Efficacy of Culturally Tailored Cognitive-Behavioral Therapy for Insomnia among Korean Middle-Aged Women
Author information

• Ok Kyung Ham, RN, PhD, MCES
  • Professor, Department of Nursing, Inha University, Incheon, Korea (ROK)

• Bo Gyeong Lee, RN, PhD
  • Assistant Professor, College of Nursing, Catholic University of Daegu, Daegu, Korea (ROK)
Background

• Insomnia is the most common sleep problems in women. Approximately one-fourth of middle-aged women experience insomnia in Korea (Ham et al., 2017).

• Insomnia may increase anxiety, depressive symptoms, and obesity and decrease the quality of life.

• As a nonpharmacological treatment options, cognitive behavioral therapy for insomnia (CBT-I) has been found effective for insomnia.

• However, few studies evaluated the efficacy of CBT-I offered to middle-aged women in the community setting.
Purpose

- To evaluate the efficacy of CBT-I on insomnia, sleep quality, depression, and quality of life of middle-aged women
Methods

• Design
  • Randomized controlled trial

• Sample
  • 44 middle-aged women between 40 and 65 years who had insomnia or poor sleep quality
  • Samples were recruited among those who had participated in the cross-sectional study (N=425) of factors associated with insomnia and sleep quality in 2015
  • Samples were randomly assigned to the experimental and control groups
Methods

• Instruments
  • The Insomnia Severity Index (ISI) (Bastien et al., 2001)
    • 7 items, 5-point Likert scale, range 0-28
    • Insomnia: ISI ≥ 10; Cronbach’s α = 0.85
  • The Pittsburg Sleep Quality Index (PSQI) (Buysse et al., 1989)
    • 19 items in 7 components
    • Scored from 0 to 3, range 0-21
    • Poor sleep quality: A global score > 5, Cronbach’s α = 0.74
Methods

• Instruments
  • The Center for Epidemiological Studies Depression Scale (CES-D) (Radolff, 1977)
    • 20 items, 4-point Likert-type scale, range 0-60
    • Cronbach’s $\alpha = 0.90$
  • Menopause-specific quality of life (MENQoL) (Hilditch et al. 1996)
    • 30 items: Vasomotor, psychosocial, physical, & sexual domains
    • 7 point Likert-type scale, range 30-210
    • Higher scores indicated a poorer quality of life
    • Cronbach’s $\alpha = 0.97$
Methods

• Intervention
  • Experimental group
    • 1 group session of sleep hygiene education
    • 4 sessions of individualized CBT-I
    • Counseling booklet
    • Booster counseling
  • Control group
    • 1 group session of sleep hygiene education
    • Counseling booklet
Sleep hygiene education

• The cause, signs, and symptoms of insomnia
• Exposure to natural light during the daytime
• Conducive sleep environments
  • Noise, light, room temperature
• Desirable sleep duration
  • Optimum 8 hours
  • Normal sleep range from 3 to 10 hours
• Misconceptions about sleep
  • E.g., Unrealistic sleep expectations
  • Faulty beliefs about sleep-promoting practices
CBT-I

• The theoretical framework was the Spielman's 3P Model (Spielman et al., 1987)
• Three factors are involved in developing insomnia: predisposing, precipitating, and perpetuating factors.
  • Predisposing: Individuals may be inclined to insomnia because of their trait characteristics.
    • Anxiety and hyperarousal
  • Precipitating: Acute episodes or experiences may promote insomnia
    • Illness and stress
  • Perpetuating: insomnia may become chronic because of behavioral factors
    • Extended time in bed and naps
CBT-I components

• Stimulus control
  • Go to sleep only when sleepy

• Sleep restriction
  • Limit the amount of time in bed

• Monitoring sleep environments

• Relaxation technique
  • Useful for alleviating anxiety and somatic symptoms

• Sleep diary
Methods

• Procedure
  • Self-report questionnaires were used
  • The height, weight, and blood pressures were measured by trained nurses
  • Data collectors were blinded to the group arrangement
  • CBT-I was offered by trained nurses (n=2)
  • Pretest data collection was conducted in 2015, and post-test data collection was conducted in 2016

• Data analysis
  • Descriptive statistics: mean, SD, frequency & percent
  • Analyses of covariance (ANCOVAs) to measure efficacy of CBT-I
Results

• Homogeneity tests indicated that the two groups were not significantly different (p>.05).
• ANCOVAs were performed with a covariate (pre-test scores)
• After the intervention, the experimental group showed better scores in insomnia & sleep quality than the controls (p<.05).
• The mean scores for CES-D & MENQoL were lower for the experimental group, but the differences were not statistically significant (p >0.05).
**Table 1** Homogeneity tests

<table>
<thead>
<tr>
<th></th>
<th>Exp (n=24)</th>
<th>Control (n=20)</th>
<th>t or (x^2) (p)</th>
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<tbody>
<tr>
<td>Age (M±SD)</td>
<td>53.83±6.64</td>
<td>55.45±4.43</td>
<td>-0.929 (.358)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 9 years</td>
<td>8(33.3)</td>
<td>5(25.0)</td>
<td>0.364(.546)</td>
</tr>
<tr>
<td>≥ 10 years</td>
<td>16(66.7)</td>
<td>15(75.0)</td>
<td></td>
</tr>
<tr>
<td>income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ KRW 240 mil</td>
<td>10(45.5)</td>
<td>10(50.0)</td>
<td>0.087(.768)</td>
</tr>
<tr>
<td>&gt; KRW 240 mil</td>
<td>12(54.5)</td>
<td>10(50.0)</td>
<td></td>
</tr>
<tr>
<td>Menopause</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre/peri-menopause</td>
<td>9(37.5)</td>
<td>6(30.0)</td>
<td>(.301)</td>
</tr>
<tr>
<td>Post-menopause</td>
<td>15(62.5)</td>
<td>14(70.0)</td>
<td></td>
</tr>
<tr>
<td>BMI (kg/m²) (M±SD)</td>
<td>24.42± 2.81</td>
<td>23.91± 2.69</td>
<td>0.613(.543)</td>
</tr>
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</table>
*(Table 2) Homogeneity tests* (M±SD)

<table>
<thead>
<tr>
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<th>Exp (n=24)</th>
<th>Control (n=20)</th>
<th>t (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISI</td>
<td>11.29(4.96)</td>
<td>12.85(6.13)</td>
<td>-0.932(.357)</td>
</tr>
<tr>
<td>PSQI</td>
<td>8.46(2.72)</td>
<td>8.60(3.22)</td>
<td>-0.158(.875)</td>
</tr>
<tr>
<td>CES-D</td>
<td>19.83(11.79)</td>
<td>19.65(10.96)</td>
<td>0.053(.958)</td>
</tr>
<tr>
<td>MENQoL</td>
<td>87.71(55.71)</td>
<td>86.45(44.39)</td>
<td>0.082(.935)</td>
</tr>
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</table>
(Table 3) Intervention effects (M±SD)

<table>
<thead>
<tr>
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<th>Control (n=20)</th>
<th>F (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISI</td>
<td>Pre</td>
<td>11.29(4.92)</td>
<td>12.85(6.09)</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>9.88(5.77)</td>
<td>14.55(4.74)</td>
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<tr>
<td>PSQI</td>
<td>Pre</td>
<td>8.46(2.72)</td>
<td>8.60(3.22)</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>8.13(3.39)</td>
<td>11.05(2.11)</td>
</tr>
<tr>
<td>CES-D</td>
<td>Pre</td>
<td>19.83(11.79)</td>
<td>19.65(10.96)</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>18.75(10.19)</td>
<td>22.65(10.42)</td>
</tr>
<tr>
<td>MENQoL</td>
<td>Pre</td>
<td>87.71(55.71)</td>
<td>86.45(44.39)</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>89.50(46.30)</td>
<td>98.05(34.37)</td>
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</table>
Discussions

• The study indicated that 4-sessions of individual counseling combined with sleep hygiene education were effective in improving insomnia and sleep quality.
• Sleep improvements at posttreatment could be attributed to changes in sleep-related cognitions (Morin & Savard, 2002).
• Thus, cognitive therapy is essential to effectively treat insomnia by altering the dysfunctional beliefs.
Discussions

- Our study revealed insignificant changes in CES-D & MENQoL
- Järnefelt et al. (2014) reported improvements in QoL with 8-sessions of CBT-I.
- A systematic review on CBT-I to treat depression reported mixed results (Cunningham & Shapiro, 2018).
- Differences in study design, age range of the participants, and number of therapy sessions may have influenced the results.
Discussions

• Most former studies were conducted with patients with clinical depression, whereas our study did not consider depression at the beginning.
  • Mean scores: 18.96 - 20.44 (CES-D ≥ 21 indicated mild depression)
• Future studies may add inclusion criteria for depression.
• Long-term evaluations are needed to observe significant changes in depression and quality of life.
Conclusions

• The results indicated that the culturally tailored CBT-I was effective in decreasing insomnia & sleep quality of middle-aged Korean women in South Korea.

• Thus, as a nonpharmacological treatment option that is safe and cost-effective, the culturally tailored CBT-I could be offered to Korean women who have been suffering from sleep problems.

• Yet, long-term follow-ups are needed to determine if these improvements could be maintained consistently.
Acknowledgement

• This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Science, ICT & Future Planning (2014R1A1A3049904).
References


References


