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A Randomized Clinical Trial of a Mobile Application that Supports Family Caregiver Participation in ICU Care

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A randomized clinical trial to test a mobile application that supports family caregiver participation in ICU patient care

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Background/Introduction

- Consistent involvement of family caregivers in patient care has numerous benefits for patients and the overall healthcare system.
- Current ICU care models focus on passive participation and do not capture active participation in patient care by informal caregivers.
- There is a need to develop tools that effectively operationalize caregiver involvement.

Objective/Purpose

ICU-CARE is a mobile app that provides family caregivers with 1) a virtual tour of the ICU environment, 2) education for assessing and treating common patient symptoms using nonpharmacologic interventions, and 3) a way to record contributions to care.

The **purpose** of this study was to establish the feasibility and acceptability of ICU-CARE and determine the influence of ICU-CARE on caregiving process and outcomes.

Methods

- **Design:** Randomized controlled pilot trial
- **Sample:** 18 ICU family caregiver/patient pairs
- **Setting:** Single tertiary medical center
- **Data collection time points:** Enrollment, 24-48 hours after enrollment, & 2-4 weeks after ICU discharge
- **Data analysis:** Descriptive statistics and Mann-Whitney U tests

Measures:

Feasibility

App logins, completed symptom assessments, interventions provided

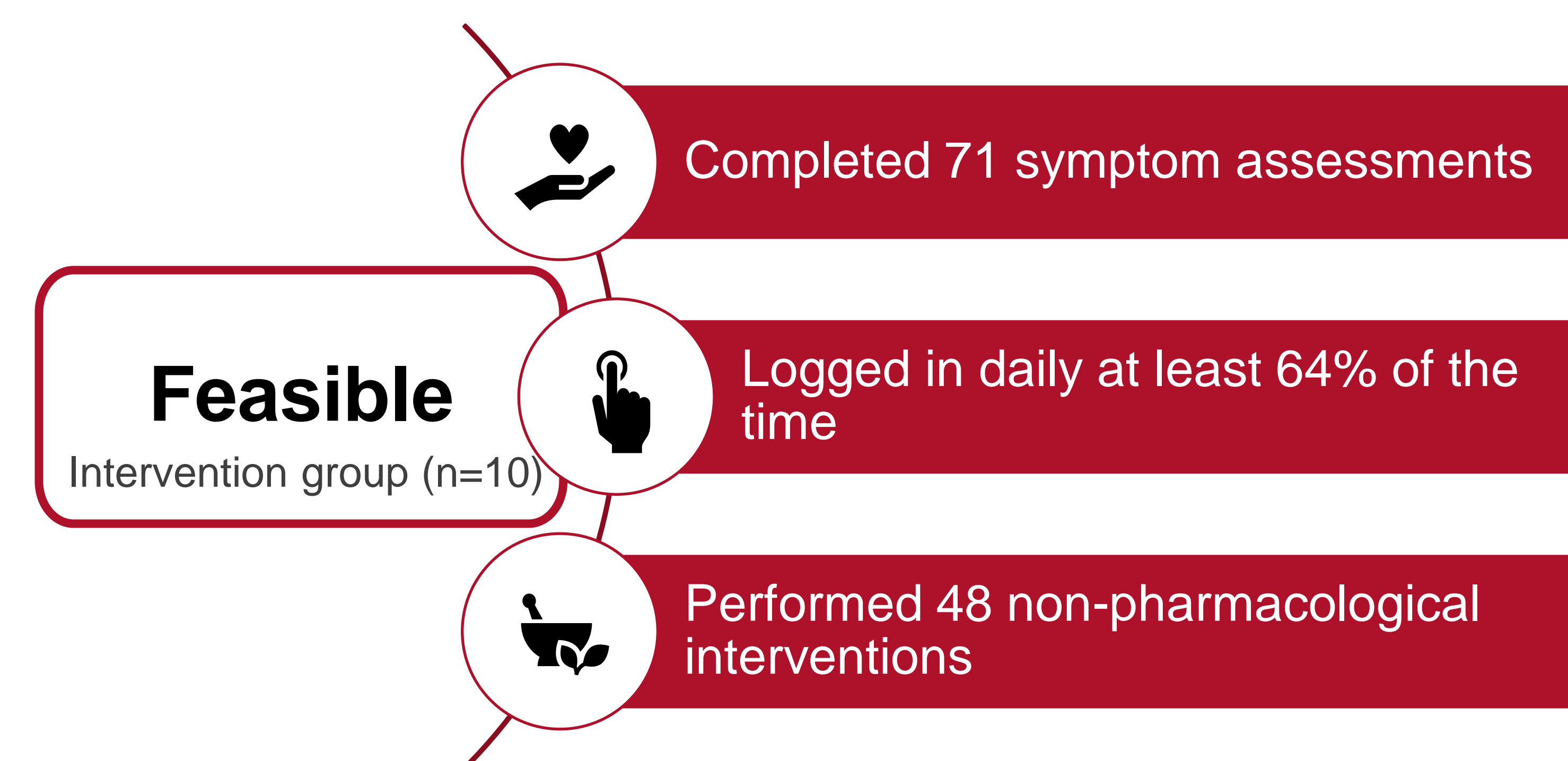
Acceptability

Educational Material Acceptability Instrument (EMAI), qualitative user feedback

Caregiving process and outcomes

Caregiver Self-Efficacy Scale, Preparedness for Caregiving Scale, Patient Activation Measure for Caregivers, Patient Reported Outcome Measurement Information System, Hospital Anxiety and Depression Scale, Critical Care Family Satisfaction Survey, Impact of Events Scale.

Results



Interventions were reported to be: **somewhat helpful to extremely helpful** to the patient **84%** of the time

EMAI mean score of 50.3±4.4 (max score of 55)

User comments were overwhelmingly positive.

Acceptable

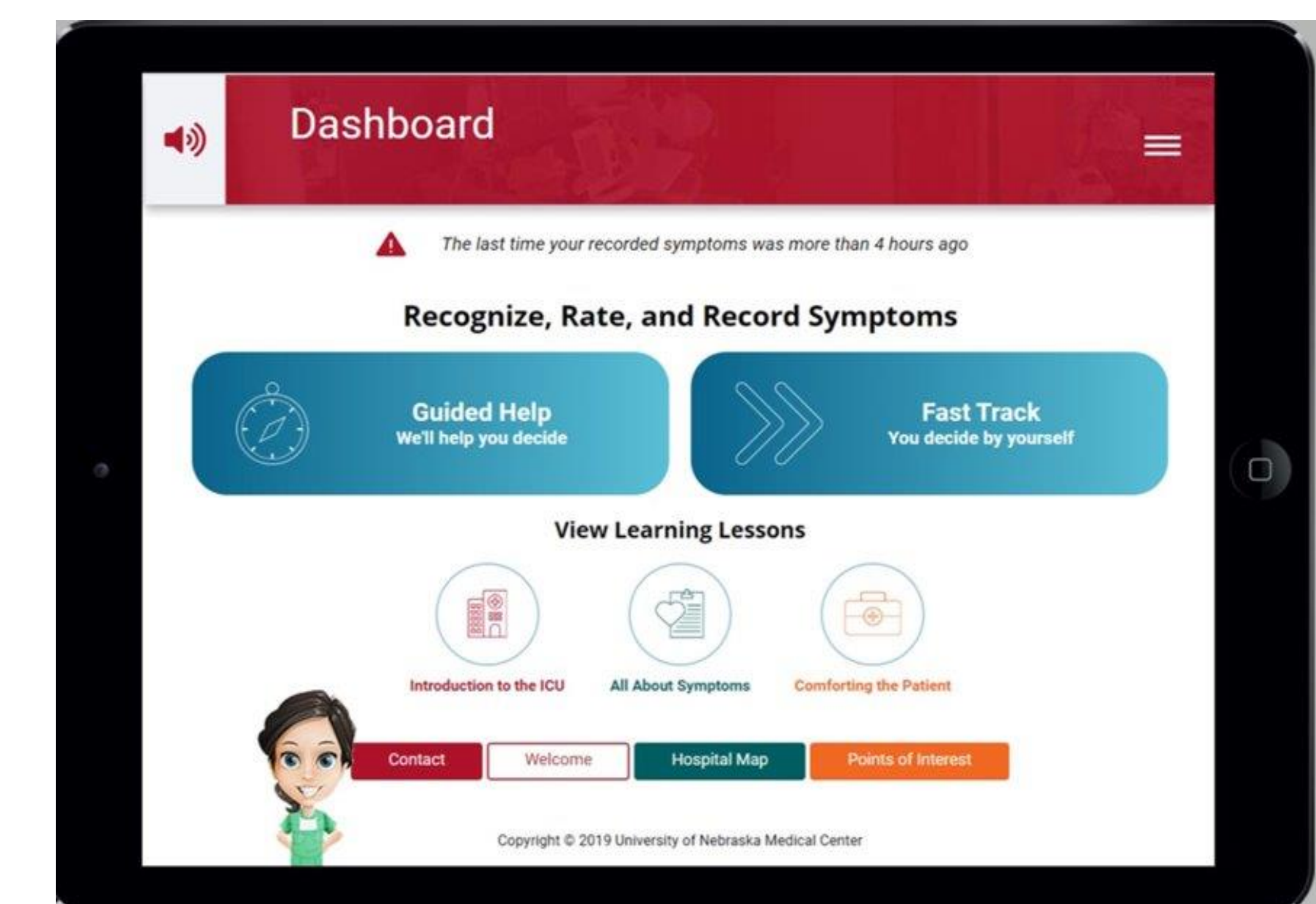
Associated with increased ICU satisfaction

ICU-CARE participants (n=11) reported **higher overall satisfaction** with their ICU experience (p=.04) compared to the control group (n=7).

No change in caregiving process variables

Conclusions & Future Directions

- ICU-CARE is feasible, acceptable, and associated with increased ICU satisfaction.
- Further optimization and user-informed features can provide ICU-CARE the ability to:
 - Improve the patient and caregiver ICU experience
 - Facilitate symptom assessment and management decisions.
- Expand reach
- Test real world performance



Disclosures

- This work has been supported by grant funding from the American Association of Critical Care Nurses
- Dr. Breanna Hetland, the Principal Investigator of this study, created the software application used in this study and has a non-significant financial interest regarding future commercialization opportunities.

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