Binge drinking, blood pressure, and duration of physical activity as risk factors for cardiovascular disease in college students.

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Introduction

College students frequently participate in binge drinking behavior1,9. Surprisingly, studies have found a correlation between increased physical activity and greater frequency of alcohol consumption1,9. Binge drinking behavior may lead to long term adverse health effects in addition to alcoholism, such as heart disease4. Pre-hypertension is an early indicator of heart disease that can easily be obtained4. The risky behaviors demonstrated by college aged students provide a unique opportunity to gather data on an at risk population that may benefit from educational intervention.

Purpose

To examine the relationship of blood pressure and duration of physical activity with the incidence of self-reported binge drinking in college aged students.

Subjects

Table: Subjects

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (% of subjects)</td>
<td>1534(27)</td>
<td>4070(73)</td>
</tr>
<tr>
<td>Report drinking (%)</td>
<td>70</td>
<td>57</td>
</tr>
<tr>
<td>Report binge drinking (%)</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>Family hx of high BP (%)</td>
<td>55</td>
<td>66</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>24.9±3.7</td>
<td>23±3.6</td>
</tr>
<tr>
<td>Systolic BP (mmHg)</td>
<td>132±13</td>
<td>115±11</td>
</tr>
<tr>
<td>Diastolic BP (mmHg)</td>
<td>78±9</td>
<td>76±9</td>
</tr>
</tbody>
</table>

CHANAS

The College Health and Nutrition Assessment Survey is an on-going cross sectional study of a college aged cohort, 18-24 years of age, at the University of New Hampshire11. Students (n=5604) were recruited between 2005-2012 from an introductory nutrition course (UNH IRB# 3329, 5524).

Methods

• Blood pressure was measured via automated cuff following standard protocol.
• Binge drinking was defined as drinking ≥5 drinks in a row for men or drinking ≥4 drinks in a row for women. Data were self reported via questionnaire.
• Duration of physical activity was reported via questionnaire and categorized by none, <30, 30-59, 60-89, >90 minutes.
• Pre-hypertension (PH) was defined as a blood pressure >120/85 mmHg.
• Chi square tests were used to examine differences (SPSS, v.20.0).

Results

Prevalence of Pre-Hypertension

Binge drinkers were more likely to have PH than non-binge drinkers (36% vs. 24%, p<.01). Surprisingly, studies have found that binge drinkers tended to binge more often than non-binge drinkers to spend 60 min/day engaging in PA vs. non-binge drinkers (45% vs. 37%, p=.07). Female binge drinkers were more likely to have PH than non-binge drinkers (38% vs. 35%, p<.01). Male binge drinkers were more likely to have PH than non-binge drinkers (39% vs. 36%, p<.01); no difference in prevalence of PH among females were observed.

Key Findings

• Fifty-two percent of students reported binge drinking within the last two weeks.
• Male binge drinkers tended to be more likely than non-binge drinkers to spend ≥90 min/day engaging in PA.
• Female binge drinkers were more likely to spend 60-89 min/day engaging in PA vs. non-binge drinkers.
• Male binge drinkers were more likely to have PH than non-binge drinkers.

References


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