

# Differential diagnosis and comorbidity in patients with ADHD

Andrej Kastelic  
Global Addiction Association President  
EUROPAD General Secretary  
SEEA net President  
Center for Treatment of Drug Addiction  
University Psychiatric Clinic Ljubljana  
Ljubljana, Slovenia

E-mail: [andrej.kastelic@psih-klinika.si](mailto:andrej.kastelic@psih-klinika.si)

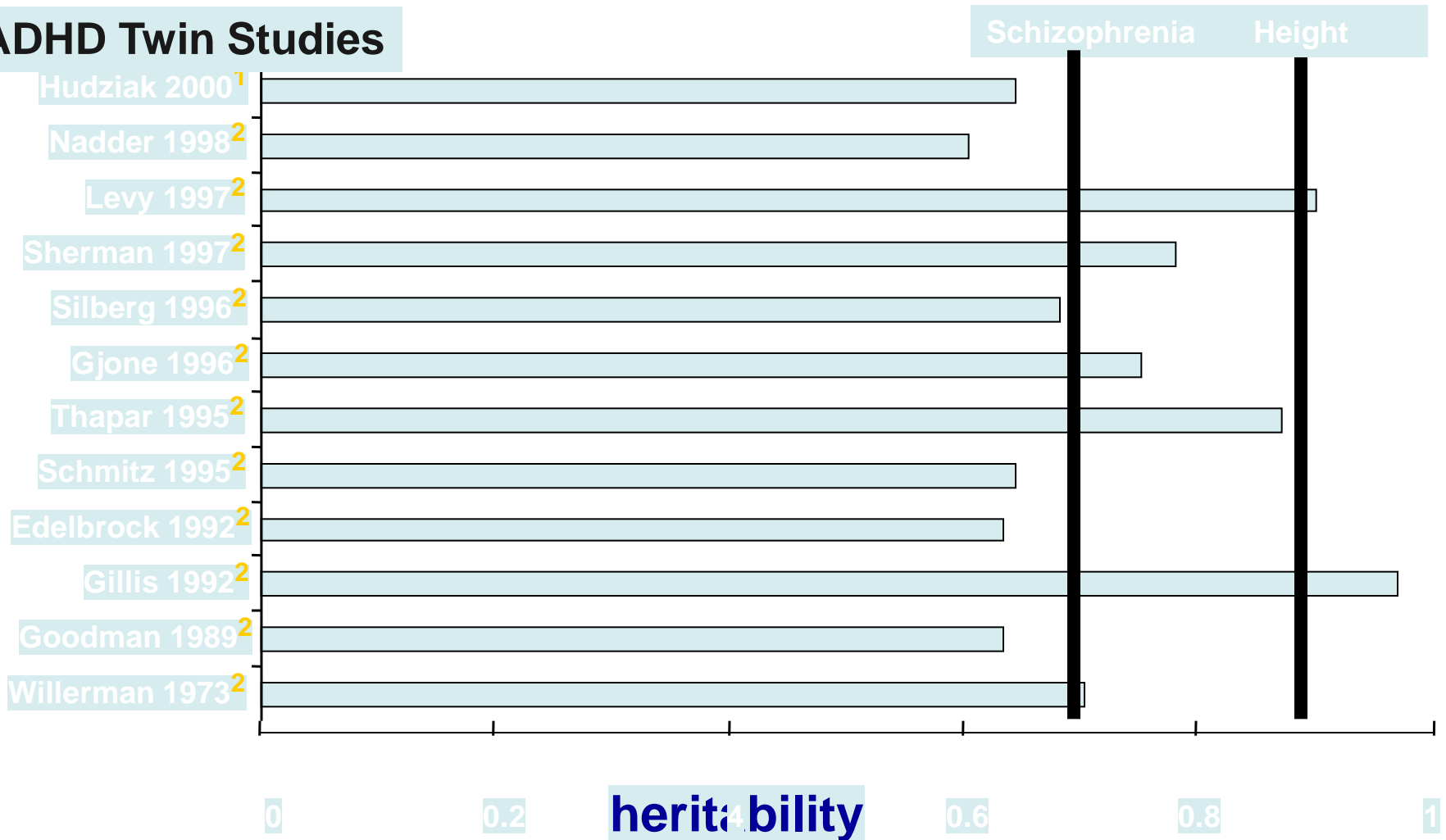


# ATTENTION DEFICIT HYPERACTIVITY DISORDER



# Heritability in the Range of Schizophrenia and Height

## ADHD Twin Studies



1. Hudziak JJ, et al. *Am Acad of Child and Adolesc Psychiatry* 2000;39(4):469-476.

2. Faraone SV, et al. *Biol Psychiatry* 1998;44:951-958.

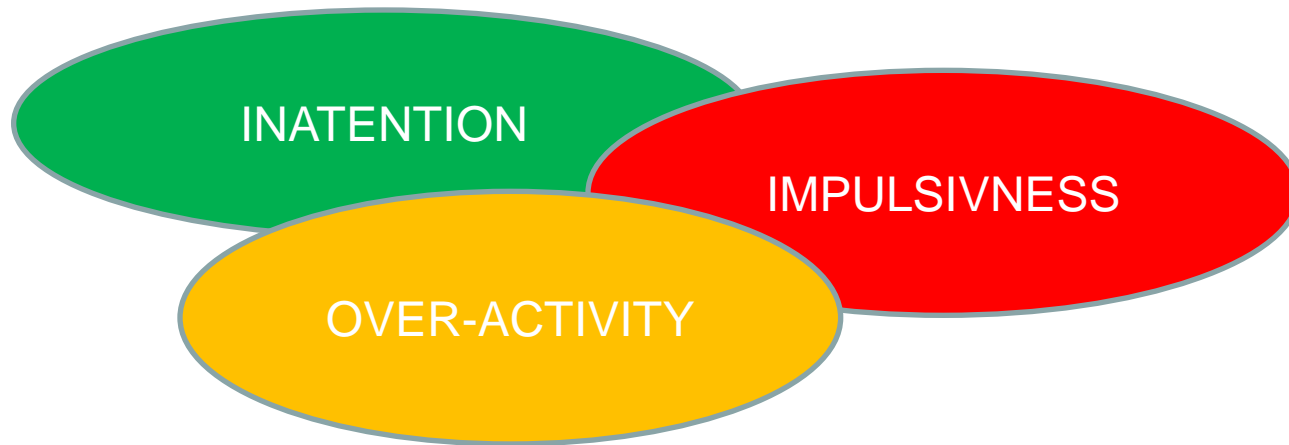
# Symptoms

- Core symptoms

inattention

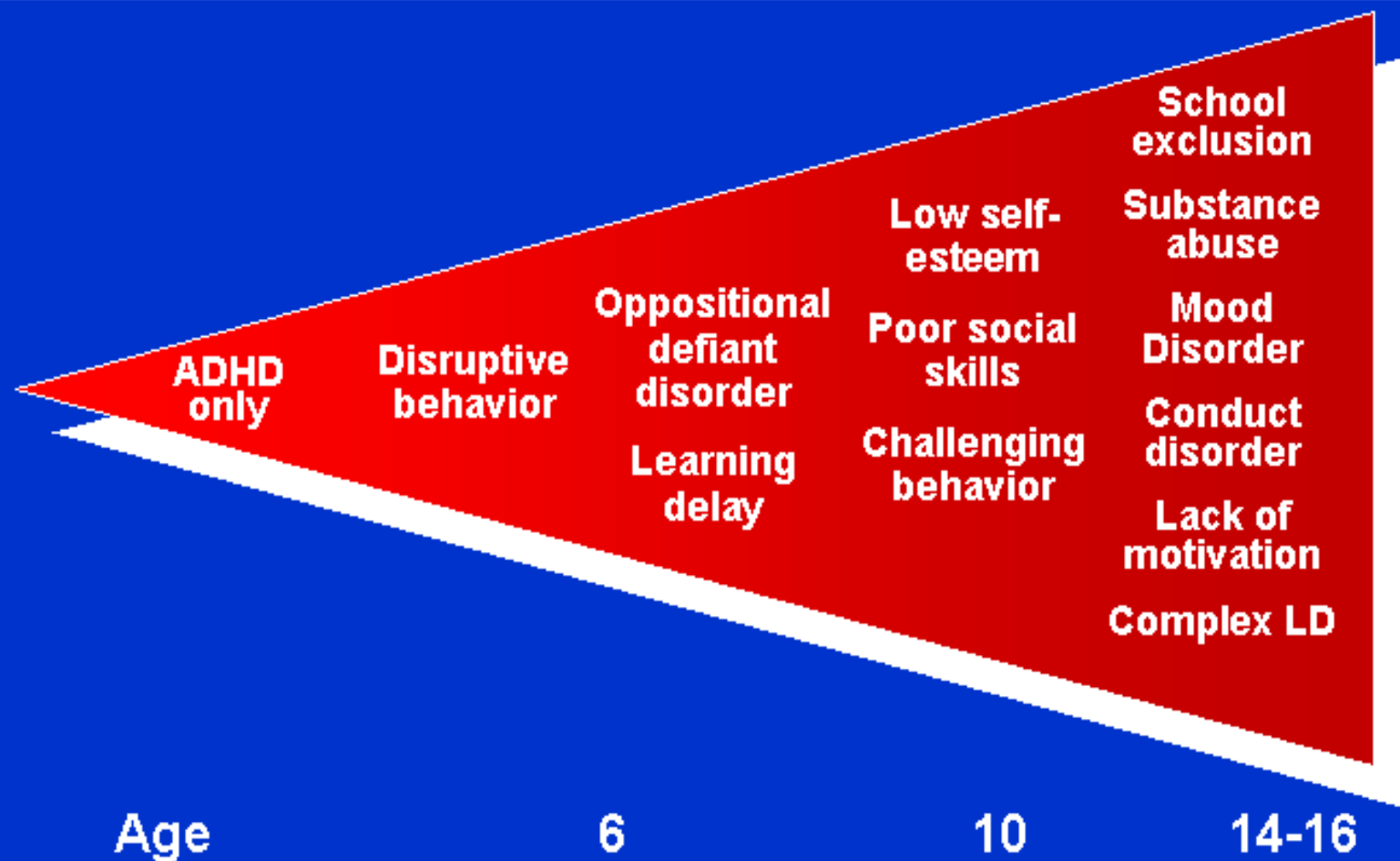
impulsiveness

over-activity

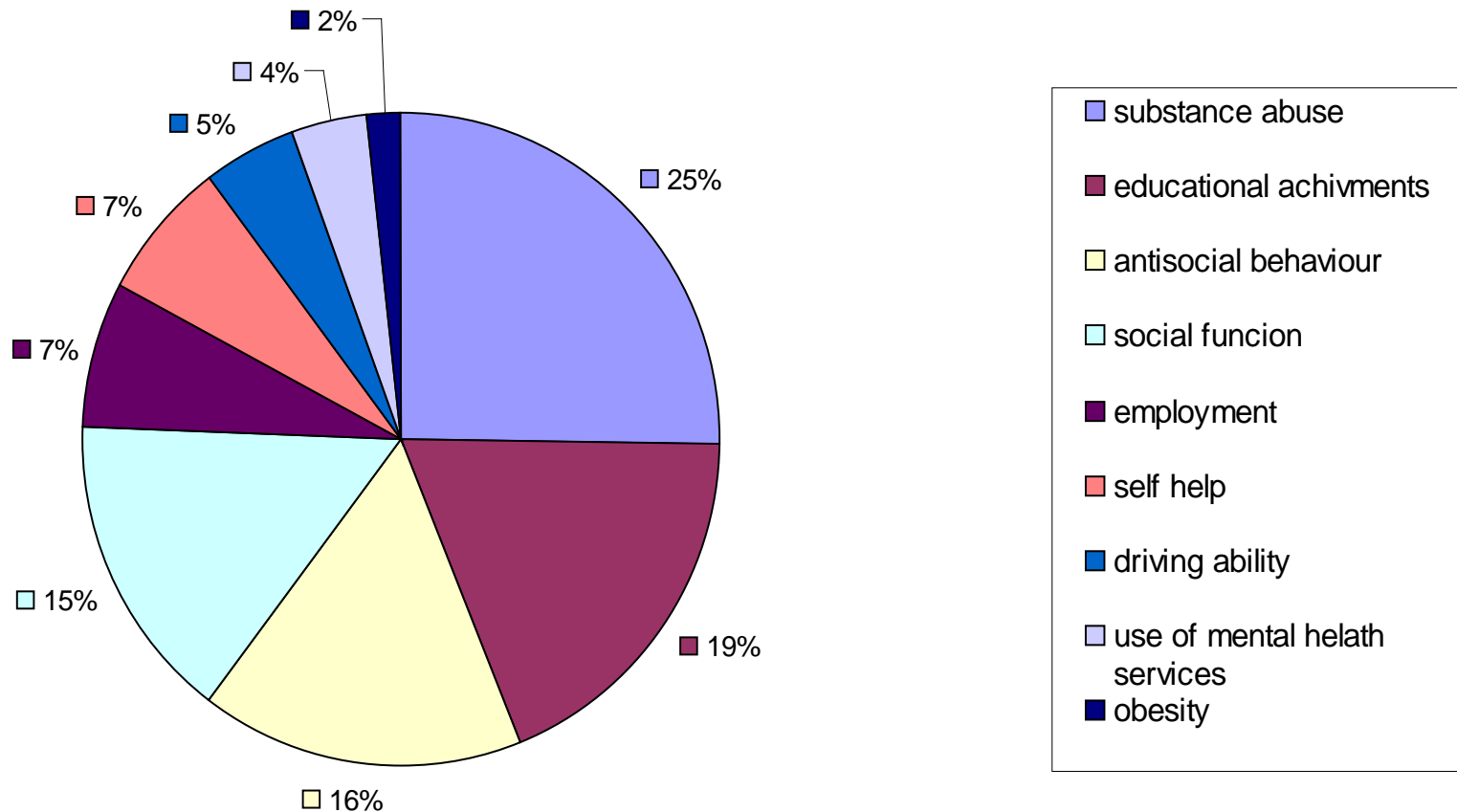


- In children ADHD is 3-5 times more common in boys than girls. In adults it is more closer to even, increasing in women and decreasing in men.
- The prevalence of ADHD in adults declines with age. Partly due to age related the client in the symptoms, though some patients with ADHD in childhood meet fewer criteria as adults but have persistent symptoms - ADHD in partial remission under DSM 5.
- Over - activity in adulthood declines more than attention deficit. There is more anxiety, attention deficit, presents more as inability to fulfill the tasks. Problems with employment, finances, interpersonal relationships including workplace, partnerships, divorces and specially as comorbidity of psychiatric disorders (depression, anxiety, substance abuse, including smoking).

# Unmanaged Childhood ADHD May Give Rise to Increasing Complications

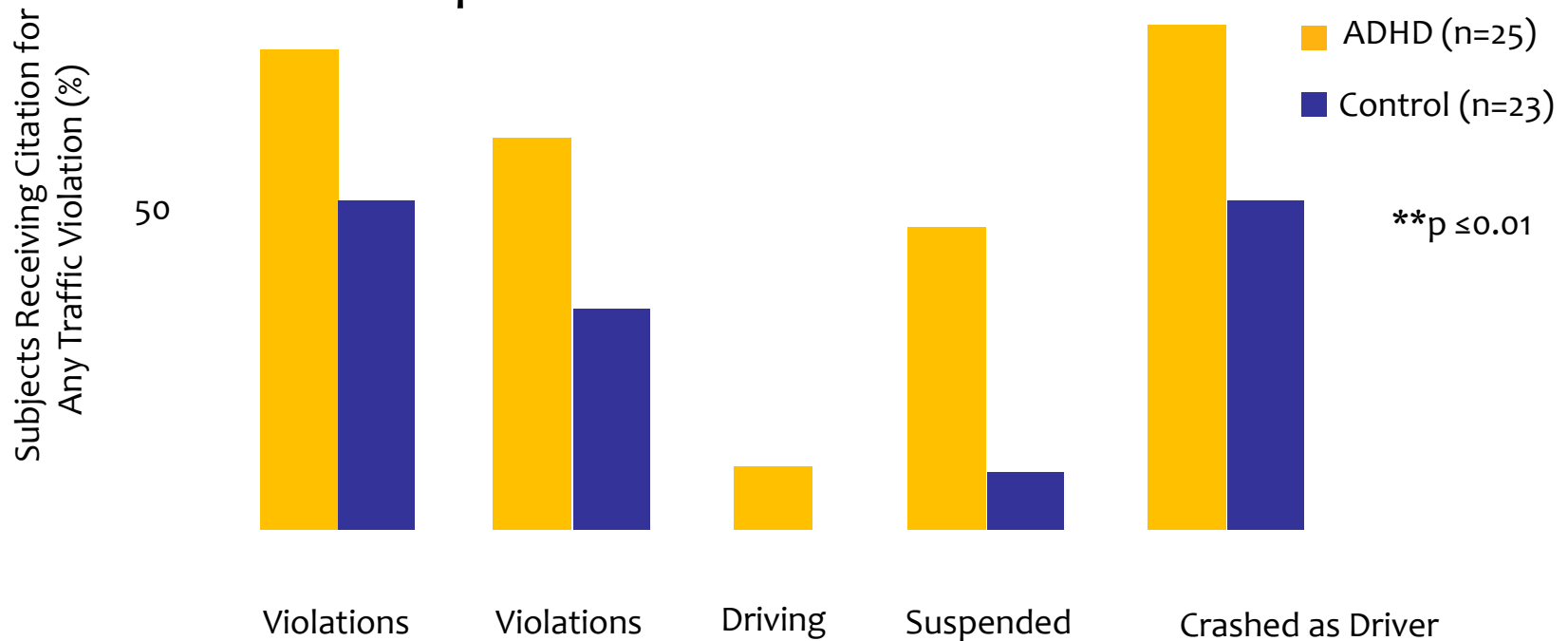


# Long term outcome without treatment



# Increased Risk of Traffic Violations and Accidents

Findings from driving records obtained from the state department of motor vehicles





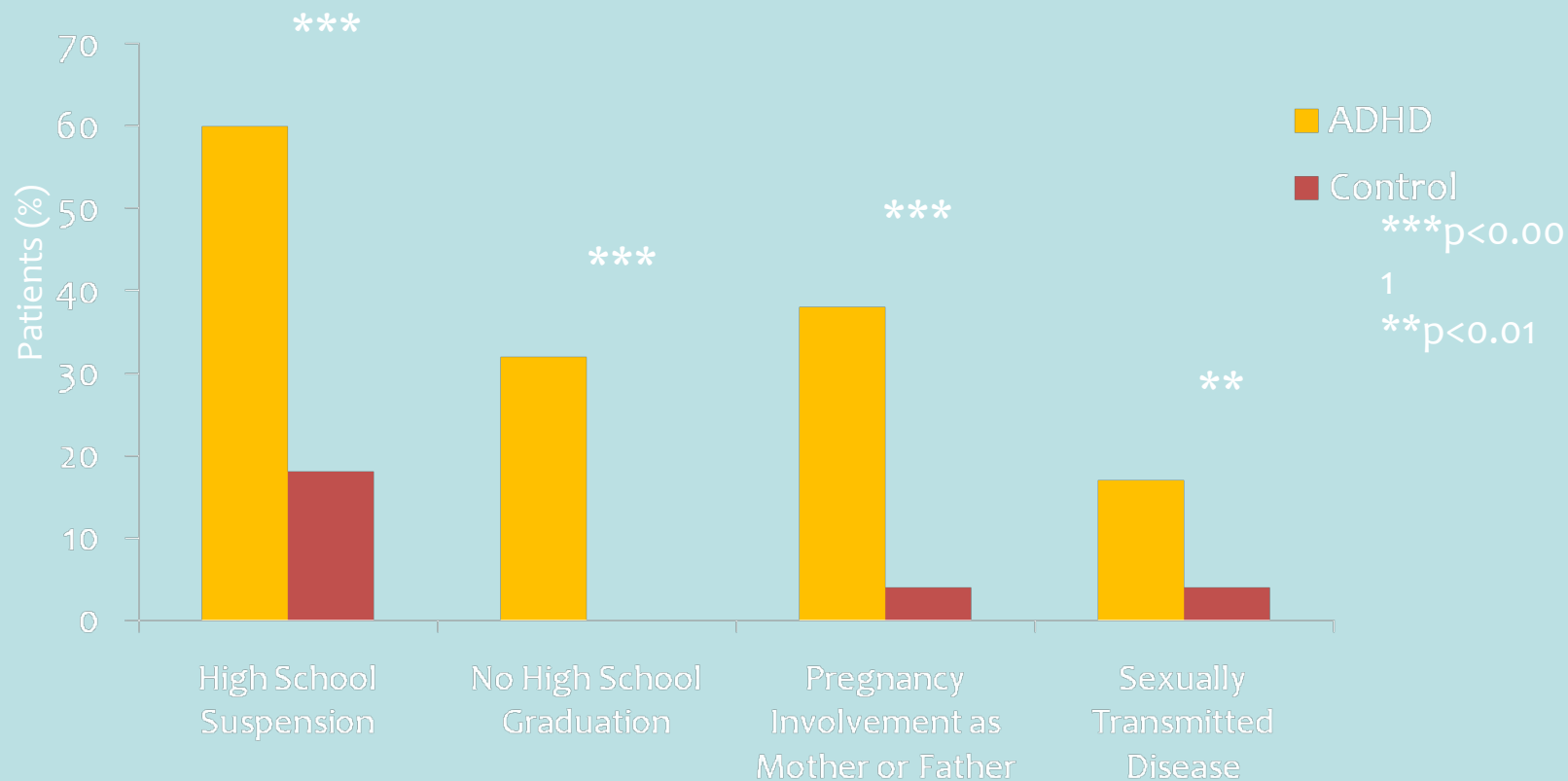


# Increased Risk for Employment Problems

- Individuals with ADHD are 3 times more likely to be fired from a job than individuals without ADHD
- ADHD patients change their jobs at a rate of 2–3 times within a 10-year period
- ADHD patients have lower work performance ratings than employees without ADHD

# Other Consequences of ADHD

## Outcomes of ADHD on Major Life Activities



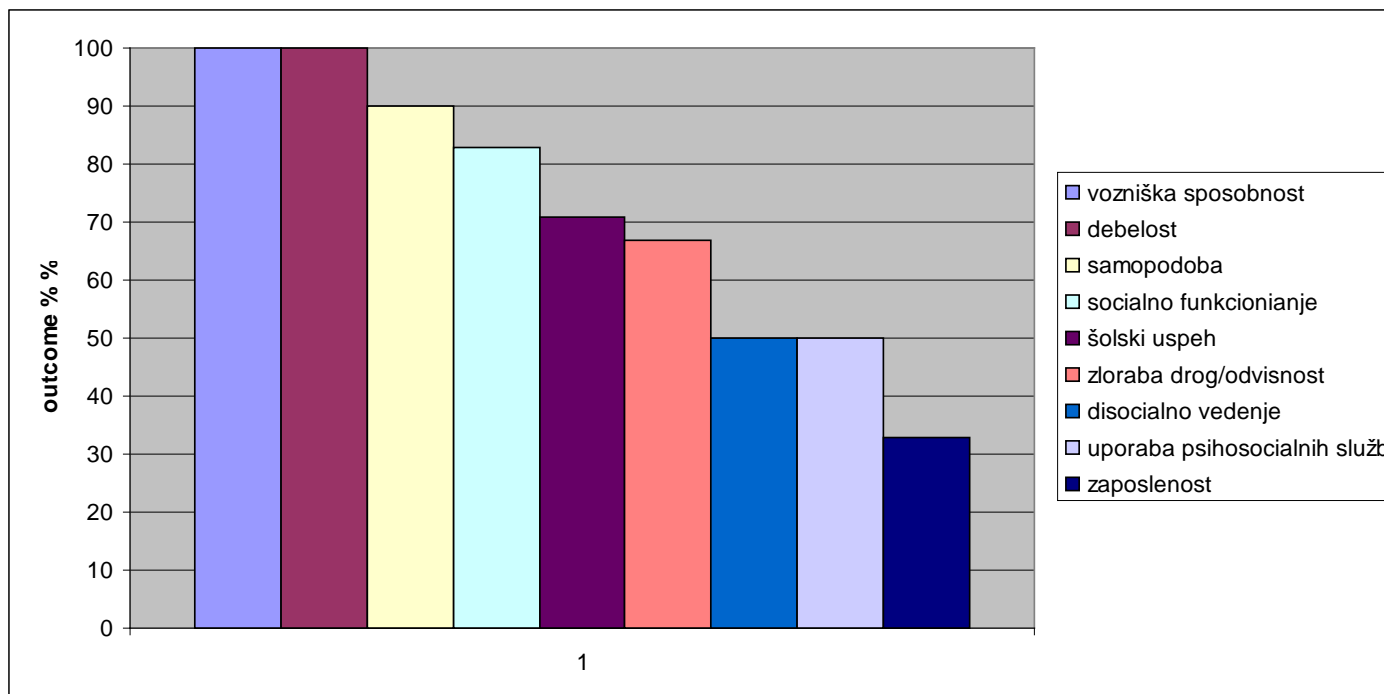
# Why Should Adult Mental Health Services be Interested in ADHD?

- ADHD is a common behavioural disorder associated with significant adult psychopathology, social and academic impairments and the risk for negative long-term outcomes<sup>1,2</sup>
- ADHD symptoms persist into adult life and cause significant clinical impairments<sup>1</sup>
- The main clinical issue is recognition of the disorder in adults and quantifying the load on adult psychopathology<sup>1</sup>
- ADHD is a treatable condition<sup>1</sup>

1. Asherson et al. *Br J Psychiatry* 2007;190:4–5.

2. Antshel et al. *BMC Med* 2011;9:72.

# Treatment outcome



# Key Principles

- ADHD in adults is no more difficult to diagnose and treat than other common mental health disorders<sup>1</sup>
- ADHD in adults is a symptomatic disorder (not just about behaviour)<sup>1,2</sup>
- ADHD in adults is often misdiagnosed for other common adult mental health disorders<sup>1,2</sup>
- ADHD in adults is in most cases treatable<sup>1</sup>

1. Asherson. 1st European Network Adult ADHD Conference. London, 2011.

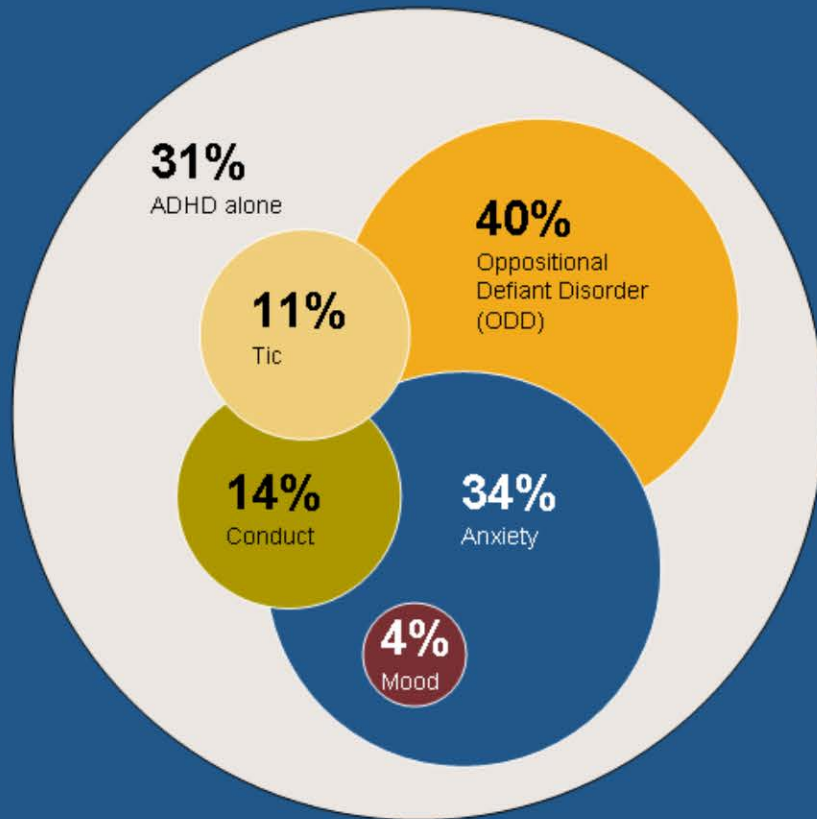
2. Kooij et al. *BMC Psychiatry* 2010;10:67.

# Assesment

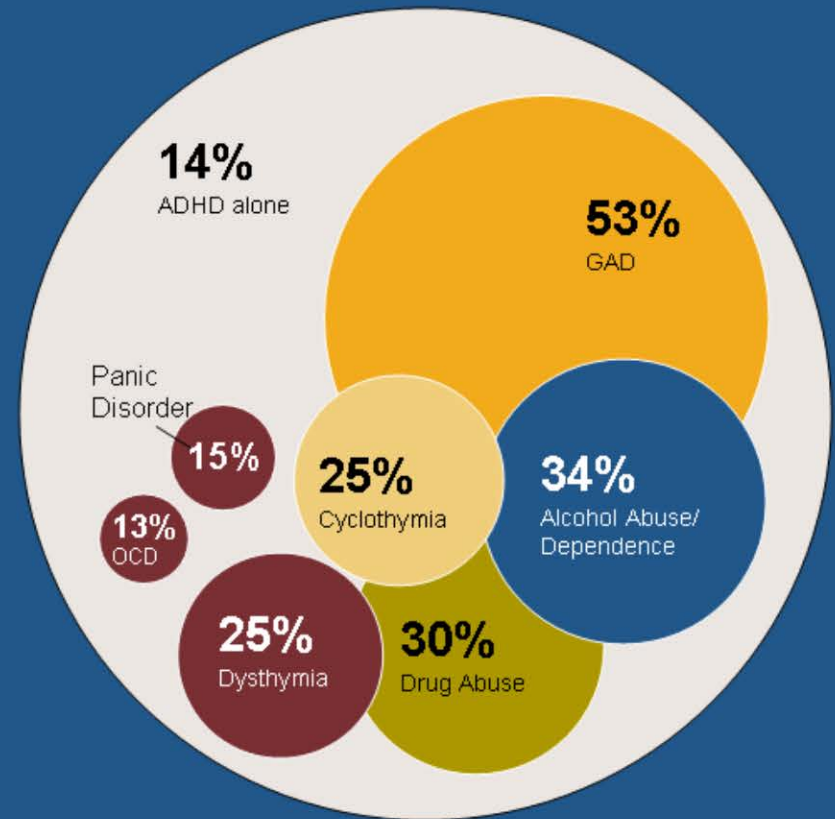
- Psychiatric History
- Somatic histroy
- Screening for most common comorbid disorders
- Screening for special and general learning difficulties
- Family history
- Substance abuse
- Forensic history

# Patients With ADHD Frequently Have Coexisting Disorders

## Children & Adolescents



## Adults





# Symptoms of ADHD

- Anxiety:<sup>1</sup>  
Ceaseless thoughts, avoidance behaviour
- Depression:<sup>1</sup>  
Unstable mood, impatience, irritability, initial insomnia, low self-esteem
- Personality disorder:<sup>1</sup>  
Antisocial, borderline, emotionally unstable, poor social interactions, impulsive, adulthood instability trait-like quality
- Hypomania, bipolar II disorder, cyclothymia:<sup>2</sup>  
Differentiated by grandiosity, clear focus of thoughts, episodic, reduced need for sleep, psychosis

1. Asherson. 1st European Network Adult ADHD Conference. London, 2011.

2. Babcock and Ornstein. *Postgraduate Medicine*. 2009;121(3):73-82.



# Overlapping Neurodevelopmental Disorders

- Dyslexia (overlapping genetic risk factors)<sup>1</sup>
- Specific and general learning difficulties (overlapping genetic risk factors, inattention)<sup>1</sup>
- Pervasive developmental disorder<sup>1</sup>
- Dyspraxia<sup>1</sup>
- Tic disorders/Tourette's disorder<sup>1</sup>
- Speech problems<sup>2</sup>
- Autism spectrum disorder<sup>1</sup>

1. Kooij et al. *BMC Psychiatry* 2010;10:67

2. Tannock et al *J Abnl Child Psychol*, 2000; 28(3):237–252

ADHD in population with substance abuse disorders and and  
incarcerated population is about 25% - significantly higher than in  
general population.

# Medication for ADHD and criminality: Observational Swedish data base analysis

## 1. Rate of Crime Over 4 Years in Swedish ADHD Subjects Aged >15 years (N=25,656)

Subjects committing crime	Male ADHD Subjects	Female ADHD subjects
ADHD	36.6%	15.4%
General population	8.9%	2.2%

## Hazard Ratio for Conviction for Any Crime During ADHD Medication (2006–2009) vs. Non-Medication Periods

Treatment	Men (N=16,087) Hazard Ratio (95%CI)	Women (N=9,569) Hazard Ratio (95%CI)
All medications	0.68 (0.63–0.73)	0.59 (0.50–0.70)
Stimulants	0.66 (0.61–0.71)	N/A
Atomoxetine	0.76 (0.63–0.91)	N/A

Crimes occurred less often during medication periods (men 32% reduction, women 41% reduction); however, the observational nature of the data cannot confirm a causal relationship with ADHD medication and other factors co-occurring with medication may play a role

High comorbidity of mental health disorders (80%):

- depression (40-60%),
- anxiety (20-60%)
- substance abuse disorders (50-60%).

DD:

Depression specially with cognitive disfunction but no continuity of symptoms.

Borderline personality disorder – high overlapping the symptoms:

- Impulsivity and emotional instability
- Anxiety often followed by autoaggressive/self-harming behaviour, suicidal ideation or PTSD.



# ADHD and Depressive Mood Symptoms

## ADHD

Chronic mood instability

No anhedonia, no appetite disturbances

Usually responds to control of symptoms and improvement in level of function

## Mood Disorder

Mood instability only during episode

Neurovegetative symptoms present

Episodes of depression, requiring separate treatment of depression

1. Amons. *J Affective Disord* 2006;91:251-5.
2. Kooij et al. *J Attention Disord* 2012;16:3S-19S.



# ADHD and Bipolar Disorder

## ADHD

Early childhood onset<sup>1</sup>

Trait-like, no change from pre-morbid state<sup>1</sup>

Excitable, but not grandiose/elated

Reports being unable to function<sup>1</sup>

Chronic low self-esteem<sup>2</sup>

Usually possesses insight, complains of changeable moods

Difficulty sleeping<sup>2</sup>

Complains of being unable to concentrate/focus<sup>1</sup>

Restless (fidgety, difficult being still)<sup>1</sup>

## Bipolar Disorder

Adolescent or adult onset<sup>1</sup>

Episodic course, change from pre-morbid state<sup>1</sup>

Grandiose/elated<sup>2</sup>

Reports high level function<sup>1</sup>

Episodes of depression<sup>1</sup>

Trend to lack of insight<sup>1</sup>

Reduced need for sleep<sup>2</sup>

Subjective sense of sharpened mental abilities<sup>1</sup>

Overactivity, often linked to unrealistic ideas/plans<sup>1</sup>

1. APA. DSM-IV-TR. APA 2000.

2. Kooij et al. *J Att Dis* 2012;16:3S–19S.

# Adult Self-Report Scale (ASRS-V1.1) Screener

This screener is intended for people aged 18 years or older

## About the questionnaire

Are you living with Adult Attention-Deficit/Hyperactivity Disorder (ADHD)? Many adults have been living with ADHD and don't recognise it.

The Adult Self-Report Scale Screener can be used as a starting point to help you recognise the signs/symptoms of ADHD, but it is not meant to replace consultation with a trained healthcare professional. **An accurate diagnosis can only be made through a clinical evaluation.**

Regardless of the questionnaire results, if you have concerns about diagnosis and treatment of ADHD, please discuss this with your physician.

Patient Name

Today's Date

Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the circle that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.

- 1 How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?
- 2 How often do you have difficulty getting things in order when you have to do a task that requires organisation?
- 3 How often do you have problems remembering appointments or obligations?
- 4 When you have a task that requires a lot of thought, how often do you avoid or delay getting started?
- 5 How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?
- 6 How often do you feel overly active and compelled to do things, like you were driven by a motor?

Never Rarely Sometimes Often Very Often

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Add the number of checkmarks that appear in the darkly shaded area. Four (4) or more checkmarks indicate that your symptoms may be consistent with ADHD. Please give the completed questionnaire to your healthcare professional during your next appointment to discuss the results.

DANSK

# DIVA 2.0

Diagnostisk interview til brug for  
udredning af ADHD hos voksne (DIVA)

Diagnostisk Interview for ADHD hos voksne

DIVA  
Foundation

Diagnostisk interview  
til brug for udredning  
af ADHD hos voksne

J.J.S. Kooij, MD, PhD & M.H. Francken, MSc  
2010, DIVA Foundation, Holland





# ADHD and Anxiety

## ADHD

Ceaseless mental activity<sup>1</sup>

Motor restlessness<sup>1</sup>

Family history of ADHD<sup>2</sup>

Avoids frustrating situations: Shopping, social situations, queueing, travelling

Easily feeling overwhelmed<sup>3</sup>

Forgetfulness<sup>2</sup>

No somatic symptoms<sup>1</sup>

Improved by stimulants<sup>4</sup>

## Anxiety Disorder

Anxious worrying (might look like obsessive thought processes [OCD])<sup>2</sup>

Nervous tension<sup>2</sup>

Family history of anxiety–depression<sup>2</sup>

Phobic avoidance<sup>2</sup>

Easily becoming anxious<sup>2</sup>

Hypervigilant

Somatic symptoms<sup>1</sup>

Exacerbated by stimulants<sup>4</sup>

1. Kooij et al. *J Att Dis* 2012;16:3S–19S.

2. APA. DSM-IV-TR. APA 2000

3. Reimherr et al *Biol Psychiatry* 2005;58:125–131.

4. Ritalin SPC



# ADHD and Personality Disorder

## ADHD

Childhood/adolescent onset<sup>1</sup>  
Defined by impairment<sup>2</sup>  
Chronic-like trait<sup>1</sup>  
Pervasive across situations<sup>1</sup>  
Affective lability (can be severe)<sup>4</sup>  
Impulsive<sup>3</sup>  
Inattention<sup>3</sup>

## Borderline Personality Disorder

Early adult/adolescent onset<sup>1</sup>  
Defined by impairment<sup>2</sup>  
Chronic-like trait<sup>1</sup>  
Pervasive across situations<sup>2</sup>  
Affective lability<sup>3</sup>  
Impulsive<sup>3</sup>  
Frantic efforts to avoid real or imagined abandonment<sup>4</sup>  
Recurrent suicidal behaviour<sup>4</sup>

1. APA. DSM-IV-TR. APA 2000.

2. Miller et al. *J Clin Psychiatr* 2008;69:1477–84.

3. Distel et al. *Am J Med Genet* 2011;156:817–25.

4. Kooij et al. *J Att Dis* 2012;16(5S):3S–19S.

# Conclusions

- ADHD is a neurobiological condition characterised by persistent patterns of inattention and/or hyperactivity, impulsiveness, and impairment in executive functioning
- ADHD symptoms persist into adult life and cause significant clinical, social, economic, psychological, and functional impairment
- ADHD in adults is often associated with a number of comorbidities
- Diagnosis of ADHD in adults is a multifaceted process
- Clinicians should carefully consider comorbidities and medical rule-outs
- ADHD in adults is a treatable condition