Latent heterogeneity in short-term trajectories of sleep disturbance in family caregivers

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Introduction
• taking care responsibilities are heavily relied on the family caregivers.
• providing care to the dependent family members can make the caregivers themselves more vulnerable to physical, emotional, and social problems. These problems influence sleep quality of family caregivers.
• Distinct patterns of sleep change over time will provide a better understanding of different caregiver subgroups, helping to identify which caregivers to target for the intervention study for the future.
• longitudinal study design to explore the sleep patterns of family caregivers.

Methods
• Family caregivers of dependent elderly patients from a prospective panel study of 124 were recruited and surveyed from the community between August 2016 and July 2017.
• The sleep data were obtained from four waves (the interval of each wave was 3 months) using the Pittsburgh Sleep Quality Index via multiple home visits.
• The time-constant and time-varying covariates were collected on participants’ demographic data, trait anxiety, psychological distress, caregiver burden, and social support.
• Growth curve modeling (GCM) and growth mixture modeling (GMM) were employed to identify group-based trajectory modeling for those 85 participants who completed the four-wave survey.
• Descriptive analyses were conducted using SPSS, and Mplus 8 was used for GCM and GMM.

Result:
➢ two distinct trajectories: progressively better sleep (69.4%) and progressively worse sleep (30.6%).
➢ Sleep was significantly associated with gender, trait anxiety, depressive mood, social support, and caregiver burden at the first Wave survey.
➢ At 12 months survey, participants classified as progressively worse sleepers showed a trend toward women caregivers and lower level of social support (p < 0.05) than those with progressively better sleep.

Conclusions
➢ Family caregivers of dependent elderly patients had two distinct sleep trajectories during the whole year of survey.
➢ These poor-sleep courses were associated with gender and social support.
➢ Our findings provided evidence for health care administrators and providers using target-focused and evidence-based intervention to improve sleep in caregivers.

Table 1. Summary of latent class regression analysis model fit statistics

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>BIC</th>
<th>ABIC</th>
<th>Entropy</th>
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<td>1607.93</td>
<td>1582.70</td>
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<td>1608.43</td>
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