Substance Use among Adults in the Ohio Appalachian Region

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Outline

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Background

• Substance use is related to increased risk of injuries, violence, and diseases.

• The Ohio Appalachians disproportionately experience high rates of health issues such as cancer, heart and lung disease.
  • Tobacco use has been identified as the most common risk factor for heart disease among Appalachian adults (Ramsey & Glenn, 1998).
Each year, an estimated of 18,500 adult deaths were attributable to tobacco use in Ohio.

An additional 293,000 kids under 18 in Ohio will ultimately die prematurely from smoking.

Smoking costs state of Ohio over $9 billion each year.
• Binge drinking is associated with health problems such as unintentional/intentional injuries, alcohol poisoning, risky sexual behavior, and liver disease.
  – During 2001-2005, more than 40,000 deaths each year were caused by binge drinking in the United States.
• In 2007, misuse of prescription pain reliever became Ohio’s leading cause of accidental injury death, which is over the number of deaths in motor vehicle traffic crashes.

• In the Ohio Appalachian region, opiate treatment admissions have tripled from 6.5% in 2000 to 19.8% in 2010.
Objectives:

- To examine the prevalence of binge drinking, current smoking, and inappropriate use of prescription pain relievers in the Ohio Appalachian region as well as other regions in Ohio.
- To examine the prevalence of multiple substance use in the Ohio Appalachian region, and the characteristics of the multiple substance users.
Data were from 2012 Ohio Medicaid Assessment Survey (OMAS).

- Random digit-dial telephone survey
  - Landline survey with response rate of 30.2%
  - Cell phone survey with response rate of 24.4%
  - Overall response rate is 29.4%
- A total of 22,929 Adults age 19 or older were interviewed
Methods

Data collected in OMAS:

- **Demographics:** age, gender, race, marital status, education.
- **Income variables:** poverty to income ratio and insurance type
- **Health-related variables:** self-rated health, body mass index category, ER visits and hospitalizations in past year, having a usual source of care, and mental distress days in the past 30 days.
Definitions:

- **Current smoking**: defined as ever smoking 100 cigarettes in one’s lifetime and currently smoking every day or some days.
- **Binge drinking**: defined as consuming 5 or more drinks on one occasion for men or 4 or more drinks on one occasion for women at least once in the past month.
- **Misuse of prescription pain relievers**: defined as using a prescription pain reliever in a way not prescribed by the doctor or using someone else’s prescription pain reliever in the past year.
Data Analysis

• Descriptive analysis were conducted to estimate the prevalence of tobacco use, binge drinking and misuse of prescription pain relievers by county type in Ohio.

• Logistic regression was performed to test the difference in prevalence by county type.

• Additional analyses were performed to examine:
  • The prevalence of multiple substances use.
  • The characteristics of multiple substances users in the Appalachian region.
Results

- Binge drinking prevalence in Ohio Appalachia is about 18.4%, which is similar to other regions except suburban.

There is no significant difference in binge drinking by region.
Results

Tobacco Use Prevalence

- Appalachia: 32.7%
- Rural, non-Metropolitan: 23.7%*
- Metropolitan: 24.6%*
- Suburban: 23.1%*
- Ohio: 25.5%
- United States: 18.9%

* P<0.0001
Results

Misuse of Pain Medication Prevalence

- Appalachia: 4.1%
- Rural, non-Appal.: 3.5%
- Metropolitan: 4.2%
- Suburban: 3.0%
- Ohio: 3.9%
Multiple Substance Use

Two or More Substance Use Prevalence

- Appalachian: 18.7%
- Rural, non-App.: 16.6%
- Metropolitan: 18.2%
- Suburban: 15.8% *
- Ohio: 17.7%

* P<0.05
Multiple Substance Use

Two or Three Substance Use Prevalence

**Two Substances**

- Appalachian: 16.2%
- Rural, non-App.: 14.6%
- Metropolitan: 16.1%
- Suburban: 13.9% **
- Ohio: 15.5%

**Three Substances**

- Appalachian: 2.4%
- Rural, non-App.: 2.1%
- Metropolitan: 2.0%
- Suburban: 1.9%
- Ohio: 2.1%

** p=0.06
Multiple Substance Use

• In the Ohio Appalachian region, two or three substance users tend to be:
  • Young White males
  • Unmarried or divorced/separated
  • Underweight
  • Uninsured
  • Without a usual source of care
  • Mentally distressed, defined as having 7 or more mental distress days in the past 30 days
Strengths and Limitations

• Strengths:
  • Large sample size
  • Representative sample
  • High quality data

• Limitations:
  • Self-report
  • Telephone-only survey
  • Only interviewed English or Spanish speaking population
  • Low response rate
Conclusions

• The Ohio Appalachian region has a higher prevalence of tobacco use and misuse of prescription pain relievers than other regions in Ohio, as well as a higher prevalence of multiple substance use.

• More efforts are needed to control substance use in the Ohio Appalachian region.
Thank you!