Pre-twentieth Century

493 BC
- Hippocrates described patients with “quickened responses to sensory experience, but also less tenaciousness because the soul moves on quickly to the next impression”.
- Remedies: barley rather than wheat bread, fish rather than meat, water drinks, and many natural and diverse physical activities.

Circa 1600
- Shakespeare referred to a “malady of attention” in one of his characters in King Henry VIII.

Mid 1800s
- Heinrich Hoffman, a German physician, penned the poem “Fidgety Phil”.

1890
- William James, in his Principles of Psychology text (1890), described a normal variant of character which he called the “Explosive Will”.
- “Impulses seem to discharge so promptly onto movements that inhibitions get no time to arise. These are the ‘dare-devil’ and ‘mercurial temperaments, overflowing with animation, and fizzling with talk” (p.800).

Twentieth Century

1902
- English physician George Still (1902) reported on a group of children in his clinical practice whom he defined as having a deficit in “volitional inhibition” or a “defect in moral control” over their behavior.
- Their behavior was described as aggressive, passionate, lawless, inattentive, impulsive, and overactive.
- An over-representation of male subjects (3:1).
- An aggregation of alcoholism, criminal conduct, and depression among the biological relatives.
- A familial predisposition to the disorder – hereditary.

Minimal Brain Damage/Dysfunction

Interest in children with similar characteristics arose in North America around the time of the encephalitis epidemic of 1917-1918.
- Children surviving these brain infections were noted to have many behavioral problems similar to ADHD.
- These cases and others known to have arisen from birth trauma, head injury, toxin exposure, and infections gave rise to the concept of a brain-injured child syndrome (Straus & Lehtinen, 1947).

Hyperkinetic Reaction of Childhood

DSM-II (1968)
- Characterized by overactivity, restlessness, distractibility and short attention span, especially in young children; the behavior usually diminishes in adolescence.
- Definition included problems of attention and distractibility along with those of hyperactivity/restlessness.
- The condition was assumed to be developmentally benign and not caused by brain damage - resulting in a departure from European thinking.
By the 1970s, research emphasizing the importance of problems with sustained attention and impulse control in addition to hyperactivity was emphasized (Douglas, 1972).

Douglas (1980; 1983) theorized that the disorder was comprised of four major deficits:
- The investment, organization, and maintenance of attention and effort.
- The ability to inhibit impulsive behavior.
- The ability to modulate arousal levels to meet situational demands.
- An unusually strong inclination to seek immediate reinforcement.

Attention-Deficit/Hyperactivity Disorder (DSM-III-R; 1987)

Hyperactivity and impulsivity
- Differentiate the disorder from other conditions, and
- Predict developmental risks (Weiss & Hechtman, 1993).

Monothetic categorization scheme (14 symptoms - 1 list)
ADD without hyperactivity replaced with undifferentiated Attention Deficit Disorder based on insufficient research.

Attention-Deficit/Hyperactivity Disorder (DSM-IV, 1994)

Research began demonstrating that deficits were not limited to the attentional domain.
- Problems with motivation and insensitivity to response consequences were emphasized (poor performance under partial reward and extinction - Douglas, 1980s).
- Deficient “rule governed” behavior was hypothesized by Barkley (1981; 1989).
- Information processing paradigms failed to demonstrate that poor performance was due to attentional difficulties vs motivation and response inhibition (Sergeant, 1988).
- Factor analytic studies failed to differentiate hyperactivity and impulsivity domains (loaded together as 1 factor).

Attention-Deficit/Hyperactivity Disorder (DSM-IV, 1994)

Three (3) subtypes of ADHD (predominantly inattention; predominantly hyperactivity-impulsive; and combine type).
- Hyperactivity-Impulsive Type appears to be a developmental precursor to the combined type.
- Hyperactive-Impulsive Type was comprised primarily of preschool children (DSM-IV field trials).
- Combined Type and Inattentive Type were comprised primarily of school-age children.

The Hyperactive-Impulsive behavior pattern seems to emerge first in development during the preschool years, whereas symptoms of “inattention” associated with it appear to have their onset several years later (Loeber et al., 1992; Hart et al., 1995).

Nomenclature

493 BC Overbalance of fire over water (Hippocrates)
1890 Explosive Will (James)
1902 Volitional Inhibition
Deficit in Moral Control (Shill)
c. 1918 Brain Injured Child Syndrome (Strauss & Lehtinen)
1940s Minimal Brain Damage (Dolphin & Cruikshank)
Minimal Brain Dysfunction (Strauss & Kephardt)
1950s Hyperkinetic Impulse Disorder (Lauffer, Denhoff, & Solomons)
1960 Hyperactive Child Syndrome (Chess)
1968 Hyperkinetic Reaction of Childhood (DSM-II)
1980 Attention Deficit Disorder (DSM-III)
1987 Attention-Deficit/Hyperactivity Disorder (DSM-III-R, DSM-IV, DSM-IV-TR)
Evolution of the DSM

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Attention-Deficit/Hyperactivity Disorder (DSM-IV, 1994) continued

- Types of problems with “inattention” seen in the Inattentive Type appear to have their onset even later than those associated with hyperactive-impulsive behavior (Barkley, 1996).
- Implications:
  - Attentional impairment associated with the Predominantly Inattentive Type may be different from those seen in the other two types.
  - Inattentive Type symptoms: daydreaming, spacing out, in a fog, easily confused, staring frequently, lethargic, hypoactive, and passive. (DAMP: developmentally delayed attention, motor and perceptual abilities)
  - Inattentive Type also appears to have deficits in speed of information processing & focused or selective attention (Goodyear & Hynd, 1992; Luby & Carlson, 1992).
- Combined Type deficits are characterized as consisting of sustained attention (persistence) and distractibility difficulties.

At Home-Office

- Barkley’s Model

DIAGNOSIS AND ASSESSMENT OF ADHD

- CLINICAL INTERVIEWS
  - STRUCTURED INTERVIEWS
  - SEMISTRUCTURED INTERVIEWS
- BROAD-BAND RATING SCALES
- NARROW-BAND RATING SCALES
- NEUROCOGNITIVE ASSESSMENT
  - CPT
  - PAL
- DIFFERENTIAL DIAGNOSIS
- INTELLIGENCE/ACHIEVEMENT ASSESSMENT

INSTRUMENTS FOR QUALIFYING AND QUANTIFYING CLINICAL SYMPTOMATOLOGY IN CHILDREN WITH ADHD

- STRUCTURED CLINICAL INTERVIEWS
  - DIAGNOSTIC INTERVIEW FOR CHILDREN AND ADOLESCENTS (DICA)
  - DIAGNOSTIC INTERVIEW SCHEDULE FOR CHILDREN (DISC)

- SEMI-STRUCTURED CLINICAL INTERVIEWS
  - CHILDREN’S ASSESSMENT SCHEDULE (CAS)
  - INTERVIEW SCHEDULE FOR CHILDREN (ISC)
  - KIDDE-SADS (K-SADS)

- BROAD-BAND RATING SCALES AND CHECKLISTS
  - CHILD BEHAVIOR CHECKLIST (CBCL)
  - CHILD BEHAVIOR CHECKLIST (CBCL-DF)
  - CHILD BEHAVIOR CHECKLIST - TRF
  - CHILD BEHAVIOR CHECKLIST - YSR
  - CHILD SYMPTOM INVENTORY (CSI)
  - COMBINED PARENT/TEACHER RATING SCALE - REVISED (CPSQ-R)
  - REVISED BEHAVIOR PROBLEM CHECKLIST (BPC-R)
  - YALE CHILDREN’S INVENTORY (YCI)
Rosvold et al. [1956] developed the first CPT for clinical application predicated on EEG evidence suggesting that adults with brain injury should show inferior ability on tasks requiring sustained attention and alertness.

- Omission Errors are traditionally thought to represent one’s ability to remain vigilant over time.
- Commission errors are considered an index of impulsivity.