به نام خدا

دکتر افسانه صحت

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فوق تخصص کودک و نوجوان

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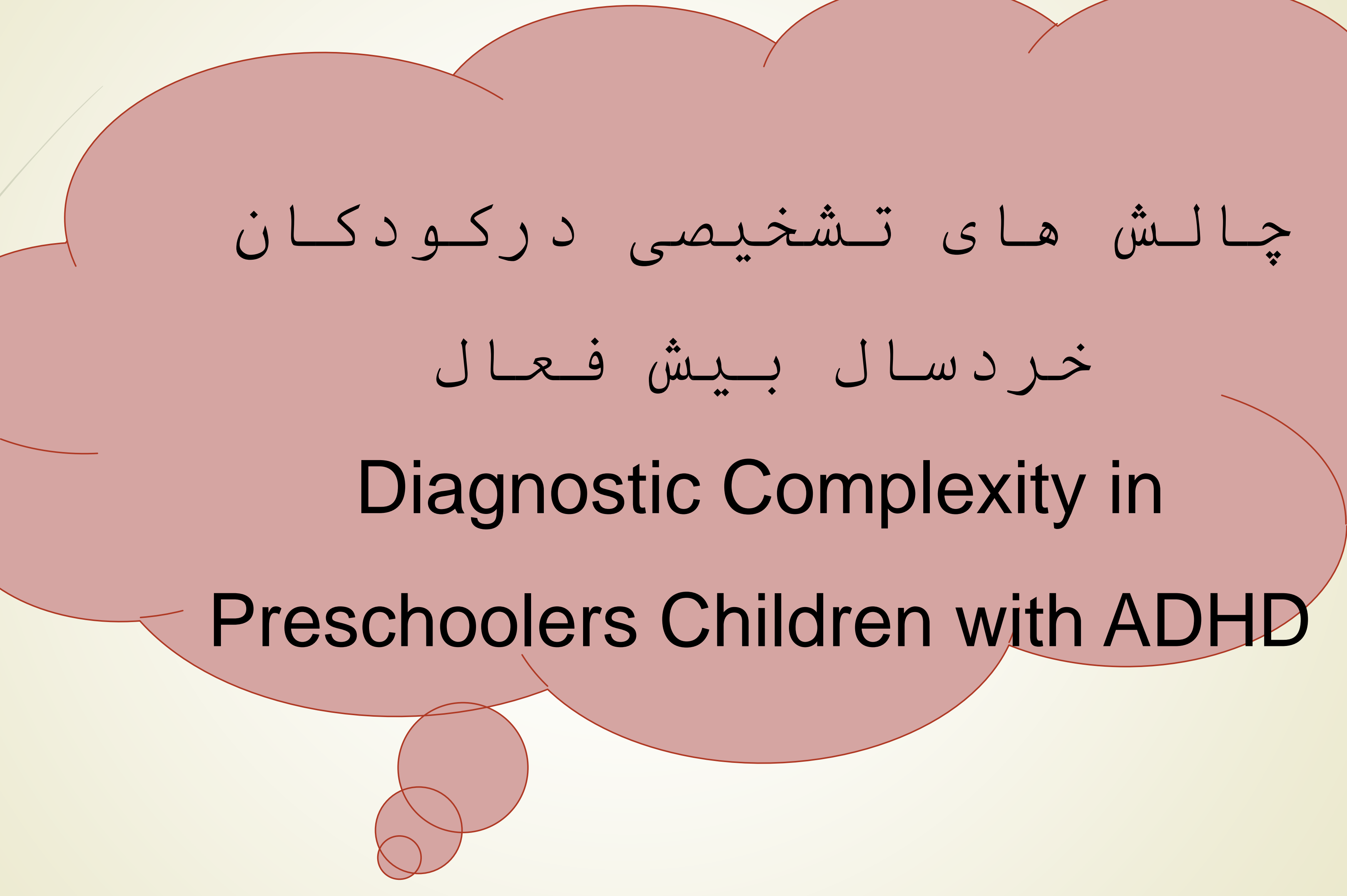
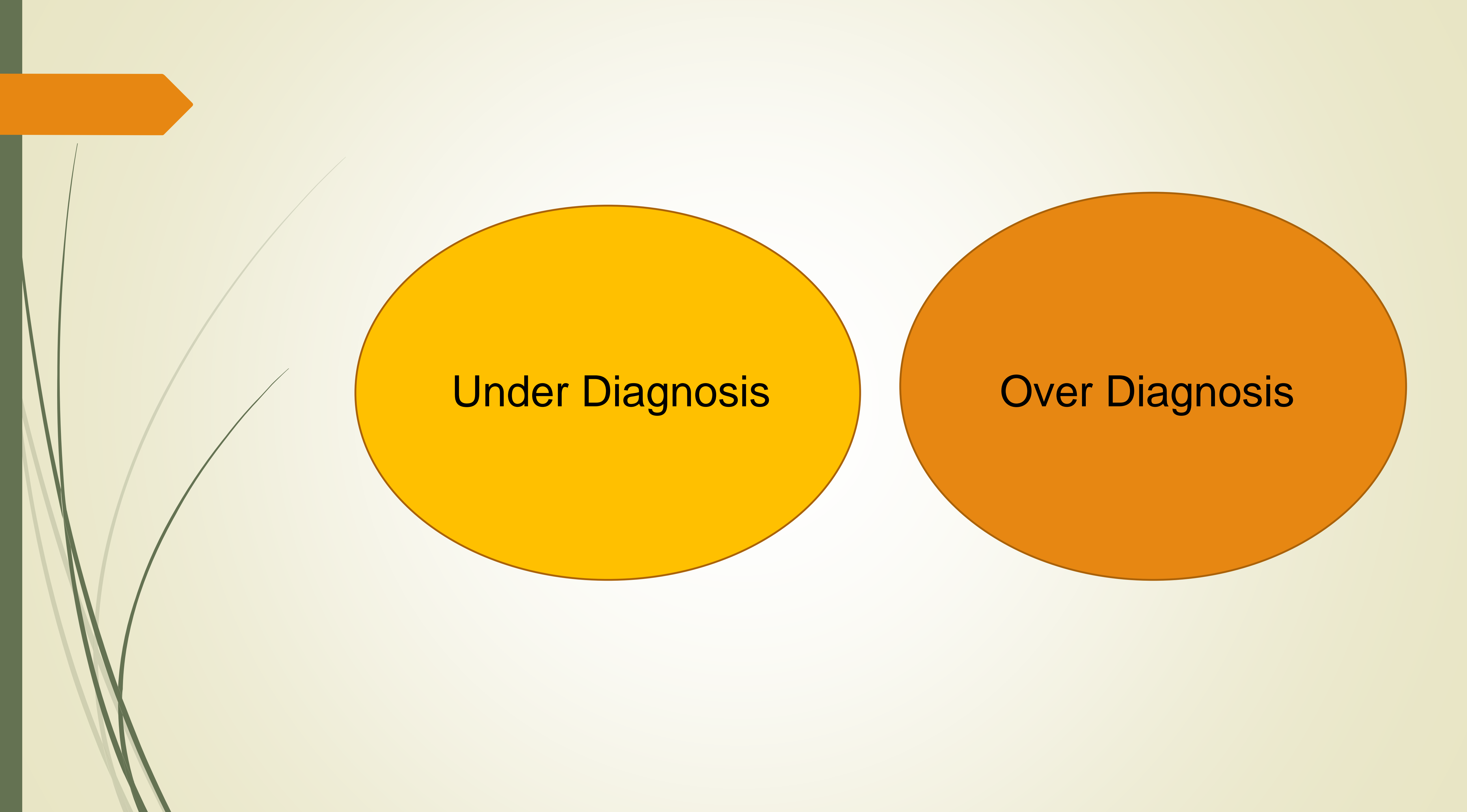

چالش های تشخیصی درکودکان
خردسال بیش فعال
Diagnostic Complexity in
Preschoolers Children with ADHD


Under Diagnosis
Over Diagnosis

Duality of Symptoms & Impairment

- اختلال عملکرد برای کودک زیر 6 سال توصیف سختی است
- 50% کودکان پیش دبستانی از نظر والدین **Hard to manage** هستند اما بعدا مشکلی ندارند
- بسیاری از کودکان اختلال ندارند اما علایم تشخیصی را دارند
- در برخی مطالعات تا 77% کودکان تشخیص دارند ولی اختلال عملکرد ندارند و برخی کودکان با اختلال عملکرد، تشخیص ندارند.
- کودکان در سن قبل از مدرسه نمی توانند به طور مستقیم راجع به خودشان اطلاعات کلامی بدهند.
- گزارش معلم ها به دلیل اینکه مدارس کمتر ساختار یافته است و زمان کمتری با بچه ها می گذارنند از اعتبار کمی برخوردار است.
- بچه ها به طور طبیعی در این سن نسبت به سنین بالاتر، فعالیت بیشتر و توجه کمتری دارند.

Assessment Problems

- A: High levels of activity & impulsiveness

"Wait & See" Attitude

- B: Variety in multiple situation → Multi Informants
- C: Longitudinal Variation of symptoms

↓ Hyperactivity

Inattentiveness continue

Key Points:

Table 1 Key diagnostic points for evaluation of preschoolers for attention-deficit/hyperactivity disorder (ADHD)

What the data say	Conclusion
1. On average, across studies, H/I symptoms have good sensitivity (range: .73–.82) and specificity (range: .75 –.85)	1a. H/I symptoms are most apparent when evaluating preschoolers with ADHD 1b. H/I symptoms do a good job of discriminating preschoolers with and without ADHD 1c. The notion that 'all preschoolers are hyperactive' is incorrect, and taking a 'wait and see' attitude may only delay treatment or early intervention
2. On average, across studies, Inattentive symptoms have excellent specificity (range: .85–.96), but poor to fair sensitivity (range: .51–.61)	2a. Many inattentive symptoms do a poor job of classifying preschoolers with and without ADHD 2b. Preschoolers with ADHD often present with few inattention symptoms 2c. The six symptom diagnostic threshold in DSM-V may be too high for Inattentive symptoms or the ones that are there and/or their prompts lack developmental sensitivity 2d. A low number of inattention symptoms should not rule-out the diagnosis.
3. ADHD subtypes/presentations have poor temporal stability during the preschool years	3a. Many preschoolers will move from ADHD-HI to ADHD-C and even ADHD-I when they enter school-age
4. The majority of subthreshold ADHD cases during the preschool years will meet full criteria during the school-age years. Only a minority will 'outgrow' their symptoms	4a. Holding off treatment because a preschooler does not meet full diagnostic criteria for ADHD may delay needed treatment.
5. Beyond parent report, teacher report or clinician observation of symptoms significantly increases the likelihood that a preschool child will meet criteria for ADHD during school-age	5a. A multi-informant assessment is necessary. 5b. Clinician observation of behavior has greater diagnostic utility in preschoolers relative to school-age children

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Consistency in Diagnosis

	First Year	Second Year	Third Year
Hyperactive/Impulsive	%55	%27	%11
Inattentive	%9	%18	%32
Combined	%36	%55	%57

Validity of Criteria in Preschool Children

	Sensitivity	Specificity	Discriminative Value
Hyper Inattentive	High	High	High
Inattentive	Moderate	High	Low

Preschool Child Assessment

- Multiple Sessions
- Multiple Informants
- Multidisciplinary Assessment
- Multiple Mode of Assessment
- Multi-axial Assessment

Gold Standards

- Standardized Rating Scale
- Family-based Interviews
- Direct Observation of Behavior
- Direct measurements of attention & Hyperactivity Impulsivity

Hot-emotional Response System
Cold-emotional Response System

فرض بر آن است که علائم بیش فعالی و نقص توجه زمانی ظاهر می شود که نقص در سیستم گرم توسط سیستم سرد تنظیم یا جبران نشود.

- Delay Gratification Pre-Frontal Maturation
- Response Inhibition Cold Cognitive System
- Delay Aversion Hot Cognitive System

Neuro-Psychiatric Tests

- CBCL
- PPVT
- SNAP-
- Gordon Diagnostic System
- Kiddie Version of CPT
- CPC
- DPTCS Dyadic Parent-Child Interaction Coding System
- (Semi) Structural DSM Oriented Interview with Parent

Parent- Based

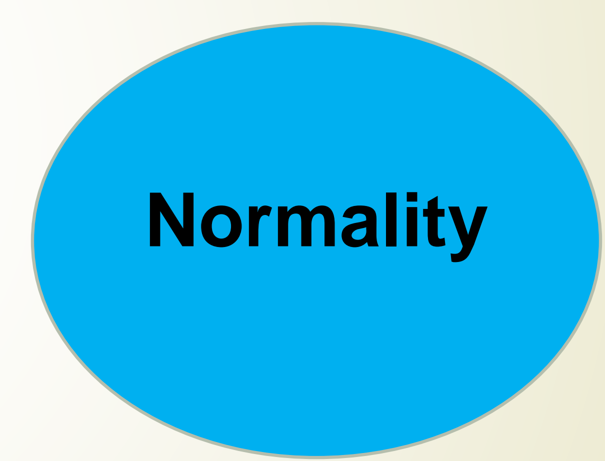
Not Examiner Based

Medical Differential Diagnosis

- Fetal Alcohol Syndrome
- Neurofibromatosis
- Hearing Loss (Central Auditory Processing Disorder CAPD)
- Sleep Disorders
- Side effect of Drugs: Antiepileptic/ Bronchodilatators/ Bromide Elixir
- Head Trauma
- Seizure Disorder
- Genetic: Fragile X Syndrome
  22q11 Deletion Syndrome
- Metabolic Disease
- Thyroid Disease
- Anemia
- Malnutrition
- Lead-Poisoning
- Heart Disease

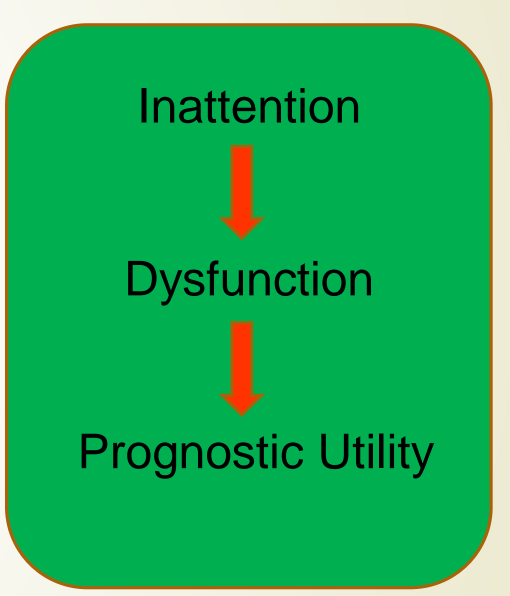
Psychological Differential Diagnosis

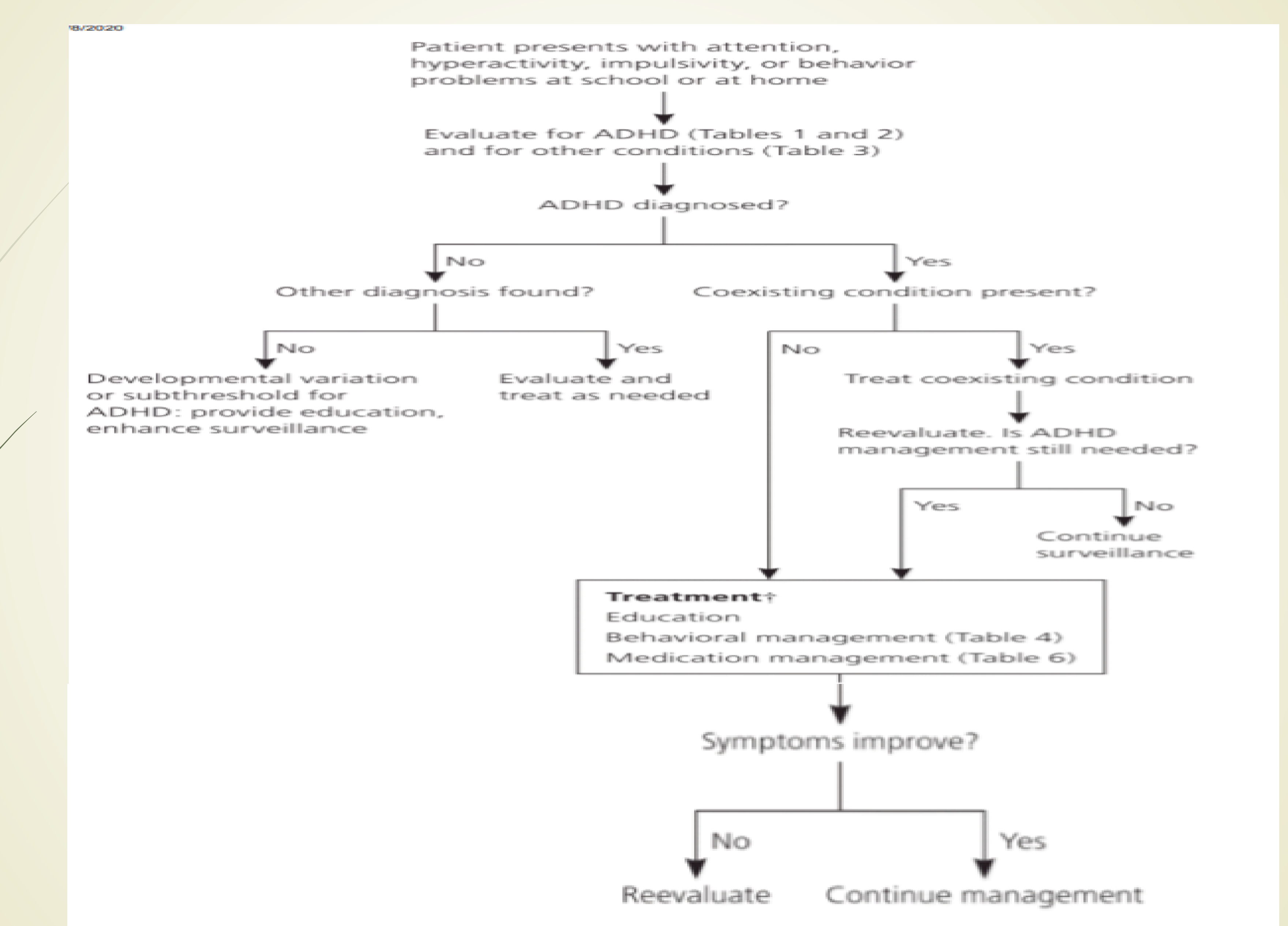
- Anxiety Disorder: Separation/GAD/OCD/ PTSD
- Mood Disorder
- ASD Spectrum
- Intellectual Disability
- Learning Disorder
- ODD
- Language Disorder
- Neglect or Abuse Child
- Stressful Situations



Predictor Factors

- Initial severe/extensive Symptoms
- Gender
- IQ
- Behavioral Disturbances
- SES ➡ Fewer Resources/ Less Education
- Maternal Depression/ ADHD
- Harsh & inconsistent Discipline
- Stress
- Temperamental Difficulty
- Neuropsychological Deficits




8/2020
Patient presents with attention, hyperactivity, impulsivity, or behavior problems at school or at home
Evaluate for ADHD (Tables 1 and 2) and for other conditions (Table 3)
ADHD diagnosed?
No
Yes
Other diagnosis found?
Coexisting condition present?
No
Yes
Developmental variation or subthreshold for ADHD: provide education, enhance surveillance
Evaluate and treat as needed
No
Yes
Treat coexisting condition
Reevaluate. Is ADHD management still needed?
Yes
No
Continue surveillance
Treatment†
Education
Behavioral management (Table 4)
Medication management (Table 6)
Symptoms improve?
No
Yes
Reevaluate
Continue management

Sluggish Cognitive Tempo

Some individuals with the predominately inattentive type of ADHD also display a subset of symptoms that are typified by sluggish-lethargic behavior and mental fogginess. It is this subset of characteristics that have been described as "sluggish cognitive tempo" (or SCT).

Symptoms of SCT include:

- Drowsiness
- Frequent daydreaming
- Frequent staring into space
- Mental fogginess
- Poor memory retrieval
- Sluggish-lethargic behavior
- Slow processing of information
- Social passiveness, reticence, and withdrawal
- The tendency to become confused easily

People with SCT often have difficulty with problem-solving, self-organization, self-initiation, and processing competing sources of information. They are often characterized as hypoactive (less active).

DDx ADHD & CAPD

ADHD Combined and Predominantly Hyperactive-Impulsive Subtypes

Output disorder

Sustained attention deficit secondary to behavioral disinhibition and poor self-regulation

Executive dysfunction

ADHD Predominantly Inattentive Subtype

Input disorder

Global attention deficit

Selective (focused) attention deficit

Reduced rate of information processing

CAPD

Input disorder

Specific auditory perceptual deficit

Selective (focused) and divided attention deficits

Executive dysfunction as secondary source of listening problems

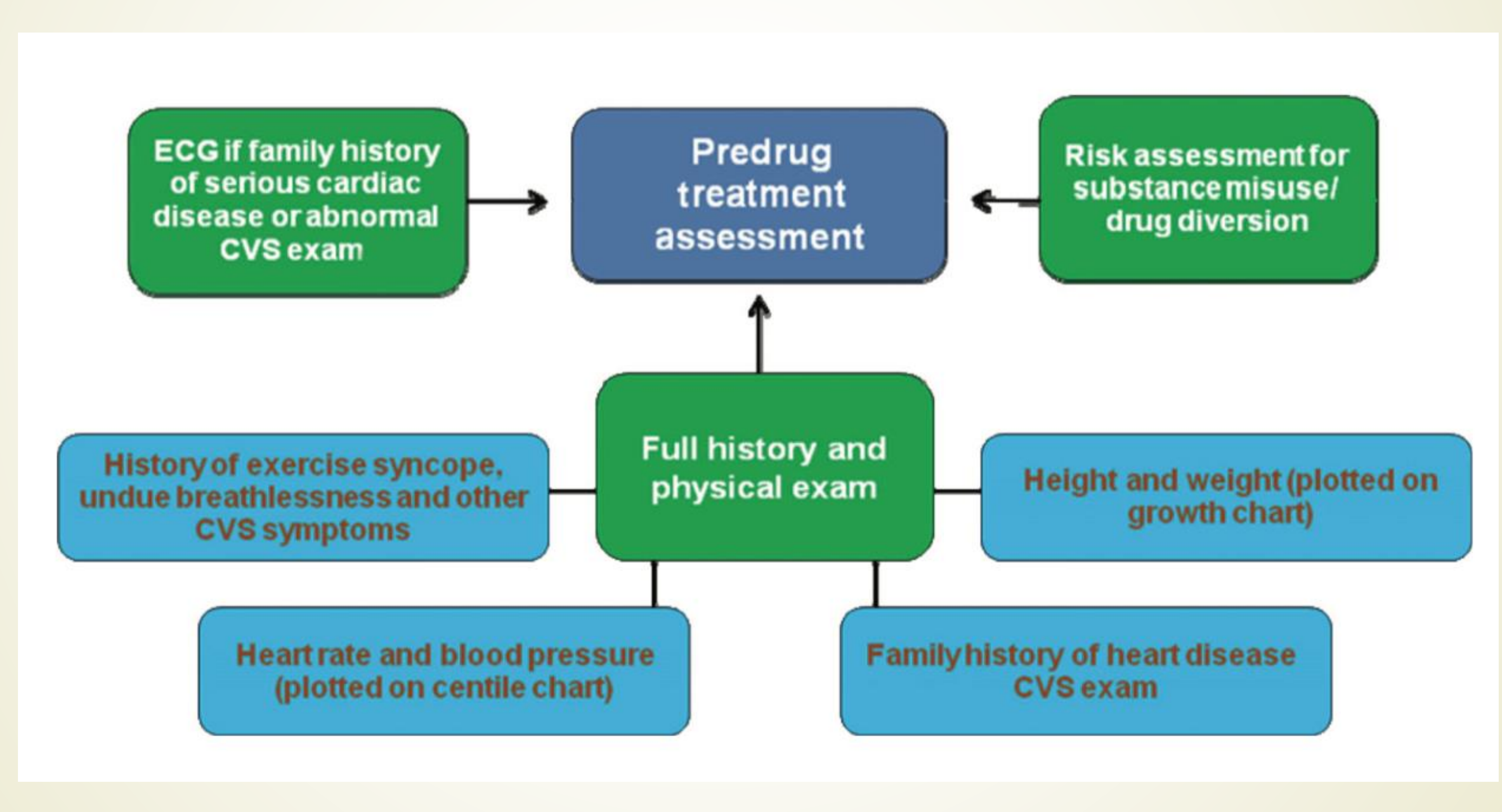
Key clinical messages

- Attention deficit hyperactivity disorder (ADHD) should only be diagnosed by specialists in secondary care.
- ADHD can be diagnosed in adults and in children with coexisting learning disability and/or autism spectrum disorder (ASD).
- Drug treatment is not recommended in preschool children.
- Parent training/education programmes should be used as first-line treatment for preschool children and older children with moderate ADHD.
- Drug treatment should be offered as a first-line treatment to school-age children and young people with severe ADHD and to adults. Parents should also be offered a group-based parent training/education programme.

NICE guideline: attention deficit hyperactivity disorder

M Atkinson,[1] C Hollis[2]

Predrug Treatment Assessment



Key practitioner message

- ADHD symptoms and impairment most commonly emerge during the preschool years and often persist into school-age and adolescence.
- Preschoolers with subthreshold ADHD (i.e., do not meet full diagnostic criteria) are more likely to develop the disorder over the next few years than outgrow it. Clinical attention is likely warranted even for those who do not meet diagnostic criteria.
- DSM-V Hyperactive-Impulsive symptoms are superior to most Inattention symptoms for accurately classifying preschool children with ADHD.
- Behavioral Parent Training should be considered the first-line treatment for ADHD in preschool children.
- Medication is effective for reducing symptoms, but efficacy and safety profiles suggest that pharmacological treatment should be reserved primarily for preschoolers who have significant room for improvement following behavioral intervention.
- Given barriers to behavioral intervention, telepsychiatry and internet-based interventions are gaining prominence.

Areas for future research

- Establishment of developmentally appropriate diagnostic criteria and exemplars for preschool children with ADHD.
- Investigate more homogeneous (biologically, phenomenologically, and psychosocially) subgroups of preschool children with ADHD to identify differential moderators of treatment response.
- Evaluate factors potentially related to intraindividual symptom fluctuations, including diet, sleep, and immune system integrity.
- Examine etiologically based treatments that target neural development, including environmental enrichment and physical exercise.
- Develop interventions (including preventative techniques) with enduring benefits that can bend or alter the long-term trajectory of the disorder.

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