Increasing Digital Outreach to Promote Early Initiation of Discharge Education for Families in the Cardiac PICU

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BACKGROUND

Significance:

- Outcomes of *ineffective* discharge education:
  - Increased preventable PICU readmission rates
  - Delayed discharge
  - Home care (medication or feeding) regimen errors
  - Delayed bystander CPR for home cardiac arrest
  - Poor clinical outcomes (malnutrition, SIDS)

Literature Review:

- *Effective* discharge education should*:*
  - Start early in a patient's admission
  - Incorporate technology
  - Provide caregivers with unlimited remote access to education materials

Current Facility Practice:

- Discharge teaching is postponed until late in admissions
- No unlimited remote access to Infant CPR teaching videos for caregivers

PROJECT PURPOSE AND GOAL

Purpose:

- Evaluate the effectiveness of the Digital Care Activity (DCA) to promote early initiation of discharge teaching for caregivers of patients with CHD who have never been home before in the CICU.

Project Goal:

- Promote early initiation of discharge teaching in the CICU to better align unit practice with literature standards for discharge education

THEORETICAL FRAMEWORK

METHODS

Outcome Measured: Average number of days from extubation to discharge education initiation
Setting: 24-bed CICU at a large pediatric Midwestern research hospital (Sept1-Dec1, 2023)
Samples:

- Pre-DCA Sample (*n*=9): discharged prior to July 2023 when the DCA was officially integrated into the hospital's EHR
- DCA Sample (*n*=9): admitted during the implementation period

Strategies to Support Implementation:

- *Pre-Implementation:*
  - Online education modules for unit staff nurses, Informal rounds with unit staff nurses, Distribution of informational flyers
- *During Implementation:*
  - "DCA Tips and Reminders" folders placed by DCA sample patients' rooms
  - Weekly check-ins with staff caring for DCA sample patients

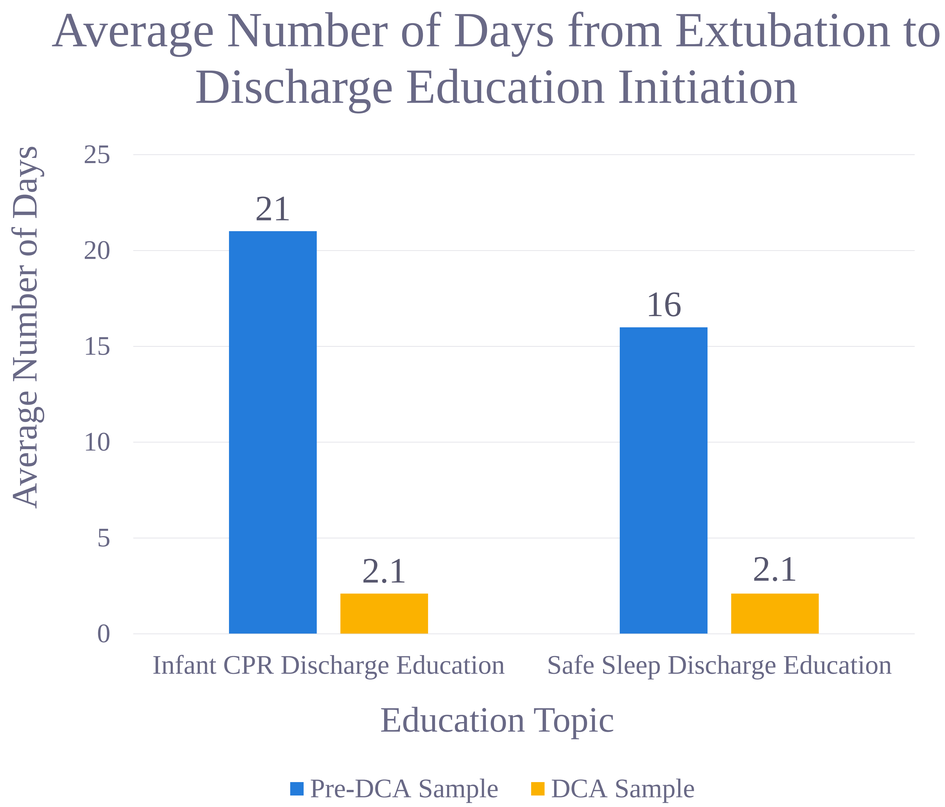
Data Collection Method:

- *DCA Sample:*
  - Live data tracking during Implementation Period
    - Allowed for frequent reassessment within PDSA cycles
- *Pre-DCA Sample:*
  - Retrospective chart review

Data Analysis:

- Statistical Testing: Mann-Whitney U/Wilcoxon Sum Rank Test (significance level <0.05)

RESULTS



STATISTICAL RESULTS

Descriptive Statistics/Percent Change:

- Infant CPR discharge education was ***initiated 90% earlier using the DCA***
- Safe Sleep discharge education was ***initiated 86.9% earlier using the DCA***

Statistical Testing: Mann-Whitney U/Wilcoxon Sum Rank

- CPR Education: **p = .000739**
  - **Statistically significant change (p <0.05)**
- Safe Sleep Education: p = .05073
  - No statistically significant change (p ≥ 0.05)

DISCUSSION

Study Outcome: Using the DCA to assign discharge education to caregivers of infants who had never been home before resulted in the required Infant CPR and Safe Sleep education being initiated earlier in a patient's admission than prior to this study.

General Conclusions:

- Unlimited caregiver access to materials via the DCA helped nurses initiate teaching earlier
- Difficult to integrate DCA into nurses' workflow

Limitations:

- Small sample size
- Short implementation period
- Single facility data

Implications for Future Studies:

- Replicate with larger sample, extended implementation period, at multiple facilities
- Caregiver engagement with the DCA
- Long term data: PICU readmissions, discharge timing, other clinical outcomes
- Address barriers to practice changes on this unit
- Amend DCA for non-English and non-Spanish caregiver use

REFERENCES

Please see handout.