YRBS, 2013: Surveillance of mental health services in rural eastern region middle and high schools

Cynthia A. Leaver, PhD, APRN, FNP-BC
Nursing Research Consultant
Department of Nursing, Meritus Medical Center, Hagerstown, MD
Co-Authors

- Jesus Cepero, PhD, RN, NEA-BC, *Chief Nurse Officer, Chief Operating Officer, Meritus Medical Center, Hagerstown, MD*
- April Greenlee, BSN, RN, *Coordinator of Accreditation and Patient Safety, Department of Nursing, Meritus Medical Center, Hagerstown, MD*
- Laura E. Henderson, MPH, MD, FAAP, *Department of Medicine, University of Missouri, School of Medicine, Columbia, MO*
Disclosures

- The authors of this project have no conflict of interest to disclose.
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Objectives

- This presentation will identify the prevalence of suicide in population middle and high school age.
- This presentation will identify the YRBS as a resource for surveillance of mental health needs in middle and high school age students.
- This presentation will demonstrate the application of nursing research outcomes to influence programs aimed at meeting the mental health needs of middle and high school age students.
Background

- Suicide is the third leading cause of death among young people, and a public health risk world wide (Cash & Bridge, 2009).
- YRBS
  - began development in 1990 to monitor priority health risk behaviors.
  - designed to determine prevalence of health risk behaviors.
  - can monitor progress toward achieving the Healthy people objectives (CDC, 2015).
Purpose

- Monitor health-risk behaviors that contribute to leading causes of death and disability among youth and adults, in middle school and high school students.
- Evaluate parent perception of prevalence of chronic disease, insurance status, health care utilization, and barriers to healthcare access, of pre-school through 12-grade students.
Method

- Computerized survey
- Paper and pencil survey
Instrument

- The Youth Risk Behavior Surveillance System (YRBS, 2013) monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults.
Behaviors-Subscales

- Unintentional injuries and violence
- Sexual behaviors
- Alcohol and other drug use
- Tobacco use
- Unhealthy dietary behaviors
- Inadequate physical activity
Instrument-Parents

Parent Perception-Subscales

- prevalence of chronic disease
- insurance status
- health care utilization
- barriers to healthcare access
Population

- Subjects: randomly selected, middle and high school students and parents, eastern region school district middle and high school
Analysis

- Descriptive
- T-Tests
- Multiple Linear Regression
Results

- *Parent* report identified $n=234$ (45.03%) *behavior* was most frequent health concern, $n=311$ (69.58%) identified probable or definite use of health center if available.
Middle School Descriptive

Table 1

Middle School Frequencies and Percentages for Nominal and Ordinal Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>500</td>
<td>46</td>
</tr>
<tr>
<td>Male</td>
<td>582</td>
<td>54</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th</td>
<td>373</td>
<td>34</td>
</tr>
<tr>
<td>7th</td>
<td>350</td>
<td>32</td>
</tr>
<tr>
<td>8th</td>
<td>360</td>
<td>33</td>
</tr>
<tr>
<td>Ungraded</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Due to rounding error, percentages may not add up to 100.
# High School Descriptive

Table 2

*High School Frequencies and Percentages for Nominal and Ordinal Variables*

<table>
<thead>
<tr>
<th>Variables</th>
<th>$n$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>521</td>
<td>52</td>
</tr>
<tr>
<td>Male</td>
<td>481</td>
<td>48</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th grade</td>
<td>322</td>
<td>32</td>
</tr>
<tr>
<td>11th grade</td>
<td>220</td>
<td>22</td>
</tr>
<tr>
<td>12th grade</td>
<td>215</td>
<td>21</td>
</tr>
<tr>
<td>9th grade</td>
<td>242</td>
<td>24</td>
</tr>
<tr>
<td>Ungraded or other grade</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* Due to rounding error, percentages may not add up to 100.
Middle School
UISuicide by Gender t-Test

Table 3

*Middle School An Independent Sample t- Test for variable UISuicide by Gender*

<table>
<thead>
<tr>
<th>Variable</th>
<th>UISuicide Female</th>
<th>UISuicide Male</th>
<th>t(918.22)</th>
<th>p</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td>UISuicide</td>
<td>5.24</td>
<td>1.13</td>
<td>5.7</td>
<td>0.85</td>
<td>-7.44</td>
</tr>
</tbody>
</table>
# High School

## UISuicide by Gender t-Test

Table 4

*High School Independent Sample t Test for variable UISuicide by Gender*

<table>
<thead>
<tr>
<th>Variable</th>
<th>UISuicide Female</th>
<th>UISuicide Male</th>
<th>t(994.27)</th>
<th>p</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td>UISuicide</td>
<td>M=7.76 SD=1.44</td>
<td>M=7.86 SD=1.43</td>
<td>-1.1</td>
<td>0.27</td>
<td>0.07</td>
</tr>
</tbody>
</table>
### Middle School Multiple Linear Regression

**Table 5**

*Middle School Results for Multiple Linear Regression with UIViolence, Tobacco, OtherDrugs, and Sex predicting UISuicide*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>3.56</td>
<td>0.23</td>
<td>15.71</td>
<td>.001*</td>
</tr>
<tr>
<td>UIViolence</td>
<td>0.30</td>
<td>0.03</td>
<td>9.62</td>
<td>.001*</td>
</tr>
<tr>
<td>Tobacco</td>
<td>-0.01</td>
<td>0.01</td>
<td>-1.43</td>
<td>.152</td>
</tr>
<tr>
<td>OtherDrugs</td>
<td>0.05</td>
<td>0.01</td>
<td>4.28</td>
<td>.001*</td>
</tr>
<tr>
<td>Sex</td>
<td>-0.03</td>
<td>0.01</td>
<td>-2.11</td>
<td>.035*</td>
</tr>
</tbody>
</table>

Note. F(4,1090) = 34.86, p < .001, R² = 0.11.
Table 6

High School Results for Multiple Linear Regression with UIViolence, Tobacco, OtherDrugs, and Sex predicting UISuicide

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>$SE$</th>
<th>Std. $B$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>6.78</td>
<td>0.12</td>
<td>0.21</td>
<td>54.69</td>
<td>.001*</td>
</tr>
<tr>
<td>UIViolence</td>
<td>0.05</td>
<td>0.01</td>
<td>0.21</td>
<td>5.31</td>
<td>.001*</td>
</tr>
<tr>
<td>Tobacco</td>
<td>0.02</td>
<td>0.01</td>
<td>0.1</td>
<td>2.14</td>
<td>.033*</td>
</tr>
<tr>
<td>OtherDrugs</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.04</td>
<td>-0.88</td>
<td>.378</td>
</tr>
<tr>
<td>Sex</td>
<td>0.01</td>
<td>0.01</td>
<td>0.05</td>
<td>1.20</td>
<td>.231</td>
</tr>
</tbody>
</table>

Note. $F(4,1012) = 20.57, P = .001, R^2 = 0.08.$
Conclusion

- Depression and suicide reported higher than State, for middle and high school.
- High school report higher than national report.
Implications

What we wanted

- Support of school based health clinic
  - -> mental health services

- Evaluation of needs of students
  - -> services by school based health clinics
Measurable Outcomes
What we accomplished

- Grant
- Free mental health services in school health clinics in all middle and high school.
- Include crisis management, screening, short-term therapeutic assistance as well as possible referrals for additional services.
Acknowledgements

- Meritus Medical Center

- Statistic Solutions: Advancement through Clarity
References
