DSM-V requirements for ADHD diagnosis

Children -at least six symptoms from either (or both) the inattention group of criteria and the hyperactivity and impulsivity criteria (Older adolescents/ adults- five criteria).

PLUS
✓ Onset <12 yrs old
✓ Causes significant social/ functional impairment
✓ Not explained better by another mental health condition
✓ ASD and ADHD can co-exist
Background

1992 – West Moreton Division of General Practice

1. How do you make a diagnosis of ADHD?

2. How do you know stimulants are the right treatment for that child?
How to diagnose ADHD?

- Contained DSM-IV definition of ADHD
- Tear out sheets to give to parents, teachers, other professionals
- Post back – three blinded reports on child’s behavior
- Worksheet – Differential diagnoses to consider
Pilot testing

- 10 blinded cases reviewed by Child psychiatrist for 1 hour
- Compared diagnoses
- GP could pick ADHD accurately. Also picked that comorbidities were present but were not accurate with these diagnosis
- Therefore – GPs could pick those cases where specialist input was important
  - Potentially could pick and treat uncomplicated ADHD
Can we prescribe Stimulants to the right children?

N-of-1 tests

<table>
<thead>
<tr>
<th>Placebo</th>
<th>Treatment</th>
<th>Pair 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Placebo</td>
<td>Pair 2</td>
</tr>
<tr>
<td>Treatment</td>
<td>Placebo</td>
<td>Pair 3</td>
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</tbody>
</table>
Example of non-responder

Dexamphetamine
Weeks 1, 3, 5 (and Pre-test)
Example of Responder

Dexamphetamine weeks 1, 4, 5 (and Pre-test)

What are attitudes to ADHD management by GPs?

A qualitative study of Australian GPs’ attitudes and practices in the diagnosis and management of attention-deficit/hyperactivity disorder (ADHD)

K Shaw, I Wagner\textsuperscript{a}, H Eastwood\textsuperscript{b} and G Mitchell

GPs:
Did not want to be the primary providers of care for patients with ADHD. Participants preferred referral diagnosis and treatment of ADHD

Concerns:
– overdiagnosis and misdiagnosis,
– diagnostic complexity,
– time constraints,
– insufficient education and training about the disorder,
– misuse and diversion of stimulant medications
What are attitudes to ADHD management by GPs?


Attitudes and practices of general practitioners in the diagnosis and management of attention-deficit/hyperactivity disorder

KA SHAW, GK MITCHELL, IJ WAGNER and HL EASTWOOD

School of Population Health, University of Queensland Medical School, Herston, Queensland, Australia
What are attitudes to ADHD management by GPs? (2002)

Roles identified by GPs were:
• the provisional diagnosis of ADHD and referral to specialists
• assistance with monitoring progress once a management plan was in place; education of the child and their family regarding the disorder;
• liaison with the school where necessary.

Perceived barriers to increased involvement of GPs were:
• time and resource constraints of general practice;
• concerns regarding abuse and addiction liability of prescription stimulants;
• complex diagnostic issues associated with childhood behavioural problems;
• lack of training and education regarding ADHD.
ADHD – a non-specialist interpretation

Core features –

Inattention – primary problem

Hyperactivity

Impulsivity
Consequences

Concentration is required to learn – “teachability” is impaired in ADHD.

Lessons take longer to learn,
Organisation takes concentration and time – organisation and planning impaired
  
  Time management always a problem
  Disorganisation
  Poor performance relative to ability (eg unfinished assignments; can’t manage time in exams)
  Underachievement

Same “dumb mistakes” made over and over – “Why don’t you listen to me?”
  Frustration to those around.
  Many interpersonal interactions have negative content.

Mistaking failure to obey previous instructions as willfulness – get into trouble and don’t know why
Negative feedback and carping from parents, teachers, peers
- constant eroding of self-esteem – secondary depression, anxiety, giving up.

- high risk of underestimation of own abilities

- bullying, teasing, social isolation a risk.
Hyperactive and/or Inattentive

Hyperactive – very common problem - distraction by external stimuli. Very obvious. Boys predominantly

Inattentive - distracted by internal stimuli. Tuning out of external environment. Lost when tunes back in. Not obvious. Can be diagnosed after unexpectedly poor results. More frequent in girls
Inattention/ Impulsivity

Time management

Problems with driving and personal safety

Not thinking before acting. At risk for unsafe behavior – drugs, sex, alcohol
Peaks of diagnosis

Coincide with substantial leaps in demands. The worse the ADHD, the earlier the problems.

Prep

Grade 3

Grade 6

Grade 10/11 transition
ADHD – a spectrum disorder

Where do you draw the line?

Population proportion

Where do you draw the line?

Capacity to concentrate

0.0 0.1 0.2 0.3 0.4

-3σ -2σ -1σ μ 1σ 2σ 3σ

0.1% 2.1% 13.6% 34.1% 34.1% 13.6% 2.1% 0.1%
Other issues

Family history – Parental ADHD leads to disorganized families
Family disorganization an independent confounder but additive

Capacity to pay attention is independent of intelligence

Can and does coexist with biologically determined behavior disorders AND environmentally determined disorders

BUT – can be and is present in the absence of these
Outcomes of ADHD treatment and non-treatment

Evidence for some short term benefits of stimulant treatment
Cochrane Database of Systematic Reviews.

Methylphenidate for children and adolescents with attention deficit hyperactivity disorder (ADHD)

Evidence for long term (six year) benefits the same with or without stimulants

Long-term effects of stimulant treatment on ADHD symptoms, social-emotional functioning, and cognition. Schweren L, et al)
Methylphenidate for children and adolescents with attention deficit hyperactivity disorder (ADHD)

DOI: 10.1002/14651858.CD009885.pub2

Improved teacher-rated ADHD symptoms
28% Improved teacher rate behaviour on MPH
39% improvement in parent rated Quality of life

No increase in serious (e.g. life threatening) adverse events.
29% increase in non-serious adverse events compared with placebo
–sleep disturbance (60% greater risk);
- appetite suppression (266% increase in risk).

All very low quality evidence.
Mean time of observation 75 (range 1-425 days).
“Simple” ADHD and “Complex” ADHD

**Simple**
- Inattention causing issues at school,
- Absence of defiance
- Absence of anger
- Presence of anxiety, reactive depression, poor self-esteem

Within GP skill set

**Complex**
- ADHD +/-
- Defiance, disruptive tendencies, anger
- Acting out

Specialist involvement
GP approach to complex problems - Diagnosis

1. Murtagh’s diagnostic method (for most GP problems)

1. What is the probability diagnosis?
2. What diagnoses can’t I miss?
3. What is easy to miss?
4. Is this symptom from one of the Masqueraders?
5. Is this patient trying to tell me something?
2. Mapping complex problems
Bec is a 14 yr girl known for years brought in because her grades have dropped off. Just started in Grade 10. Had done well before. Always a bit dreamy. Some bullying because she is always “off the grid”. No alcohol, drugs. Apparently supportive family. One uncle who dropped out of school, had multiple jobs and never settled down.

School reports suggest distraction for years in spite of trying hard.

- School performance down, Gr 10 Harder than Gr 9
- Modest teasing due to dreaminess

Usually capable
Solid family
Possible FH of ADHD?
GP understanding of ADHD management

For Bec,
1. Exclude other potential causes – hearing, vision, sleep deprivation, depression, abuse, etc.

2. Consider whether the condition is longstanding or recent

3. Is DSM 5 met?

3. Any behavioural comorbidities?

4. If no to all above, start stimulant therapy

   Plus school counselling/psychology
Rationale

“Simple” ADHD

Main issue is inability to focus, and other things flow from that

Self esteem and peer behavior secondary

Rapid onset of treatment effect – review in 2 weeks will determine efficacy or whether specialist review is necessary
GPs and stimulants

Can prescribe in Qld without specialist initiation

Most GPs do not want to do that

Most happy to supervise treatment once specialist diagnosis and management

If doubt about efficacy, consider N-of-1 test. This is usually not necessary
Proportion of people prescribed stimulants by age and state

Figure 10: Number of people granted authority approval for an ADHD medicine per 1000 population by patient state/territory and year

Source: Medicare authority approvals database; extracted 5 May 2015. These data are not age standardised.

GP ability to prescribe is not misused.
Stimulant use rate by age age standardised

Figure 11: Number of people supplied an ADHD medicine per 1000 population (age standardised) in 2014 by patient state/territory and age group

Source: Medicare pharmacy claims database; extracted 5 May 2015.
Special issues – overdiagnosis?

TOO MUCH MEDICINE

Attention-deficit/hyperactivity disorder: are we helping or harming?

Rae Thomas senior research fellow¹, Geoffrey K Mitchell professor of general practice and palliative care², Laura Batstra assistant professor³

¹Centre for Research in Evidence-Based Practice, Bond University, 4229 Australia; ²School of Medicine, University of Queensland, 4072 Australia; ³Department of Special Needs Education and Youth Care, University of Groningen, Netherlands
Rationale

Definitions have broadened - Concern of under-recognition

Is there really under-recognition? Threshold for treatment varies from state to state, country to country? Why?

What are consequences of under-recognition?

What are the consequences of inappropriate treatment?
Special issues – Adult ADHD

Rates of treated Adult ADHD are far lower than in children
Approximately 2/3 of children will carry ADHD into adulthood.

Why so low?
- Environment can be controlled by the individual – less need for attention, time keeping, etc.
- Under-recognition in adults – not recognised and treated as well in their young years
  Health professionals don’t ask the right questions.
- Concern at drug diversion, so more caution in prescribing.
- Most hyperactive symptoms moderate, so not as obvious.

Why important?
- Under-performance relative to ability
- Impulsive behaviour can cause trouble.
- Disorganisation in daily life can cause a lot of problems – eg missing bills,
  Appointments, poor punctuality at work.
Guidelines for the Treatment of

ADULT ADHD WITH PSYCHOSTIMULANTS
Transition to adult services

**Problems**
Cost for low income people

Accessibility of psychiatric care, esp in public system

Start early – in Gr 12 year.
RESULTS:
During the **11-year study period, 1735 intentional exposures** to the four medications were reported to NSWPIC. There was a **210% increase in intentional exposures to methylphenidate over this period**, whereas the number of dexamphetamine exposures declined by **25%**. Illicit use (defined as co-ingestion with alcohol or a street drug) increased by **429%** across the study period. At least **93%** of overdose patients required hospitalisation. Trends in exposures paralleled trends in the dispensing of these medications, as recorded in Pharmaceutical Benefits Scheme data.

Number of Methylphenidate prescriptions pa in Australia in 2014: **877,206**
Research opportunity. N-of-1 testing of melatonin for ADHD sleep problems

NHMRC funded

Details:  https://medicine.uq.edu.au/mynap-study

Facebook – MyNap study
Conclusion

ADHD is common, and can be straightforward to diagnose and treat.

GPs are very cautious about ADHD diagnosis and management.

There are a lot of untreated adults in the community

Risk of abuse is there but very uncommon

Change in approach to a condition not unlike depression should be appropriate