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Impact of an advanced cardiac life support process improvement initiative on leadership role comfort



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INTRODUCTION

The implementation of an extracorporeal cardiopulmonary resuscitation (ECPR) practice requires optimized ACLS.^{1,2} During implementation, the UNM ED Resuscitation Unit (EDRU) introduced an ECPR initiative, including new roles and training for personnel. The ACLS leader role, previously held by physicians, was assigned to experienced nurses. There is limited knowledge about the comfort level of nurses in performing the ACLS leader role.^{6,7,8}

STUDY OBJECTIVE

The purpose of this research is to assess whether the ECPR initiative impacts nurse comfort with the ACLS leader role and assignments.

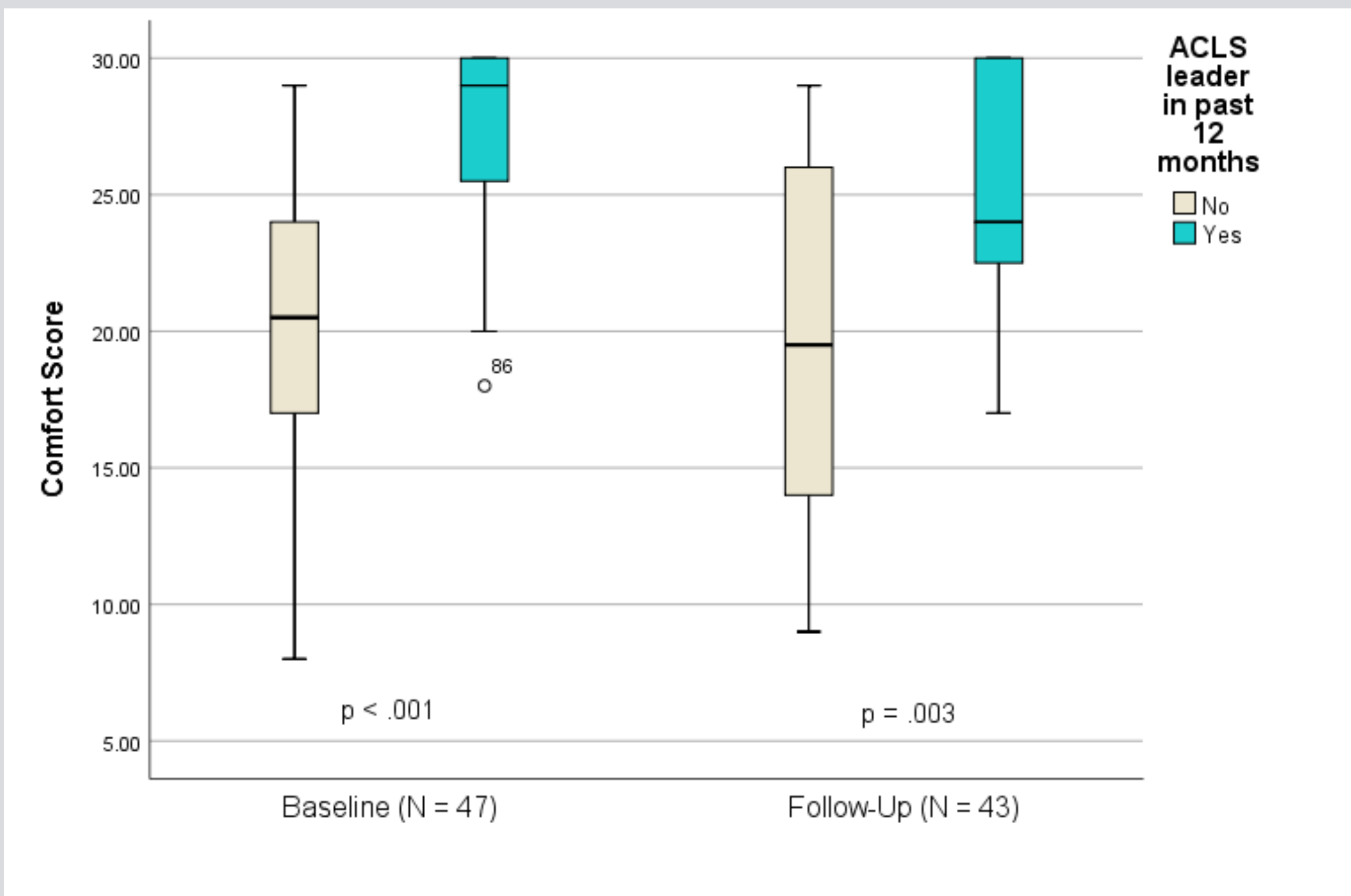
Primary hypothesis: an ECPR initiative in the ED improves personnel comfort with the ACLS leader role

Secondary hypothesis: an ECPR initiative in the ED improves personnel satisfaction with the organization of ACLS care delivery

FIGURE 1: ECPR Initiative Timeline

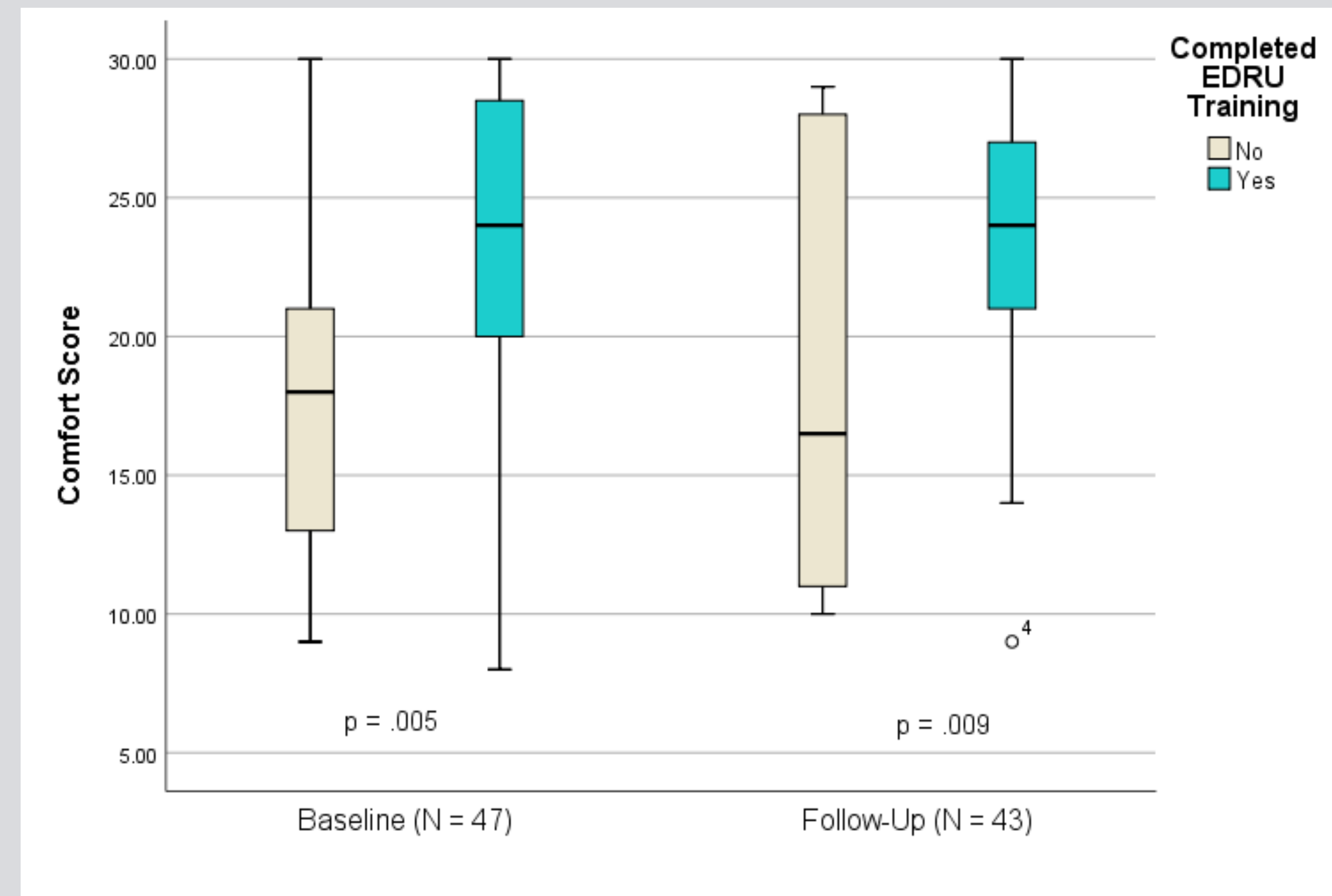


RESULTS



Nurses acting as ACLS leader at least once in the past 12 months had significantly higher ACLS leader comfort scores.

Secondary hypothesis results: Satisfaction with assigned roles and responsibilities improved among attending physicians in the post-initiative period (results not shown).



Nurses completing EDRU initiative training had significantly higher ACLS comfort scores when compared to those who did not complete training.

DISCUSSION

- While most report comfort acting in the role of ACLS leader, no significant improvements were present post-initiative
- Experience was the most predictive factor for comfort in role of ACLS leader
- Continued experimental and simulation learning would be beneficial for learning and comfort in new roles
- Limitations: we used an indirect measure of initiative training exposure (self reported), we also had a short term period for first follow up. Since resuscitation is a critical part of ED training, we expected and observed limited variance in the comfort outcome.

SCAN FOR MORE INFORMATION



METHODS

Intervention: The initiative consisted of a reorganization of roles and didactic and simulation training for EDRU nurses and physicians (see timeline in Figure 1). Role cards, detailing each team member's responsibilities, were placed in resuscitation rooms (Figure 2).

Data Collection: A stakeholder survey of all personnel in the ED was used to assess personnel knowledge, attitudes, and practices. Baseline data were retrieved May 2017 with a response rate of 33% while initial follow up was in March 2018 with a response rate of 53%. The project was approved by the Human Research Protections Office at the University of New Mexico.

Sample: Respondents included nurses (N = 47/43) and resident and attending physicians (N = 39/55). Five cases did not have responses for outcome variables and were excluded.

Data Analysis: Mann-Whitney U tests were performed for ordinal measures of comfort. Principal Components Analysis was used to assess factors for the cumulative comfort and satisfaction scores. T-tests were used to compare continuous scores. Linear regression was used to examine predictors for comfort and satisfaction.

FIGURE 2: ACLS Leader Role Card

ACLS CAPTAIN

1. Room Set-up & Roles

- ECMO Cart / Mayos / US x2
- Move bed Rt
- Role Cards / PPE / Pre-brief

2. Supervises LUCAS placement & compressions

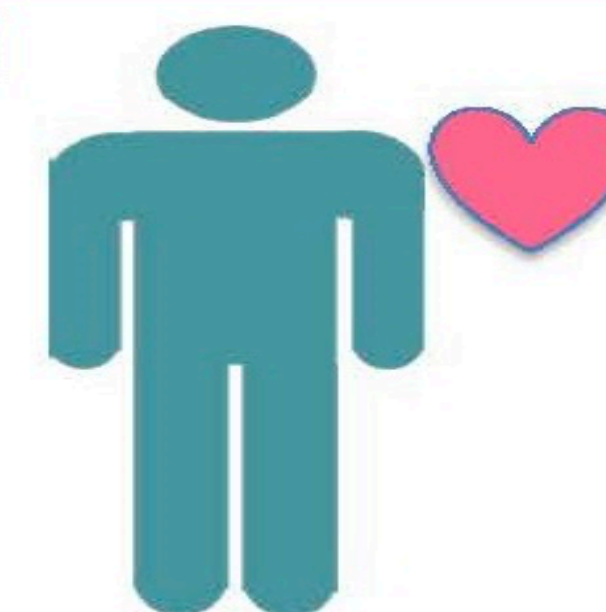
3. Organize rhythm & pulse checks

- Pause LUCAS Q2 min
- TTE / TEE during pulse check
- Defibrillate V-tach or V-fib (200 J)
- Epi Q4 minutes (every other pulse check) x3 (review further/ alternative epi dosing with Resus Leader)
- Coordinate with Resus Doc & Med-Electric nurse

4. Updates team throughout code

5. Recorder/ Scribe (use code sheet)

- CPR start time
- Q2 minute rhythm/ pulse checks
- Drug administration
- Airway securement
- Phase 2 & 3 time-out times / ECMO Decision
- Time on ECMO



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