Life-Changing Interventions for the New AD/HD: Beyond the DSM-5
Extra Information
Slides G
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Controversial Hyperacusis Treatment

• Auditory Integration Therapy (Tomatis)
  – Developed by Guy Bernard of France
  – Listen to specially modulated music for 10 hours
  – **MAY** help somewhat, but **no research exists to indicate its helpful and it costs a lot.**


  – Some believe this allows the cortex to reorganize and strengthens the muscles in the ear, but no research proves this.


Controversial Hyperacusis Treatment

Sensory Integration Training:

• “The therapy uses a range of specialized play equipment to improve the processing, modulation, organization and integration of sensory information.” (p. 278)

• “Despite the popularity of this treatment, there is remarkably little evidence of the efficacy of sensory integration therapy.” (p. 278)

Helpful Websites about Hyperacusis

- The Hyperacusis Network:  
  P.O. Box 8007  
  Green Bay, WI 54308  
  [www.hyperacusis.net](http://www.hyperacusis.net)

- [www.earhelp.co.uk](http://www.earhelp.co.uk)

- National Institute on Deafness and Other Communication Disorders: [www.nicdinfo.nidcd.nih.gov](http://www.nicdinfo.nidcd.nih.gov)

- American Academy of Audiology: [www.audiology.org](http://www.audiology.org)

- American Speech-Language Hearing Association: [www.asha.org](http://www.asha.org)
Helpful Websites about Hyperacusis (Continued)

- National Coalition for Auditory Processing Disorders: [www.ncapd.org](http://www.ncapd.org)
- American Tinnitus Association: [www.ata.org](http://www.ata.org)
Classroom Acoustics

• The American Speech-Language Hearing Association (www.asha.org) has a position paper on this that includes a comprehensive bibliography: Paper number 37, supplement 14.

• The Counsel of Educational Facility Planners International (CEFPI) has the following article on their website about how to build in good classroom acoustics:

AD/HD and Sleep Disorders

- Hart reported 80% of those with AD/HD have some problems with sleep.

- Duane indicated there is a higher rate of Sleep Disorders in those with AD/HD than the general population.


AD/HD and Sleep Disorders

“Importantly, it appears that much of these behavioral problems surrounding children’s bedtime are more a function of the disorders often comorbid with ADHD (ODD, anxiety disorders) than to ADHD” (p. 124).

AD/HD and Sleep Disorder

“Despite this well-documented risk for sleep problems in children with ADHD, studies using polysomnograms of overnight sleep have not documented any difficulties in the nature of sleeping itself associated with this disorder” (p. 124).

AD/HD and Sleep Disorders

➢ Asthma can cause sleep problems which can result in problems in attention in those without AD/HD.

➢ Sleep deprivation can cause AD/HD-like symptoms.


Sleep Disorders and AD/HD

“As the researchers expected, participants performed more poorly on the math task when they were sleep deprived than when they were rested. And consistent with the notion that sleep deprivation impairs working-memory functioning in the prefrontal cortex while participants were performing the math task after sleep deprivation than after a normal night’s sleep” (p. 56).

AD/HD and Sleep Disorders

“Many researchers have noted that sleep-deprived teenagers appear to be especially vulnerable to psychopathologies such as depression and ADHD, and to have difficulty controlling their emotions and impulses” (p. 44-45).

AD/HD, Sleep & Emotional Problems

“We observed an increased sleep-dependent emotional memory bias in healthy children compared to children with ADHD and healthy adults. Frontal oscillatory EEG activity (slow oscillations, theta) during sleep correlated negatively with emotional memory performance in children with ADHD. When combining data of healthy children and adults, correlation coefficients were positive and differed from those in children with ADHD...”
AD/HD, Sleep & Emotional Problems

“... Since children displayed a higher frontal EEG activity than adults these data indicate a decline in sleep-related consolidation of emotional memory in healthy development. In addition, it is suggested that deficits in sleep-related selection between emotional and non-emotional memories in ADHD exacerbate emotional problems during daytime as they are often reported in ADHD.”
Sleep Hygiene & AD/HD

➤ About 30% of typically developing children have sleep disorders

➤ 50 to 80% of those with AD/HD will have sleep disorders

➤ A recent study found no difference between the sleep hygiene of typically developing children and those with AD/HD

Sleeplessness Can be Disabling

Simple sleepiness doesn’t kill you unless:

You are behind the wheel of a car

New Jersey Law: Driving after being awake >20 hours is “reckless driving” felony. Equivalent to blood alcohol level of .09

“Our population-based data suggest that short sleep duration is associated with elevated prevalence of obesity and adds to the growing body of evidence supporting this relationship” (P. 357).

Fibromyalgia, Chronic Fatigue, and AD/HD

“...it is becoming increasingly clear that these disorders are related and that effective treatment of either requires aggressive treatment of both. We believe that a cornerstone for the prevention and treatment of FMS/CFS is the recognition of underlying AD/HD...” (p. 335).

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Consequences of Poor Sleep

Increased Pain

- Fibromyalgia
- Worse arthritis
- All pain conditions are worse

Sleep Disorders and AD/HD

- Children with AD/HD:
  - Up to 39% sleep walk
  - 56% have trouble going to sleep
  - Have fewer sleep hours than non-AD/HD children
  - Have more movement during sleep
  - Have more periods of sleepiness during the day

Sleep Disorders and AD/HD

- 30 to 56% of those with AD/HD have sleep disorders
- Stimulant medications can lengthen sleep onset
- Sleep problems may exacerbate academic/work problems, but if academic/work problems not caused by Sleep problem, better sleep may not translate to fewer waking problems.

“These problems could be reduced to three general factors: (1) dyssomnias (bedtime resistance, sleep onset problems, or difficulty arising), (2) sleep-related involuntary movements (teeth grinding, sleeptalking, restless sleep, etc.), and (3) parasomnias (sleepwalking, night wakings, sleep terrors). Dyssomnias were primarily related to comorbid ODD or treatment with stimulant medication, while parasomnias were not significantly different from the control group. However, involuntary movements were significantly elevated in children with the Combined Type of ADHD.”

“Youth with current SDB (sleep disordered breathing, sic.) exhibited hyperactivity, attention problems, aggressivity, lower social competency, poorer communication, and/or diminished adaptive skills” (p. 517).

AD/HD & Social Skills Training
“It is widely recognized that peer problems are relatively intractable, especially among those with ADHD. Social skills training programs designed to reduce inappropriate behaviors and increase prosocial behaviors have rarely impressed classmates. Being least liked by members of a peer group is highly resistant to change” (p. 3).

“The results of this study suggest that boys with ADHD may fail to create a desirable first impression. Initial impressions are formed quickly” (p.4).

ADHD Girls and Boys in Social Interaction

“Although boys and girls with ADHD experienced difficulties in all areas, girls with ADHD, especially the inattentive subtype, were more negatively affected in academics and peer relationships. Inattentive girls were less popular and more likely to be bullied than girls without ADHD, whereas inattentive boys were not. The social isolation experienced by many girls with ADHD deserves greater attention”. (p. 532)

AD/HD & Substance Abuse
“Although substance use disorders are relatively more frequent among adults with ADHD in the general population, the disorders are present only in a minority of adults with ADHD” (p. 65).

Research Behind Using Stimulant with AD/HD

- First discovered useful in 1937
- Since 1960 over 200 controlled trials of stimulant medications have been conducted.

Substance Abuse and ADHD

Brown wrote that there is a 15.1% risk of having a substance abuse disorder over one's lifetime if they have AD/HD. The lifetime risk for those without AD/HD is 3 times less.

Wilens, et. al. wrote, “Substance use disorders occur at a higher rate in individuals with ADHD than in psychiatrically healthy adolescents; conversely ADHD is more prevalent in individuals with substance use disorders” (p. 320).

Wilens, et al. indicated:

- AD/HD adults with substance abuse have more severe and earlier onset of problems.
- AD/HD puts one at risk for alcohol/drug abuse and dependence.
- AD/HD adults have twice the risk of having a substance use disorder than the non-AD/HD.
- Comorbid CD/ASPD and/or Bipolar Disorder makes the Substance Abuse Disorder much greater.

Barkley- 10% to 20% of Milwaukee follow-up had SUD.
Overlap with CD.
When he sees AD/HD clients in clinic 25% to 35% are actively abusing.
AD/HD adults tend to be heavy smokers.

Barkley said the Drugs of Choice of AD/HD Adults to Abuse are in Order of Preference:

- Alcohol
- Marijuana
- Cocaine

Smoking and AD/HD

Smoking may be self-medicating and appears to be significantly related to AD/HD.

Stimulants and Substance Abuse

“There are no reported individual cases of addiction or serious drug dependence to date with these medications. Several studies...have sought to determine whether children treated with CNS stimulants are more likely to abuse illicit substances as teenagers...The results suggest that there is no increased risk for drug abuse associated with treatment...” (p. 525).

Stimulants and Substance Abuse

Harvard Study Risk of Substance Abuse

- Unmedicated AD/HD Children 30%
- Medicated AD/HD Children 12%
- Non-AD/HD Controls 10%

Prince, J. (November 1, 2000). Substance Abuse Disorder Gifted. Co-Existing Conditions Workshop, 12th Annual International Conference on Attention-Deficit/Hyperactivity Disorder, CHADD, Session #W%, Chicago, IL.
Stimulants and Substance Abuse

- Cylert (Pemoline) has a low abuse potential, but may cause liver toxicity. Must check liver enzymes every two weeks.

- It now has a PDR Black Box Warning & is been taken off the market.


Stimulant Medications and Substance Abuse

“Despite a lack of evidence of stimulant treatment leading to stimulant use disorders or other substance use disorders..., an increase of oral and intranasal abuse of methylphenidate, generally by youths without ADHD, has been reported in adolescents...” (p. 332).

Stimulant Medications and Substance Abuse

- Family Education to Prevent Diversion, etc.
- 12 Step-Like Programs, etc.
- Frequent Medication Monitoring
- Use of Random Urine Toxicology Screens
- Use Different Medications

Stimulant Medications and Substance Abuse

Possible Medication Options:

- Long Acting Stimulants
- Antidepressants
- Cylert – Note: Cylert is off the market

Stimulant Medications and Substance Abuse

- Stimulants may reduce AD/HD and Substance Abuse Symptoms.
- Those with Active Substance Dependence need 1 to 2 months of stable sobriety before using stimulants-AD/HD meds.

Stimulant Medications and Substance Abuse

“If the symptoms can be controlled without a potentially addictive substance, then at least a trial without stimulants should be tried” (p. 22).

“There is no doubt that some patients with ADHD plus addiction are able to use stimulants safely since their ADHD symptoms are improved with stimulants” (p. 23)

Stimulant Medications and Substance Abuse

“Taken together, the existing literature overwhelmingly does not indicate a strong likelihood that treatment of ADHD children with stimulants will predispose them toward a greater risk of teen or young adult drug use, dependence, or abuse” (p. 5).—The Lambert study does not control for CD.

Stimulant Medications and Substance Abuse

❖ A Good Review Article on This Subject:
Stimulant Medications and Substance Abuse

US Department of Justice, Drug Enforcement Administration, Office of Diversion Control (December 10-12, 1996). Conference Report: Stimulant Use in the Treatment of ADHD.
Non-Medical Prescription Stimulant Use, Alcohol & ADHD

“Simultaneous use of NMPS and alcohol is high among NMPS users in our sample of undergraduate students. Simultaneous users are at increased risk of experiencing negative consequences. Thus, prevention and intervention efforts should include a focus on simultaneous NMPS and alcohol use.”
Cannabis, Alcohol & Stimulants

“Increases in skipping class were associated with both alcohol and cannabis use disorder, which were associated with declining GPA. The hypothesized relationships between these trajectories and NPS for studying were confirmed. These longitudinal findings suggest that escalation of substance use problems during college is related to increases in skipping class and to declining academic performance. NPS for studying is associated with academic difficulties. Although additional research is needed to investigate causal pathways, these results suggest that nonmedical users of prescription stimulants could benefit from a comprehensive drug and alcohol assessment to possibly mitigate future academic declines” (p. 1643)
Reference