Mental disorders in college: a 21st century public health approach

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Overview

• The epidemiology of college students and mental disorders
• How to deal with it from a public health perspective?
• Implications and challenges on the school/college level
The 18-24 age range ...

• **Opportunities**
  - Changes / challenges on personal, social, intellectual level
  - From adolescence to emerging to young adulthood
  - Formation and consolidation of sustainable psychological patterns to deal with self, others, and environment

• **Risk & threats**
  - Suicidal thoughts & behaviours ↗
  - Emotional problems ↗

Centers for Disease Control, 2011
How is mental health in college?

(1) Emotional problems are common
(2) A lot of minor emotional problems
(3) Not quite a new problem

At a recent meeting of a group of college psychiatrists and clinical psychologists in Chicago, an informal comparison of services disclosed the fact that the psychiatrists were dealing with a group comprising about 2 per cent or 3 per cent, or in an unusual case up to 10 per cent, of the college population. The clinical psychologists, on the other hand, reported that, even under adverse circumstances with respect to under-staffing and over-loading of the staff, they were dealing with from 33 per cent to 50 per cent of the college population in individual interviews. Neither the psychiatrists nor the
12m emotional problems in college

Jackson, 2009; Bailer et al., 2008; Slutske, 2005; McCabe et al., 2007; Rosiers et al., 2011; Mortier et al., 2015; Kiekens et al., 2016; Bruffaerts et al., 2017; Zivin et al., 2009; Verger et al., 2009; Vazquez & Blanco, 2006; Eisenberg et al., 2009; 2011
12m mental disorders in college

- Anxiety disorder: 8-9%
- Mood disorder: 10-21%
- DSM-5 NSSI disorder: 1-2%
- Eating disorder: 11-13%
- ADHD: 1-8%
- Substance disorders: 3-30%

Higher estimates than general population (25-33% higher than in general population)

Lower estimates than non-students (17-20% lower in students compared to non-students)

Alonso et al., 2004; Jackson, 2009; Bailer et al., 2008; Slutske, 2005; McCabe et al., 2007; Blanco et al., 2008; Rosiers et al., 2011; Mortier et al., 2015; Kiekens et al., 2016; Wilcox et al., 2012; Eisenberg et al., 2011; Auerbach et al., 2016; Zivin et al., 2009; Verger et al., 2009

FIGURE 1. Variation across campuses in the prevalence of mental health problems.
## 10 Leading Causes of Death by Age Group, United States - 2013

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Rank</th>
<th>&lt;1</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>Total</th>
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<tbody>
<tr>
<td>1</td>
<td>Congenital Anomalies</td>
<td>4,758</td>
<td>Unintentional Injury 1,216</td>
<td>Unintentional Injury 1,746</td>
<td>Unintentional Injury 1,755</td>
<td>Unintentional Injury 11,649</td>
<td>Unintentional Injury 18,300</td>
<td>Unintentional Injury 13,924</td>
<td>Malignant Neoplasms 46,185</td>
<td>Malignant Neoplasms 125,324</td>
<td>Heart Disease 488,156</td>
<td>Heart Disease 611,105</td>
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<tr>
<td>2</td>
<td>Short Gestation</td>
<td>4,202</td>
<td>Congenital Anomalies 476</td>
<td>Malignant Neoplasms 447</td>
<td>Malignant Neoplasms 448</td>
<td>Suicide 4,878</td>
<td>Suicide 6,348</td>
<td>Malignant Neoplasms 11,349</td>
<td>Heart Disease 35,167</td>
<td>Heart Disease 72,568</td>
<td>Heart Disease 407,558</td>
<td>Heart Disease 584,881</td>
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<td>3</td>
<td>Maternal Pregnancy Comp.</td>
<td>1,695</td>
<td>Homicide 337</td>
<td>Congenital Anomalies 170</td>
<td>Suicide 386</td>
<td>Homicide 4,209</td>
<td>Homicide 4,206</td>
<td>Heart Disease 10,241</td>
<td>Unintentional Injury 20,937</td>
<td>Unintentional Injury 17,067</td>
<td>Chronic Liver &amp; Respiratory Disease 127,194</td>
<td>Chronic Liver &amp; Respiratory Disease 140,205</td>
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<td>4</td>
<td>SIDS</td>
<td>1,563</td>
<td>Malignant Neoplasms 228</td>
<td>Homicide 125</td>
<td>Congenital Anomalies 161</td>
<td>Suicide 6,551</td>
<td>Liver Disease 6,785</td>
<td>Chronic Liver &amp; Respiratory Disease 15,942</td>
<td>Chronic Liver &amp; Respiratory Disease 209,609</td>
<td>Unintentional Injury 130,057</td>
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<td>5</td>
<td>Unintentional Injury</td>
<td>1,156</td>
<td>Heart Disease 169</td>
<td>Chronic Liver &amp; Respiratory Disease 75</td>
<td>Homicide 152</td>
<td>Heart Disease 941</td>
<td>Heart Disease 3,258</td>
<td>Heart Disease 2,581</td>
<td>Suicide 8,621</td>
<td>Diabetes Mellitus 13,061</td>
<td>Alzheimer’s Disease 83,786</td>
<td>Alzheimer’s Disease 128,978</td>
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<tr>
<td>6</td>
<td>Placenta Cord Memb.</td>
<td>953</td>
<td>Influenza &amp; Pneumonia 102</td>
<td>Heart Disease 73</td>
<td>Heart Disease 100</td>
<td>Congenital Anomalies 362</td>
<td>Diabetes Mellitus 684</td>
<td>Liver Disease 2,491</td>
<td>Diabetes Mellitus 5,899</td>
<td>Liver Disease 11,951</td>
<td>Diabetes Mellitus 25,751</td>
<td>Alzheimer’s Disease 94,767</td>
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<tr>
<td>7</td>
<td>Bacterial Infl.</td>
<td>578</td>
<td>Chronic Liver &amp; Respiratory Disease 64</td>
<td>Influenza &amp; Pneumonia 67</td>
<td>Chronic Liver &amp; Respiratory Disease 80</td>
<td>Influenza &amp; Pneumonia 197</td>
<td>Liver Disease 2,708</td>
<td>Liver Disease 1,925</td>
<td>Cerebrovascular 11,364</td>
<td>Influenza &amp; Pneumonia 48,931</td>
<td>Diabetes Mellitus 75,578</td>
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<tr>
<td>8</td>
<td>Respiratory Distress</td>
<td>522</td>
<td>Septicemia 53</td>
<td>Cerebrovascular 41</td>
<td>Influenza &amp; Pneumonia 64</td>
<td>Diabetes Mellitus 193</td>
<td>HIV 631</td>
<td>Cerebrovascular 1,587</td>
<td>Suicide 7,435</td>
<td>Unintentional Injury 45,042</td>
<td>Influenza &amp; Pneumonia 55,076</td>
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<tr>
<td>10</td>
<td>Neonatal Hemorrhage</td>
<td>389</td>
<td>Septicemia 47</td>
<td>Septicemia 35</td>
<td>Septicemia 35</td>
<td>Septicemia 409</td>
<td>Septicemia 881</td>
<td>Septicemia 881</td>
<td>Septicemia 881</td>
<td>Septicemia 28,815</td>
<td>Septicemia 41,149</td>
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</tr>
</tbody>
</table>

12m suicidal thoughts and behaviors among college students: common ...

Mortier et al., 2017; Arria et al., 2009; SAMHSA, 2012; 2017; Suicide Prevention Resource Center, 2014
... and persistent

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Depression</td>
<td>2.81</td>
<td>1.62</td>
<td>1.83</td>
<td>1.14</td>
<td>1.18</td>
<td>1.81</td>
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<tr>
<td>(0.87)</td>
<td>(0.57)</td>
<td>(1.11)</td>
<td>(0.69)</td>
<td>(0.61)</td>
<td>(0.22)</td>
<td>(0.22)</td>
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<tr>
<td>Anxiety</td>
<td>0.78</td>
<td>3.09</td>
<td>1.00</td>
<td>0.99</td>
<td>0.85</td>
<td>1.17</td>
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<tr>
<td>(0.36)</td>
<td>(1.22)</td>
<td>(0.95)</td>
<td>(0.46)</td>
<td>(0.32)</td>
<td>(0.50)</td>
<td>(0.31)</td>
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<tr>
<td>Eating disorder</td>
<td>1.45</td>
<td>1.84</td>
<td>13.44</td>
<td>1.59</td>
<td>1.65</td>
<td>4.48</td>
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<tr>
<td>(0.94)</td>
<td>(1.03)</td>
<td>(1.03)</td>
<td>(0.89)</td>
<td>(1.15)</td>
<td>(1.31)</td>
<td>(1.19)</td>
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<tr>
<td>Self-injury</td>
<td>1.25</td>
<td>1.45</td>
<td>1.18</td>
<td>4.71</td>
<td>1.58</td>
<td>2.04</td>
</tr>
<tr>
<td>(0.72)</td>
<td>(0.72)</td>
<td>(0.66)</td>
<td>(0.46)</td>
<td>(0.89)</td>
<td>(0.31)</td>
<td>(1.19)</td>
</tr>
<tr>
<td>Suicidal thoughts</td>
<td>1.95</td>
<td>2.85</td>
<td>0.66</td>
<td>1.21</td>
<td>4.11</td>
<td>4.11</td>
</tr>
<tr>
<td>(0.82)</td>
<td>(1.06)</td>
<td>(0.51)</td>
<td>(0.13)</td>
<td>(0.11)</td>
<td>(0.45)</td>
<td>(0.13)</td>
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<tr>
<td>Therapy</td>
<td>0.60</td>
<td>0.73</td>
<td>0.74</td>
<td>1.03</td>
<td>1.22</td>
<td>0.71</td>
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<tr>
<td>(0.33)</td>
<td>(0.34)</td>
<td>(0.42)</td>
<td>(0.59)</td>
<td>(0.62)</td>
<td>(0.45)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>Medication use</td>
<td>1.16</td>
<td>1.51</td>
<td>1.17</td>
<td>10.96</td>
<td>2.14</td>
<td>1.79</td>
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<tr>
<td>(0.60)</td>
<td>(0.70)</td>
<td>(0.65)</td>
<td>(0.59)</td>
<td>(0.62)</td>
<td>(0.45)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>Perceived need</td>
<td>2.01</td>
<td>2.07</td>
<td>1.75</td>
<td>1.92</td>
<td>4.40</td>
<td>2.58</td>
</tr>
<tr>
<td>(1.31)</td>
<td>(1.16)</td>
<td>(1.15)</td>
<td>(1.25)</td>
<td>(1.25)</td>
<td>(1.35)</td>
<td>(1.35)</td>
</tr>
</tbody>
</table>

Each column represents a separate regression, with the dependent variable listed at the top and independent variables on the left. Model controls for gender, student nationality, sexual preference, race, degree program, and age. Significant predictors in bold.

~6/10 for those w/mental disorders; ~8/10 for those with suicidality

Patton et al., 2014; Zivin et al., 2009; Mortier et al., 2017
The problem with risk factor studies on mental health

• Different risk factor domains
  • Complex interactions

• Mostly based on retrospective risk factor identification
  • Fixed factors (young, female, non-heterosexual orientation)
  • Distal factors (a history of childhood adversities, low parental SES)
  • Risk factors

• We need a new emphasis on ...
  • Modifiable factors (> fixed factors)
  • Proximal factors (>> distal factors)
  • Protective factors (>> risk factors)
How to deal with the increasing numbers of students with emotional problems?
Common approach (in college)

• Treatment / treatment / treatment

• Suicide prevention = preventing suicide
  • i.e. treating the last stage of the suicidal process
  • Isn’t it too late then?

• Focus on the high risk (~1% of the student population)

• Based on a couple of (wrong) assumptions ...
  • Students have a perceived need for treatment
  • Students are willing to disclose their emotional problems
  • Students will make the step to professional help
We cannot treat all the students with mental disorders
  • Societies cannot afford this

Critical appraisal against suicide prevention programs
  • Growth in suicide prevention programs did not lead to reduction of suicides
  • >5,000 suicide apps without much evidence of effectiveness
  • False hope
Changing the paradigm

- **Public health model** vs. **individual clinical model**
- **Prevention** and **treatment model**
- “Preventing suicide starts at home, in schools, and in communities, not when someone (...) enters a therapist’s office” (Whitlock, Wyman & Barreira, 2012, p.4)
Limited societal gain: a 100% effective intervention for suicide attempters will not lead to a reduction of the number of students with suicide plans.
• Focus on every stage of the suicidal process
• Potential greater societal gain
• Intervening in the suicidal process

Focus on modifiable & proximal factors that mark the transition from one stage to a more severe stage
The Rose theorem

"...a large number of people at small risk may give rise to more cases of disease than a small number who are at high risk"

- Not the high risk but the population mean as a focus
- Focus on general wellbeing
- Stronger resilience, personal strengh, connectedness
- Skills training, treatment

Rose et al., 2003; Siu Fai Yip et al., 2014
Prevention = strengthening wellbeing & intervening at (very) early stages of emotional problems

- Educational campaigns, screening, and connectedness *for the entire population*
- + resilience-increasing & skills enhancing programs *for those at low risk*
- + gatekeeping & e-treatment *for those at medium risk*
- + treatment *for those at high risk*
Proof of concept: the US Air Force Suicide Prevention Program

Knox et al., 2003; 2004; 2006; 2010; 2014; Siu Fai Yip et al., 2013
Implications for college

• **Systematic e-assessment of students**
  - Identification and follow-up of the low/medium/high risk
  - Accurate prediction models for targeted interventions (*)

• **Proximal and modifiable factors**
  - Connectedness (friends, peers, home, and college)
  - Relational problems
  - Barriers to treatment

• **Innovative e–treatments**
  - Mostly depression/anxiety
  - Suicidality / stress

• **Educational campaigns, website, self-assessment of mental health**

(*) see the Mortier presentation this afternoon
An example of a proximal modifiable protective factor

- Loss of **connectedness** w/school, home, and peers
  - 6-10% not connected
  - Connectedness associated w/ lower onset of suicidality (OR~1.8)
  - Highest odds for connectedness to peers (OR~2)

- **Loneliness & social isolation**
  - $R^2$~7% of suicidal ideation

Whitlock et al., 2012; Barreira et al., 2011; Saïas et al., 2014; Verger et al., 2009
• Maintain a public health approach
  • Maintain a primary epidemiological view on mental health
  • Focus on proximal and modifiable factors that could be targeted within college

• Interventions for the broad population
  • Reach out to students (by shifting the locus of care)
  • From educational programs to skills training & gate keeping to e-treatment to intensive treatment