Unpleasant Symptom Clusters Among Patients With Chronic Kidney Disease

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Unpleasant Symptom Clusters Among Patients With Chronic Kidney Disease

Outline

- Background
- Study
  - Methods
  - Measure
  - Analysis
  - Results & Discussion
- Implications for clinical practice
- Recommendations
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Background

- Major global public health (Jha et al., 2013)
- ≈ 500 million individuals have CKD (Mills et al., 2015)
- Abnormal symptoms when entering stage 3 (Agarwal, 2010; Lee & Jeon, 2015)
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Background

- Abnormal symptoms when entering stage 3 (Agarwal, 2010; Lee & Jeon, 2015)

- 4 studies had a total of 27 symptoms as perceived by patients (Jitjan et al., 2011; Murphy et al., 2008; Agarwal, 2010; Lee & Jeon, 2015)

<table>
<thead>
<tr>
<th>Stage</th>
<th>GFR (ml/min/1.73 m²)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 90</td>
<td>Normal or increased GFR, with other evidence of kidney damage</td>
</tr>
<tr>
<td>2</td>
<td>60–89</td>
<td>Slight decrease in GFR, with other evidence of kidney damage</td>
</tr>
<tr>
<td>3a</td>
<td>45–59</td>
<td>Moderate decrease in GFR, with or without other evidence of kidney damage</td>
</tr>
<tr>
<td>3b</td>
<td>30–44</td>
<td>Moderate decrease in GFR, with or without other evidence of kidney damage</td>
</tr>
<tr>
<td>4</td>
<td>15–29</td>
<td>Severe decrease in GFR, with or without other evidence of kidney damage</td>
</tr>
<tr>
<td>5</td>
<td>&lt; 15</td>
<td>Established renal failure</td>
</tr>
</tbody>
</table>

Diagnosis should be on the basis of evidence of CKD for ≥ 3 months.
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**Background**

Once any symptoms occur, other symptoms are triggered.

The unpleasant symptom clusters among Thai patients with CKD are still unclear.
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Background

Theory of Unpleasant Symptoms

(Lenz et al., 1997)

- Multidimensional
  - Occurrence (presence)
  - Distress (bother)
  - Severity (intensity)
  - Frequency (timing)

- Each dimension contributes to total symptom burden

(Almutaly, 2017)
Methods

- Descriptive research design
- Purposive Sampling
- Inclusion criteria
  - Adults (≥20 years)
  - Diagnosed with CKD stage 3-4
  - Willing to participate
  - Co-morbidities not have exacerbations
- Setting
  - Tertiary hospital in Thailand
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Measure

- Demographic & Clinical data

- The CKD patients’ unpleasant symptom assessment
  - 27 symptoms and other symptoms (if any)
  - assessed based on frequency and severity
  - during the week preceding
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Analysis

- Conduct EFA
- Data
  - KMO \( \geq 0.50 \)
  - Bartlett’s test of sphericity \( (p<0.001) \)
- Rotation
  - Varimax/Oblimin
- Number of factors
  - Eigenvalues > 1/Scree plot
- Cut-off point
  - Factor loading > 0.30
- Identify core symptoms
  - Compare symptoms in each dimension

- 28 symptoms
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Result & Discussion

Stage

- CKD3: 60.67%
- CKD4: 39.33%

Age

- 18 - 40 y: 2%
- 41 – 59 y: 29%
- 60 y and up: 69%

Underlying

- No: 90%
- Yes: 10%

Symptoms:

- HT: 78.52%
- DM: 75.56%
- LP: 38.52%
- GT: 11.85%
- HD: 5.93%
- Other: 1.48%
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Result & Discussion

- Results totaled 28 unpleasant symptoms
- A cumulative statistical variance
  - Frequency dimension = 43.536%
  - Severity dimension = 42.924%
  - Frequency and severity dimensions = 41.647%
- Categorized into 6 core symptom clusters
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Result & Discussion

- Each core symptom clusters comprised of 2-5 symptoms
- The mental and emotional condition, peripheral nerves abnormality, fatigue, gastro-intestinal tract problem, pain, and uremic symptoms
- Each group has an internal consistency as well as Cronbach's alpha between .81-.91.
<table>
<thead>
<tr>
<th>Cluster</th>
<th>Core Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental and emotional condition</td>
<td>- Insomnia</td>
</tr>
<tr>
<td></td>
<td>- Anxiety</td>
</tr>
<tr>
<td></td>
<td>- Difficulty breathing</td>
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<tr>
<td></td>
<td>- Depression</td>
</tr>
<tr>
<td></td>
<td>- Irritability</td>
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<tr>
<td></td>
<td>- Limb numbness</td>
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<tr>
<td></td>
<td>- Twitching legs</td>
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<tr>
<td></td>
<td>- Feelings of burning legs/feet</td>
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<tr>
<td></td>
<td>- Fatigue</td>
</tr>
<tr>
<td></td>
<td>- Nausea</td>
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<tr>
<td></td>
<td>- Vomiting</td>
</tr>
<tr>
<td>Peripheral nerves abnormality</td>
<td>- Oral lesions</td>
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<tr>
<td></td>
<td>- Poor appetite</td>
</tr>
<tr>
<td>Fatigue</td>
<td>- Bone and joint pain</td>
</tr>
<tr>
<td></td>
<td>- Poor mobility</td>
</tr>
<tr>
<td>Gastro-intestinal tract problem</td>
<td>- Feelings of edema at the arms and legs</td>
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<tr>
<td></td>
<td>- Dry skin</td>
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<tr>
<td></td>
<td>- Pruritus</td>
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<tr>
<td>Uremic symptom</td>
<td>-</td>
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</tbody>
</table>
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Conclusion

- The similarity of symptom clusters across three dimensions of unpleasant symptom in stage 3-4 CKD.
- Nurses could use either dimension to assess unpleasant symptoms.
- Develop care plan to manage symptom clusters as found in this study.
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- Implication
- Research Limitations
- Further Research
Thanks for your attention