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Increasing Communication of Patient Daily Goals During Interdisciplinary Rounds in an Inpatient Pediatric Cardiac Unit

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Abstract

Introduction: Ineffective communication between interdisciplinary team members in a pediatric inpatient setting results in poor documentation compliance and decreased staff satisfaction of daily goals. The use of a standardized patient daily goal sheet improves effective communication among interdisciplinary team members. The primary aims of this study were to improve RN satisfaction and knowledge regarding interdisciplinary communication, improve verbalization of patient daily goals in daily rounds, increase the number of daily goals verbally discussed and improve the quality of documentation in the electronic medical record (EMR). **Methods:** Data were collected on a pediatric academic 30-bed cardiac care unit involving 100 nurses. Pre and post data was collected for charting compliance, nurse satisfaction surveys, and rounding observation. Staff education was administered to bedside nurses on the use of patient daily goals as the intervention. **Results**: Bedside Registered Nurse (RN) satisfaction demonstrated a small effect size (effect size statistic = 0.294). A total of 122 pre-intervention and 97 post-intervention patient rounding presentations were observed over the course of the study. The average number of daily goals discussed during interdisciplinary rounds increased from an average of 0.84 (pre-intervention) to 2.32 (post-intervention). There was a decrease from 54.4% (N=90) incomplete specific, measurable, attainable, realistic and timely (SMART) goals (pre-intervention) to 27.8% (N=90) incomplete SMART goals (post-intervention) documented. **Conclusion:** Redesigning patient daily goals in the cardiac care unit provided a structured format, enhanced interdisciplinary communication, and improved quality and more complete documentation of SMART goals.

Introduction

Patient specific daily goals increase communication within the interdisciplinary team and substantially improve patient outcomes.[1] Enhancing effective communication aligns with the current Joint Commission on Accreditation of Healthcare Organizations (JCAHO) quality measures and Centers for Medicare and Medicaid Services (CMS) initiatives.[2] Improving the effectiveness of communication among caregivers is one of JCAHO's national patient safety goals for hospitals in 2021.[3] Verbal communication of patient daily goals during interdisciplinary rounds can assist in driving positive outcomes by increasing effective communication between nurses and physicians.[4] Communicating specific, measurable, achievable, relevant, and time-based daily patient goals as part of high-quality interprofessional team rounds are key to enhancing communication.[1] Improved patient outcomes, increased communication between healthcare providers, and increased staff and family satisfaction have been reported when a daily goal checklist,[5,6,] or

communication tool were utilized to better guide patient care.[7-12] Implementation of a standardized care communication checklist during rounds in an intensive care unit (ICU) can improve overall nurse attendance and engagement during rounds. The education of staff and providers on the importance of daily goals is instrumental to achieve adequate compliance of nurses that utilize a daily goals tool.[6] Evidence has shown that patient daily goal education distributed to staff and providers aided in the implementation of a daily goals tool, increased staff satisfaction, and improved bedside nursing compliance.[4,13]

An area for improvement identified by stakeholders in the cardiac care unit (CCU) was to address daily goals during interdisciplinary team rounding. This new process allowed the bedside nurse to assume the lead role in reporting current health status and concerning events. The driver of this organizational change is related to CMS and JCAHO outcomes listed in the 2020 CMS report for patient initiatives.[2] The use of simple checklists directly stating daily patient goals increased compliance in addressing daily goals. This project aimed to evaluate nurse satisfaction, comprehensive documentation, and ease of implementation by adding a daily goals sheet to interdisciplinary rounds. The main driver is to increase effective communication between the interdisciplinary team.

Problem Description

Ineffective communication among members of the interdisciplinary team can result in decreased patient outcomes, diminished staff satisfaction, and poor hospital performance. The purpose of this study was to increase communication between members of the interdisciplinary team on the CCU by adding patient daily goals to interdisciplinary rounds. Bedside rounding, grand rounds, and registered nurse (RN) led rounds have been implemented in intensive care unit (ICU) settings to increase effective communication, foster collaboration, and drive patient care. Evidence-based literature suggests addressing patient-specific daily goals during interdisciplinary rounds enhances communication between providers, patients, and family members.[7] The three aims for the project were to evaluate: (a) RN satisfaction and knowledge regarding interdisciplinary communication; (b) Improve verbalization of patient daily goals in daily rounds; (c) Increase the number of patient daily goals verbally discussed and improve the quality of documentation in the EMR.

Methods

Setting and Subjects

This study was conducted in a pediatric academic 30-bed inpatient cardiac care unit with 100 bedside nurses. The unit is comprised of both step-down and ICU-level pediatric cardiac patients. Subjects participating in this study met the following inclusion criteria: full and part-time float pool and cardiac nurses providing direct care to pediatric cardiac patients in the CCU. There were 100 nurses providing direct patient care on the CCU and all were encouraged to participate. Exclusion criteria included nurses not caring for cardiac patients and students.

Diffusion of Innovation Theory

This study used the Everett Roger's Diffusion of Innovation Theory to guide implementation and sustainability.[14] Roger's theory mimics and mirrors the approach of evidence-based practices being disseminated into health care practice. This project utilized the five communication channels of knowledge, persuasion, decision, implementation, and confirmation throughout the study. Many studies have used the theory to identify the implementation process and outcomes of nursing interventions, quality of documentation, and standard of care.[15-17]

Baseline Process of Rounds

Before the project was initiated, daily interdisciplinary rounds started around 9:00-9:30 am every morning. Staff members involved in interdisciplinary rounds include the attending provider, cardiologist, a mix of residents and advanced practice providers (APP), charge nurse, bedside nurse, dietitian, pharmacist, nurse navigators, and family/parents. The rounding process was organized by the charge nurse and patient presentations were provided by the resident or APP who was responsible for each particular patient.

Design and Intervention

The study design for this project is a one-group pre/post interventional study. The group hypothesized that building a standardized patient daily goals sheet and building it into the EMR system would increase communication by fostering discussion during interdisciplinary rounding.

There were three phases of intervention: pre-intervention, intervention, and post-intervention. The pre-intervention phase included the concepts of knowledge, persuasion, and decision making. An email was distributed to all bedside nurses involved in the study to explain and discuss the implementation, content of the electronic-learning module, and the importance of evidence-based intervention. A description was included of the incentive available upon completion of the surveys. Study data were collected and managed using Research Electronic Data Capture (REDCap) electronic data capture tools hosted at

University of Nebraska Medical Center. REDCap is a secure, web-based application designed to support data capture for research studies. REDCap at UNMC is supported by the Research IT Office funded by Vice Chancellor for Research (VCR). This publication's contents are the sole responsibility of the authors and do not necessarily represent the official views of the VCR and NIH. The pre-study RN survey was administered with demographics via REDCap through a mandatory Cornerstone e-learning module system which determined the bedside RNs level of satisfaction with the current process in place for patient daily goal documentation and communication. Cornerstone is an organization-based e-module that is mandatory education for bedside RNs.

The study intervention phase took place over three weeks and included delivery of the e-learning module via Cornerstone to all RNs participating in the project. The e-module contained information on the daily goals rounding sheet and the evidence-based research to support the sheet along with a pre/post RN knowledge assessment. The patient daily goal sheet was distributed to each RN during interdisciplinary rounds two weeks after the release of the email and education module to clearly identify and record the patient-specific daily goals. The bedside RN then documented the daily goals accordingly within the EMR.

The post-intervention phase included the concept of confirmation. A post-study RN survey was sent through an email one month after the intervention to evaluate the bedside RNs level of satisfaction with the patient daily goal documentation and communication. The incentive was provided upon completion of the post-survey for the respondents to enter to win one of ten $5 gift cards.

Measures

Our two primary measures assessed direct observation of daily goals discussed and charting compliance of daily goals documented. Six days of pre-and post-intervention direct observation included 123 pre-observations and 97 post-observations. Charting compliance was assessed in 90 random charts retrospectively and post-intervention.

The pre and post-knowledge assessment determined the level of understanding of the current process and expectations regarding patient daily goals with an introduction to the study implementation. To ensure privacy and confidentiality, observations during the interdisciplinary rounding process were conducted by unidentified team members on random dates, and data were directly entered into REDCap. Data collected during the observation process included the number of daily goals verbally discussed amongst the interdisciplinary team. Data collected during the EMR chart audit included the number of daily goals documented and the quality of daily goals recorded as specific, measurable, achievable, relevant, and

time-based (SMART) format or incomplete goals with only some elements of the SMART format documented. De-identified chart audits for this project were automated reports generated by the stakeholders' electronic health record team to assess RN daily goal documentation. Questions used in RN satisfaction surveys were scored based on the responder's 5-point Likert scale response (0 = strongly disagree, 1= disagree, 2 = neither agree nor disagree, 3 = agree, 4 = strongly agree).

Analysis

Descriptive statistics were used for each of the demographic, intervention, and outcome variables. For the aims of RN verbalization of daily goals in daily rounds and RN documentation of patient daily goals in the electronic medical record, and evaluating RN knowledge of daily goals, frequencies, as well as independent t-tests, were used. The aim of RN satisfaction regarding interdisciplinary communication was assessed with frequency counts. Additional analysis for the relationship between the outcome and demographic variables was evaluated with Pearson and point bi-serial correlations, and chi-square methods as appropriate.

Ethical Considerations

The Institution Review Board was not required due to the absence of face-to-face contact with patients and no identifying patient data were collected. The study abided by the University, Professional Graduate Nursing Affairs Committee, and hospital standards and privacy policies.

Results

Demographics

The sample included nurses with an average age of 30 years old, mostly white (N=100, 96%), female (N=100, 97%) with a bachelor's degree (N=100, 94%). Average hours worked in the cardiac care unit were 26 hours, however, 40% (N=100) of the population worked full time at 36 hours per week. The average years of pediatric experience in the population sample were 5 years (N=100).

Staff Satisfaction

Bedside RN satisfaction of interdisciplinary rounds demonstrated a non-significant p-value, .25, and a small clinical effect size Cohen's $d = 0.29$. The bedside RN satisfaction with the process of documentation was not significantly changed, $p = .78$, $d = 0.07$. The pre-post knowledge assessment of the education module did not prove to be statistically, $p = .19$, or clinically $d = 0.19$, significant.

Observation of Daily Goals

A total of 122 pre-intervention and 97 post-intervention patient rounding presentations were observed over the course of the study. A Mann-Whitney test indicated that there was a significant difference in the number of daily goals verbally discussed during rounds pre-intervention (Mdn= 1.0) and post-intervention (Mdn= 2.0), $U = 9346$, $p = <.001$, $r = 0.53$. The average number of daily goals discussed during interdisciplinary rounds increased from an average of 0.84 (pre-intervention) to 2.32 (post-intervention) as depicted in Figure 1.

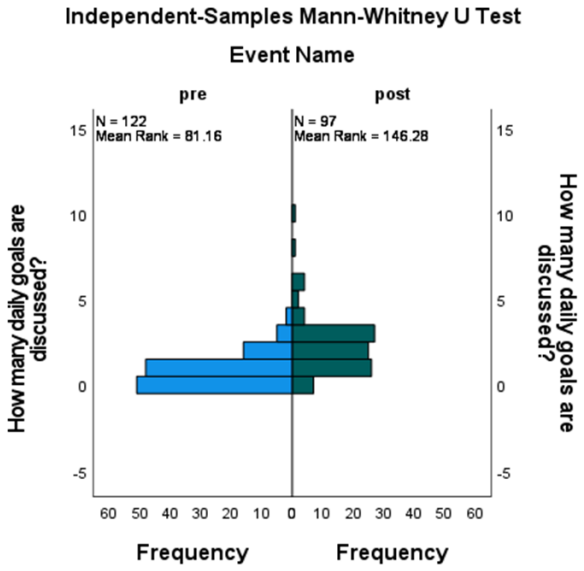

Fig. 1. Number of daily goals discussed.

Documentation of Daily Goals

A chi-square test of independence was performed to examine the relation between SMART goals documented pre-intervention and post-intervention. The relation between these variables was significant, $X^2(1, N=89) = 13.3$, $p< .001$. There was a decrease from 54.4% (N=90) incomplete SMART goals (pre-intervention) to 27.8% (N=90) incomplete SMART goals (post-intervention) documented. There was no statistical significance identified in the number of goals documented pre-intervention to post-intervention. However, clinical significance was determined due to an increase in the number of goals documented in the range of 2-4 goals pre-intervention to 4-6 goals post-intervention (Fig. 2).

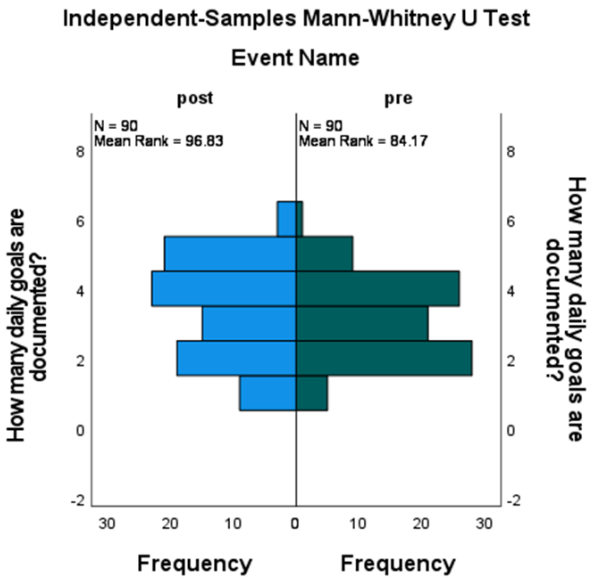

Fig. 2. Number of daily goals documented.

Discussion

Prior to our study, daily goals in the inpatient pediatric cardiac unit lacked a designated time and place in which they were discussed. In addition, there was an inconsistent documentation process. The team hypothesized that introduction of a daily goals sheet during interdisciplinary rounds would provide a structured format to aid in interdisciplinary discussion during rounds and increase documentation of patient daily goals by bedside RNs, as seen in previous studies.[1,13,18]

According to pre-survey data, bedside RNs' baseline knowledge of patient daily goals was high prior to the distribution of our intervention education. Possibly this higher knowledge level of patient daily goals explains the insignificant difference in pre/post survey data. Overall, the staff was satisfied and understood the importance of daily goals prior to the introduction of the patient daily goals sheet which hindered our ability to show effect size. Previous studies have shown that patient daily goal education distributed to staff and providers aided in the implementation of a daily goals tool, increased staff satisfaction, and improved bedside nursing compliance.[4,13] Additionally, staff satisfaction aids in the implementation and sustainability of addressing patient goals daily in a consistent and measurable manner.[4]

Many factors impacted interdisciplinary communication during observation including family presence, length of time, and multitasking of staff members during rounding. Though not statistically significant, these factors are important considerations in the development and sustainability of the study. Key team members identified during rounds included the attending physician, cardiologist, residents and Advanced Practice Providers, charge nurse, bedside nurse, pharmacist, dietician, and nurse navigators. Verbal communication of patient daily goals during interdisciplinary rounds has been proven to drive positive outcomes by increasing effective communication between nurses and physicians.[4]

SMART goal documentation was identified as a statistically significant increase of 26% ($p<0.001$). Communicating specific, measurable, achievable, relevant, and time-based (SMART) daily patient goals as part of high-quality interprofessional team rounds is key to enhancing communication.[1] Our results did not identify a statistically significant increase in the number of daily goals documented, however, the quality of the patient-specific goals improved, with a reduction in the number of incomplete SMART goals documented, in turn enhancing interdisciplinary communication amongst the team members. An increase in the range of patient daily goals documented was found to show clinical significance. The use of a standardized tool in the ICU setting has been shown to have a positive impact on quality of care, reported improved nursing perception of communication, enhanced patient-specific care plans, and daily goals when written in SMART format.[7,9-12]

Limitations

Due to anonymity, we were unable to match pre-and post-data. In addition, the sample size was small thus generalization is cautioned. Limited bedside RN post-satisfaction survey participation was attributed to having the pre-survey presented as mandatory in the cornerstone education module and the post-satisfaction survey being voluntary and administered via email. Limited bedside RN post-satisfaction survey participation persisted regardless of multiple attempts to increase participation including gift card incentives, staff emails, placing in the staff newsletter, and QR code posters on the unit to increase ease of use.

Sustainability

Identification of patient-specific daily goals is an important driver inpatient care and can dramatically impact patient outcomes. Sustainability for this project includes recruiting and identifying champions to aid in the review of education on the importance of documenting SMART daily goals and performing audits of the process to identify barriers to continuity. Additional reinforcement to aid in sustainability could include reminders in the staff newsletter, flyers around the unit, and documentation campaigns. The

group has created a valuable framework for the facilitated discussion and documentation of patient daily goals. We look forward to further evaluation and modifications over time to fully evaluate the impact on various patient outcomes.

Conclusion

Overall interdisciplinary discussion of daily patient goals aids in the development of patient-specific plans of care and enhances interdisciplinary communication. Identification of standardized daily goals during interdisciplinary rounds provides a structured format and improves quality documentation of patient daily goals by bedside RNs.

Disclosure

The authors have no financial interest to declare in relation to the content of this article.

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