Examining the trajectory of anxiety, depression and alcohol use in early adolescence

Louise Birrell1, Dr Nicola Newton1, Prof Maree Teesson1, Prof Gavin Andrews2, A/Prof Tim Slade3, Dr Cath Chapman1, Zoe Tonks1
1 National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia
2 Clinical Research Unit for Anxiety and Depression, St Vincent’s Hospital, Sydney, Australia

Background

- Anxiety, depression and alcohol use problems frequently co-occur (Merikangas et al., 2010), share common risk factors and interact (O’Neill, Conner, & Kendall, 2011). Therefore, it is important to look at the development and trajectories of anxiety, depression and alcohol use together.
- The majority of people who develop mental health and/or alcohol problems report an onset of symptoms during adolescence.
- There is a lack of Australian longitudinal data documenting the early trajectories of anxiety, depression, and alcohol use in early adolescence.
- Females generally show higher levels of depression and anxiety in late adolescence and adulthood (Leach et al, 2008) but it is unclear when this gender gap emerges.
- Recent trends show gender differences in alcohol initiation and binge drinking are converging (Keyes, Li & Hasin, 2011).
- Understanding these early trajectories and examining gender differences is important to guide prevention and early intervention efforts.

Aim

- To examine and map the prevalence of anxiety, depression and alcohol use in a sample of young Australians.
- Examine gender differences.

Method

- Data was collected for the purpose of evaluating a large randomised controlled trial of a school-based intervention intended to decrease alcohol and drug use (The CAP study; Newton, Teesson, Barrett, Slade, & Conrod, 2012).
- Control group data only is presented, such that any effects of the intervention will not have influenced the results.
- 604 students aged 13-15 years, from seven schools in NSW and one school in VIC, Australia completed the following measures at baseline, six and twelve months later.

Measures

Brief Symptom Inventory (BSI). The depression and anxiety subscales of the BSI (Derogatis, 1993) measured participants levels of anxiety and depression symptoms. Participants rated the frequency of experiencing each symptom in the past 6 months on a scale ranging from 0 (not at all) to 4 (often). Total scores ranged from 0 to 24, with higher scores indicating higher levels of anxiety or depression symptoms. One item from the BSI measured the presence of suicidal thoughts in the past 6 months.

Alcohol Use. Participants indicated whether or not they had ever had a full serve of alcohol in their lives (defined as any drink containing 10 grams of alcohol), and whether or not they had consumed alcohol above the low-risk levels for occasional consumption (binged) (i.e., more than five standard drinks on one occasion; NHMRC, 2009).

Results

Analysis

Descriptive statistics were used to examine the levels of depression, anxiety and alcohol use (these are displayed below each of the graphs for each of the three time points). Independent sample t-tests were used to assess the differences between males and females at each occasion for continuous variables and chi-square tests were used for categorical variables.

<table>
<thead>
<tr>
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<th>Baseline</th>
<th>6 months</th>
<th>12 months</th>
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<tbody>
<tr>
<td>Male mean</td>
<td>2.51</td>
<td>2.40</td>
<td>2.64</td>
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<tr>
<td>Female mean</td>
<td>3.86</td>
<td>4.03</td>
<td>4.08</td>
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Anxiety: At baseline there was a significant difference between males and females (t (493) = -2.64, p < .01), with females having significantly higher levels of anxiety than males. This continued at both six month follow-up (t (400) = -3.54, p < .001) and twelve month follow-up (t (436) = -3.64, p < .01).

Depression: At baseline, there was no significant difference between males and females (t (493) = -1.96, p = 0.52). By six month follow-up there was a significant difference (t (400) = 3.52, p < 0.001), with females having significantly higher levels of depression than males. This continued at twelve month follow-up (t (436) = -2.57, p < .01).

Suicidal ideation: At baseline, there was no significant association between gender and the presence of any suicidal thoughts during the past 6 months (x² (1) = 1.98, p = .30). At six month follow-up there was a significant association between gender and the presence of suicidal thoughts (x² (1) = 5.00, p < .03), such that based on the odds ratio, the odds of having thought of suicide at all in the past six months was 2 times higher if students were female than male. This association was not significant at twelve month follow-up.

Results

Full Serve: At baseline, there was a significant association between gender and whether or not students had ever had a full serve of alcohol (x² (1) = 6.29, p = .02), such that the odds of ever having had a full drink was 1.7 times higher if students were male than female. At both six months (x² (1) = 3.06, p = .08) and twelve months (x² (1) = 1, p = .75) later there was no such significant association.

% ever had a full serve of alcohol

<table>
<thead>
<tr>
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<th>13yrs</th>
<th>15yrs</th>
<th>18yrs</th>
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<tbody>
<tr>
<td>Male %</td>
<td>87%</td>
<td>82%</td>
<td>76%</td>
</tr>
<tr>
<td>Female %</td>
<td>96%</td>
<td>91%</td>
<td>86%</td>
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% ever binged

<table>
<thead>
<tr>
<th></th>
<th>13yrs</th>
<th>15yrs</th>
<th>18yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male %</td>
<td>6.3%</td>
<td>0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Female %</td>
<td>14%</td>
<td>6%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Ever binged: At baseline, there was no significant association between gender and whether or not students had ever binged (x² (1) = 5.8, p = .45), nor was there a significant association between gender and ever binged at six months (x² (1) = 3.57, p = .06) or at twelve months later (x² (1) = 2.01, p = .16).

Key results

- Overall depression and anxiety symptoms were low in 13 to 14 year old students.
- Females had significantly higher levels of anxiety and depression than males.
- Approximately 20% of 13 and 14 years olds report any thoughts of suicide in the past 6 months.
- The number of adolescents who had tried a full serve of alcohol increased by approximately 10% between 13 to 14 years.
- Binge drinking more than doubles between the ages of 13-14 years.
- There are significant gender differences in mental health symptoms in early adolescents, but less in alcohol use.

Conclusion

An understanding of the early trajectories of anxiety, depression and alcohol use will help to maximise service effectiveness and ensure prevention programs are delivered at critical time points, before patterns of behaviour are established and significant impairment occurs.

Acknowledgements

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