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

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Introduction

Heart Failure (HF) ● the most common reason for hospital admission for patients **over 65 years** [1] ● Affecting **6.5 million** adults in the US and a contributing factor in **1 in 8 deaths** [2] ● ¼ 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

Intervention

An education module as a live presentation or Vimeo virtual presentation

Scan to watch intervention

Heart Failure Training for Home Health Nurses

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

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?

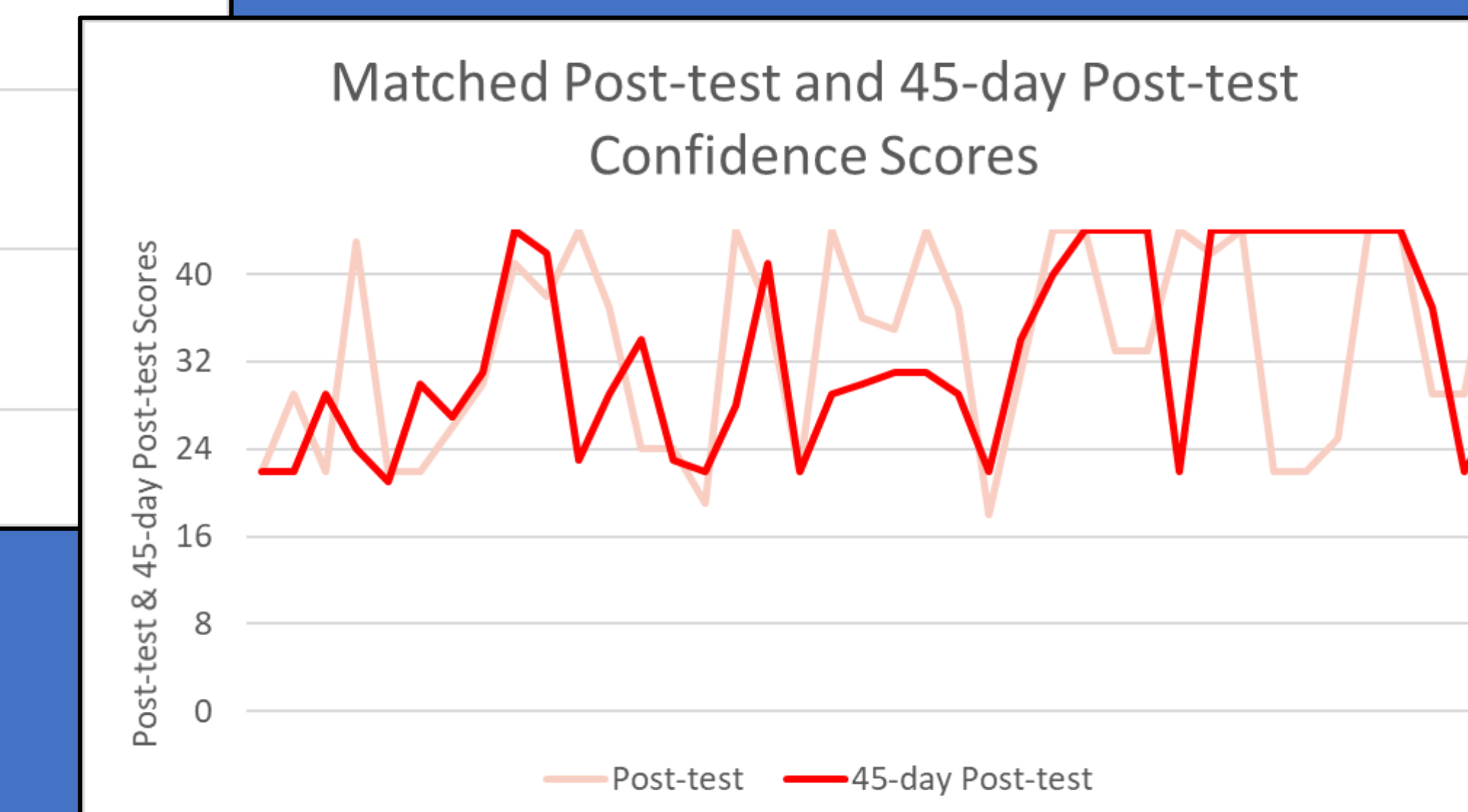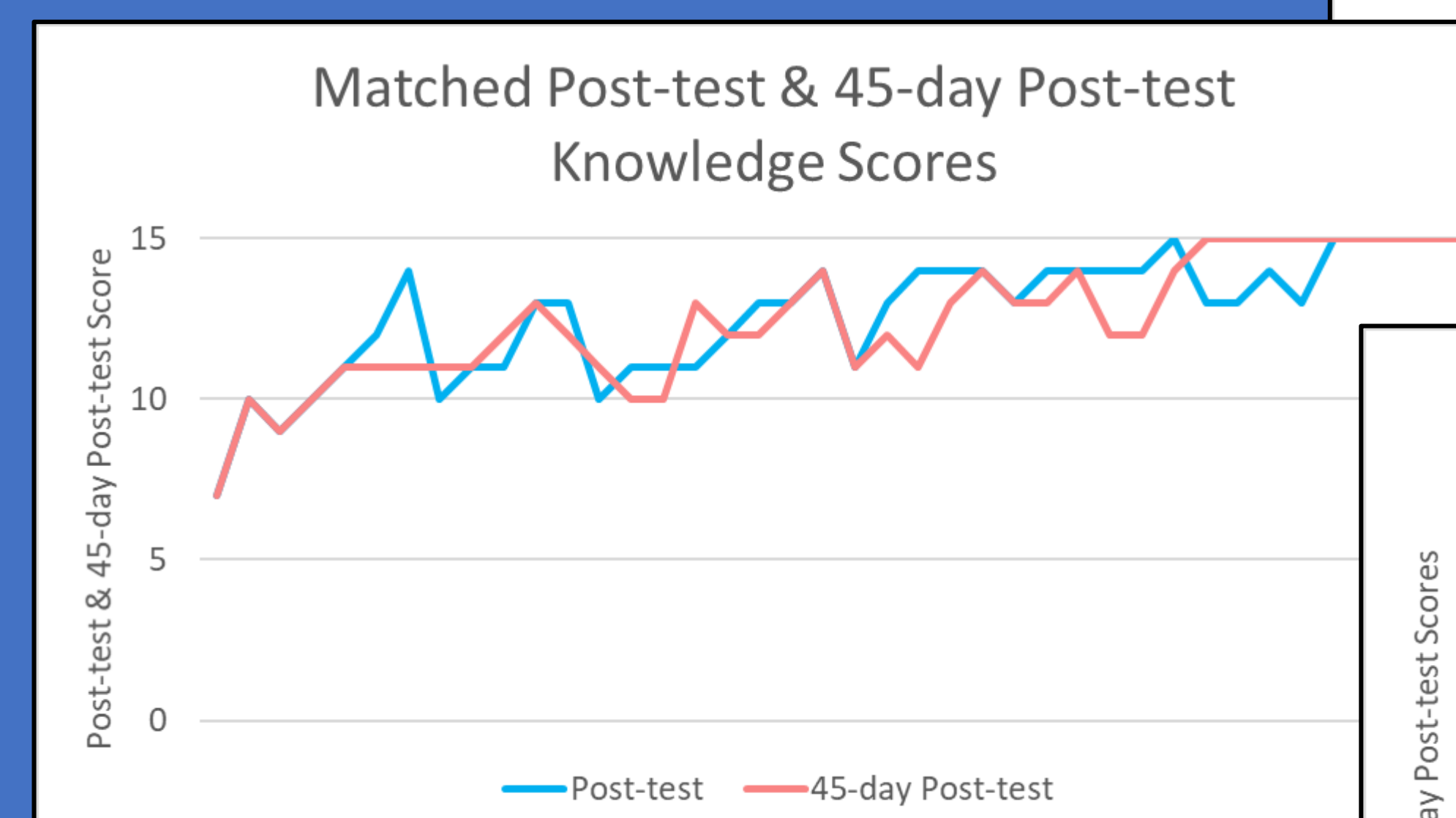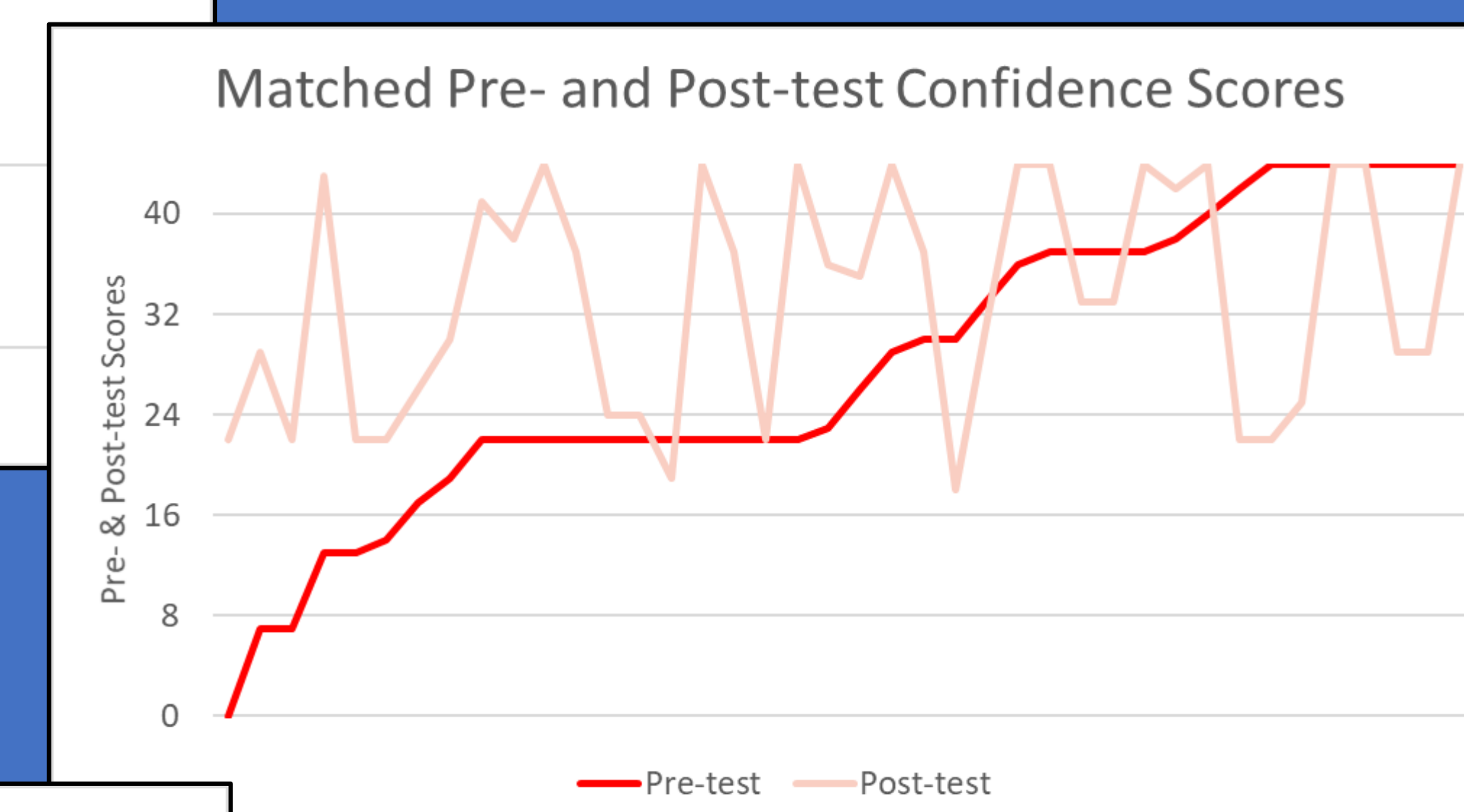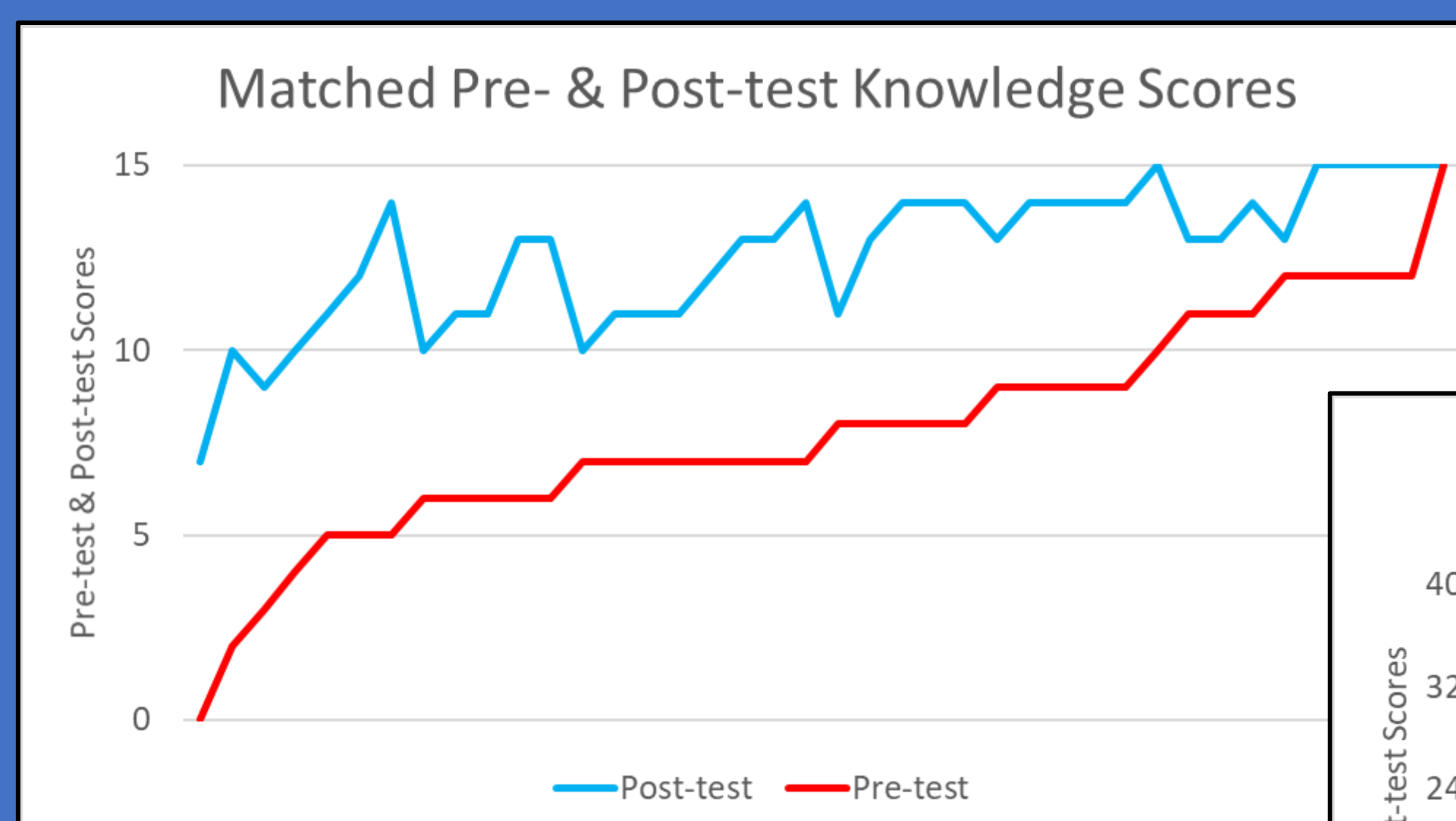|	Disagree	Neutral	Agree
I am confident in my understanding of dietary restriction in heart failure patients	○	○	○
I am confident in teaching patients with heart failure how to monitor their salt intake	○	○	○

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

Graphs

Matched Pre- & Post-test Knowledge Scores

Matched Pre- and Post-test Confidence Scores

Matched Post-test & 45-day Post-test Knowledge Scores

Matched Post-test and 45-day Post-test Confidence Scores

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.
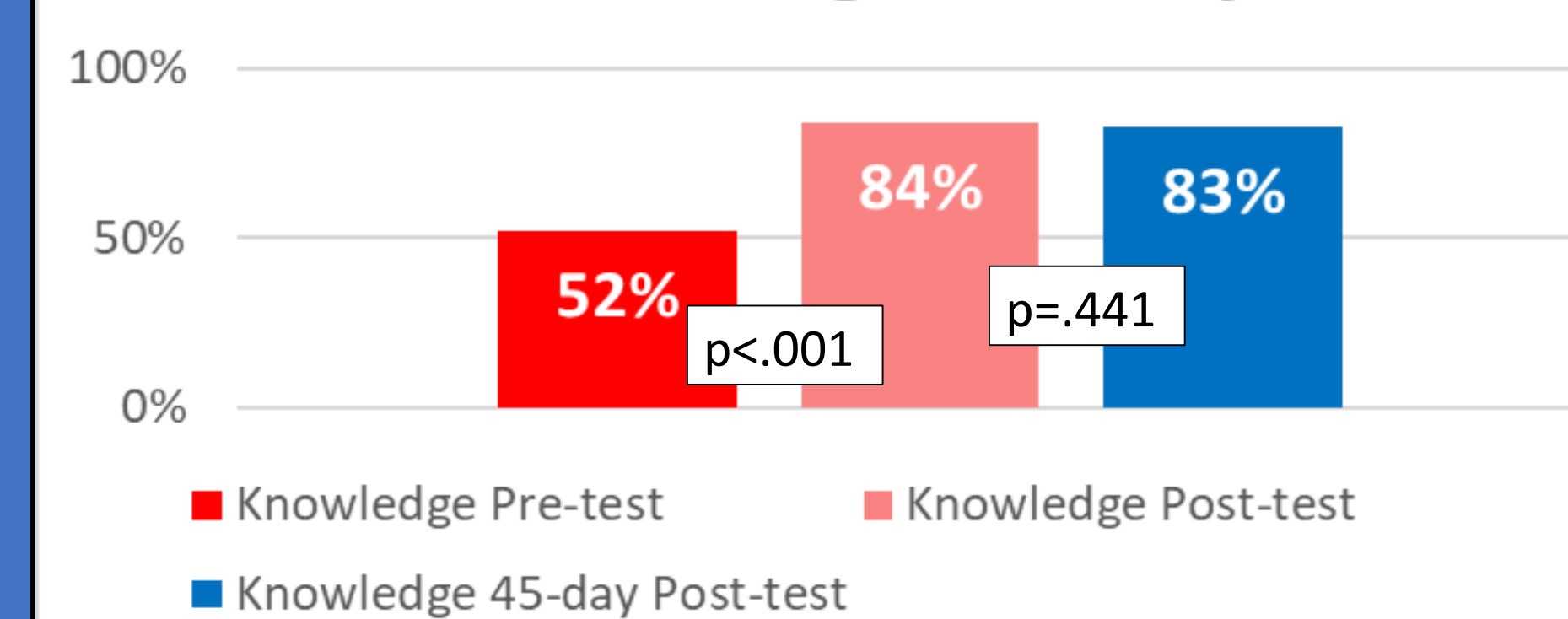
Knowledge Mean Score

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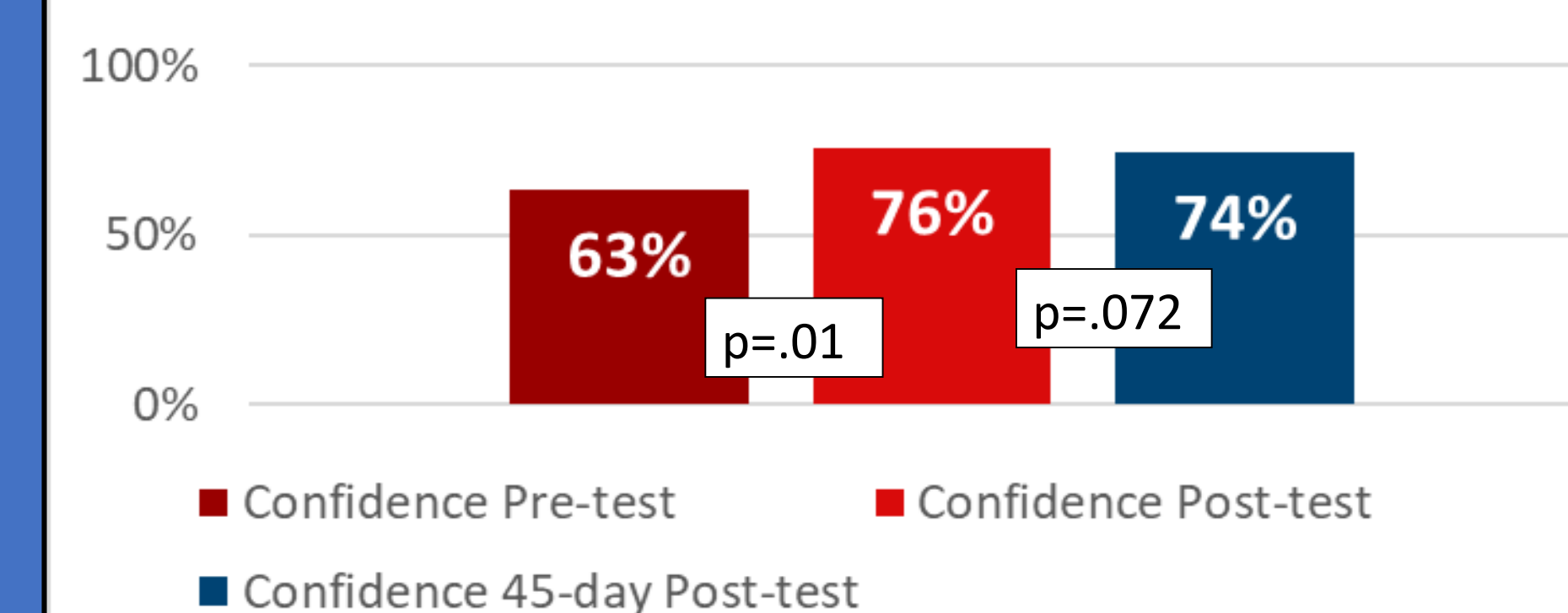- Post-test: 84% (SD 13%)
- 45-day Post-test: 83% (SD 13%)

Confidence Mean Score

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

Average Percent Correct on Knowledge Survey — Knowledge Pre-test 52% (p<.001), Knowledge Post-test 84% (p=.441), Knowledge 45-day Post-test 83%

Average Score on Confidence Survey — Confidence Pre-test 63% (p=.01), Confidence Post-test 76% (p=.072), Confidence 45-day Post-test 74%

References

See Reference List