Heart Failure Training for Nurses in Home Health: A Simulated Data Project

By Sharon Huerta, MSN, RN & Dr. Miki Goodwin, PhD, RN, FAAN

Introduction
Heart Failure (HF) is the most common reason for hospital admission for patients over 65 years [1]. Affecting 6.5 million adults in the US and contributing factor in 1 in 8 deaths [2]. 1/4 of Home Health HF patients are readmitted to the hospital within 30 days [3]. 40% of these readmissions are avoidable [4,5]. CMS financial penalties will trickle down to HHC as CMS seeks to improve value-based care [6].

Problem Statement
Nurses lack crucial knowledge of HF management and lack insight into their own shortcomings [7,8]. These nurses are not aware of the significance that their lack of knowledge plays in the patient's mortality risk [9].

Purpose
Develop, implement, and evaluate the effects of evidence-based HF training module designed to improve knowledge and confidence in HF care and management by home health nurses.

Aims
• Increase the knowledge of home health nurses about HF patient self-care management
• Increase the confidence of home health nurses in teaching HF self-care to patients and monitoring symptoms for early exacerbation

Methods
Design: Matched Pre-/Post-test/45-day Post-test to measure change in knowledge and confidence in home health nurses
Sample: 40 simulated personas
Pre-intervention:
• Integrative review
• Development of educational module
• Expert review
Intervention: *Simulated*
• Administer Pre-test
• Intervention
• Administer Post-test
• Administer 45-day Post-test
Post-intervention:
• Data analysis in SPSS version 28

Analytic Plan
• Tests of Normality
• Wilcoxon Sign Rank Test
• Paired t-test

Conclusions
• Knowledge and confidence gains were largely retained for 45 days
• Large gains can be made with simple education modules
• The largest gains were among the lowest initial scorers
• Confidence without knowledge among nurses may be hurting patients
• Other studies have demonstrated targeted education increases nurse knowledge of HF [7, 11, 12]
• This project will likely show similar benefits when implemented in a home health setting with similar backgrounds and personalities

Simulated Results
40 “Persona” personalities were developed based on the Diffusion of Innovation Theory [10]. Simulated data developed by using persona and how they would likely respond to survey questions based on personality and experience.

Knowledge Mean Score
• Pre-test: 52% (SD 20%)
• Post-test: 84% (SD 13%)
• 45-day Post-test: 83% (SD 13%)

Confidence Mean Score
• Pre-test: 63% (SD 27%)
• Post-test: 76% (SD 21%)
• 45-day Post-test: 74% (SD 20%)

Instruments
Sample of Heart Failure Confidence Survey
Select the most appropriate answer regarding your confidence in teaching patients about DIET and NUTRITION in heart failure?

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident in my understanding of dietary restriction in heart failure patients</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am confident in teaching patients with heart failure how to monitor their salt intake</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Sample of Dutch Heart Failure Knowledge Scale
Why do heart failure patients experience leg swelling?

○ because the valves in the blood vessels in the legs do not function properly
○ because the muscles in the legs are not getting enough oxygen
○ because of accumulation of fluid in the legs

Average Percent Correct on Knowledge Survey

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Post-test</th>
<th>45-day Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>52%</td>
<td>84%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Average Score on Confidence Survey

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Post-test</th>
<th>45-day Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>63%</td>
<td>76%</td>
<td>74%</td>
</tr>
</tbody>
</table>

References
See Reference List

Scan to watch intervention

Heart Failure Training for Home Health Nurses