ADHD medication: non-therapeutic use by young people in secure care

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“Non-therapeutic use” = taking without a prescription

Overview

• Background
• Source of data
• Preliminary results
• Implications & future issues
ADHD

Untreated… academic performance, family relations & self-esteem

Various types of treatment e.g. behavioural & pharmaceutical

Pharmaceuticals

- stimulants - dexamphetamines & methylphenidate (Ritalin)
- non-stimulant medication (Strattera)
- contention
ADHD

Disparity in prescription rates:

• Internationally

• Nationally

1 - 2.4% of school aged Australians medicated

30% young people in secure care medicated (NSW Dept. of Juvenile Justice 2003)
ADHD & crime & substance use

Shared correlations between various factors:

- family dysfunction, paternal criminality
- abuse & neglect, school performance

ADHD

- co-morbidity with other behavioural disorders, e.g. conduct disorders
ADHD & substance use

Evidence from 8 clinical trials that therapeutic use of stimulants:

- either has no effect on substance use, or
- reduces the risk of substance use.

What about non-therapeutic use?
Non-therapeutic use of ADHD stimulants

US study (Teter et al., 2006)

\[ n = 4580 \] college students:

- 5.9% \( (n=269) \) non-therapeutic use previous 12 months
- motives: cognitive improvement; & recreation

Anecdotal report (Brisbane 2006): high school students hospitalized after taking between 3 - 7 times the daily recommended dose of stimulants
AIC study

- 2005 national study of youths in detention centres ($n=371$)
- 11-17 years old - mainly males ($n=346$)
  - self-reported substance use & criminal behaviour
  - substance use 4-16 times higher than age-counterparts in the general population

- New analysis concerns a question on dexamphetamine use (licit or illicit)
AIC data - preliminary results

Table 1: Prevalence of dexamphetamine use

<table>
<thead>
<tr>
<th>Ever used dexamphetamine</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A: licit use only</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td>Group B: illicit use only</td>
<td>59</td>
<td>16</td>
</tr>
<tr>
<td>Group C: both licit &amp; illicit</td>
<td>21</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Australian Institute of Criminology, DUCO Juvenile Survey, 2005 [Computer File].
### AIC data - preliminary results

#### Table 1: Prevalence of dexamphetamine use

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever used dexamphetamine</td>
<td>134</td>
<td>36</td>
</tr>
<tr>
<td>Group A: licit use only</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td>Group B: illicit use only</td>
<td>59</td>
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<td>6</td>
</tr>
</tbody>
</table>

Source: Australian Institute of Criminology, DUCO Juvenile Survey, 2005 [Computer File].
AIC data - preliminary results

- Unable to analyse Groups A, B & C separately

- “Dex-users” = ever used dexamphetamines (licit or illicit)
- “Non-users” = never used dexamphetamines

No differences: age; sex; age left school; or prior detention
### AIC data - preliminary results

**Table 2: Background indicators among dex-users and non-users**

<table>
<thead>
<tr>
<th></th>
<th>dex-users</th>
<th>non-users</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truancy <strong>often</strong></td>
<td>68</td>
<td>51</td>
<td>73</td>
<td>31</td>
</tr>
<tr>
<td>Expelled <strong>ever</strong></td>
<td>96</td>
<td>72</td>
<td>124</td>
<td>53</td>
</tr>
<tr>
<td>Home problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental substance use **</td>
<td>83</td>
<td>62</td>
<td>106</td>
<td>43</td>
</tr>
<tr>
<td>Physical abuse <strong>ever</strong></td>
<td>63</td>
<td>47</td>
<td>69</td>
<td>29</td>
</tr>
<tr>
<td>Personal issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried or stressed **</td>
<td>42</td>
<td>31</td>
<td>37</td>
<td>16</td>
</tr>
<tr>
<td>Apathetic **</td>
<td>32</td>
<td>24</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>Arguments or fights **</td>
<td>30</td>
<td>22</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td>Feeling very sad **</td>
<td>22</td>
<td>16</td>
<td>16</td>
<td>7</td>
</tr>
</tbody>
</table>

*Statistically significant, chi-square, p<0.05*
Table 3: Lifetime prevalence of any substance\textsuperscript{1} use among dex-users & non-users

<table>
<thead>
<tr>
<th></th>
<th>dex-users</th>
<th>non-users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average substance types used*</td>
<td>134</td>
<td>237</td>
</tr>
<tr>
<td>Average substance types used often*\textsuperscript{2}</td>
<td>134</td>
<td>237</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>2.3</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Statistically significant, chi-square, $p<0.05$
\textsuperscript{1} Includes alcohol, cannabis, amphetamines, inhalants, ecstasy, heroin, cocaine/crack, street methadone.
\textsuperscript{2} Substances used at least once per week at any period.
AIC data - preliminary results

Table 4: Lifetime prevalence of offending among dex-users & non-users

<table>
<thead>
<tr>
<th></th>
<th>dex-users</th>
<th></th>
<th>non-users</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Stealing*</td>
<td>123</td>
<td>92</td>
<td>180</td>
<td>76</td>
</tr>
<tr>
<td>Vehicle theft*</td>
<td>118</td>
<td>88</td>
<td>180</td>
<td>76</td>
</tr>
<tr>
<td>Break &amp; enter*</td>
<td>122</td>
<td>91</td>
<td>197</td>
<td>83</td>
</tr>
<tr>
<td>Trade stolen goods*</td>
<td>116</td>
<td>87</td>
<td>163</td>
<td>70</td>
</tr>
<tr>
<td>Fraud*</td>
<td>49</td>
<td>37</td>
<td>49</td>
<td>21</td>
</tr>
<tr>
<td>Robbery*</td>
<td>85</td>
<td>63</td>
<td>120</td>
<td>51</td>
</tr>
</tbody>
</table>

*Statistically significant, chi-square, p<0.05
Conclusions

Limitations:

- retrospective
- no control for conduct disorders
- self-reporting

1. 22% (n=80) had used stimulants illicitly (not necessarily whilst in a detention centre).

- Underscores importance of procedures in secure care (including foster care) to prevent illicit use e.g monitoring consumption
- Could non-stimulant medications be an alternative for some high risk youths?
Conclusions

2. Dex-users reported: greater exposure to background risk factors; committed more crime & used more drugs more frequently.

Simple reflection of the shared correlations between ADHD, crime & substance use.

Future analyses:

• Comparison of Group A (licit only) vs Groups B (illicit only) & C (both licit & illicit)

• Did Group A have lower levels of substance use or criminal behaviour?
Conclusions

3. Little is known about non-therapeutic use.

- What size dosages are taken?
- What are the effects of large doses?
- What is the extent of illicit use in the general population?
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AIC DUCO data

- 59% Aboriginal or Torres Strait Islander

- Significant difference (chi square, $p<0.05$):
  - Dex-users: 46% Indigenous ($n=61$)
  - Non-dex-users: 66% Indigenous ($n=157$)