

Registered Nurse Training re: Pulmonary Artery Pressure Monitoring in Management of Chronic Heart Failure

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Purpose

The purpose of this project was to:

- To identify the population of registered nurses that have a high potential to care for patients with PAP devices as well as pre and post-op implantation.
- Provide opportunities to present educational material and teaching.

Background

In the U.S. there are 5.7 million adults diagnosed with heart failure (HF). 50% are predicted to die within 5 years of their initial diagnosis. Early treatment is essential. There is a substantial economic burden to care for hospitalized patients with HF due to the high rate of readmissions.

With new technology a battery-free sensor can be implanted into the distal pulmonary artery to continuously measure the heart rate along with systolic & diastolic mean pressures.

Utilization of implanted PAP monitoring devices promote:

- early detection and treatment of decompensated HF
- improved patient quality of life
- high quality medical treatment
- decreased hospitalizations

Who can be considered for a PAP measurement device:

- Class II-IV heart failure
- Preserved & decreased LV function

Methods

An educational pre and post-test survey design project was conducted at a multi-facility hospital-based organization that provides PAP monitoring for heart failure patients. Surveys were used to evaluate the knowledge deficit of RNs regarding PAP implanted devices. Education was then provided for these RNs followed by a post-test survey to evaluate the effectiveness of the education of improved knowledge of the PAP device.

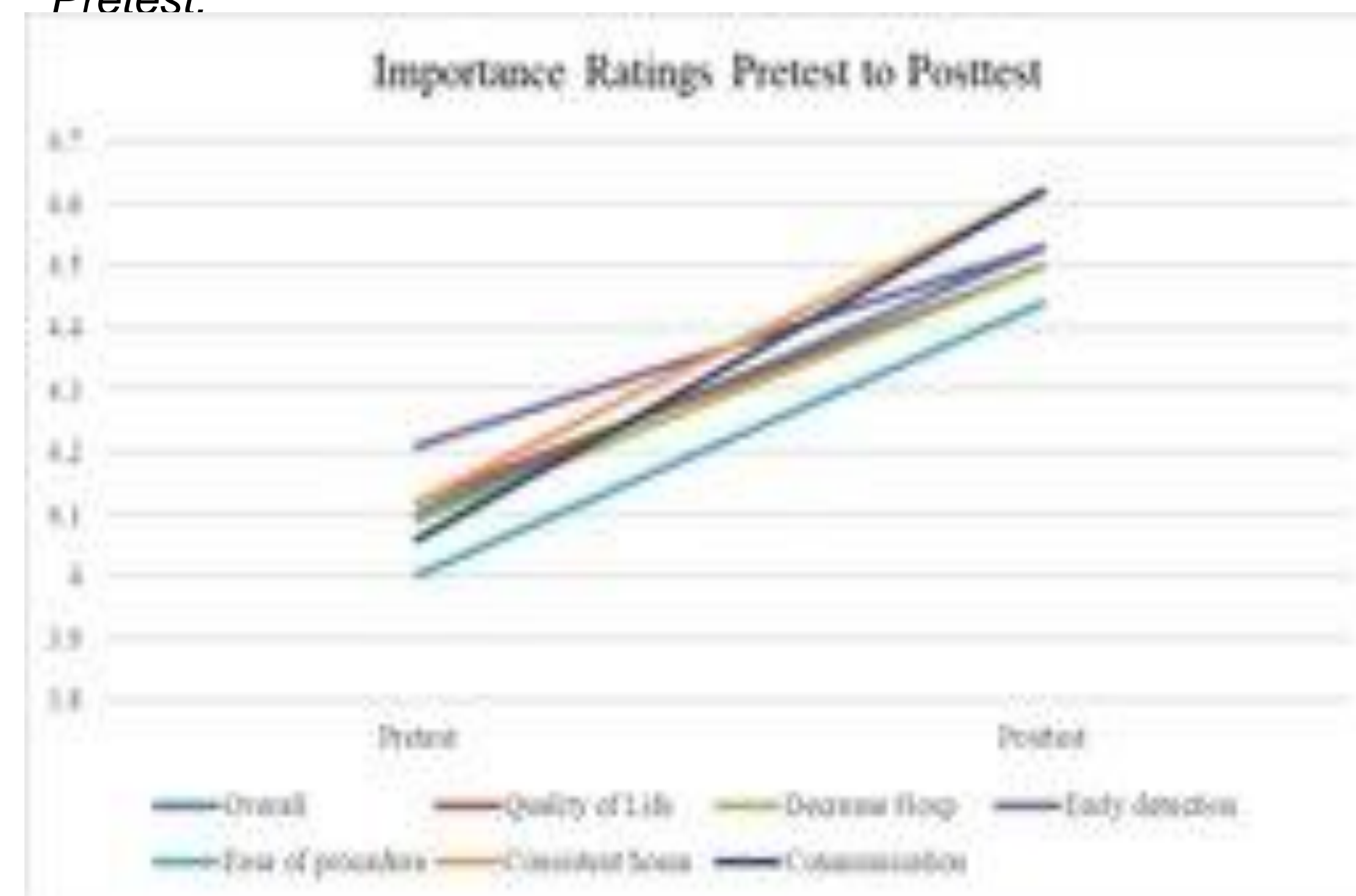
- Administration of pre-education surveys
- Education provided with questions and answers
- Administration of post-education survey

Results

Thirty-four participants completed both the pre and posttest survey.

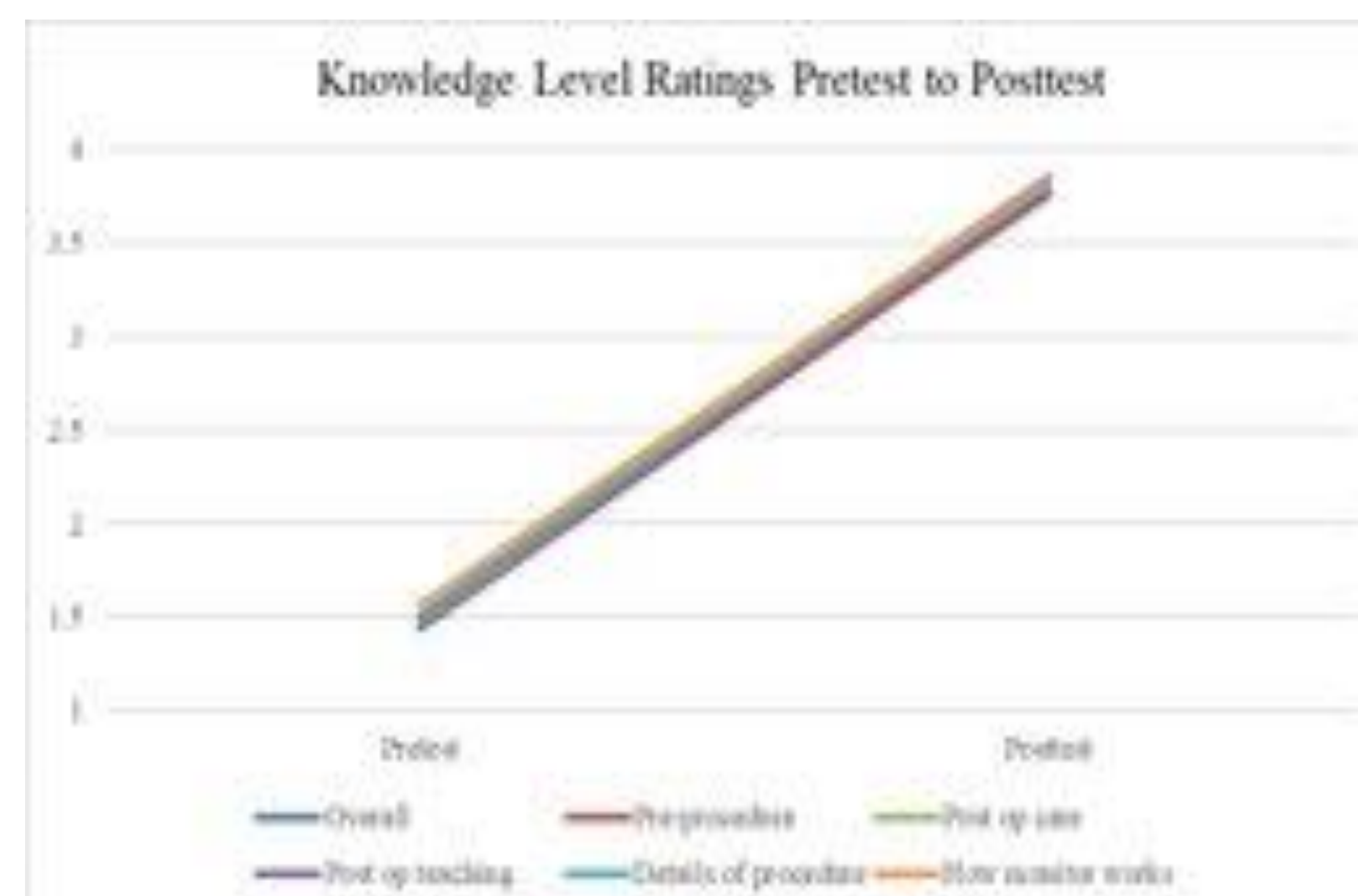
Two-Tailed Paired Sample t-Test for the Perceived Importance of PAP Device Pre to Post Test

The mean of the RN's Perception of Importance rating of the Posttest was significantly higher than the mean of the Pretest.



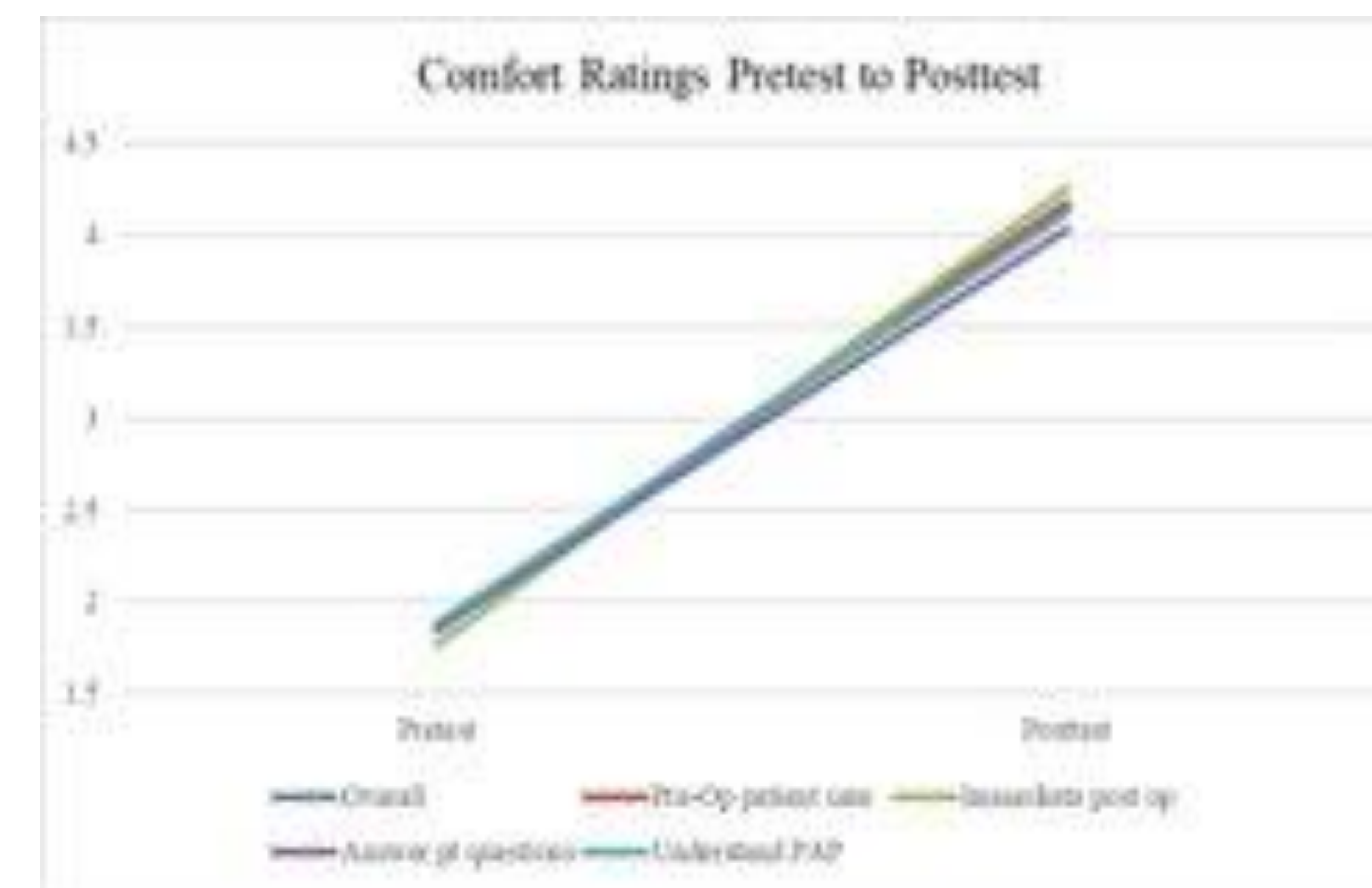
Two-Tailed Paired Sample t-Test for the Improved Knowledge Between the Overall Knowledge-pre and posttest

The mean of the Knowledge Level Posttest was significantly higher than the mean of the Knowledge Level Pretest.



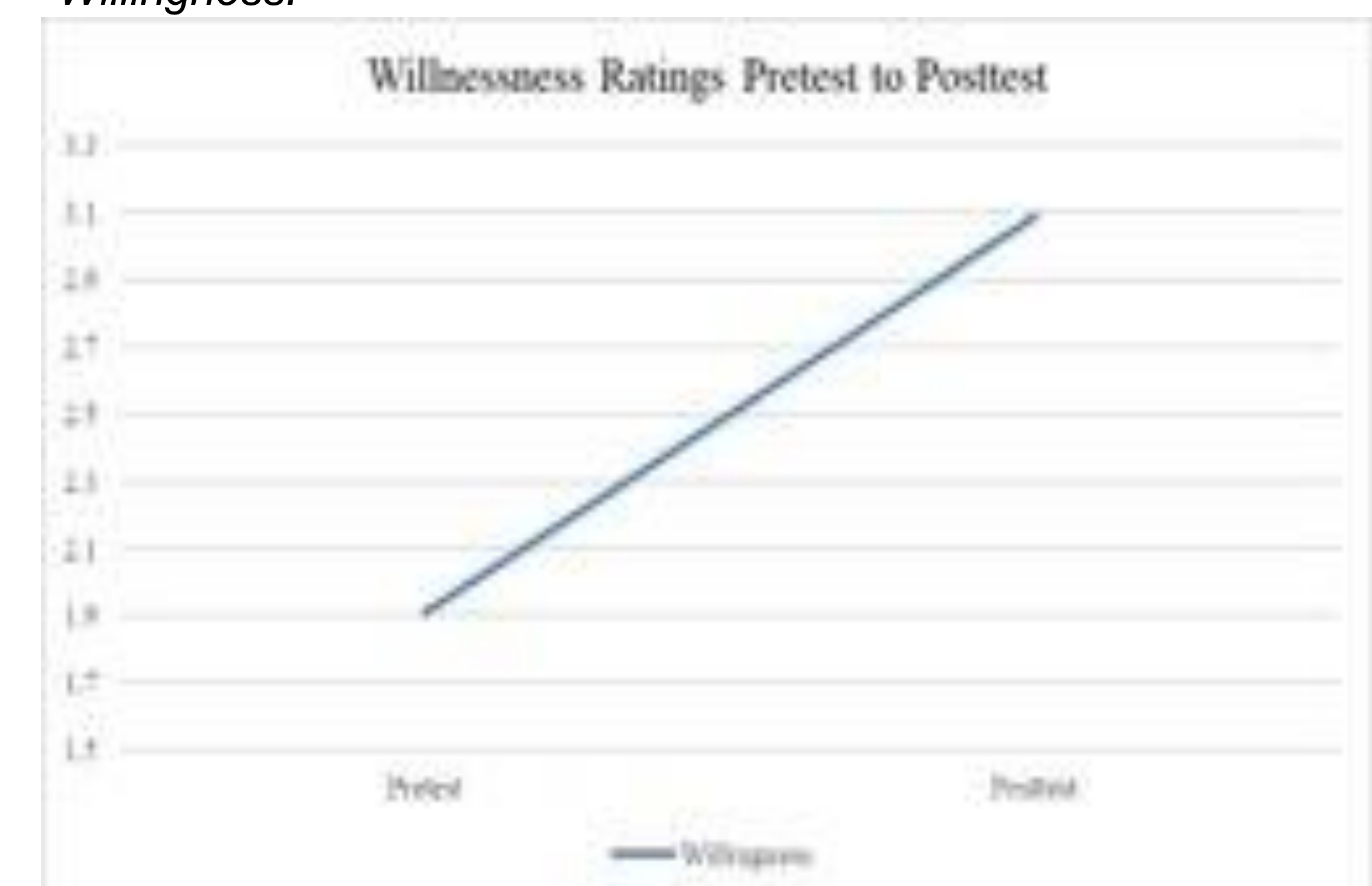
Two-Tailed Paired Sample t-Test for the Difference Between RN's Comfort-pre and posttest

The mean of Comfort Composite Posttest was significantly higher than the mean of Comfort Pretest



Two-Tailed Paired Sample t-test for the Difference Between Pre and Posttest Willingness to Care for a Patient with a PAP Device.

This suggests the difference from the pre to posttest, where Posttest Willingness was statistically higher than pretest Willingness.



Discussion

Implications for Practice: PAP monitors will become more prevalent as technology advances in the care of heart failure patients. It is anticipated that as outcomes continue to improve, PAP monitors will become standard of care in the treatment of heart failure patients. The data and information generated from this project improved the knowledge level of RNs regarding PAP implanted monitors. The education provided gave RNs an improved confidence and willingness to care for patients with PAP implanted devices.

Limitations:

- Small sample size
- Willingness of RNs to participate
- Collection of completed surveys was challenging

Recommendations: Continued education of healthcare professionals regarding PAP implantable monitors should continue. PAP monitors will become more prevalent therefore we will need more nurses who are proficient at caring for these patients.

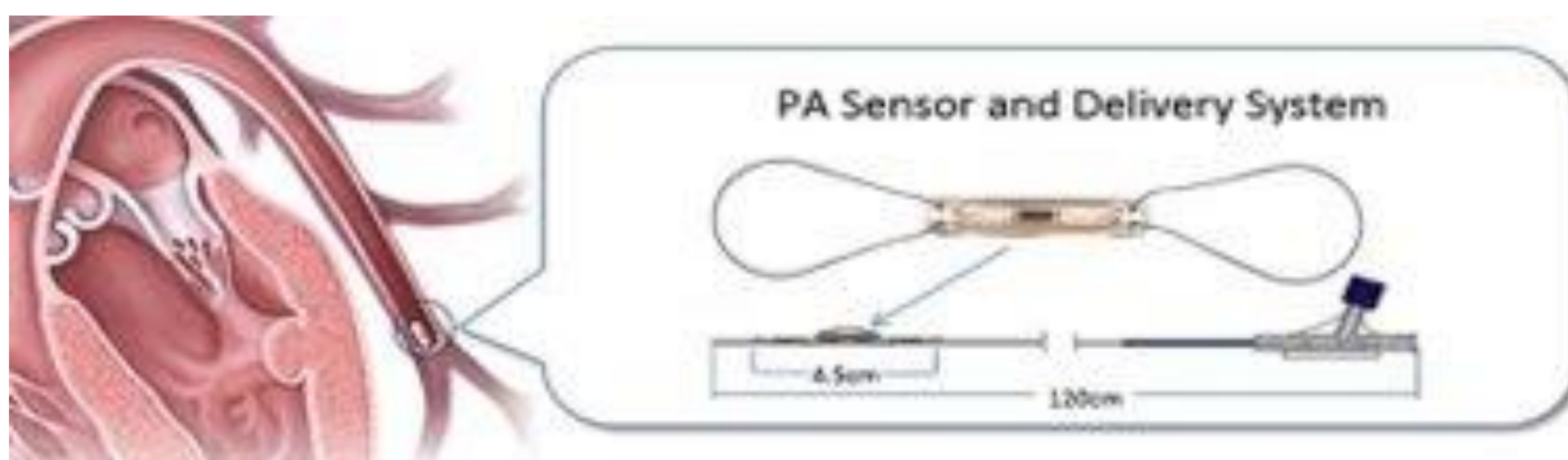
- Using PAP in management of chronic heart failure is cost effective, reduces heart failure admissions, improves patient outcomes, and better quality of life.
- The CHAMPION trial revealed a significant improvement in clinical outcomes and reduction of 37% in heart-failure related admissions
- Changes in medications were made more frequently in the group with wireless PAP monitoring, resulting in lower PAP pressures
- A secondary endpoint to the CHAMPION trial was quality of life, measured with MLHFQ. The scores of the treatment group (wireless PAP monitoring) were lower (47.0) versus the control group (56.5)
- The COMPASS-HF study, concluded there was not a significantly reduced total heart failure related events compared with optimal medical management

Acknowledgement

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References

References provided upon request



Congestive Heart Failure

