

A 12-week evidence-based education project to increase nurse's knowledge of heart failure self-management

Medina Barone, MSN, ANP-BC, Valerie T. Cotter, DNP, AGPCNP-BC, FAANP, FAAN & Arlene Travis, DNP, ANP-BC, CHC, CHFN-K



JOHNS HOPKINS
SCHOOL of NURSING

Background & Purpose

- The Hospital Readmission Reduction Program authorized CMS to reduce payments to hospitals with high heart failure (HF) readmission rates .
- Despite such penalties, HF remains a leading cause of hospital readmissions in the US.
- There is support in the literature that nurses lack the basic knowledge of HF to deliver effective patient education in an overall effort to reduce readmissions.

Project Aims

The purpose of this 12-week Quality Improvement (QI) project was to increase nurses' knowledge of HF self-management (HFSM) with an online educational intervention. The project's aims were to:

1. Determine the effect of the HF self-management (HFSM) educational program on nurse knowledge.
2. Assess participants' self-confidence and satisfaction with learning from the program.

Intervention

The selected evidence-based intervention was a self-created, online educational program that was comprised of 4 video-based learning modules that focused on HFSM. Each module was fifteen minutes long, which the same participants completed over a 2-week period.

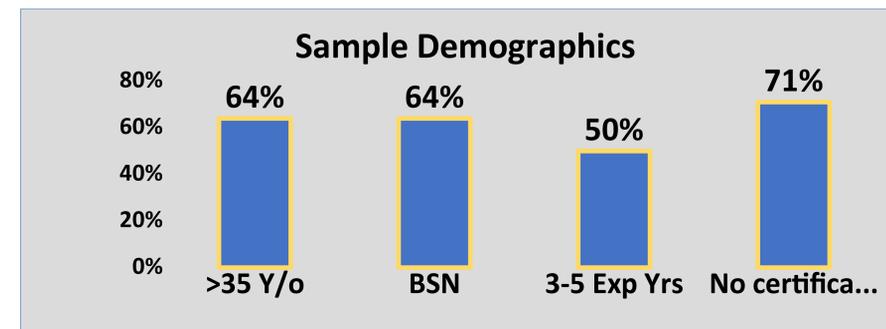
Methods

- **Design:** Pre/Post-test
- **Setting:** Medicine inpatient setting
- **Sample:** RN providers
- **Measures:** nurse knowledge of HF education principles survey (NKHFEPS), National League of Nursing (2003) satisfaction and self-confidence in learning (SCL) survey
- **Analysis:** Paired samples t-test (evaluate NKHFEP); Descriptive and frequency statistics (evaluate SCL)

Results: Sample

There was a total of **14** participants in the pre-test and 14 in the posttest. More than 64.3% of participants were 35 years or younger, 64.3% had a bachelor's in nursing degree, 50% had 3-5 years of nursing experience and 71.4% did not have any certification (See Figure 1).

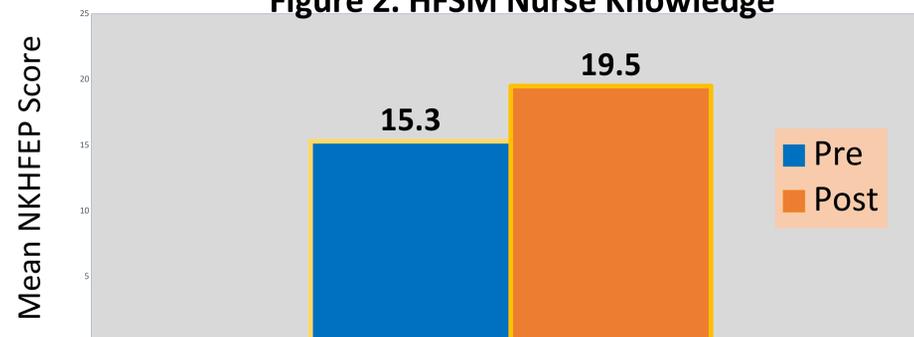
Figure 1



Aim 1: RN Knowledge

Knowledge of HFSM improved from **15.3** ($SD=1.64$) pretest to **19.5** ($SD=0.52$) post-test ($p<0.01$ level ($t=13$, $df=8.54$), which is significant. The overall group mean scores improved by **4.2-points** from pre-test to post-test, *representing a 21% improvement in nurses' average knowledge scores post-intervention* (See Figure 2).

Figure 2. HFSM Nurse Knowledge



Aim 2: RN Satisfaction & Self-Confidence

The SCL survey was completed by **5** out of the **14** participants post-intervention.

SCL showed nurses were **most satisfied** with the course's teaching materials ($M=5.5$, $SD=0.5$) and had **confidence** in the resources provided for content mastery ($M=4.5$; $SD=0.5$).

Nurses were the **least confident** in knowing where to get help when not understanding concepts covered in the learning video ($M=3.83$, $SD=0.69$).

Conclusion

Findings suggest an educational video led to a statistically significant rise in nurse knowledge of HFSM pre- to post-intervention. Thus, nurse leaders must provide nurses with continuous nursing education in this hospital to enhance the knowledge necessary to deliver high-quality education to patients.

References

1. Albert, N.M., Collier, S., Sumodi, V., Wilkinson, S., Hammel, J., Vopat, L., . . . Bittel, B. (2002). Nurses' knowledge of heart failure education principles. *Heart & Lung: The Journal of Critical Care*, 31, 102-12. Retrieved from <https://doi.org/10.1067/mhl.2002.122837>
2. Albert, N. M., Cohen, B., Liu, X., Best, C. H., Aspinwall, L., & Pratt, L. (2015). Hospital nurses' comfort in and frequency of delivering heart failure self-care education. *European Journal of Cardiovascular Nursing*, 14(5), 431-440. Retrieved from <https://doi.org/10.1177/1474515114540756>
3. Jonkman, N. H., Westland, H., Groenwold, R. H., Ågren, S., Anguita, M., Blue, L., ... & Kempen, G. I. (2016a). What are effective program characteristics of self-management interventions in patients with heart failure? An individual patient data meta-analysis. *Journal of cardiac failure*, 22(11), 861-871.
4. Mahramus, T., Penoyer, D. A., Frewin, S., Chamberlain, L., Wilson, D., & Sole, L. (2014). Assessment of an educational intervention on nurses' knowledge and retention of heart failure self-care principles and the teach back method. *Heart & Lung: The Journal of Acute & Critical Care*, 43(3), 204-212.
5. National League for Nursing (2003). *Description of available instruments: Student satisfaction and self-confidence in learning survey tool*. Retrieved from <http://www.nln.org/professional-development-programs/research/tools-and-instruments/descriptions-of-available-instruments>