The Relationship between Identity and Depression in Women from Appalachia, Ohio

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Study Team

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- Paul Reiter, PhD: University of North Carolina School of Public Health
- Erinn Hade, MS: OSU Center for Biostatistics
- Janet deMoor, PhD: OSU College of Public Health
- Electra Paskett, PhD: OSU Comprehensive Cancer Center and College of Public Health
Depression

- Common, debilitating condition
- Prevalence rates in U.S. 6.6% twelve-month and 16.2% lifetime (Kessler 2003)
- Leading cause of disability worldwide and fourth-leading contributor to the global burden of disease (WHO 2004)
- High prevalence rates in rural areas (Hauenstein 2007)
Depression in Appalachia

- 31% at-risk depression scores (CES-D) in sample of rural West Virginia residents (Muntaner 2000)
- 31% moderate-severe depression rates (BDI) in sample of rural Ohio and West Virginia clinic patients with type 2 diabetes (De Groot 2007)
- 19% of rural West Virginia OB/GYN clinic population reported use of anti-depressants (Glover, 2004)
- Correlates: female, young age, divorced/widowed, low income, low educational attainment, unemployed
Appalachian Self-Identity

- Ethnic Self-Identity
  - Individual’s sense of self as a member of an ethnic group (Phinney, 2003)
  - One aspect of Appalachian culture that has been rarely examined is self-identity
  - What factors contribute to a person identifying themselves as “Appalachian?”

- Recent Study of 571 female residents of Ohio Appalachia
  - “Do you consider yourself to be Appalachian?”
  - 35% of respondents: “yes”
  - Women who self-identified as Appalachian lived longer in the region, resided in a rural area, had family ties to the region, and had a positive religious association (Reiter 2008)
Ethnic Self-Identity and Health

- Associations between Appalachian self-identity and mental health have not been examined.
- Self-identity for other ethnicities has shown positive effects in terms of:
  - Drug and alcohol use (Love 2006, Marsiglia 2004)
  - Intention to obtain cancer screening tests (Bowen 1997)
- A strong ethnic identity may heighten psychological distress when prejudice and marginalization are experienced (Noh 1999, White 1987)
Research Aims

- **Primary:** To explore the association between Appalachian self-identity and depressive symptoms among a sample of women residing in Appalachia, Ohio.

- **Secondary:** To explore the modifying effects of demographic, health, psychological, cultural, social, and environmental covariates.
CARE Study
Center for Population Health and Health Disparities
PI: Electra Paskett, PhD

- Community Awareness Resources Education (CARE) P50 study initiated to understand factors associated with two known risk factors for cervical cancer: smoking and pap smear screening behavior:
- Based on Social Determinants of Health model
- Initial phase of project: In-person survey of women who received health care in clinics across Ohio Appalachia
Methods

- To recruit a representative sample of women who lived across Ohio Appalachia, the 29 counties were divided into 4 regions.
- Two urban and two rural counties were selected from each of the four regions, and primary care and community health clinics were identified as potential recruitment sites.
- 22 clinics approached, 14 agreed to participate (63%).
- Four Family Medicine, five OB/GYN, and five Health Department clinics.
CARE Counties and Clinics

Region 1
Region 2
Region 3
Region 4
Eligibility and Recruitment

- List of female patients obtained from 14 clinics
- Women randomly sampled from clinic patient lists; medical records reviewed to determine eligibility
  - Eligibility criteria: At least 18 years of age, not pregnant, no history of invasive cervical cancer or hysterectomy, residence in Ohio Appalachian county, and seen in the clinic in the last 2 years
- Eligible women were contacted with initial mailing and follow-up phone calls
Primary Study Measures

- Appalachian Self-Identity
  - “Do you consider yourself to be Appalachian?”
    - Responses dichotomized into “yes” and “no/don’t know” for the analysis

- Depression
  - Center for Epidemiologic Studies Depression Scale (CES-D)
    - Cut-off score $\geq 16$ to indicate at-risk depression status
Potential Confounders and Effect Modifiers

- Demographics
- Socioeconomic Status
- Housing & Household Characteristics
- Health Care Access
- Psychological Factors
- Health Behaviors
- Discrimination
- Culture
- Social Factors
- Environmental Factors
Depression by Region: Total 31%

- Region 1 = 25.0%
- Region 2 = 18.8%
- Region 3 = 34.1%
- Region 4 = 22.1%
Depression in Appalachia

- Women with at-risk depression scores, as compared to those not at risk, were significantly (p<.001) more often:
  - Younger
  - Less Educated
  - Unemployed
  - Poor
  - Married
  - Stress/Anxiety
  - Discrimination
  - Socially Isolated
  - Smokers
Self-Identity & Depression

- Only 27.8% of all participants with at-risk depression scores self-identified as Appalachian.
- Odds for depression decreased in those who self-identified as Appalachian, compared to those who did not (OR = 0.62, 95% CI: 0.41 - 0.93).
- Region of residence was the strongest effect modifier of the relationship between self-identity and depression (interaction p-value = 0.03).
# Depression, Appalachian Identity, and Region of Residence

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<thead>
<tr>
<th>Factor</th>
<th>Comparison</th>
<th>OR*</th>
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<tbody>
<tr>
<td>Region</td>
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<tr>
<td>1</td>
<td>Identify as Appalachian vs do not</td>
<td>0.68 (0.25-1.89)</td>
</tr>
<tr>
<td>2</td>
<td>Identify as Appalachian vs do not</td>
<td>0.38 (0.15-0.95)</td>
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<tr>
<td>3</td>
<td>Identify as Appalachian vs do not</td>
<td>0.57 (0.27-1.21)</td>
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<tr>
<td>4</td>
<td>Identify as Appalachian vs do not</td>
<td>1.67 (0.67-3.78)</td>
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<td>* Adjusted for SES</td>
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* Adjusted for SES
Conclusions

- High prevalence rates of depression in women who reside in Appalachia, Ohio
- Correlates of depression similar to those found in previous research except for marital status; pervasive factors in Appalachia
- Appalachian self-identity appears to have a protective effect on depression except for one region
  - Close proximity to urban area
  - Fewer economic resources
  - Fewer close contacts
- Value of regional stability, rural residence, and religious affiliation
Study Limitations

- Measurement of Appalachian self-identity
- Representativeness of sample
- Limitations of self-report
- CES-D not a diagnostic tool
Implications

- First study examining association between depression and Appalachian self-identity
- Results particularly salient for populations at higher risk for depression: women, rural and underserved
- Culturally-relevant intervention that enhances Appalachian self-identity may exert a protective effect on depression
- More insight into the concept of Appalachian self-identity is needed prior to the development of interventions