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Changes in ICU Communication Following Nurse Education and AAC Interventions

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Document Abstract

This research presentation will summarize key results from a 5-year funded study (SPEACS) investigating the impact of an educational inservice for study nurses, provision of AAC materials, and SLP intervention on nurse-patient interaction in two medical ICUs. This study was conducted in three sequential phases to assess the impact of the intervention components in an additive manner (Condition 1: Baseline; Condition 2: Basic Communication Skills training + Low Tech AAC; Condition 3: Addition of High Tech AAC and SLP intervention). Four interaction sessions (3 minutes each) were videotaped for 30 nurse-patient dyads in each condition (120 dyads total); sessions were transcribed and coded for frequency and success of communication. This report presents comparison between conditions 1 and 2. Preliminary data suggest that frequency and successfulness of communication improved within some topics given inservice training only; comprehensive analyses across the three conditions will follow.

Research Description

Introduction

Patients in intensive care units are frequently intubated and unable to communicate via natural speech. Their overall health is generally fragile, and many individuals experience cognitive or motor limitations as a result of complex medical conditions. In the absence of formal communication intervention, some intubated patients use nonvocal techniques such as mouthing words, gestures, writing, and head nods (Menzel, 1998), whereas others make minimal attempts to communicate. Despite the high incidence of compromised natural speech in ICUs, communication interactions between nonspeaking patients and health care providers do occur. Communication between ICU patients and nurse caregivers is typically characterized as brief, focusing primarily on the immediate health care needs of the patient. However, no prior research has empirically measured what critically ill individuals and their caregivers talk about. In addition, no quantitative analyses of the frequency of communicator initiations or rate of communication have been conducted.

This presentation summarizes the first round of data derived from the Study of Patient-nurse Effectiveness with Assisted Communication Strategies (SPEACS, #5R01

HD043988: Happ, Garrett, Sereika, George, Donahoe, 2003-2008) following completion of active phase of the 5-year investigation. Specifically, nurse-patient communication performance in the usual care (baseline) condition is compared to nurse-patient communication performance when nurses received Basic Communication Skills Training and low tech communication materials.

Purpose

To test the impact of two levels of nurse training and support on the communication performance (ease, quality, frequency, success) between nurses and nonspeaking ICU patients compared to usual care.

Methods

Design: Quasi-experimental 3-group sequential cohort design consisting of: Condition 1) control/ usual care (C/UC); Condition 2) nurse training in 4-hour Basic Communication Skills Training (BCST) program along with the provision of “low tech” materials (e.g., communication boards, writing materials); Condition 3) AAC + SLP Phase – Nurses were again trained in the use of low tech materials that were made available on the floor. In addition, they received 2 more hours of training in the use of electronic communication devices with nonspeaking ICU patients, for a total of 6-hours of inservice time. Patients also received an individualized SLP assessment and, if appropriate, communication devices or low tech strategies with setup; additional coaching and instruction was provided for the nurse as needed within the patient’s communication context.

Sample/Setting: Participants were 89 adult ICU patients unable to speak due to respiratory tract intubation/mechanical ventilation who were responsive as measured by a score of ≤ 13 on the Glasgow Coma scale. Patients demonstrated a wide range of etiologies and medical histories; patients with cognitive and motor impairments were included in the sample. 30 randomly selected ICU nurses (10 nurses/phase) were assigned to 3 study patients each. One nurse-patient dyad was unable to complete the study. The study was conducted in a tertiary care hospital medical ICU and cardiovascular-thoracic surgical ICU.

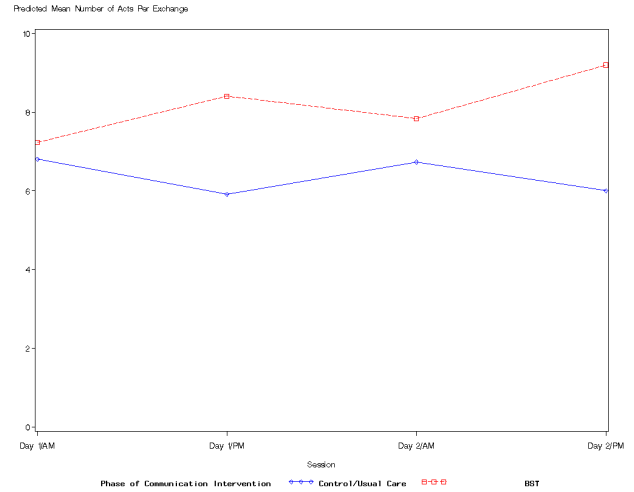
Measures: The pertinent unit of communication measurement was the nurse-patient dyad. Nurse-patient communication performance outcomes were measured by having trained raters transcribe and code videotaped communication interactions (3 minutes) obtained at 4 time points for each dyad over 2 consecutive days (morning and afternoon). Dependent variables included: number and percentage of patient versus nurse initiations, frequency of communication exchanges, mean number of communication acts within an exchange (a measure of density of communication as well as frequency and length of communication breakdowns), frequencies of positive and negative nurse communication behaviors, “success” of message transference (by exchange), and mode of communication. Topic of each exchange was also coded. Ease of communication was determined by patients’ self-ratings of communication difficulty on a 5-point Likert-type scale after each session. Descriptive and comparative analyses were obtained via hierarchical generalized linear modeling. The present analysis compares Condition 1 (Baseline) to Condition 2 (BCST)

data (results presented next). Video coding for the third group (Condition 3 – AAC + SLP) is concluding this month and analyses will be completed shortly thereafter. Data will be further analyzed by co-variables and patient/nurse characteristics (e.g., severity of illness, length of illness, number of years nursing experience, etc.)

Preliminary Results

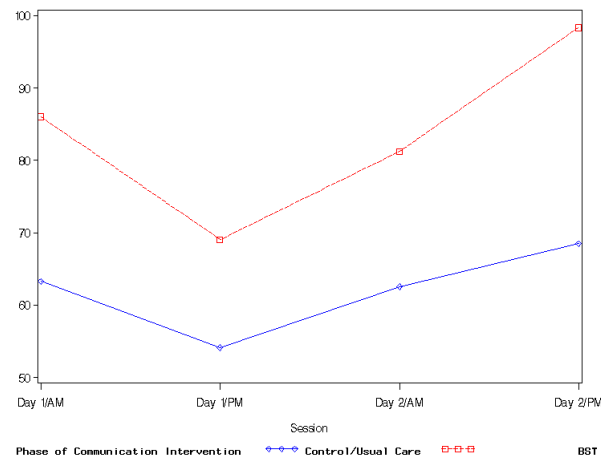
The mean number of communication acts within a communication exchange was higher for the BCST group than for the control group ($b=0.165$; $F=8.54$, $p=.0050$), indicating greater “density” of communication in the intervention group [BCST: Mean=8.2, 95%CI=(5.9, 10.4); C/UC: Mean=6.36, 95%CI=(4.9, 7.8)]. The BCST group exhibited a greater percentage of successful communication exchanges about pain regardless of unit type ($b=-2.61$; $F=4.36$, $p=.042$) [BCST: Mean=92.9, 95%CI=(79.1, 100.0); C/UC: Mean=79.8, 95%CI=(51.3, 98.4)] and a significantly greater number of positive nurse communication behaviors within the MICU setting ($b=0.451$; $t=2.30$, $p=.0350$) [BCST: Mean=1.34, 95%CI=(1.00, 1.68); C/UC: Mean=0.89, 95%CI=(0.56, 1.22)] than the control group.

Phase—Specific Response Profiles for Mean Number of Acts Per Exchange



Phase—Specific Response Profiles for Mean Percentage of Successful Exchanges about Pain

Predicted Mean Percentage of Successful Exchanges about Pain



Conclusions and Clinical Implications

The BCST intervention resulted in significantly greater communication density (mean ratio of communication acts within an exchange), which may have corresponded with both the increased complexity of communication questions from nurses and/or the increased time spent resolving communication breakdowns (analysis to follow). Significant treatment effect also found for successfulness in

communication about pain symptoms, and quality in terms of positive communication behaviors. These early data suggest that provision of an interactive and evidence-based in-service alone facilitated positive changes in some nurse-patient interactions in the ICU. Further analyses comparing these data with those from Condition III, in which the SLP was an integral component of the intervention, will follow. Clinical implications will be proposed following data analysis and comparison among all three conditions.

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