

Attention-Deficit/Hyperactivity Disorder in a VA Polytrauma Clinic

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A large-scale study suggests that veterans with attention-deficit/hyperactivity disorder may benefit from structured treatment interventions focused on developing compensatory skills for their attention and impulsivity issues.

Traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD) are considered the signature injuries in veterans of the military operations in Iraq and Afghanistan.¹ In 2007, the VA implemented the Polytrauma System of Care (PSC) to provide comprehensive screening, evaluation, and treatment of these multifaceted injuries.^{2,3} The VA defined polytrauma as “two or more injuries to physical regions or organ systems, one of which may be life threatening, resulting in physical, cognitive, psychological, or psychosocial impairments and functional disability.”³ The VA intended the PSC to provide a national system of integrated care to meet the unique needs of these combat service members.

In addition to the comprehensive evaluation and treatment of traumatic injuries, a critical mission of the PSC is to facilitate the reintegration of injured combat veterans into their home communities. Optimal community reintegration requires that the clinician also assess pre-

morbid comorbidities, which may affect postdeployment adjustments. Attention-deficit/hyperactivity disorder (ADHD), with an estimated adult prevalence of 4.4% in the U.S. and 2.5% to 3.4% worldwide, is a common disorder in the general adult population that often is associated with chronic social and vocational adjustment difficulties.^{4,6} The increasing recognition that this disorder often persists into adulthood is of significance to veterans, largely young and male, who have left military service and are reintegrating into college and community job settings.⁷ Despite growing interest in adult ADHD, little is known about its prevalence and correlates in the veteran population.

The prevalence of ADHD in the Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn (OEF/OIF/OND) veteran polytrauma population has not been adequately studied. Studies have found that combat veterans with or without confirmed TBI diagnosis commonly have similar overlapping symptoms,

such as memory problems, difficulty concentrating, poor attention, and sleep problems associated with other comorbidities such as pain, PTSD, ADHD, and other mental health diagnoses.⁸⁻¹⁴ Increased awareness of various clinical variables would enhance understanding of the population characteristics and specific needs for education and management.

To begin to address the lack of information about ADHD in the VA polytrauma population, this study aimed to (1) identify the prevalence of ADHD in veterans referred to the Clement J. Zablocki (CJZ) VAMC Polytrauma Clinic (PC) in Milwaukee, Wisconsin; (2) describe demographic characteristics of polytrauma veterans with ADHD; (3) determine the comorbidity relationship between ADHD and TBI, PTSD, depression and anxiety disorders, and substance abuse; and (4) determine whether individuals with ADHD compared with those without ADHD report more physical and emotional symptomatic distress with particular attention given to reports of pain, headaches, and problems with attention and concentration, memory, and sleep.

METHODS

The study population consisted of 690 OEF/OIF/OND soldiers

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and veterans who received a comprehensive TBI evaluation in the CJZVAMC PC from January 1, 2008, to December 31, 2012. Referrals to the PC were made by primary care physicians (PCPs) when OEF/OIF/OND veterans or service members enrolled at a VA facility for health care or transferred their care from another VA facility.

Either a prior diagnosis of TBI established by a qualified provider or positive responses to a 4-question screening tool for TBI prompted a referral to the PC. The 4 questions sought to establish (1) events that may increase risk of TBIs; (2) immediate symptoms following the event; (3) new or worsening symptoms following the event; and (4) current symptoms.¹ Referrals to the clinic most commonly came from PCPs at the CJZVAMC and its associated community-based outpatient clinics but occasionally came from mental health service providers.

Study Design

The CJZVAMC Institutional Review Board approved this study. A population database was developed from a review of medical records, clinical interviews of patients, and completion of standard intake forms during the veterans' initial evaluations in the CJZVAMC PC. The database aimed to abstract patient information relevant for understanding and treating the population seen in the clinic. The database contained information related to demographics, injury parameters, neurobehavioral and PTSD symptoms, past and current mental health disorders, substance abuse history, pain symptoms, and developmental history (eg, ADHD, learning disability).

Prior to the PC intake interview, each veteran completed a packet of preclinic questionnaires that included

Table 1. Demographic Data for Study Population (N = 690)

	Mean	SD
	No.	% of Sample
Age, y	28	± 6.3
Male	664	96
Race/ethnicity		
African American	43	6
Hispanic	18	3
White	607	88
Not reported	22	3
Branch		
Air Force	16	2
Army	497	72
Marines	140	20
Navy	37	6
Deployments, no.		
1	443	64
2	206	30
3-5	41	6
Marital status		
Single	272	39
Married	273	40
Divorced/separated	145	21
Education		
Less than high school	7	1
High school	433	63
Some college	212	31
College/bachelor's degree	38	5
Employment		
Unemployed	281	41
Working part-time or full-time	311	45
Student part-time or full-time	98	14
Developmental history		
ADHD	69	10
LD	7	1
ADHD and LD	3	0.4
Current ADHD diagnosis	68	10
Premilitary TBI	132	19
Mild TBI diagnosis	402	58
Pain	628	92
PTSD	474	69

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; LD, learning disability; PTSD, posttraumatic stress disorder; TBI = traumatic brain injury.

Table 2. ADHD vs Non-ADHD Group Comparisons

	ADHD (n = 73)	Non-ADHD (n = 617)	
	Percentage	Percentage	P value
Education			.003 ^a
Less than high school	4	1	
High school	73	61	
Some college	22	32	
College/bachelor's degree	1	6	
Premilitary TBI	26	18	.188
Military TBI	55	59	.525
Anxiety disorder	34	28	.230
Depressive disorder	49	48	.808
PTSD	68	69	.969
Pain (past 30 days)	98	92	.035
Substance abuse	37	28	.104
	Mean (SD)	Mean (SD)	P value
Age, y	25.9 (5.1)	28.3 (6.4)	.003 ^a
NSI ^b			
Sleep disturbance	2.57 (1.38)	2.55 (1.28)	.894
Headaches	2.06 (1.12)	2.03 (1.11)	.846
Forgetfulness/memory problems	2.53 (1.11)	2.32 (1.15)	.141
Concentration problems	2.47 (1.14)	2.11 (1.18)	.015 ^a

^a $P < .05$ after FDR applied.

^bNSI: 0, none; 4, very severe.

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; FDR, false discovery rate; NSI, Neurobehavioral Symptom Inventory; PTSD, posttraumatic stress disorder; TBI, traumatic brain injury.

information concerning deployment-related injury exposure and history; the 22-item Neurobehavioral Symptom Inventory (NSI), which assessed physical, cognitive, and emotional symptoms; current pain symptoms; and the Posttraumatic Stress Disorder Checklist-Civilian Version (PCLC).^{15,16} Intake interviews in the CJZVAMC PC were typically conducted with a minimum of 2 specialties present (physical medicine/rehabilitation and neuropsychology) and occasionally as many as 4 specialties present (also including health psychology and social work). Data collection and abstraction for the

database were derived by all specialties present and assisted by the polytrauma program technician.

Diagnoses

The diagnosis of ADHD in a veteran was established through 1 of 2 methods: (1) report of a developmental history of behavioral adjustment difficulties consistent with ADHD that was coupled with formal psychiatric diagnosis and recommended treatment of ADHD in childhood; or (2) current diagnosis of ADHD as identified in the veteran's active problem list. In most cases of report of developmental diagnosis, the vet-

eran reported having been diagnosed and having received treatment with a stimulant medication for a period of time. In a few cases, the veteran reported having been diagnosed and stimulant medication was recommended, but the veteran's parents declined the pharmacologic treatment in favor of behavioral treatment strategies.

In cases of current diagnosis, *Diagnostic and Statistical Manual of Mental Disorders, Text Revision, 4th Edition (DSM-IV-TR)*, criteria were applied and supported by formal clinical examinations for ADHD conducted by psychologists,

psychiatrists or neuropsychologists, or through VA disability (Compensation and Pension) evaluations where an issue related to ADHD diagnosis was raised.¹⁷ There was considerable overlap between these 2 diagnostic criteria (ie, through report of developmental history of diagnosis or formal adult evaluation) with 93% of cases being positive on both diagnostic methods.

Other comorbid psychiatric (eg, depression, anxiety, PTSD, substance abuse) and medical (eg, headache, pain) conditions also were abstracted from the veteran's medical records at the time of the intake evaluation. Documentation of these conditions was derived from the veteran's problem list and clinical notes that identified the condition as a diagnostic conclusion or focus of treatment. The comorbid conditions were not otherwise independently documented. Many veterans were taking psychotropic medications for mood, sleep, or chronic pain problems at the time of evaluation in the PC; however, use of medication and their effects were not systematically evaluated.

Statistical Analysis

In addition to documentation of the population prevalence for ADHD, analysis for disproportionate prevalence of comorbid conditions in individuals with ADHD compared with those without ADHD was done through the use of the chi-square test and/or Fisher exact test. For continuous variables, *t* tests were used to compare individuals with ADHD with individuals without ADHD. To control family-wise type I error to a *P* value of .05, a false discovery rate (FDR) was applied to studies of demographics, comorbidities, and ratings of symptomatic distress.

RESULTS

The general population characteristics of the 690 veterans and soldiers are summarized in Table 1. The sample was predominantly male (96%), white (88%), and ranged in age from 22 to 55 years with a mean of 28 years. Active-duty service members and reservists from the U.S. Army, Marines, Navy, and Air Force were represented, but most were Army veterans (72%). Most (63%) had a high school education. About two-thirds of the veterans had a single deployment, and the remaining had multiple deployments.

The TBI clinic evaluations found that 58% of the patients had ≥ 1 TBI during their deployments, almost exclusively mild in severity. Seventy-three patients met study criteria for ADHD: 69 with an identified history of diagnosis in childhood and 68 with a current diagnosis, with 93% overlap of these groups. Table 2 provides a breakdown of demographic characteristics, comorbidities, and symptomatic distress in veterans with ADHD compared with those without the diagnosis.

Demographic Characteristics

Veterans with ADHD were found to be slightly younger (2.3 years younger, *P* = .003) and to have less education (greater frequency of less than high school and high school only, *P* = .003) compared with those who did not have the diagnosis. No significant group differences in sex, employment/school status, marital status, or number of deployments were identified in veterans with ADHD compared with non-ADHD veterans. Individuals with ADHD did not experience more physical, emotional, or sexual abuse as children than did their non-ADHD counterparts. The prevalence of TBI during deployment was similar in veterans

with ADHD compared with that of non-ADHD veterans. There was a trend for veterans with ADHD to have more TBIs prior to military service than in non-ADHD veterans; however, this trend did not reach statistical significance (*P* = .188).

Comorbidities

After application of the FDR threshold, veterans with ADHD did not show a disproportionate prevalence of mental health diagnoses (eg, PTSD, depression and anxiety disorders, or substance abuse). There was a nonsignificant trend for more veterans with ADHD to report pain during the previous 30 days (*P* = .035) and more issues with substance abuse (*P* = .10) than for non-ADHD veterans, but these trends did not meet the FDR threshold of $< .05$.

Symptomatic Distress

Veterans with ADHD did not report significantly greater levels of distress on either the NSI or the PCLC survey compared with non-ADHD veterans. Not surprisingly, when select symptoms were investigated, veterans with ADHD reported more problems with attention and concentration than for non-ADHD veterans (*P* = .015). No group differences were identified for sleep issues, headaches, or memory, although there was a trend for the latter (*P* = .14).

DISCUSSION

In this study, there was a 10.6% prevalence of ADHD in 690 OEF/OIF/OND combat veterans. This rate is considerably higher than estimates of prevalence of ADHD in adults (4.4%) made from a nationwide survey and worldwide prevalence estimates of 2.5% to 3.5%.⁴⁻⁶ Still, the current prevalence finding is consistent with a recent finding of ADHD in previously deploying U.S. soldiers military

samples (10.4%).¹⁸ The high prevalence of ADHD in the current clinic population argues for increased provider awareness of this condition as a possible factor in postdeployment adjustment assessments.

Changes in prevalence estimates of ADHD may represent increased awareness of the condition over this interval of time, professional drift in the application of diagnostic criteria, or changes in societal attitudes about acceptability in pursuing treatment for the condition. For example, in nationwide surveys in 2003, 2007, and 2011, the CDC identified an increase from 7.8% to 9.5% to 11%, respectively, in diagnoses of ADHD in childhood.¹⁹ Also, considering that the current sample was predominantly

male and the prevalence of ADHD in males is higher than in females, one might expect a higher ADHD prevalence rate in this study than that in the general population. In this regard, the ADHD prevalence rate in males remains comparable to that estimated by recent CDC survey data.¹⁹

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When estimating ADHD population prevalence in the future, it is worth noting that a change in the diagnostic criteria for ADHD has occurred in DSM-5. Specifically, the age at which critical symptoms must be present to make the diagnosis of ADHD has been increased from age 7 years to age 12 years, and the number of critical symptoms to meet hyperactivity-impulsivity criteria

has been lowered from 6 to 5 in older adolescents and adults.²⁰ These changes in the diagnostic criteria for ADHD will have the net effect of increasing estimates of prevalence of ADHD. The 73 individuals with an ADHD diagnoses in this study were found to have less education and be slightly younger than were the veterans who did not have an ADHD diagnosis. This finding is not unexpected, as individuals with ADHD are known to struggle in school and often drop out of high school and pursue alternative means of getting an equivalency degree or certification.²¹ Early departure from high school can be followed by earlier enlistment in the military. Prior studies by Krauss and colleagues found similar find-

ings in an ADHD study of military recruits (ie, they were less likely to have education beyond a high school degree).⁷

ADHD and TBI

Given problems with attention, impulsivity, and high levels of aggressive behaviors associated with ADHD, individuals with ADHD have been found to be at higher risk for accidental injuries, including TBI, than are individuals without ADHD.^{21,22} Thus, soldiers with ADHD may be at greater risk for TBI during their time in the military. In the current sample, although veterans with ADHD showed a trend toward having more TBIs prior to joining the military relative to non-ADHD veterans, the vet-

erans with ADHD had a similar rate of TBIs during their time in the military relative to non-ADHD veterans.

Although individuals with ADHD are reported to have a higher prevalence of mental health issues than does the general public, this was not evident in the current sample.²¹ Veterans with ADHD in this study did not have a disproportionate prevalence of PTSD, depression, anxiety, or substance abuse.

There was a nonsignificant trend for more individuals with an ADHD diagnosis compared with those without the diagnosis to report experiencing pain during the 30 days prior to their evaluation in the PC. Although not statistically significant, this finding would not be unexpected, in that individuals with ADHD are known to show less tolerance for frustration relative to that of the general population.²¹ In the current study, reports of pain in the ADHD group correlated with reports of being irritable and easily annoyed ($r = .27, P = .024$), but no correlation was observed with reports of poor frustration tolerance ($r = .04, P = .74$). Still, of note, > 90% of the OEF/OIF/OND veterans in this study, regardless of their ADHD diagnosis, reported pain symptoms of some type. The high prevalence of pain symptoms in this sample is consistent with a previous study that found pain to be one of the most common problems in polytrauma patients.¹⁰

Not surprisingly, as shown in Table 2, veterans with ADHD compared with those without the diagnosis reported more problems with attention and concentration. The report of more attentional problems is seemingly not accounted for by group differences in reports of pain in general, headaches, sleep disturbance, or memory problems.

STUDY STRENGTHS

A large sample of veterans constituted this study, and the data were gathered in consecutive referrals to the CJZVAMC PC over a 5-year period. Also, information on a number of comorbidities were captured simultaneously with the polytrauma and ADHD diagnoses, allowing much greater ability to investigate the interaction of multiple comorbidities as well as lingering reports of symptoms following discharge from active military service.

In these authors' experience, veterans with ADHD benefit substantially from structured treatment interventions that are focused on developing compensatory skills for their problems with attention and impulsivity. Individuals with ADHD typically have a greater need for assistance with planning and organizing, making decisions, problem solving, and regulating their attention and affect. Individuals with ADHD may benefit from treatment strategies focused on ADHD behaviors in conjunction with traditional treatment strategies frequently used in the PC. These strategies include increased case management, medication trials, education regarding ADHD, vocational assistance, and consideration of both the school and work accommodations.

Studies have shown that treatments with stimulants improve functioning and reduce depression and substance use.²¹ In this study, < 5% of individuals with ADHD were taking stimulants at the time they were initially assessed in the PC, whereas the majority were taking stimulants after being referred for ADHD evaluation. Thus, identification of veterans with ADHD has clinical relevance in understanding the specific needs that guide development of individualized treatment plans to promote successful community reintegration.

LIMITATIONS

One limitation of the study is the lack of available medical records of historical ADHD diagnoses prior to military service. Also, although DSM-IV criteria for ADHD were operational in the psychodiagnostic clinics for these subjects, because the polytrauma study team did not conduct

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the evaluations in this sample, uniform diagnostic standards may not have been consistently applied when establishing the ADHD diagnosis. There was a 93% agreement between the 2 methods of diagnosis (ie, report of developmental diagnosis or positive adult evaluation), suggesting that diagnostic precision for ADHD in this study was reasonably accurate.

Another significant limitation of this study, apart from establishing medical and psychiatric status at the time of the initial referral to the PC, is the omission of functional outcome assessments regarding success of polytrauma treatment initiatives or ultimate community reintegration of successful psychosocial participation or academic and vocational achievements. Future longitudinal outcome studies are needed to determine whether ADHD has a significant impact on clinical outcomes. Of interest, pain was an overwhelmingly common factor (> 90%) for the military population studied at this site. Some degree of disturbance in attentional capacities is common in patients with chronic pain, which may aggravate ADHD symptoms and vice versa. Further investigations are needed to determine the potential functional impact of pain, including

use of pain and psychotropic medications, on ADHD symptoms and the combined effect of these symptoms on overall outcome from rehabilitation and reintegration efforts.

Although these findings suggest that polytrauma veterans with ADHD do not have more psychiatric or physical comorbidities than do veter-

ans without ADHD, it is premature to conclude that community reintegration can be optimally managed in the same way for both groups. Community reintegration of individuals with ADHD will likely be challenging, as these individuals often have struggled with functioning in their communities prior to their military service.

Studies of adult ADHD in the U.S. and in other countries have found that it is often associated with substantial impairment in managing the demands of functioning as an adult in society.⁴ Although some theorists have speculated that symptoms of ADHD may have been evolutionarily adaptive to survival in select environments (eg, predatory hunting environments), there is no clear evidence to support such adaptive benefits of the symptom in modern combat environments.^{23,24} Symptoms of ADHD are typically maladaptive to soldiers transitioning to civilian lives.

CONCLUSIONS

This investigation described the demographic and clinical characteristics of OEF/OIF/OND veterans referred for evaluation of TBI to the CJZVAMC PC during 5 years of operation from 2008 through 2012. The aim was to increase provider

awareness of possible important variables that may influence recovery and community reintegration. This study may help to form the foundation for future lines of research into variables such as ADHD that may influence outcomes of rehabilitation and reintegration interventions.

To better understand the treatment needs of young veterans returning home from the wars in Iraq and Afghanistan, this study sought to identify the prevalence rate of ADHD, a condition known to complicate community adjustment. In this study, there was a 10.6% prevalence of ADHD among the 690 OEF/OIF/OND combat veterans seen over the 5-year period in the CJZVAMC PC, which is substantially higher than prevalence estimates in the U.S. general population but similar to estimates in previous military samples.

Compared with veterans who did not have ADHD, veterans with ADHD were younger, less well educated, and reported more problems with attention and concentration but did not have a greater incidence of military TBI or mental health comorbidities. The high prevalence of ADHD in this group argues for greater awareness of this clinical variable and development of intervention programs tailored to the specific skill deficiencies found in the condition, which can be included as part of the comprehensive treatment interventions.

Veterans with ADHD treated in the PC seem to benefit from structured treatment plans and education to promote self-awareness and veteran-centered self-management for effective symptom reduction and coping strategies. Development of effective integrated treatment options with a focus on educational and

vocational resources and assistance could facilitate successful community reintegration. Future studies are needed to further assess outcomes of community reintegration, including academic and occupational outcomes, in this population. ●

Author disclosures

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REFERENCES

- Hoge CW, McGurk D, Thomas JL, Cox AL, Engel CC, Castro CA. Mild traumatic brain injury in U.S. soldiers returning from Iraq. *N Engl J Med*. 2008;358(5):453-463.
- Screening and Evaluation of Possible Traumatic Brain Injury in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) Veterans*. Washington, DC: Dept of Veterans Affairs; 2010. VHA Directive 2010-012.
- Polytrauma System of Care*. Washington, DC: Dept of Veterans Affairs; 2013. VHA Handbook 1172.01.
- Kessler RC, Adler L, Barkley R, et al. The prevalence and correlates of adult ADHD in the United States: Results from the National Comorbidity Survey Replication. *Am J Psychiatry*. 2006;163(4):716-723.
- Simon V, Czobor P, Bálint S, Mészáros A, Bitter I. Prevalence and correlates of adult attention-deficit hyperactivity disorder: Meta-analysis. *Br J Psychiatry*. 2009;194(3):204-211.
- Fayyad J, De Graaf R, Kessler R, et al. Cross-national prevalence and correlates of adult attention-deficit hyperactivity disorder. *Br J Psychiatry*. 2007;190(5):402-409.
- Krauss MR, Russell RK, Powers TE, Li Y. Accession standards for attention-deficit/hyperactivity disorder: A survival analysis of military recruits, 1995-2000. *Mil Med*. 2006;171(2):99-102.
- Vanderploeg RD, Belanger HG, Horner RD, et al.

- Health outcomes associated with military deployment: Mild traumatic brain injury, blast, trauma, and combat associations in the Florida National Guard. *Arch Phys Med Rehabil*. 2012;93(11):1887-1895.
- Theeler BJ, Flynn FG, Erickson JC. Headaches after concussion in US soldiers returning from Iraq or Afghanistan. *Headache*. 2010;50(8):1262-1272.
- Sayer NA, Chiros CE, Sigford B, et al. Characteristics and rehabilitation outcomes among patients with blast and other injuries sustained during the Global War on Terror. *Arch Phys Med Rehabil*. 2008;89(1):163-170.
- Sayer NA, Rettmann NA, Carlson KF, et al. Veterans with history of mild traumatic brain injury and posttraumatic stress disorder: Challenges from provider perspective. *J Rehabil Res Dev*. 2009;46(6):703-716.
- Nampiaparampil DE. Prevalence of chronic pain after traumatic brain injury: A systematic review. *JAMA*. 2008;300(6):711-719.
- Halbauer JD, Ashford JW, Zeitzer JM, Adamson MM, Lew HL, Yesavage JA. Neuropsychiatric diagnosis and management of chronic sequelae of war-related mild to moderate traumatic brain injury. *J Rehabil Res Dev*. 2009;46(6):757-796.
- Romesser J, Shen S, Reblin M, et al. A preliminary study of the effect of a diagnosis of concussion on PTSD symptoms and other psychiatric variables at the time of treatment seeking among veterans. *Mil Med*. 2011;176(3):246-252.
- Cicerone KD, Kalmak K. Persistent postconcussion syndrome: The structure of subjective complaints after mild traumatic brain injury. *J Head Trauma Rehabil*. 1995;10(3):1-17.
- Weathers FW, Huska JA, Keane TM. *PCL-C for DSM-IV*. Boston, MA: National Center for PTSD—Behavioral Science Division; 1991.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Text Revision (DSM-IV-TR)*. 4th ed. Washington, DC: American Psychiatric Association; 2000.
- Hanson JA, Haub MD, Walker JJ, Johnston DT, Goff BS, Dretsch MN. Attention deficit hyperactivity disorder subtypes and their relation to cognitive functioning, mood states, and combat stress symptomatology in deploying U.S. soldiers. *Mil Med*. 2012;177(6):655-662.
- Visser SN, Danielson ML, Bitsko RH, et al. Trends in the parent-report of health care provider-diagnosed and medicated attention-deficit/hyperactivity disorder: United States, 2003-2011. *J Am Acad Child Adolesc Psychiatry*. 2014;53(1):34-46.e2.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. 5th ed. Washington, DC: American Psychiatric Association; 2013.
- Barkley RA, Murphy KR, Fischer M. *ADHD in Adults: What the Science Says*. New York, NY: Guilford Press; 2008.
- Barkley RA, Cox D. A review of driving risks and impairments associated with attention-deficit/hyperactivity disorder and the effects of stimulant medication on driving performance. *J Safety Res*. 2007;38(1):113-128.
- Shelley-Tremblay JF, Rosén LA. Attention deficit hyperactivity disorder: An evolutionary perspective. *J Genet Psychol*. 1996;157(4):443-453.
- Jensen PS, Mrazek D, Knapp PK, et al. Evolution and revolution in child psychiatry: ADHD as a disorder of adaptation. *J Am Acad Child Adolesc Psychiatry*. 1997;36(12):1672-1679.