Age and gender differences in heart failure symptom cluster profiles
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Heart Failure

- Affects close to 6 million people in the United States today (Mozaffarian et al., 2016).
- Responsible for more than 1 million hospital admissions and 15 million physician visits a year (Mozafarrian et al., 2016).
- The leading cause of hospitalization in those over the age of 65, costing Medicare $17 billion per year (CMMS, 2016).
- Close to 30% of persons discharged from the hospital will be readmitted within 30 days (CMMS, 2016).
- Major symptoms of the condition include shortness of breath, fluid retention, and tiredness (HFSA, 2016).
- These symptoms affect the person’s quality of life, ability to perform daily activities and mood (Carlson & Riegel, 2001).
Background

- HF symptoms are important early indicators of impending decompensation.
- Most HF hospitalizations are for management of distressing symptoms, especially dyspnea and fatigue, with to close to 80% of patients reporting anywhere from 3-7 symptoms at the time of admission (Gallagher et al., 2012).
- The presence of a number of symptoms can contribute to difficulty with symptom interpretation especially in older adults (Jurgens, 2006).
- HF self-care management is one of the least frequently performed self-care behaviors due to failure to recognize symptoms and lack of knowledge about what to do when symptoms occur.
- Those who perform adequate self-care management have improved outcomes including survival (Lee et al., 2010).
- Previous HF symptom cluster research has described 2 to 3 clusters (Hertzog et al., 2010; Jurgens et al., 2009; Song et al., 2010; Lee et al., 2010).
- However, comparisons of age, length of time with HF and gender differences between cluster groups have not been previously described.
- Before educational interventions designed to promote self-care management can be implemented, it is important to understand differences in symptom clusters.
Self-Care of Heart Failure Model

- Riegel & Dickson, 2008
The purpose of this study was:

1. To describe HF symptom clusters.
2. To determine if there were differences in symptom clusters by age, gender and length of time with HF.
Methods

• This exploratory, cross sectional study recruited adults recently hospitalized with an acute exacerbation of HF at a local hospital.

• IRB approval was received at the university of the investigator and the hospital where subjects were enrolled.

• Informed consent and HIPPA forms were completed during enrollment.

• Surveys were completed by interview and sociodemographic characteristics were verified by medical record review.
Instruments

• Heart Failure Somatic Awareness Scale
  • 18 item scale that measures awareness of and distress with 18 common heart failure symptoms on a 0-5 scale.
  • Higher scores on an item indicate greater distress.
  • A score of 0 means the person did not have the symptom.
  • Cronbach’s alpha in this study 0.83 (Jurgens, 2006)

• Demographics
  • Age, gender, length of time with HF, educational level, marital status, income, NYHA class, living situation
• Data were entered into SPSS 23 and assumptions were checked.
• Descriptive statistics were computed on all variables.
• Hierarchical agglomerative clustering was used to determine symptom clusters.
• Chi square was done to determine differences in symptom clusters by gender.
• ANOVA was used to determine differences in symptom clusters by age and length of time with HF.
  – Post hoc analysis was computed with LSD.
• Reliability analysis was computed on the study instrument.
## Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total sample (N =133)</th>
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<tbody>
<tr>
<td>Age (years)</td>
<td>77.1 (11.3)</td>
</tr>
<tr>
<td>Length of time with HF (years)</td>
<td>3.2 (3.8)</td>
</tr>
<tr>
<td>Number of HF symptoms</td>
<td>12.2 (3.2)</td>
</tr>
<tr>
<td>Educational level (years)</td>
<td>10.7 (3.2)</td>
</tr>
<tr>
<td></td>
<td><strong>Proportion of total sample</strong></td>
</tr>
<tr>
<td>Male gender</td>
<td>54.2 %</td>
</tr>
<tr>
<td>Portuguese immigrants</td>
<td>34.4%</td>
</tr>
<tr>
<td>Married</td>
<td>45%</td>
</tr>
<tr>
<td>Live alone</td>
<td>39.2%</td>
</tr>
<tr>
<td>NYHA class 3</td>
<td>90%</td>
</tr>
<tr>
<td>Income &lt; $20,000 year</td>
<td>68%</td>
</tr>
<tr>
<td>Variable</td>
<td>Cluster 1 (N = 44) cardiac</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>age</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Length of time with HF</td>
<td>79.1 (9.7)</td>
</tr>
<tr>
<td>Female</td>
<td>25 (41)</td>
</tr>
<tr>
<td>Male</td>
<td>19 (26)</td>
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</table>
Discussion

• Three unique physical symptom clusters were identified similar to previous research.
  – Cardiac Symptom Survey and Minnesota Living with HF Survey used previously.
  – 2-3 symptom clusters identified in previous studies of HF patients.
• This is the first study that reports differences in symptom clusters by age, gender and length of time with HF.
• Significant age and gender differences exist in the symptom experience of older adults with HF.
  – Women in this study tended to be older than male participants.
• Older adults were more likely to report cardiac and respiratory symptoms than edema.
• Men more often reported edema symptoms than women.
• Those who had HF the longest more often reported cardiac symptoms.
Implications for practice

• Clinicians need to assess unique symptom profiles when performing assessments and patient education related to timely treatment for HF exacerbation.

• Consider age and gender in assessment and treatment of symptoms.

• Consider using valid and reliable symptom assessment tools in the clinical setting to assess unique symptom patterns.


