New research and psychological treatments for ADHD

Susan Young
Kings’ College London, Institute of Psychiatry
ADHD from childhood to adulthood

• ADHD is characterised by symptoms of inattention, impulsiveness and hyperactivity.

• It is associated with clinical and psychosocial impairments (e.g. educational and occupational failure, difficulties in interpersonal relationships, low self-esteem)

• 3.6% of children have ADHD in the UK

• ADHD persists into adult life in two-thirds of cases

• Recent analysis of population surveys estimate the prevalence of ADHD in adults to be around 2.5%

Ford et al., 2004; Faraone et al., 2006; Simon et al., 2009
ADHD and offending

Court records:
• Youths 4-5x more likely arrested
• Multiple arrests and convictions

Prison studies (USA, Sweden, Norway, Canada, Germany)
• Up to 67% with ch. ADHD
• Up to 30% adult symptoms
• Around 16% in partial remission
• Rates much higher in YOIs
• 10% for females (Rosler et al., 2009)
30-year prospective British Cohort Study (BCS70):

- Higher risk of police contact as minor offender for both males and females
- Males had greater contact with police or courts as a persistent offender

Brassett-Grundy & Butler, 2004
Vulnerability

• Cognitive deficits: they get caught! Opportunistic crime; high rates of recidivism.

• Coping with the process of the Criminal Justice System (police interview, court attendance)

• When incarcerated, undiagnosed and untreated individuals may be a management problem due to behaviour problems.
Prevalence of ADHD in mental health settings

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Screen positive</th>
<th>Estimated prevalence ADHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forensic MI</td>
<td>65</td>
<td>26%</td>
<td>3%</td>
</tr>
<tr>
<td>Forensic PD</td>
<td>48</td>
<td>40%</td>
<td>19%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>54</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td>Addiction</td>
<td>285</td>
<td>16%</td>
<td>12%</td>
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</tbody>
</table>
Personality Disordered Offenders with ADHD and Critical Incidents in Forensic Mental Health Settings

33% of male PD patients in a high secure forensic mental health service had ADHD symptoms.

- The ADHD group had a significantly greater number of incidents overall (p<.05), especially Verbal aggression and Damage to property (p<.05).

Young et al., 2003. *Journal of Forensic Psychiatry & Psychology*
Rates of ADHD in Aberdeen prison sample

Key paper linking ADHD and behavioural management problems in prison settings

- 24% met childhood screening criteria for ADHD
- 6% met criteria for adult ADHD
- 8% met criteria for ADHD in partial remission
- 14% had persistent symptoms
- Population rate 2.5%
• Most common personality traits for the whole group were antisocial (47.9%), depressive (16.5%) and negativistic (passive-aggressive) (14.9%).

• ADHD group had significantly more severe personality problems on all scales except histrionic, narcissistic and compulsive.

• ADHD symptoms best predicted by a low Compulsive score - personality disorganisation?

• Disorganisation (as a functional component of ADHD) may be more helpful in understanding and treating people with ADHD than diagnosing personality disorder.
The most common clinical syndrome for the whole group was drug dependence (n = 93, 47.9%), followed by anxiety (n = 70, 36.1%), and alcohol dependence (n = 31, 16.0%).

The ADHD group had greater severity of psychopathology than the non-ADHD group on all scales.

All differences significant p<.05
Mean number of incidents among symptomatic and non-symptomatic prison inmates

No significant association with ASPD.
MANOVA: Significant association with ADHD controlling for ASPD

Young et al., 2009, PAID
Impairment by ADHD status

**Impairment:** defined as “the top 10% in any of the domains of critical incidents, i.e. verbal, physical, damage to property and self-injury”

Independent ratings by prison staff over past 3 months.

P<.001, OR=8.3 (95% CI: 3.2 – 21.4)

Young et al., 2009, PAID
Mann-Whitney U test * p < .05, two-tailed test

Heroin(1) and ADHD (2) were best predictors of total extent of offending,
ADHD (1) followed by alcohol (2) best predictors of violent offending.
Significant predictors of offending

**Total offences**
1. Regular heroin use \( (\beta = .23) \)
2. Child ADHD \( (\beta = .16) \)

**Violent offences**
1. Child ADHD \( (\beta = .26) \)
2. Alcohol dependence \( (\beta = .22) \)

**Drug offences**
1. Regular crack cocaine use \( (\beta = .20) \)

**Other offences** (*e.g. breach of bail, criminal damage, arson and sexual offences*)
1. Regular heroin use \( (\beta = .23) \)

**Property offences**
No significant individual predictors

Similar pattern for 'current' ADHD symptoms

Predictors investigated were age at first conviction, current ADHD symptoms, ASPD, alcohol and substance dependence (Millon scales), and regular use (weekly +) of heroin and crack cocaine (self-reported on the Substance Use Questionnaire).

Young et al. *J Psychopharm*, online
Conclusions from Aberdeen prison study

• ADHD symptoms are common among male prisoners
• Younger age of conviction – 16 vs 19
• ADHD has greater comorbidity with ASPD (63 vs 40%) but key predictor is a disorganised personality style rather than PD
• ADHD is a much better predictor of critical incidents than ASPD and this remains significant after controlling for ASPD
• Its associated with higher rate of recidivism and this remains significant after controlling for ASPD
• Drug and alcohol use feature strongly in the ADHD group, especially with greater regular (previous) use of heroin
• Heroin is the best predictor of total extent of offending, ADHD is a better predictor of violent offending (official records)
Swedish RCT of treatment with stimulant medication in prisoners (N=30)

- Randomised double-blind placebo controlled 5-week trial (OROS-MPH) in prison inmates with ADHD and comorbid disorders (incl. lifetime SUD hx)
- Followed by 47 week open label extension (OLE)
- Evaluated by blind assessor
- Large treatment effect ($d = 2.17$) during RCT with reduced symptom severity and improved global functioning
- Therapeutic effect continued to improve during OLE
- Placebo response, cardiovascular measures and adverse events (N=1) were non-significant
- No drug abuse detected during the course of the study
RCT – Treatment of Prisoners (N=30) with Stimulant Medication

ITT population

- RCT w0 - w5
- Open-label extension w6 - w52

CAARS score

week (LOCF)

- Placebo w0-w5, OROS MPH w6-w52
- OROS MPH w0-w52

Forensic Conference 1-3 February 2012

Ginsberg & Lindefors, BJP, 2012, 200, 68-73
Five Generic Aims

• Confer health gain
• Rehabilitation
• Reduce risk to society
• Framework of justice
• Reduce service costs
ADHD is a chronic condition

**Manualised group programme**
- 8-12 years
- ADHD + problem behaviour

**Manualised group programme**
- 13+ years
- ADHD + antisocial behaviour

**Individual/group programme**
- Adolescents/adults
- ADHD + comorbid problems

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Forensic Conference 1-3 February 2012
R&R2 for Youths and Adults with ADHD

• Psychological treatment + medication has greater and sustained treatment response. Specific skills can be taught to manage core symptoms.

• For offenders - revised edition of the internationally accredited Reasoning & Rehabilitation programme. Structured prosocial competence training programme for “ADHD” youth and adults with antisocial behaviour (age 13+)

• EPB of R&R: compared with controls, 14% reduction in re-offending (by patients in institutionalised settings) and 21% by patients in community settings (meta analysis: Tong & Farrington, 2006)

• 15 session CBT group + ‘PAL’ coaching sessions

• 3 session booster
5 Modules:

1. **Neurocognitive**
   - attention, memory, impulsiveness, planning

2. **Problem Solving**
   - consequential thinking, making choices, conflict resolution

3. **Emotional Control**
   - anger, anxiety

4. **Social skills and values**
   - non-verbal, social perspective taking, empathy

5. **Critical Reasoning**
   - Rationalization, decision making skills, moral reasoning
R&R2 DSPD study – end of treatment outcomes

Outcome measures

- SPSI Avoidance
- SPSI Negative
- SPSI Impulsivity
- SPSI Rational
- SPSI Positive
- SPSI Total
- MVQ Machismo
- MVQ Acceptance
- NAS-PI Behavior
- NAS-PI Arousal
- NAS-PI Cognitive
- RATE-S Social functioning
- RATE-S ADHD
- RATE-S Emotional

Group N=16
Wait-list controls N=15

Cohen’s d
* p < .05
** p < .01

Young et al., 2012, J Attention Disorders
Icelandic RCT in the community

- R&R2A delivered to male and female patients attending a psychiatric outpatient department in Reykjavik, Iceland. CBT+meds vs TAU+meds (N=27 each group)

- Measures at (1) baseline, (2) outcome, (3) 3 month follow-up

- Significant greater improvement for group in ADHD symptoms, antisocial behaviour, depression, anxiety, emotional control, and clinical global impression by independent evaluator.

- Effect improved further at 3 month follow up.
Time 3 - Outcomes at 3-month follow-up

<table>
<thead>
<tr>
<th>Measure</th>
<th>CBT/MED Mean</th>
<th>TAU/MED Mean</th>
<th>Cohen's d</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGI</td>
<td>1.17*</td>
<td>1.08**</td>
<td>1.46***</td>
<td>* p &lt; .05</td>
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<tr>
<td>K-SADS ADHD</td>
<td>1.31*</td>
<td>0.89*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCS Inattention</td>
<td>1.15**</td>
<td>1.32*</td>
<td></td>
<td>** p &lt; .01</td>
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<tr>
<td>BCS Hyp/imp</td>
<td>0.58**</td>
<td>1.24**</td>
<td></td>
<td>*** p &lt; .001</td>
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<tr>
<td>BCS Total</td>
<td>1.08***</td>
<td>1.12*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAI Anxiety</td>
<td>0.83*</td>
<td>0.89*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI Depression</td>
<td>1.08**</td>
<td>1.24**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RATE ADHD</td>
<td>1.12*</td>
<td>1.24**</td>
<td></td>
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<tr>
<td>RATE Emotional Control</td>
<td>1.08**</td>
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<td></td>
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<td>0.89*</td>
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<td></td>
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Cohen's d
* p < .05
** p < .01
*** p < .001

Outcome measures
Forensic Conference 1-3 February 2012
• ADHD in offenders is commonly unidentified, even when they are in FMHS. ADHD may be misdiagnosed as PD.

• It is associated with early onset and high rates of recidivism and violence

• They are a management problem in institutional settings

• We are missing an opportunity for intervention

• ADHD is a treatable condition. Treatment will reduce symptoms and improve behavioural control. It may promote better therapeutic engagement and reduce violence.
NEW IN 2012 ! – published by Wiley

Susan Young and Jessica Bramham

“Cognitive Behavioural Therapy for ADHD Adolescents and Adults: A psychological guide to practice”

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