Predictors of Depression among Midlife Women in South Korea

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Introduction

• Across the globe, depressive symptoms are more prevalent in women.
• Prevalence of depressive symptoms ranged from 22 to 29% among Korea women (Shin et al. 2010; Son & Kim, 2012).
• Women with special characteristics (e.g., low income) were more likely to report depressive symptoms (Jun et al. 2004).
Studies reported that education level, employment, income, couple satisfaction were significantly associated with depressive symptoms among Korean women (Jun et al. 2004).

Others reported that depressive symptoms are common in people with CVD, and depressive symptoms are predictors of CVD (Holt et al. 2013).
Theoretical Framework

• Social Structure & Personality Research framework.
• This perspective posits that social structure influences individual values and behavior.
• Thus, socioeconomic differences in morbidity and mortality are due in part to conditions originate from an individuals’ structural position (House, 1981; Williams, 1990).
To describe prevalence of depressive symptoms

To identify factors associated with depressive symptoms
  – Among low-income midlife women in Korea.

Hypothesis
  – Women in the low socioeconomic status will exhibit more depressive symptoms than their counterpart
Methods

• Study design
  – A cross-sectional descriptive study was conducted
  – It was a part of needs assessment in the development of cardiovascular health promotion program for women
Methods

• Study participants
  – A convenient sample of 200 midlife women (35-65 years) was recruited.
  – From community health center and a branch office of the Planned Population Federation of Korea (PPFK)
    • Located in a single metropolitan area
  – Power analyses using the G*power 3.1 program
• Power analysis for multiple regression analysis
  – With 6 predictors; 98 participants were required
  – With a medium effect size ($f^2 = 0.15$) &
  – 80% power ($\alpha = .05$).
Study Participants

• Eligibility criteria
  – Being female
  – Aged between 35 and 65 years
  – Able to read and understand the Korean language
  – Residing in the designated district
Methods

• Instruments
  – Socioeconomic characteristics
  – Lifestyle behavior
  – Biological characteristics
    • BMI (Kg/m²)
    • Blood pressure
    • Cholesterol (total, HDL, LDL, TG)
    • Glucose
  – Beck Depression Inventory (BDI, Beck et al. 1996)
    • The Cronbach’s alpha was .90 in the current study and .87 in a previous study (Shin 1999).
Methods

• Data collection
  – Self-report questionnaires were used.
  – Data collection was performed in 2007

• Data analysis
  – Descriptive statistics
    • Means, standard deviations
    • Frequencies, percentages.
  – Multiple regression analysis
• Demographic characteristics
  – Mean age: 52.48 (SD = 8.82, range 35-65)
  – Family income
    • 67.2% had ≤ 1 million won (below poverty level)
    • 1 million = US $1,000
  – Marital status
    • 38.5% were living without a spouse (single, separated, widowed, or divorced)
  – Education
    • 48.5% were middle or high-school graduates
## Depressive Symptoms

<table>
<thead>
<tr>
<th>BDI</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (0-9)</td>
<td>110</td>
<td>55.0</td>
</tr>
<tr>
<td>Mild (10-18)</td>
<td>54</td>
<td>27.0</td>
</tr>
<tr>
<td>Moderate (19-29)</td>
<td>24</td>
<td>12.0</td>
</tr>
<tr>
<td>Severe (≥ 30)</td>
<td>12</td>
<td>6.0</td>
</tr>
</tbody>
</table>
## Depressive symptoms according to general characteristics

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>t (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ Middle school</td>
<td>11.20(9.93)</td>
<td>0.254(.800)</td>
</tr>
<tr>
<td>≥ High school</td>
<td>10.85(9.39)</td>
<td></td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 1 million won</td>
<td>12.66(10.40)</td>
<td>5.448(&lt;.001)</td>
</tr>
<tr>
<td>&gt; 1 million won</td>
<td>6.57(4.71)</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>8.44(7.60)</td>
<td>4.921(&lt;.001)</td>
</tr>
<tr>
<td>Widowed/divorced/separated/single</td>
<td>14.91(10.99)</td>
<td></td>
</tr>
<tr>
<td><strong>Health insurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical-aid</td>
<td>15.19(11.06)</td>
<td>5.526(&lt;.001)</td>
</tr>
<tr>
<td>Health insurance</td>
<td>8.07(7.03)</td>
<td></td>
</tr>
<tr>
<td><strong>Menopause</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12.00(10.06)</td>
<td>-1.559(.121)</td>
</tr>
<tr>
<td>No</td>
<td>9.77(9.21)</td>
<td></td>
</tr>
</tbody>
</table>
Results

- Factors associated with depressive symptoms
  - There were no significant correlation between depressive symptoms and cardiovascular risks (BP, glucose, total cholesterol, HDL, LDL cholesterol, & TG) ($p > .05$).
  - Lifestyle factors (smoking, alcohol, & exercise) were not significantly associated with depressive symptoms ($p > .05$).
## Factors Associated with Depressive Symptoms

<table>
<thead>
<tr>
<th>Factor</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.125</td>
<td>-1.168</td>
<td>.244</td>
</tr>
<tr>
<td>Education (≥ high school)</td>
<td>.050</td>
<td>0.630</td>
<td>.530</td>
</tr>
<tr>
<td>Income (≥ 1 million won)</td>
<td>-.167</td>
<td>-1.991</td>
<td>.048</td>
</tr>
<tr>
<td>Marital status (not partnered)</td>
<td>.232</td>
<td>3.204</td>
<td>.002</td>
</tr>
<tr>
<td>Health insurance (medical-aid)</td>
<td>.208</td>
<td>2.689</td>
<td>.008</td>
</tr>
<tr>
<td>Menopause (no)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>.203</td>
<td>1.983</td>
<td>.049</td>
</tr>
<tr>
<td>Artificial</td>
<td>.108</td>
<td>1.500</td>
<td>.135</td>
</tr>
</tbody>
</table>

\[ R^2 = .233, \ F = 7.340, \ p < .001 \]
Discussion

• Health disparity exists in depressive symptoms according to socioeconomic status.
• Those without partner, low income, and medical-aid beneficiaries were more likely to exhibit depressive symptoms ($p < .05$).
Discussion

• Women with spontaneous menopause had more depressive symptoms than their counterpart.
• Cardiovascular disease risks and lifestyle behaviors were not significantly associated with depressive symptoms.
Conclusions

- The study results indicated that certain groups of midlife women (e.g., low income, divorced, menopause) were more vulnerable to depressive symptoms.
- Future development of interventions to promote mental health should target high risk groups of women with specific characteristics.
Further international collaborative studies are needed to confirm the characteristics of midlife women that make them more vulnerable to depression.
Acknowledgement

• This research was supported by the Basic Science Research Program through the National Research Foundation of Korea (KRF) funded by the Ministry of Education, Science and Technology (KRF-2006-E00388)

• The authors have no conflicts of interest to disclose.
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