215.

Huang, C. J., C. W. Huang, Y. J. Tsai, Y. K. Chang, and T. M. Hung. "A Preliminary Examination of Aerobic Exercise Effects on Resting EEG in Children with ADHD." *Journal of Attention Disorders* (2014).

Huff, Bex. "Empathy Vs Sympathy." Last modified 2008. Accessed March 27, 2016. http://bexhuff.com/2008/05/empathy-vs-sympathy.

Hunter, Kathryn Montgomery. *Doctors' Stories: The Narrative Structure of Medical Knowledge*. Princeton, N.J.: Princeton University Press, 1991.

Hyo-Won, Kim, Kim Seon-Ok, Shon Seunghyun, Jung-Sun Lee, and Choi Jin-Ho. "Effect of Methylphenidate on Height and Weight in Korean Children and

Adolescents with Attention-Deficit/Hyperactivity Disorder: A Retrospective Chart Review." *Journal of Child and Adolescent Psychopharmacology* 24, no. 8 (2014). http://dx.doi.org/10.1089/cap.2014.0025.

International Society for Ethical Psychology & Psychiatry. "Rethinking Mental Health Care for Children & Adolescents: Evidence-Based and Experience-Based Alternatives to the Medical Model." Last modified 2013. Accessed September 24, 2013. http://www.psychintegrity.org.

Jacobelli, Frank and L. A. Watson. *ADD/ADHD Drug Free: Natural Alternatives and Practical Exercises to Help Your Child Focus*. New York: AMACOM/American Management Association, 2008.

Jacobs et al., Gregg D. "Cognitive Behavior Therapy and Pharmacotherapy for Insomnia." *Archives of Internal Medicine* 164 (2004): 1888-96.

Javadi, Maryam, Naser Kalantari, Shabnam Jalilolghadr, Nasrin Omidvar, Bahram Rashidkhani, and Parisa Amiri. "Sleep Habits and Dietary Intake among Preschool Children in Qazvin." *Journal of Comprehensive Pediatrics* 4, no. 1 (2013).

Kain, M. Amanda. "The Unexplored Achievement Gap: A Phenomenological Study of the Experiences of Teachers of Elementary Students with Attention-Deficit/Hyperactivity Disorder." PhD diss., University of Missouri-Kansas City, 2014.

Kaplan, Gabriel and Bennet Silver. "New Developments in Pharmacological and Therapeutic Interventions." (Powerpoint Presentation). 2012. Accessed April 27, 2012. www.newallianceacademy.com/assets/documents/ADHD-New%20Developments-April%2027%202012-Website%20Version.ppt.

Kataria, Madan. "Laughter for Health." Last modified 2015. Accessed February 28, 2015. http://www.laughteryoga.org/english/diary/laughter_quotes.

Kennedy, Robert. "Humor in Medicine -- Part I: Humor and Laughter as a Therapeutic Tool." Last modified 2011. Accessed June 14, 2011. www.neurosciencecme.com/email/2011/061411.

———. "Humor in Medicine -- Part 2: The Clinician-Patient Relationship." Last modified 2011. Accessed June 14, 2011. www.neurosciencecme.com/email/2011/061411.

Kutcher, S. et al. "International Consensus Statement on Attention-Deficit/Hyperactivity Disorder (ADHD) and Disruptive Behaviour Disorders (Dbds): Clinical Implications and Treatment Practice Suggestions." *European Neuropsychopharmacology* 14, no. 1 (Jan 2004): 11-28.

Leuzinger-Bohleber, Marianne, Jorge Canestri, and Mary Target. *Early Development and Its Disturbances: Clinical, Conceptual and Empirical Research on ADHD and Other Psychopathologies and Its Epistemological Reflections Developments in Psychoanalysis Series*. London: Karnac, 2010.

Lucassen, Eliane A., Paolo Piaggi, John Dsurney, Lilian de Jonge, Xiong-ce Zhao, Megan S. Mattingly, Angela Ramer, Janet Gershengorn, Gyorgy Csako, Giovanni Cizza, and Sleep ExtensionStudy Group. "Sleep Extension Improves Neurocognitive Functions in Chronically Sleep-Deprived Obese Individuals." *PLoS One* 9, no. 1 (2014). http://dx.doi.org/10.1371/journal.pone.0084832.

Marcus, Carole, L., Lee Jay Brooks, Sally Davidson Ward, and Kari A. Draper. "Diagnosis and Management of Childhood Obstructive Sleep Apnea Syndrome." *Pediatrics (Evanston)* 130, no. 3 (September 1, 2012): e714.

Mautone, Jennifer A., Elizabeth K. Lefler, and Thomas J. Power. "Promoting Family and School Success for Children with ADHD: Strengthening Relationships While Building Skills." *Theory into Practice* 50, no. 1 (2011): 43-51.

Maxmen, Jerrold S. and Nicholas G. Ward. *Essential Psychopathology and Its Treatment*. 2nd ed. New York: W.W. Norton, 1995.

Mayo Clinic. "Attention-Deficit/Hyperactivity Disorder (ADHD) in Children." Last modified 2012. Accessed June 11, 2012. www.mayoclinic.com/health/adhd/DS00275.

Mayo Clinic Staff. "Sleep Terrors (Night Terrors)." Last modified 2014. Accessed April 2, 2016. http://www.mayoclinic.org/diseases-conditions/night-terrors/basics/definition/CON-20032552?p=1.

McAllister, R. "Impulsivity and Aggression." *Criminal Behaviour and Mental Health* 6, no. 3 (1996): 287-88. http://dx.doi.org/10.1002/cbm.109.

Medicine, US National Library of. "Smith-Magenis Syndrome." Last modified December 2013. Accessed April 2, 2016. https://ghr.nlm.nih.gov/condition/smith-magenis-syndrome.

Meichenbaum, Donald H and Jerry L Deffenbacher. "Stress Inoculation Training." *The Counseling Psychologist* 16, no. 1 (1988): 69-90.

Mental Health Clinic of Passaic. "Partial Care Programs." Accessed March 25, 2016. http://mhcp.org/part_care_pro.html.

Michigan State University. "MSU College of Human Medicine." Last modified Accessed April 12, 2016. https://www.midmichigan.org/Microsites/medical-students/about/college-of-human-medicine/.

Miller, Michael Craig. *Diet and ADHD*. Norwalk: Belvoir Media Group, LLC, 2010.

"The Mind-Body Connection." *NIH Medline Plus* 3, no. 1 (2008): 4.

Miranda, Ana, Sonia Jarque, and Raul Tarraga. "Interventions in School Settings for Students with ADHD." *Exceptionality* 14, no. 1 (2006): 35-52.

"More Students Abusing 'Study Drug' Adderall." Last modified 2015. Accessed March 24, 2015. http://www.elementsbehavioralhealth.com/drug-abuse-addiction/student-adderall-abuse/.

Müller, S. F. and S. Klement. "A Combination of Valerian and Lemon Balm Is Effective in the Treatment of Restlessness and Dyssomnia in Children." *Phytomedicine* 13, no. 6 (June 12, 2006): 383-87. http://dx.doi.org/10.1016/j.phymed.2006.01.013.

National Association of School Psychologists. "Position Statement: Students with Attention Deficit Hyperactivity Disorder." National Association of School Psychologists. Last modified 2011. Accessed April 5, 2016. http://www.nasponline.org/assets/documents/Research%20and%20Policy/Position%20Statements/Students_With_ADHD.pdf.

National Institute for Health and Care Excellence. "Attention Deficit Hyperactivity Disorder: Diagnosis and Management of ADHD in Children, Young People and Adults." Last modified September 2008. Accessed November 2, 2014. http://www.nice.org.uk/guidance/cg72/chapter/key-priorities-for-implementation.

National Institute of Mental Health (NIMH). "Attention Deficit Hyperactivity Disorder (ADHD)." Last modified 2008. NIH Publication No. 08-3572. http://www.nimh.nih.gov/health/publications/attention-deficit-hyperactivity-disorder/adhd_booklet.pdf.

Neusner, Jacob. *The Golden Rule: The Ethics of Reciprocity in World Religions*. Continuum International Publishing, 2008.

Newell Jones, Anna. "134 Ideas for Random Acts of Kindness." Accessed March 27, 2016. http://andthenwesaved.com/random-acts-of-kindness-ideas/.

NHS choices in England. "Attention Deficit Hyperactivity Disorder (ADHD)." Last modified 2014. Accessed November 8, 2015. http://www.nhs.uk/Conditions/Attention-deficit-hyperactivity-disorder/Pages/Introduction.aspx.

Nigg, Joel T. *What Causes ADHD? Understanding What Goes Wrong and Why*. New York: Guilford Press, 2006.

Nigg, Joel T., K. Lewis, T. Edinger, and M. Falk. "Meta-Analysis of Attention-Deficit/Hyperactivity Disorder or Attention-Deficit/Hyperactivity Disorder Symptoms, Restriction Diet, and Synthetic Food Color Additives." *Journal of the American Academy of Child & Adolescent Psychiatry.* 51, no. 1 (January 2012): 86-97.

NJ PBSIS. "PBSIS: Helping Schools Build Systems of Support." Last modified 2014. Accessed March 29, 2016. http://www.njpbs.org.

Novick, Brett. "15 Ways to Involve 'At-Risk Parents' In Enrichment Programs." *Review* 88, no. 5 (2014): 28-29.

O'Connor, Eileen M. "Medicating ADHD: Too Much? Too Soon?" *Monitor on Psychology* 32, no. 11 (2001): 50.

Olfman, Sharna and Brent Dean Robbins. *Drugging Our Children: How Profiteers Are Pushing Antipsychotics on Our Youngest, and What We Can Do to Stop It*. Childhood in America. Santa Barbara, Calif.: Praeger, 2012.

"The Overmedication of Our Youth: An Interview with Brent Dean Robbins Ph.D." American Psychological Association. Last modified November 2012. Accessed January 19, 2016. http://www.apadivisions.org/division-32/publications/newsletters/humanistic/2012/04/drugging-our-children.aspx.

Owens, Judith A. and Jodi A. Mindell. *Take Charge of Your Child's Sleep: The All-in-One Resource for Solving Sleep Problems in Kids and Teens*. New York, NY: Marlowe & Co., 2005.

Page, Timothy F., William E. Pelham III, Gregory A. Fabiano, Andrew R. Greiner, Elizabeth M. Gnagy, Katie C. Hart, Stefany Coxe, James G. Waxmonsky, E. Michael Foster, and William E. Pelham Jr. "Comparative Cost Analysis of Sequential, Adaptive, Behavioral, Pharmacological, and Combined Treatments for Childhood ADHD." *Journal of Clinical Child & Adolescent Psychology* (2016): 1-12. http://dx.doi.org/10.1080/15374416.2015.1055859.

Peck, Heather L., Thomas J. Kehle, Melissa A. Bray, and Lea A. Theodore. "Yoga as an Intervention for Children with Attention Problems." *School Psychology Review* 34, no. 3 (2005): 415-24. http://dx.doi.org/10.1177/1359104504046155.

"Pediatric Psychology and Psychiatry; Investigators from National Institutes of Health Zero in on Pediatric Psychology and Psychiatry (Omega-3 Fatty Acid and Nutrient Deficits in Adverse Neurodevelopment and Childhood Behaviors)." *Pediatrics Week* (August 23, 2014): 200.

Pelham, William E. Jr., Elizabeth M. Gnagy, Karen E. Greenslade, and Richard Milich. "Teacher Ratings of Dsm-III-R Symptoms for the Disruptive Behavior Disorders." *Journal of the American Academy of Child & Adolescent Psychiatry* 31, no. 2 (1992): 210-18. http://dx.doi.org/10.1097/00004583-199203000-00006.

Pelham, William E., Gregory A. Fabiano, James G. Waxmonsky, Andrew R. Greiner, Elizabeth M. Gnagy, Stefany Coxe, Jessica Verley, Ira Bhatia, Katie Hart, Kathryn Karch, Evelien Konijnendijk, Katy Tresco, Inbal Nahum-Shani, and Susan A. Murphy. "Treatment Sequencing for Childhood ADHD: A Multiple-Randomization Study of Adaptive Medication and Behavioral Interventions." *Journal of Clinical Child & Adolescent Psychology* (2016): 1-20. http://dx.doi.org/10.1080/15374416.2015.1105138.

Pellegrino, Edmund D. and David C. Thomasma. *The Virtues in Medical Practice*. New York: Oxford University Press, 1993.

Pelsser, Lidy M., Klaas Frankena, Jan K. Buitelaar, and Nanda N. Rommelse. "Effects of Food on Physical and Sleep Complaints in Children with ADHD: A Randomised Controlled Pilot Study." *European Journal of Pediatrics* 169, no. 9 (2010): 1129-38. http://dx.doi.org/10.1007/s00431-010-1196-5.

Phillips, Barbara. "Asthma and Sleep." National Sleep Foundation. Accessed March 2, 2014. www.sleepfoundation.org/article/sleep-topics/asthma-and-sleep.

"Playstation Exercise Bike." Accessed January 18, 2016. http://www.strangenewproducts.com/2005/08/playstation-exercise-bike.html.

Polanczyk, Guilherme, Maurício Silva de Lima, Horta Bernardo Lessa, Joseph Biederman, and Luis Augusto Rohde. "The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis." *The American Journal of Psychiatry* 164, no. 6 (2007): 942-48.

"Positive Reinforcement." Accessed February 11, 2015. http://kidsmakingchange.com/positive-reinforcement/.

Ratey, John J. and Eric Hagerman. *Spark: The Revolutionary New Science of Exercise and the Brain*. New York: Little, Brown, 2008.

Ren, F., G. Wang, M. Wang, and J. Zhang. "A Taxometric Analysis of the Children's Sleep Habits Questionnaire." *Sleep Medicine* 14, Supplement 1, (2013): e241-42. http://dx.doi.org/10.1016/j.sleep.2013.11.584.

Reynolds, Richard C., John Stone, Lois LaCivita Nixon, and Delese Wear. *On Doctor[i]ng : Stories, Poems, Essays*. New, revised, and expanded edition. ed. New York: Simon & Schuster, 1995.

The Rise of Man. Directed by Malaterre, Jacques. Boreales Productions Discovery Channel, 2007.

RoG. "Nintendo, the Good, the Bad, and the Ugly. The Power Pad!" Accessed January 18, 2016. http://www.i-mockery.com/minimocks/nes/9.php.

Rogers, Carl R. *On Becoming a Person: A Therapist's View of Psychotherapy*. Boston: Houghton Mifflin, 1961.

———. *A Way of Being*. Boston: Houghton Mifflin, 1980.

Rogers, Carl R., Howard Kirschenbaum, and Valerie Land Henderson. *Carl Rogers--Dialogues: Conversations with Martin Buber, Paul Tillich, B.F. Skinner, Gregory Bateson, Michael Polanyi, Rollo May, and Others*. Boston: Houghton Mifflin, 1989.

Rothman, David J. *Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making*. New Brunswick NJ: AldineTransaction, 2008.

Ruusuvuori, J. "'Empathy' And 'Sympathy' In Action: Attending to Patients' Troubles in Finnish Homeopathic and General Practice Consultations." *Social Psychology Quarterly* 68, no. 3 (2005): 204-22. http://dx.doi.org/10.1177/019027250506800302.

Sanjay Dixit, Suraj and Suraj Sirohi Sanjay Dixit. "A Cross Sectional Study on Sleep Hygiene among Morning Shift School Going Children." *National Journal of Community Medicine* 4 (January 1, 2013): 584-87.

Schachar, Russell and Abel Ickowicz. "Mental Illness in the Real World." *Journal of the Canadian Academy of Child and Adolescent Psychiatry* 23, no. 3 (2014): 156.

Scholte, E. M., I. A. van Berckelaer-Onnes, and J. D. van der Ploeg. "The Development of Children with ADHD in Day Treatment Centres after School Hours." *European Journal of Special Needs Education* 22, no. 1 (2007): 93-105.

Schwartz, George, Leila Ben Amor, Natalie Grizenko, Philippe Lageix, Chantal Baron, Diane B. Boivin, and Ridha Joober. "Actigraphic Monitoring During Sleep of Children with ADHD on Methylphenidate and Placebo." *Journal of the American Academy of Child & Adolescent Psychiatry* 43, no. 10 (2004): 1276-82. http://dx.doi.org/10.1097/01.chi.0000135802.94090.93.

"Section 504 - Sample Accommodations and Modifications." Accessed March 25, 2016. http://www.warmlinefrc.org/uploads/5/9/5/8/5958794/section_504_accomodations.pdf.

Sedky, Karim, David S. Bennett, and Karen S. Carvalho. "Attention Deficit Hyperactivity Disorder and Sleep Disordered Breathing in Pediatric Populations: A Meta-Analysis." *Sleep Medicine Reviews* 18, no. 4 (2014): 349-56. http://dx.doi.org/10.1016/j.smrv.2013.12.003.

Semrud-Clikeman, M., J. Goldenring Fine, and J. Bledsoe. "Comparison Children with Autism Spectrum Disorder, Nonverbal Learning Disorder and Typically Developing Children on Measures of Executive Functioning." *Journal of Autism and Developmental Disorders* 44, no. 2 (2014): 331-42. http://dx.doi.org/10.1007/s10803-013-1871-2.

Sepkowitz, Kent. "Why Hospitals Are Cold, and Doctors Don't Cry (in Public)." *New York Times*. November 28, 2006.

Serneels, Anik. "Picturing Stories: Drawings in Narrative Family Therapy with Children." *The International Journal of Narrative Therapy and Community Work*, no. 4 (2013): 1-9.

Shanahan, Lilly, Shanahan Lilly, E. Copeland William, Angold Adrian, and L. Bondy Carmen. "Sleep Problems Predict and Are Predicted by Generalized Anxiety/Depression and Oppositional Defiant Disorder." *Journal of the American Academy of Child and Adolescent Psychiatry* 53, no. 5 (May 1, 2014): 550.

Silver, Larry. "Is It Executive Function Disorder (EFD) or ADD/ADHD?" New Hope Media. Last modified 2014. Accessed October 16, 2014. www.additudemag.com/adhd/article/print/7051.html.

Sleep Disorder Center, University of Maryland Medical Center. "Melatonin." Accessed September 1, 2014. http://www.umm.edu/altmed/articles/melatonin-000315.htm#ixzz223p9pAB1.

Smith, Alan L., Betsy Hoza, Kate Linnea, Julia D. McQuade, Meghan Tomb, Aaron Vaughn, Erin K. Shoulberg, and Holly Hook. "Pilot Physical Activity Intervention Reduces Severity of ADHD Symptoms in Young Children." *Journal of Attention Disorders* 17, no. 1 (2013): 70-82.

Smith, Caroline, Heather Hancock, Jane Blake-Mortimer, and Kerena Eckert. "A Randomised Comparative Trial of Yoga and Relaxation to Reduce Stress and Anxiety." *Complementary Therapies in Medicine* 15, no. 2 (2007): 77-83. http://dx.doi.org/10.1016/j.ctim.2006.05.001.

Smits, M., H. Keijzer, W. Braam, J. Vervoort, and L. Curfs. "Personalized Sleep Medicine Applied to Melatonin Treatment for Circadian Rhythm Sleep Disorders: Current Status and Future." *Sleep Medicine* 14, Supplement 1 (December 2013): e271. http://dx.doi.org/http://dx.doi.org/10.1016/j.sleep.2013.11.661.

Sommer, Alfred. *Getting What We Deserve : Health and Medical Care in America*. Baltimore: Johns Hopkins University Press, 2009.

Spencer, Thomas J, Joseph Biederman, and Eric Mick. "Attention-Deficit/Hyperactivity Disorder: Diagnosis, Lifespan, Comorbidities, and Neurobiology." *Journal of Pediatric Psychology* 32, no. 6 (2007): 631-42.

Spielvogle, Keri. "USPTO Issues Trademark: Handy Handouts." *US Fed News Service, Including US State News*. September 29, 2011.

Spiro, Howard M. and Yale University School of Medicine. *Empathy and the Practice of Medicine: Beyond Pills and the Scalpel*. New Haven: Yale University Press, 1993.

Srinivasan, V., Amnon Brzezinski, Sukru Oter, and Samuel D. Shillcutt. *Melatonin and Melatonergic Drugs in Clinical Practice*. New York: Springer, 2014.

State Board of Education. *New Jersey Administrative Code*. 6A Chapter 14. Edited by Special Education, 2006.

Steinbock, Bonnie, John Arras, and Alex John London. *Ethical Issues in Modern Medicine: Contemporary Readings in Bioethics*. 7th ed. Boston: McGraw-Hill, 2009.

Steiner, Naomi, Elizabeth Frenette, Rene Kirsten, Robert Brennan, and Ellen Perrin. "In-School Neurofeedback Training for ADHD: Sustained Improvements from a Randomized Control Trial." *Pediatrics* 133, no. 3 (2014): 483-92.

Stevenson, Jim, Jan Buitelaar, Samuele Cortese, Maite Ferrin, Eric Konofal, Michel Lecendreux, Emily Simonoff, Ian C. K. Wong, and Edmund on behalf of the European ADHD Guidelines Group Barke-Sonuga. "Research Review: The Role of Diet in the Treatment of Attention-Deficit/Hyperactivity Disorder - an Appraisal of the Evidence on Efficacy and Recommendations on the Design of Future Studies." *Journal of Child Psychology and Psychiatry* 55, no. 5 (2014): 416-27.

Subcommittee on Attention-Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management. "ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents." *Pediatrics* 128, no. 5 (November 1, 2011): 1007-22. http://dx.doi.org/10.1542/peds.2011-2654.

Swanson, James, Laurence Greenhill, T. I. M. Wigal, Scott Kollins, Annamarie Stehli, Mark Davies, Shirley Chuang, Benedetto Vitiello, Anne Skrobala, Kelly Posner, Howard Abikoff, Melvin Oatis, James McCracken, James McGough, Mark

Riddle, Jaswinder Ghuman, Charles Cunningham, and Sharon Wigal. "Stimulant-Related Reductions of Growth Rates in the Pats." *Journal of the American Academy of Child & Adolescent Psychiatry* 45, no. 11 (November 2006): 1304-13. http://dx.doi.org/http://dx.doi.org/10.1097/01.chi.0000235075.25038.5a.

Swanson, James M., Glen R. Elliott, Laurence L. Greenhill, Timothy Wigal, L. Eugene Arnold, Benedetto Vitiello, Lily Hechtman, Jeffery N. Epstein, William E. Pelham, Howard B. Abikoff, Jeffrey H. Newcorn, Brooke S. G. Molina, Stephen P. Hinshaw, Karen C. Wells, Betsy Hoza, Peter S. Jensen, Robert D. Gibbons, Kwan Hur, Annamarie Stehli, Mark Davies, John S. March, C. Keith Conners, Mark Caron, and Nora D. Volkow. "Effects of Stimulant Medication on Growth Rates across 3 Years in the Mta Follow-Up." *Journal of the American Academy of Child & Adolescent Psychiatry* 46, no. 8 (2007): 1015-27. http://dx.doi.org/10.1097/chi.0b013e3180686d7e.

Teaching Zen. "Zen and Empathy." Accessed March 27, 2016. http://teachingzen.org/blog/2012/05/31/zen-and-empathy/.

Thiel, Markus. "Thiel: Study Ponders over-Diagnosis of ADHD in Children." *Kelowna Capital News*. March 16, 2012.

Thomas, Lewis. *The Youngest Science: Notes of a Medicine-Watcher*. Alfred P. Sloan Foundation Series. New York: Viking Press, 1983.

US Department of Education. "Section 504 and the Education of Children with Disabilities." Accessed March 24, 2012. www.2.ed.gov/about/offices/list/ocr/504faq.html.

———. "Disabilities Education Act - Idea 2004." Last modified 2004. Accessed August 8, 2014. http://idea.ed.gov.

US Food and Drug Administration (FDA). "FDA Directs ADHD Drug Manufacturers to Notify Patients About Cardiovascular Adverse Events and Psychiatric Adverse Events." Last modified 2007. Accessed August 11, 2014. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2007/ucm108849.htm.

van der Heijden, Kristiaan B., Marcel G. Smits, and W. Boudewijn Gunning. "Sleep Hygiene and Actigraphically Evaluated Sleep Characteristics in Children with ADHD and Chronic Sleep Onset Insomnia." *Journal of Sleep Research* 15, no. 1 (March 1, 2006): 55-62.

Visser, Susanna N., Melissa L. Danielson, Rebecca H. Bitsko, Joseph R. Holbrook, Michael D. Kogan, Reem M. Ghandour, Ruth Perou, and Stephen J. Blumberg. "Trends in the Parent-Report of Health Care Provider-Diagnosed and Medicated Attention-Deficit/Hyperactivity Disorder: United States, 2003–2011." *Journal of*

the American Academy of Child & Adolescent Psychiatry 53, no. 1 (January 2014) 34-46.e2. Accessed March 20, 2016. http://dx.doi.org/10.1016/j.jaac.2013.09.001.

Wagner, Jodie. "Jump Rope Program Encourages Kids to Exercise." *Palm Beach Post*. August 14, 2002, http://search.proquest.com/docview/326882330?accountid=10558.

Ward, Fran, Muralidhara Nanjappa, Stephen A. J. Hinder, and Meera Roy. "Use of Melatonin for Sleep Disturbance in a Large Intellectual Disability Psychiatry Service." Last modified 2014. Accessed March 29, 2016. www.maneyonline.com/doi/abs/10.1179/2047387714Y.0000000051.

Webster's Encyclopedic Unabridged Dictionary of the English Language. NY: Gramercy Books, 1989.

Weiss, Margaret D. and Jay Salpekar. "Sleep Problems in the Child with Attention-Deficit Hyperactivity Disorder." *CNS Drugs* 24, no. 10 (2010): 811-28. http://dx.doi.org/10.2165/11538990-000000000-00000.

Wertz, Frederick J. *The Humanistic Movement: Recovering the Person in Psychology*. Lake Worth, FL: Gardner Press, 1994.

Whitaker, Carl A., John R. Neill, and David P. Kniskern. *From Psyche to System, the Evolving Therapy of Carl Whitaker*. New York: Guilford Press, 1982.

Wigal, Sharon B., Natasha Emmerson, Jean-G. Gehricke, and Pietro Galassetti. "Exercise. Applications to Childhood ADHD." *Journal of Attention Disorders* 17, no. 4 (2013): 279-90.

"Wisc IV - Low Working Memory Scores." Last modified 2015. Accessed March 24, 2015. http://www.brainy-child.com/experts/WISC-IV-low-memory-score.shtml.

World Health Organization. "Global Database on Child Growth and Malnutrition." Accessed March 24, 2015. http://www.who.int/nutgrowthdb/about/introduction/en/index5.html.

Wright, Joy and Ben Robinson. "Post-Traumatic Stress Disorder." *InnovAiT* 6, no. 9 (September 1, 2013): 586-91.

Yalom, Irvin D. *The Gift of Therapy: An Open Letter to a New Generation of Therapists and Their Patients*. New York: HarperCollins, 2002.

Yorbik, Ozgur, Caner Mutlu, Derya Koc, and Tuba Mutluer. "Possible Negative Effects of Snoring and Increased Sleep Fragmentation on Developmental Status of Preschool Children." *Sleep and Biological Rhythms* 12, no. 1 (January 1, 2014): 30.

"Zen." *Encyclopædia Britannica*, Inc. 2013.

VITA

Full name: Ivonne Ianina Fadel

Place and date of birth: Buenos Aires, Argentina, June 18, 1962

Parents' names: Jose Manuel Espiño and Matilde Esther Richard

Educational Institutions:

School	Degree	Date
Secondary:		
National School of Commerce #24 Capital Federal Buenos Aires, Argentina	High School Diploma	December 1979
Collegiate and Graduate:		
National University of Buenos Aires Capital Federal Buenos Aires, Argentina	Bachelor's and Master's in Psychology Licentiate in Psychology	May 1988
Montclair State University Montclair, New Jersey, USA	School Psychology Certification	May 2003
Drew University Madison, New Jersey, USA	Doctor of Medical Humanities	May 2016