Evaluating Adult Attention Deficit, Hyperactivity Disorder in Primary Care Settings

Julie A Wolke, PsyD, LP

Samantha Chaffee, BA

Overview

- Describe adult ADHD symptoms
  - DSM-5® Criteria
  - Adult ADHD symptoms
- Asses for coexisting disorders and common presentations
  - Differential diagnoses
  - Common adult ADHD presentations
- Identify different adult ADHD assessment tools for use in primary care settings
  - Symptom Checklists
  - Rating Scales
  - Semi-structured Interviews

Statistics on Adult ADHD

- An estimated 8.7 million adults in the United States have ADHD (Shein et al, 2022).
- Approximately 2.6% (139.8 million) of adults worldwide have persistent ADHD from childhood.
- Approximately 6.8% (366.3 million) of adults worldwide have symptomatic ADHD, which includes individuals diagnosed with ADHD regardless of the onset age.
- Resulting societal excess costs attributable to Adults with ADHD is $122.8 billion or $14,092 per adult.
- Excess costs of unemployment ($66.8 billion; 54%) comprised the largest proportion of the total, followed by productivity loss ($28.8 billion; 23.4%) and health care services ($14.3 billion; 11.6%).
- Undiagnosed ADHD can have a significant negative impact on the lives of adults.

Attention Deficit Hyperactivity Disorder

- According to the DSM-5® ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development.
  - Inattention
  - Hyperactivity
  - Impulsivity
- Neurodevelopmental Disorder. The requirement that several symptoms be present before age 12 years conveys the importance of a substantial clinical presentation during childhood.
- The diagnostic criteria for ADHD were designed for children and do not completely apply to adults.
- Criteria have been criticized for not respecting the developmental changes that happen as a person ages.

Inattentive Symptoms

- Fails to give close attention to details or makes careless mistakes
- Has difficulty sustaining attention
- Lack of focus
- Does not appear to listen
- Struggles to follow through with instructions
- Disorganization (tasks and activities)
- Avoids, dislikes or is reluctant to engage in tasks requiring sustained mental effort
- Loses things necessary for tasks or activities (e.g., keys, mobile telephone, wallet, eyeglasses, etc.)
- Is easily distracted by extraneous stimuli
- Is forgetful in daily activities

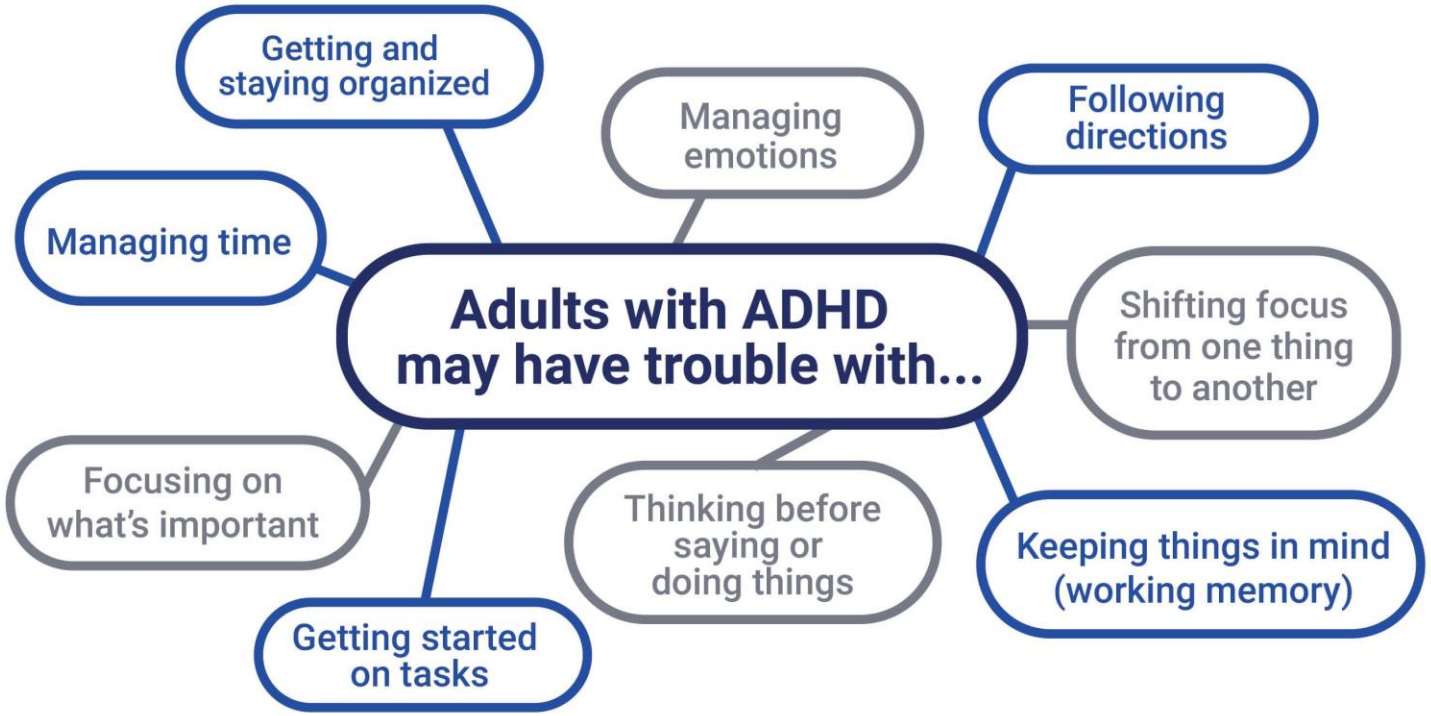
Hyperactive-Impulsive Symptoms

- Fidgets with hands or feet; difficulty sitting still
- Has difficulty remaining seated
- Restlessness in adults
- Difficulty engaging in activities quietly
- Feels as if they are “on the go” or driven by a motor
- Talks excessively
- Impulsive responding (e.g., blurts out answers before questions completed)
- Difficulty waiting or taking turns
- Interrupts or intrudes upon others

Additional Diagnostic Requirements

- Symptoms must be present prior to age 12 years
- Several symptoms are present in two or more settings
- Presence of six or more symptoms in either the inattentive or hyperactive/impulsive domains (or six symptoms in both for combined type) that persist for at least 6 months
- Symptoms must have a negative effect on more than one social, academic or occupational activity (there must be functional impairment)
- Symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (differential diagnosis)

Diagnosing ADHD in Adults



Diagnosing ADHD in Adults

- Four key features that must be identified in order to meet the DSM-5® diagnostic criteria for adult ADHD (Targum & Adler, 2014)
  - Identification of an early childhood onset that might have been undiagnosed ADHD
  - Documentation of at least five current, significant symptoms of either inattention or hyperactivity/impulsivity
  - Significant behavioral or functional impairment in at least two settings (home, work, school, social) that have resulted from the ADHD symptoms (evidence of impact)
  - Symptoms that are best explained by ADHD and not by another psychiatric disorder

Common Presentations

- Inconsistent performance in jobs or careers
- Losing or quitting jobs frequently
- History of academic and/or career underachievement
- Poor ability to manage day-to-day responsibilities such as completing household chores, maintenance tasks, paying bills or organizing things
- Relationship problems due to poor follow through, not completing tasks
- Forgetting important things or getting upset easily over minor things
- Chronic stress and worry due to failure to accomplish goals and meet responsibilities
- Chronic and intense feelings of frustration, guilt or blame

Differential Diagnoses

- Medical conditions (e.g., hearing impairment, thyroid disease, sleep apnea, drug interactions, TBI, stroke)
- Mental health diagnoses (e.g., mood, anxiety, OCD, substance use disorder, personality disorder)
- Schizophrenia or other psychotic disorders
- Learning Disorder
- Intellectual disability
- Mild Cognitive Impairment (Neurocognitive Disorder)
- Certain substances (e.g., steroids, anticonvulsants)
- History of trauma

Assessing Adult ADHD in Primary Care

- There is no single medical, neurological or attentional test that can reliably identify ADHD
- Specific patterns of results across a combination of tools and information can help identify ADHD
- The most important part of an ADHD evaluation is a structured or semi structured interview (including ancillary data from family members, significant others, coworkers, supervisors, etc.)
  - Semi structured interviews
    - ACE+v.2
    - DIVA 2.0
    - CAADID
  - Symptom checklists
    - ASRS v1.1
    - WEISS Symptom Record II
    - BADDS
  - Rating scales
    - Utah Scales (WURS)
    - WEISS Functional Impairment Rating Scale-Self Report (WFIRS-S)

Semi-Structured Interviews ACE+v.2

- ACE+ v.2: A diagnostic interview of ADHD in adults
  - Created by Professor Susan Young (2024)
  - Consistent with DSM-5® and ICD-11 criteria
  - Screens for comorbidities through Background and Co-Existing Presentations sections
  - Includes Inattention Domain and Hyperactive-Impulsive Domain
    - Addresses both retroactive and current symptoms
    - 9 items assess inattention
    - 5 items assess restlessness & hyperactivity
    - 4 items assess impulsive behavior
  - Examines symptoms across multiple settings (home, school, work) during both child and adulthood
    - Inattention Domain – diagnosis requires 5 or more symptoms present
    - Hyperactive-Impulsive Domain - diagnosis requires 5 or more symptoms present
    - Symptoms must present prior to age 12, persist greater than 6 months across settings, and cause functional impairment
  - Open source (no cost)

Semi-Structured Interviews-DIVA 5

- DIVA 5: Diagnostic interview for ADHD in adults
  - Created in Dutch in 2007 by J.J.S. Kooij & M.H. Francken, updated & translated to English in 2010
  - Updated and renamed DIVA 5 (previously DIVA 2) to follow DSM-5® criteria in 2019
  - Assesses current and retrospective symptoms across multiple settings
    - Part 1: Criteria for attention deficit (9 items)
    - Part 2: Criteria for hyperactivity-impulsivity (9 items)
    - Part 3: Age of onset & symptom impairment
  - Scoring
    - Attention deficit (part 1) - six or more symptoms must be endorsed
    - Hyperactivity/impulsivity (part 2) - six or more symptoms must be endorsed
    - Symptoms must have been present in childhood
    - Impairment must occur in 2 or more domains of functioning
  - Versions available in multiple languages
    - Intellectual Disability version designed specifically to assess ADHD in individuals with ID
  - Initial cost of 10 euros
    - Unlimited free uses after initial purchase

Semi-Structured Interviews-CAADID

- Conners' Adult ADHD Diagnostic Interview for the DSM-IV® (CAADID)
- CAADID is comprised of two parts administered as clinical interviews over two sessions (two appointments)
  - Part I
    - Demographic History
    - Developmental Course
    - ADHD Risk Factors
    - Comorbidity
  - Part II
    - Examines if the patient meets the first four DSM-IV® criteria for ADHD (criteria A-D)
    - Checklist provided for recording behavioral observations (consistent/inconsistent with ADHD)
  - Patients can complete Part I as a questionnaire on his/her/their own prior to meeting provider
    - Reduces appointment time
    - Allows provider to focus on those questions that were answered affirmatively in Part I before moving to Part II
  - High interrater reliability (k = 0.9756)
  - Highest positive predictive value when used in conjunction with symptoms checklists (e.g., WURS, CAARS)
  - Can be used as a repeated measure to follow patient's progress (impairment ratings)

Symptom Checklists–ASRS-v1.1

- Adult ADHD Self-Report Scale (ASRS-v1.1)
  - Based on the World Health Organization Composite International Diagnostic Interview
  - Consistent with DSM-5® criteria
  - Worded to reflect symptom manifestation in adults
  - Three ADHD subscales are presented according to factors by Stanton et al. (2018).
    - Inattentive subscale – measures an adult's difficulty in focusing on details, organization, remembering appointments, making careless mistakes, and concentration
    - Hyperactive/Impulsive subscale (Motor) – measures an adult's difficulty in sitting still, staying seated and ability to relax.
    - Hyperactive/Impulsive subscale (Verbal) – measures an adult's difficulty in controlling how much they are talking, interrupting others, waiting their turn
  - Scoring
    - Part A – scores of 4 or more is considered to be highly consistent with an ADHD diagnosis in adults
    - Part B – frequency scores probe patient's symptom severity and impact of ADHD symptoms
    - Total score (sum of part A and B) converted into percentile to contextualize responses compared to normative data (22,397 adults; Adler et al., 2019). Percentiles scores compared to age related peers.
  - High internal consistency (Cronbach's alpha = 0.88) and concurrent validity (r=0.84) (Adler et al., 2006)
  - AUC 0.904 – high discriminative ability (Brevik, Lundervold, Haavik & Posserud, 2020)
  - Open source – no cost

Symptom Checklists-WEISS Symptom Record II

- WEISS Symptom Record II
  - Developed by Margaret Weiss in 2005
  - Measures symptoms across 19 domains

Attention	Depression	Eating
Hyperactivity/Impulsivity	Mood regulation	Conduct
Oppositional	Suicide	Substance Use
Development and Learning	Anxiety	Addictions
Autism Spectrum	Stress Related Disorders	Personality
Motor Disorders	PTSD	
Psychosis	Sleep	

- While based on DSM-IV® it does follow DSM-5®
- Although not psychometrically validated, strong clinical utility
  - Can provide useful information for identifying several areas of concern across a number of domains
  - Open source – no cost

Symptom Checklists-BADDS

- Brown Attention-Deficit Disorder Symptom Assessment Scale (BADDS) for Adults (Brown, 1996)
  - Developed before criteria for ADHD were published in the DSM-IV® (Murphy & Adler, 2004)
  - Based on symptom descriptors reported by high school and college students with "non-hyperactive ADD"
  - Often used with highly functioning adults
  - Multiple 40 to 50 item screening instruments
  - Assesses 5 dimensions of symptoms
    - Organizing work
    - Sustaining attention and concentration
    - Sustaining alertness and effort
    - Managing frustration and other emotions
    - Using working memory
  - Immediate cluster scores and a total score indicating overall impairment
    - High internal consistency (Chronbach's coefficient $\alpha = .96$)
    - Cutoff score of 50 (>50 suggests ADD) with 4% false negative and 6% false positive
  - Cost: $113.10 for 25 ReadyScore protocols (handscored forms). Scoring software is an additional $390.10 and responses will need to be entered into program manually.

Rating Scales-WURS

- Wender Utah Rating Scale (WURS)
- Developed by Ward, Wender and Reimherr in 1993
- Retrospective: assess childhood symptoms and/or behaviors associated with persistence of ADHD into adulthood.
  - Three versions (WURS-25; WURS-45; WURS-61)
  - Ratings range from 0 (not at all or very slightly) to 4 (very much)
  - Five factors measured:
    - Disruptive Mood/behavior
    - ADHD
    - Academic
    - Social
    - Anxiety/dysphoria
  - AUC of 0.956 reflects high discriminative ability (Brevik, Lundervold, Haavik & Posserud, 2020)
  - Time consuming (longer versions) for patients
  - Scoring can be cumbersome
  - Open source – no cost

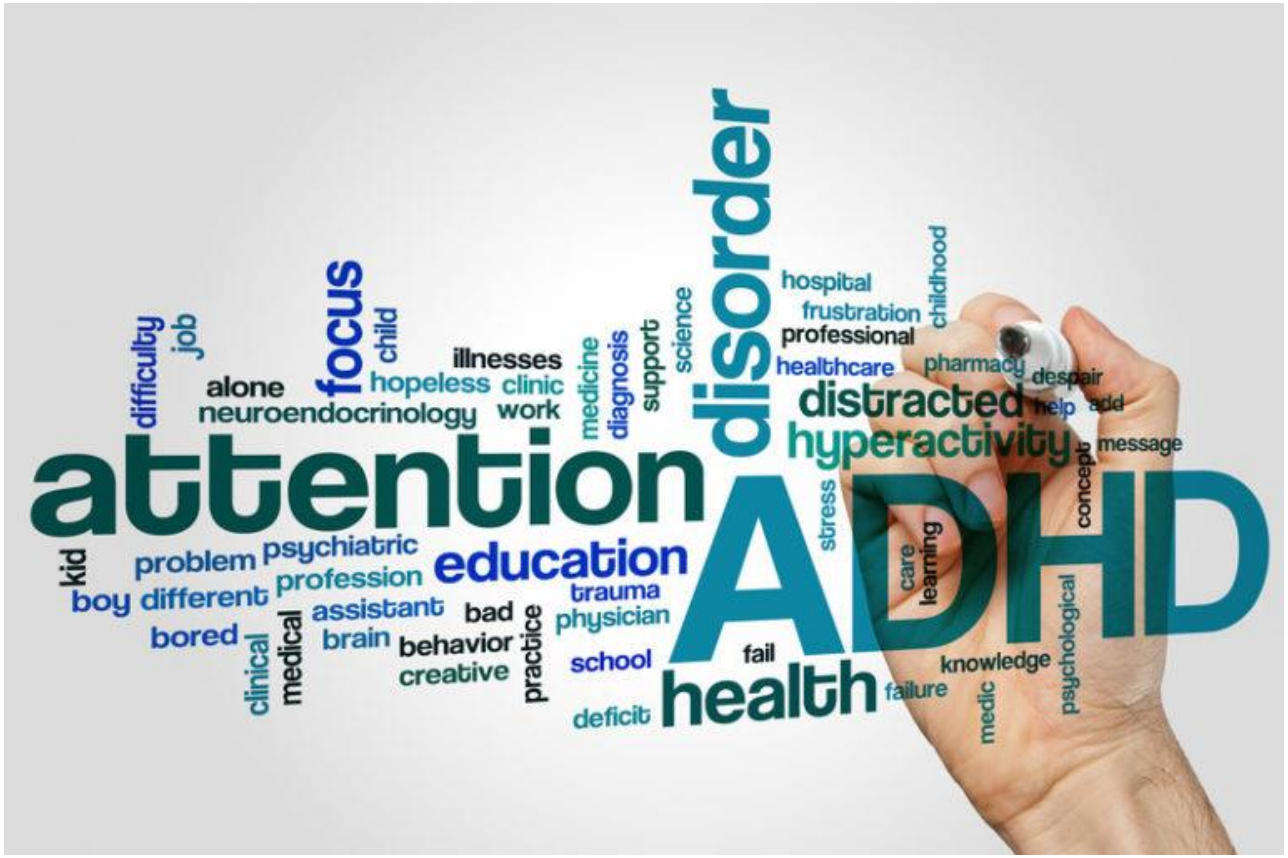
Rating Scales-WFIRS-S

- WEISS Functional Impairment Rating Scale-Self Report (WFIRS-S)
  - Assesses functional impairments across 7 domains (69 items total)
    - Family
    - Work
    - School
    - Life Skills
    - Self-Concept
    - Social
    - Risk
  - Assesses symptoms *and* degree of impairment
  - Easy to administer (patient self-administration) and score
    - Ratings range from 0 (never or not at all) to 3 (very often or very much)
  - High validity with internal consistency >.8 for each domain and scale as a whole
  - Highly sensitive to change with treatment and significantly correlated to change in ADHD symptoms (40% change) and overall psychopathology.
  - Open source – no cost

Rating Scales-CAARS™2

- Conners Adult ADHD Rating Scales 2nd Edition (CAARS™ 2)
- Developed by (Conners, Erhardt & Sparrow, 2023)
  - Updated normative samples and cultural sensitivity, increased fairness and gender inclusive language
    - Scales designed to show no evidence of measurement bias with respect to gender, race/ethnicity, country of residence or education level
    - Stratified samples for seven age groups with upward expansion to include 50-59, 60-69 and 70+)
    - DSM Symptom Scales have been updated and aligned to current DSM symptom criteria
  - Full length and short forms available for initial evaluation, periodic reassessments and repeated assessments for frequent treatment monitoring
  - Strong internal consistency and test-retest reliability (median omega coefficient .94 and *r* =.92 respectively)
  - Administration and automated scoring on computer through Multi-Health Systems Inc. (MHS) website. Cost: $9.00 per administration
    - Account linked to one email

Why Is Adult ADHD So Challenging To Diagnose?



Challenges of Diagnosing Adult ADHD in Primary Care Setting

- Time – limited appointment times
- Screening tools are time consuming and can impede office productivity
- Limited patient information, ancillary information
- Training and experience
- Level of provider comfort diagnosing adult ADHD
- Concerns about treatment (e.g., prescribing, follow up visits)

What Does All This Mean?

- Significant increase in referrals for Adult ADHD
- Utilize available tools
- Avoid asking questions that simply list diagnostic criteria
- Ask open ended questions
  - e.g., “what are some of the challenges you have noticed at home/work/school?”
- Ask for specific examples of behaviors across settings
  - e.g., “you mentioned you have trouble paying attention. Could you give me an example of what that looks like at home? At work? School?”
  - e.g., “how has this impacted your performance? Have you gotten into trouble at work or school? Lost a job? Academic difficulties? What are some examples?”
- Refer for psychological and/or neuropsychological testing when needed

Questions?

References

- Adler, L. A., Spencer, T., Faraone, S. V., Kessler, R. C., Howes, M. J., Biederman, J., & Secnik, K. (2006). Validity of pilot Adult ADHD Self- Report Scale (ASRS) to Rate Adult ADHD symptoms. Annals of Clinical Psychiatry: *Official Journal of the American Academy of Clinical Psychiatrists, 18(3),* 145–148. https://doi.org/10.1080/10401230600801077
- Adler, L. A., Faraone, S. V., Sarocco, P., Atkins, N., & Khachatryan, A. (2019). Establishing US norms for the Adult ADHD Self-Report Scale (ASRS-v1.1) and characterising symptom burden among adults with self-reported ADHD. *International Journal of Clinical Practice, 73(1),* e13260. https://doi.org/10.1111/ijcp.13260
- American Psychiatric Association. (2013) *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. Arlington, VA: American Psychiatric Association.
- Brevik, E. J., Lundervold, A. J., Haavik, J., Posserud, M. (2020). Validity and accuracy of the adult attention-deficit/hyperactivity disorder (adhd) self-report scales (asrs) and the wender Utah rating scale (wurs) symptom checklists in discriminating between adults with and without adhd. Brain and Behavior. Retrieved on February 19, 2024 from website: https://onlinelibrary.wiley.com/doi/10.1002/brb3.1605
- Brown, TE. (1996). Brown Attention-Deficit Disorder Scales. San Antonio, Tex: The Psychological Corporation
- DIVA Foundation. (n.d.). *Use of DIVA-5*. http://www.divacenter.eu/DIVA.aspx?id=528
- Hines, J., King, T., & Curry, W. (2012). The adult adhd self-report scale for screening adult attention deficit-hyperactivity disorder (adhd). *Journal of American Board of Family Medicine; 25 (6)* 847-853
- Hong, M., Kooij, S., Kim, B., Joung., Y, Yoo, H., Kim., E., Lee, S., Han, D., Lee, Y., & Bahn, G. (2020). Validity of the Korean Version of DIVA-5: A Semi-Structured Diagnostic Interview for Adult ADHD. *Neuropsychiatric Disease and Treatment, 16,* 2371-2376. https://doi.org/10.2147/NDT.S262995
- Kessler, R. C., Adler, L., Ames, M., Demler, O., Faraone, S., Hiripi, E., Howes, M. J., Jin, R., Secnik, K., Spencer, T., Ustun, T. B., & Walters, E. E. (2005). The World Health Organization Adult ADHD Self-Report Scale (ASRS): a short screening scale for use in the general population. *Psychological Medicine, 35(2),* 245–256. https://doi.org/10.1017/s0033291704002892
- Kooij, S., & Francken, M. (2010). *DIVA 2.0: Diagnostic Interview for ADHD in adults.* DIVA Foundation.
- Kooij, S., & Wynchank, D. (n.d.). *DIVA-5, and Two New DIVAs Available (Young DIVA-5 and DIVA-5 ID).* European Network Adult ADHD. www.eunetworkadultadhd.com/diva-5-and-two-new-divas-available-young-diva-5-and-diva-5-id/

References

- Murphy, K.R., Adler, L. A. (2004). Assessing attention-deficit/hyperactivity disorder in adults: Focus on rating scales. *Journal of Clinical Psychiatry, 65(3),* 12-17
- Reimherr, F., Marchant, B., Gift, T., Steans, T., Wilson, M., & Pommerville, C. Handbook of Utah Scales for the Assessment and Treatment of ADHD in Adults, v1, (2002). Retrieved on February 19, 2024 from website: wurs-handbook-version-1-2022.pdf (drworthen.net)
- Roy-Byrne P., Scheele L., Brinkely J., Ward N., Wiatrak C., Russo J., et al. (1997)) Adult attention-deficit hyperactivity disorder: Assessment guidelines based on clinical presentation to a specialty clinic. *Comprehensive Psychiatry, 38,* 133-140.
- Schein J., Adler L., Childress A., et al. (2022). Economic burden of attention-deficit/hyperactivity disorder among adults in the United States: a societal perspective. *Journal of Managed Care Specialty Pharmacy, 28*(2) 168–179.
- Targum S. D., & Adler, L. A. (2014). Research to practice: our current understanding of adult adhd. *Innovations in Clinical Neuroscience, v11,* 11-12.
- Ward, M. F., Wender, P. H., & Reimherr, F. W. (1993). Wender Utah Rating Scale (WURS) [Database record]. APA PsycTests. https://doi.org/10.1037/t16514-000
- Weiss, M.D. (2005). Weiss Symptom Record 2. Retrieved on February 19, 2024 from website: WSR-II.pdf (caddra.ca)
- Young, S. (2024). ACE+v.2: A diagnostic interview of ADHD in adults. Psychology Services Limited.
- Adult ADHD Self-Report Scale (ASRS) – NovoPsych