

The “Controversy” of ADHD*

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Recently, it has come to my attention that there are those who find that the diagnosis of ADHD is not real and is a made-up diagnostic category. These claims, while unsubstantiated, usually purport that ADHD is a made up diagnosis to make the drug companies rich or to “control” otherwise normal children. Such conclusions fly in the face of the truth and science about this diagnosis.

The diagnostic category of ADHD for starters is not new. Dating back to the 1960’s, it was referred to as “minimal brain dysfunction.” It was poorly understood at that time and scientists continue to try to understand this debilitating disorder. However, just because the disorder is not fully understood, does not mean that it a) it does not exist, and b) that we should not try to better understand the disorder. For a comparison and to provide some perspective, research and treatment for ADHD has gone on for about 60 years, yet writings and treatments for diabetes go back to the middle ages. Similarly, the study of cancer has dated back hundreds of years. Thus, the understanding of ADHD, relatively speaking, is in its infancy.

One specific issue or criticism is that there is not “one” test to diagnose ADHD. It is true that there is not one test that can diagnose ADHD. That is why there are recommendations for comprehensive assessments of children to determine if there is truly an attentional disorder present. There I would wholeheartedly agree. In fact, the major organization (i.e. CHADD: National Resource Center on ADHD), explicitly states that there is not one test that can diagnose ADHD (www.help4adhd.org/faq.cfm?fid=5&tid=117&varLang=en). From the website it explicitly states, ***“there is no simple test (like a blood test or a short written test) to determine whether someone has AD/HD. This is true of many medical conditions (for example, there is no “test” for a simple headache, yet anyone who has had a headache knows it’s real!). Accurate diagnosis is made only by a trained clinician after an extensive evaluation. This evaluation should include ruling out other possible causes for the symptoms involved, a thorough physical examination, and a series of interviews with the individual (child or adult) and other key persons in the individual’s life (for example, parents, spouse, teachers, and others).*”**

In any event, one issue that has also perplexed me for years is that the public has always held psychology to a higher standard than the medical profession. What do I mean? Before delving into specific medical tests, one needs to have a basic understanding of testing terminology. One key aspect of a test is the test’s sensitivity and specificity. *Sensitivity* refers to the probability of a positive test among patients with a certain disease. In other words, the test results say: “You have this disorder and in reality you really do have the disorder.” Conversely, *Specificity* refers to the probability of a negative test among patients without a certain disease. In other words, the test results say: “You do not have this disorder and in reality you really do not have the disorder.” Thus, the sensitivity and specificity refers to the accuracy of the test. Naturally, not all tests, either medical or psychological, are perfect. When a patient really does have a disorder, but it is missed by the test, this is referred to as a “False-Negative.” What this means is that the result of the test indicates that you do not have the disorder (i.e. negative), but is inaccurate (i.e. false). Thus, the term, false-negative.

Conversely, a “False-Positive” means that the test result indicates that you DO have the disorder, but you really do not. In other words, the result of the test indicates that you have the disorder (i.e. positive), but is inaccurate (i.e. false).

Now that you have the background on some basic testing terminology, let’s examine some common medical tests. The mammogram is a recommended screening test for detection of breast cancer. However, according to one article there are many false positives in which woman are told they possibly have cancer based upon the mammogram when in fact they do not (i.e. “False-Positive Mammogram Results Vary Among Radiologists”: http://www.cancer.org/docroot/NWS/content/NWS_1_1x_False-Positive_Mammogram_Results_Vary_Among_Radiologists.asp).

Another common medical screening test is the Pap smear. Naturally, this screening test can also result in false positives and false negatives (i.e. see: U.S. Department of Health and Human Services: <http://www.4woman.gov/FAQ/pap.htm>). Lastly, there is the cardiac stress test, which can also produce false positives and false negatives (i.e. <http://www.medical-library.net/content/view/1050/41/>). Thus, as one can see these three common medical screening tests are not always accurate. Does this mean that we should do away with testing? Obviously not. The point is, in medicine and psychology tests are not perfect and sometimes the diagnosis is not accurate. The goal then should be to better understand these disorders and to come up with better diagnostic tools, not to downplay the realness of the disorder. Now, getting back to the notion that psychology is held to a higher standard is that the public often believe that medical tests are generally always accurate whereas psychological testing is inherently flawed or not as accurate. But, the fact is, many psychological tests are equal to or in some instances superior to medical tests in terms of sensitivity and specificity. (i.e. See: <http://www.apa.org/monitor/julaug01/psychassess.html>).

In any event, in terms of ADHD, some critics claim it is not “real” because there is no blood test or objective test to define it (i.e. the diagnosis is subjective). However, there are many medical disorders that do not have objective measures to substantiate the diagnosis and are essentially diagnosed clinically (i.e. via careful clinical examination, review of prior history, prior medical records, etc.). For instance, concussion or a mild head injury, which is a very real consequence of a blow to the head, does not always have any objective measure to confirm its presence. Some physicians will use a CT or MRI scan of the brain, but in mild head trauma, the results are often unremarkable. In fact, according to an expert article, ***“Concussion patients with a normal head CT scan may believe they are free of brain injury, but CT scans often miss damage at the molecular level.”*** (<http://www.sciencedaily.com/releases/2006/03/060301095342.htm>). Does this mean that the patient did not have a concussion because the CT scan was normal? Obviously not. Thus, in such a case, the physician must often rely upon clinical impression.

In another example, Irritable Bowel Syndrome (IBS) is diagnosed clinically. In fact, it is noted that, ***“The symptoms of IBS are varied and inconsistent among patients. Moreover, there are no characteristically abnormal tests that can be used to diagnose IBS.”*** (http://www.medicinenet.com/irritable_bowel_syndrome/page4.htm). Does this mean it is “not real?” In another example, migraine headache is diagnosed clinically. In fact, it is noted at the National Headache Foundation website that, ***“Diagnosis of migraine headache is made by establishing the history of the migraine-related symptoms and other headache characteristics as well as a family history of similar headaches. By definition, the physical examination of a patient with migraine headache in between the attacks of migraine does not reveal any organic causes for the headaches...There is currently no test to confirm the diagnosis of migraine.”*** Does this mean that it is not real?

Lastly, in another example, essential hypertension has no known cause, and while it can be measured objectively, some clinicians disagree about what is considered “High” blood pressure (i.e. there is some subjectivity involved in the actual diagnosis). In fact, in one article it is noted that, ***“What constitutes high blood pressure hasn't remained the same. The threshold for “high” is much lower than it was twenty years ago. Different professional organizations (American Heart Association, American Diabetes Association, American Society for Hypertension) define hypertension differently and suggest different goals for treatment.”*** (<http://www.healthcentral.com/high-blood-pressure/c/79161/37380/blood/>). So, because the diagnosis has a subjective element and because not all clinicians agree, should we ignore hypertension as being a real problem? Obviously not.

The main point here is that while there is no blood test for ADHD and there is some subjectivity involved in making the diagnosis (i.e. diagnosis is based in part on clinical impression, observer ratings, etc.), this is not far from how many common medical disorders are diagnosed. Also, the whole point of using rating scales is that observations of caregivers (i.e. parent or teachers) can be quantified and compared to a normative sample to determine if a child’s inattentiveness or hyperactivity is really excessive compared to other children of the same age. Thus, the use of rating scales provides a quantifiable, objective tool for the clinician. Furthermore, as with any other medical or psychiatric disorder, a diagnosis should only be made by a qualified professional who incorporates information from multiple sources to come up with a definitive diagnosis. Obviously, no medical or psychiatric diagnosis should be made on a whim. Certainly, there are “quacks” in any profession, but that should not negate the realness of a disorder, but rather the professional should be blamed for poor clinical practice and failure to adhere to scientific protocols.

Another important issue is that many people criticize the diagnosis of ADHD because there is no known cause, at least not known yet. There are a number of factors suspected that may cause ADHD, but nothing definitive. However, there are numerous medical disorders which physicians treat that have no known definitive cause. For instance, essential hypertension is a pervasive problem that is regularly treated, but has no known cause (<http://www.mayoclinic.com/health/secondary-hypertension/DS01114>). In diabetes, scientists know what has gone wrong *after the fact*, but there is no clear explanation as to why it occurs in some and not in others (<http://www.diabetesmellitus-information.com/diabetes-causes.htm>). In another example, people who suffer from migraines usually have “triggers”, but there is no known reason why some people are susceptible and others are not (http://www.emedicinehealth.com/migraine_headache/page2_em.htm). In epilepsy it is noted at one website, ***“No cause can be determined for about three-quarters of the cases of epilepsy.”*** (<http://www.ehealthmd.com/library/epilepsy/EPI-causes.html>). In multiple sclerosis, there is degeneration of the myelin sheath, but ***“The exact cause is not known.”*** (<http://www.nlm.nih.gov/medlineplus/ency/article/000737.htm#Causes,%20incidence,%20and%20risk%20factors>). Lastly, in Parkinson’s there is deterioration of the neurons in the substantia nigra, but, ***“Why Parkinson’s disease occurs and how the neurons become impaired is not known.”*** (<http://www.webmd.com/parkinsons-disease/parkinsons-causes>). The point here is that while there are often *suspected* causes of illnesses, many patients are treated for illnesses that have no known definitive cause, including ADHD. And, as with these other illnesses, there are a number of theories that scientists have been examining which may cause or increase one’s risk of developing ADHD (i.e. See: <http://www.surgeongeneral.gov/library/mentalhealth/chapter3/sec4.html>). Thus, one cannot downplay the realness of ADHD simply or solely on the basis of it having no known definitive cause because with that line of thinking, then multiple sclerosis, Parkinson’s, epilepsy, essential hypertension, etc. would have to be considered not real too.

Another criticism is that stimulant medications are harmful and have bad side effects. Some even say they are dangerous. There are a few important points here. One, all medications have risks and side-effects, not just those that treat ADHD. Second, significant adverse outcomes can occur with stimulant medications, but fortunately this is rare. In fact, in one study it was found that children treated with Ritalin over a two year period had positive effects from the medication with *“minimal effects on growth, tics, vital signs, or laboratory test values.”* (<http://www.ncbi.nlm.nih.gov/pubmed/16175106>). Again, this does not mean that there can never be an adverse effect from Ritalin or other stimulants. But, when used properly and under the care of a physician, the medications do work with minimal side-effects.

Furthermore, some critics of ADHD attempt to claim that it is a made up diagnosis and does not exist. Some go as far as to make up blatant mistruths about the diagnosis. For instance, I recently stumbled upon a website (i.e. www.adhdtesting.org) in which the authors of the website state multiple untruths. For instance, it explicitly states at this website, ***“Fact: Rating Scales, Surveys, Questionnaires, and Profiles for ADD/ADHD and other subjective psychological disorders are NOT recommended or endorsed by Your State’s Department of Education. Furthermore, the United States Department of Education Office of Special Education and Rehabilitative Services does NOT recognize, recommend, or endorse such assessments.”*** Such a claim is blatantly misleading, particularly when it is prefaced with the word, “Fact.” Why is this misleading? One, the use of behavior checklists in diagnosing ADHD is recommended and endorsed by every major medical and scientific organization. But, most importantly, if one visits the website of the United States Department of Education (i.e. http://www.ed.gov/rschstat/research/pubs/adhd/adhd-identifying_pg2.html#legal), there is an explicit recommendation for using rating scales in the assessment of ADHD, in particular the Connors rating scales. In fact, it explicitly states at the U.S. Department of Education site: ***“Specific questionnaires and rating scales are used to review and quantify the behavioral characteristics of ADHD. The AAP has developed clinical practice guidelines for the diagnosis and evaluation of children with ADHD, and finds that such behavioral rating scales accurately distinguish between children with and without ADHD (AAP, 2000).”***

In another instance the authors of this webpage cite an article published about Continuous Performance Tests (i.e. CPT’s), which are tests that are typically administered on a computer and the child must sustain his or her attention over an extended period of time (i.e. 10 minutes) on a mundane task. Naturally, these tests are not perfect. As noted above, virtually all medical and psychological tests have false positives and false negatives. Despite the utility of CPT’s, the authors of this webpage state in a very misleading way regarding this article: ***“More ‘JUNK SCIENCE’ revealed as Department of Defense put common Rating Scales to test!!!”*** It is a misleading statement for two reasons: 1) the article cited reviews CPT’s, not rating scales and 2) the article provides some support for the use of CPT’s. In fact, the authors of the article conclude: ***“The CPT was not intended as a “stand alone” measure of attention deficits. Rather, the intent was to provide objective behavior-based information that can provide meaningful additions to a comprehensive, multi-modal battery of rating scales and interviews.”*** (http://www.ablechild.org/right%20to%20refuse/continuous_performance_tests.htm). Now, of course, CPT’s have limitations, as with all tests, but the idea is for a trained professional to incorporate multiple sources of information to determine an accurate diagnosis. Again, if the clinician does something wrong or does not practice in a scientific manner, then that particular doctor should be criticized. But, again, it does not negate the realness of the disorder or the usefulness of that diagnostic procedure. Plus, the purpose of that research on CPT’s was not to “expose” anyone or to downplay the validity of the diagnosis (as the website authors imply), but

rather it was a scientific article that was attempting to gain a better understanding of the diagnosis in terms of improving assessment and treatment. That is why at the beginning of this article, the authors’ state: ***“ADHD also has been shown to have long-term adverse effects on academic performance, vocational success and social-emotional development. Without identification and proper treatment, ADHD can have serious consequences, including school failure, depression, conduct disorder, failed relationships, and substance abuse.”*** I guess the authors of that website missed that part.

In another instance, it states at this misleading website, ***“In 1998, The National Institute of Health held a Conference on ADD/ADHD. At the end of this conference they issued this statement: ‘...We do not have an independent, valid test for ADD/ADHD and there are no data to indicate that ADD/ADHD is due to a brain malfunction.’”*** Unfortunately, the authors at this website took the quote out of context to perpetrate their own agenda. The actual full quote reads although ***“the diagnosis of ADHD can be made reliably using...interview methods...we do not have an independent, valid test for ADHD, and there are no data to indicate that ADHD is due to a brain malfunction.”*** Essentially, what they were saying is that a diagnosis of ADHD can be made by interview method, but there is no single test in isolation that can identify the disorder. Thus, the NIH conference held in 1998 acknowledged a) the existence of ADHD as being real, and b) acknowledged that a diagnosis of ADHD can be made based upon an interview. And, as noted earlier, the fact that there is no known cause for ADHD does not mean that it is not real. In any event, the point here is that the authors of the website mislead the public by providing quotes out of context and did not report the true goal of the conference. Namely, to better understand the diagnosis of ADHD, not to downplay the realness of the disorder. In fact, the National Institute of Mental Health fully acknowledges the existence of ADHD, recommends the use of interviews and rating scales to identify the disorder, and recommends medication as a treatment option (<http://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd/index.shtml>).

Lastly, the authors of this website discuss the Connors Rating scales, claiming that it is not a legitimate test and that it is not recommended by any government organization, despite the fact that, as I noted above, the U.S. Department of Education *explicitly* recommends the use of rating scales to diagnose ADHD, and explicitly recommends the use of the Connors Scales. The authors of the website then bizarrely conclude: ***“for over 3 decades Keith Connors has failed to validate his rating/testing scale. Simply put, the Connors' Rating Scale is nothing more than a subjective survey to obtain innocent children to do experimental drug research on.”*** Huh? The Connors scales of course is a validated and legitimate rating scale to be used as part of the assessment of children with possible ADHD (i.e. For a review of the test, see: <http://www.cps.nova.edu/~cpphelp/CRSR.html>). So, why would the authors of the site blatantly mislead the public? No one really knows, but what is clear is that there are groups and organizations that seem to have personal agendas that are clearly not guided by science and reality.

Another issue, which I touched upon earlier, is the use of medication to treat ADHD, in particular stimulant medication. The first criticism I often hear is that stimulant medications are “overprescribed.” Before delving into this issue, I would like to first comment on the issue that there are many more children diagnosed with ADHD now than let’s say 20 or 30 years ago. First, on the whole there are more prescriptions now for ADHD, but that is because the diagnosis is made more frequently now. Over time, as we have gained a better understanding of the disorder, we have been more adept at identifying it. Whereas years ago, a child might be

labeled “bad” or “lazy”, this same child today may just have a diagnosis of ADHD. From my own clinical practice, I have evaluated children and when interviewing their parents, many will say that they had “symptoms” of ADHD when they were younger, but were never “formally diagnosed.” The fact is years ago, diagnoses like ADHD were poorly understood and not accurately diagnosed and treated. Thus, because there is better identification now, it creates the illusion that the diagnosis is on the rise. In fact, while there certainly may be misdiagnosis of ADHD (resulting in unwarranted medications being dispensed), according to the U.S. Surgeon General report, ***“Most researchers believe that much of the increased use of stimulants reflects better diagnosis and more effective treatment of a prevalent disorder.”*** (<http://www.surgeongeneral.gov/library/mentalhealth/chapter3/sec4.html>).

In any event, getting back to the notion that stimulants are overprescribed, this is a fallacy. In fact, in a comprehensive review article by the Center for Disease Control entitled *“Prevalence of Diagnosis and Medication Treatment for Attention-Deficit/Hyperactivity Disorder --- United States, 2003*, the authors found that, ***“Nationally, 56.3% of children with reported ADHD diagnoses were being treated with medication at the time of the survey.”*** (http://findarticles.com/p/articles/mi_m0906/is_34_54/ai_n15874844/print?tag=artBody;coll). Thus, only a little over half of the children diagnosed with ADHD were actually being treated with a psychiatric medication. This hardly paints a picture of “overmedicating” children diagnosed with ADHD. If anything, it paints the opposite picture (i.e. nearly half the children diagnosed with ADHD are NOT being treated with an approach that has been well documented as an effective treatment). Of course, like all medications, those that treat and manage the symptoms of ADHD have side-effects. Parents need to discuss this with the physician prescribing the medication and need to weigh out the pros and cons of medicating or not medicating. Certainly, the parents should make the ultimate decision, but it is important that parents receive accurate information about the diagnosis and treatment options, so they can make an educated and informed decision. Some helpful information:

- Treatment of ADHD with stimulant medication is the “cornerstone” treatment for ADHD and helps to reduce the core symptoms of the disorder. Also, a “combined” treatment approach may work best (i.e. medication + psychosocial interventions):
<http://pediatrics.aappublications.org/cgi/content/full/115/6/e749>
- Untreated ADHD results in increased risk for accidental injuries:
<http://www.cdc.gov/ncbddd/adhd/injury.htm>
- Use of stimulant medication does not lead to increased risk of substance abuse :
<http://pediatrics.aappublications.org/cgi/content/abstract/111/1/97>
- The use of stimulant medication in treating ADHD reduces later risk of substance abuse:
<http://www.futurepundit.com/archives/001030.html>
- Children diagnosed with ADHD may be at greater risk for academic dysfunction, social impairments, and oppositional behaviors:
<http://www.jaacap.com/pt/re/jaacap/abstract.00004583-199109000-00009.htm;jsessionid=J8bJywyQKr0QLCtSF3Ln0J2jhd1DWy5cMHMbs2xvhZSJCKLBqbv!976670012!181195629!8091!-1>

Also, of interest to the reader is that every major medical and scientific organization recognizes a) the existence of ADHD as a “real” disorder, and b) suggests the use medication to manage the symptoms, along with other psychosocial interventions (i.e. behavior therapy, family therapy, school management techniques, social skills training, etc). This would include the:

1) American Academy of Pediatrics:

<http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b108/4/1033>

2) The American Academy of Child and Adolescent Psychiatry:

http://www.aacap.org/cs/adhd_a_guide_for_families/resources_for_families_adhd_a_guide_for_families

3) The Center for Disease Control (CDC):

http://www.cdc.gov/ncbddd/factsheets/ADHD_public_health.pdf

4) American Academy of Family Physicians:

<http://familydoctor.org/online/famdocen/home/children/parents/behavior/103.html>

5) The National Institutes of Health:

http://www.ninds.nih.gov/disorders/adhd/adhd.htm#Is_there_any_treatment

6) The National Institute of Mental Health:

<http://www.nimh.nih.gov/health/publications/adhd/summary.shtml>

7) The U.S. Department of Education:

http://www.ed.gov/rschstat/research/pubs/adhd/adhd-identifying_pg3.html

8) U.S. Department of Health and Human Services - Surgeon General:

<http://www.surgeongeneral.gov/library/mentalhealth/chapter3/sec4.html>

SUMMARY:

- ❖ ADHD is a real disorder and real problem. Untreated ADHD can result in increased risk for accidents, academic failure, substance abuse, vocational difficulties and strained relationships.
- ❖ Many medical disorders cannot be “seen”, have no specific or “one” test that can unequivocally confirm the presence of the diagnosis (i.e. concussion, migraine, I.B.S., etc.), and are often diagnosed clinically, but this does not mean the medical disorder or illness is not real. This is also true of ADHD.
- ❖ Many, many medical disorders have no known definitive cause, but this does not mean that the disorder is not real and that people do not suffer from these illnesses. This is also true of ADHD.

- ❖ It is absolutely true that there is not one test to diagnose ADHD. Thus, an evaluation should be comprehensive and completed by a qualified professional only. If the clinician completes a hasty evaluation and does not properly diagnose the child, then the clinician should be criticized for not adhering to scientific protocols (i.e. it does not mean that there is no such thing as ADHD).
- ❖ Continuous Performance Tests (CPT's) and Rating scales are useful as a *one* tool in a *comprehensive* assessment of ADHD. They should not be used in isolation. A comprehensive evaluation of ADHD may include: interviews, rating scales, CPT's, review of prior records, and in some instances direct behavioral observation of the child in a naturalistic setting (i.e. at school).
- ❖ In most instances, the most effective treatment for accurately diagnosed ADHD is stimulant medication, although this should be combined with other treatments (i.e. classroom management techniques, family therapy, behavior therapy, etc.). Parents reluctance to place their child on medication is, however, very understandable. As with any other life decision, the pros and cons have to be weighed out. However, these medications are generally safe with minimal side effects when used properly and under the supervision of a physician.
- ❖ The use of stimulants does not lead to increased risk of substance abuse. In fact, the opposite is true. That is, proper treatment of ADHD with stimulant medication reduces the risk of substance abuse later in life.

*The information presented in this article is for general informational purposes only and represents the opinion of the author. The content of this article should not be used to diagnose or treat any disorder.

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