Journal of Pediatric Nursing xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Journal of Pediatric Nursing

Evidence-based Practice in Action: Ensuring Quality of Pediatric Assessment Frequency

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ARTICLE INFO

Article history:
Received 2 June 2016
Revised 28 November 2016
Accepted 7 December 2016
Available online xxxx

Keywords:
Head-to-toe assessment
Evidence based practice
Focal assessment
Pediatrics

PURPOSE

Optimal frequency of head-to-toe assessment in hospitalized pediatric patients is unknown. An alteration in head-to-toe assessment frequency was proposed at a Midwestern regional hospital. The purpose of this descriptive study was to evaluate patient safety and staff satisfaction following a change in head-to-toe assessment frequency.

Method: Chart audits were performed on all patients upon discharge and after any change in level of care to assess the risk to patient safety following the change in head-to-toe assessment frequency. Nurses were surveyed to determine satisfaction with the change.

Results: A total of 421 patients were included in the study. After the change, there was no increase in the number of unplanned transfers to the intensive care unit from the previous year. Registered nurses ($N = 15$) perceived no decrease in patient safety following the change. Registered nurses were satisfied with the change in assessment frequency noting they perceived more time to provide direct patient care.

Conclusions: The change in head-to-toe assessment frequency did not impact patient safety, but had a positive impact on nurse satisfaction. Following the study period, the unit policy was changed to reflect the new evidence based head-to-toe assessment interval. Further research is needed with a larger, more diverse sample of pediatric patients and pediatric nurses.

Registered nurses (RNs) on pediatric units across the United States are responsible for providing care to millions of diverse and unique hospitalized children each year. In 2010, approximately 377 of every 10,000 children under the age of 18 were admitted to hospitals in the United States (U.S. Department of Health and Human Services, 2013). RNs provide care guided by ongoing assessment, requiring complete head-to-toe assessments on each hospitalized patient at least once per shift (American Nurses Association [ANA], 2010). Head-to-toe assessments allow the RN to gain an understanding of the patient's overall health and provide information on the extent of conditions through physical examination of each body system.

The standard of care at one Midwestern regional hospital required head-to-toe assessments every 4 h on floor status patients and every 2 h on pediatric intermediate care unit (PIMCU) patients. PIMCU status patients require closer monitoring or additional therapies and, therefore, have higher acuity scores. Examples of PIMCU status patients include patients on high flow oxygen and those requiring every two hour neurologic checks. RNs on the pediatric unit at the hospital advocated for change in assessment frequency after noticing that the policies for the general pediatric unit required more frequent head-to-toe assessments than those required by the neonatal intensive care unit (NICU). Infants in the NICU received head-to-toe assessments every 6 h, compared to every 4 h for general pediatric patients. The discrepancy between hospitalized patients' acuity and the required assessment interval led RNs to reevaluate the pediatric unit's policy.

Further investigation by the hospital staff and researchers revealed no previously published studies or guidelines for head-to-toe assessment frequency, other than a recommendation by the ANA (2010) to complete assessments at least once a shift. In order to gain information on head-to-toe assessment frequency in other hospitals, the manager of the pediatric unit sent a query to all members of the Magnet hospital listserv. He requested information pertaining to pediatric head-to-toe assessment frequency and any evidence being used to guide assessment frequency. Nine facilities, both children's hospitals and adult hospitals with inpatient pediatric units, responded to the query. Hospitals responded with assessment frequencies of every four to every 12 h, but none of the hospitals reported an evidence-based reason for the chosen frequency.

Published studies identify the importance of pain assessment, triage assessment, and assessment of patients' status in the pediatric population, but none provide a distinct time frame for assessments (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Lincoln et al., 2013). While the American Nurses Association provides general guidance including the need for assessments at least once per shift and ongoing assessment, no specific assessment frequency is identified nor is information

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http://dx.doi.org/10.1016/j.pedn.2016.12.009
0882-5963/

Please cite this article as: McDonald, K., & Eckhardt, A.L., Evidence-based Practice in Action: Ensuring Quality of Pediatric Assessment Frequency, *Journal of Pediatric Nursing* (2016), http://dx.doi.org/10.1016/j.pedn.2016.12.009

provided to guide RNs in determining appropriate head-to-toe assessment frequency (2010).

Intended Improvement

Preceding the change in policy, RNs on the inpatient pediatric unit completed head-to-toe assessments every 4 h for floor status patients and every 2 h on PIMCU patients. At this facility, floor status and PIMCU patients are cared for on a single unit that is staffed by RNs that care for both populations. The recommended policy change decreased head-to-toe assessment frequency to every 12 h for all patients and added focal assessments. Focal assessments refer to the assessment of a particular body system instead of the assessment of all body systems. Focal assessments were added every 4 h on floor status patients and every 2 h on PIMCU patients. Key contributors to the proposed change included staff RNs, a nursing supervisor, and the nurse manager.

Specific Aims

The purpose of this descriptive study was to evaluate the impact of a change in head-to-toe assessment frequency on patient safety and staff. While the project began as a quality improvement initiative, the lack of research evidence required a descriptive study be completed. The research aims were:

1. To evaluate patient safety after the change in frequency of head-to-toe assessments.
2. To determine RN satisfaction with the change in frequency of assessments, as well as evaluate whether the change was associated with decreased charting time.

Methods

Design

This descriptive study included a convenience sample of pediatric patients ($N = 421$) and RNs ($N = 23$) at a regional medical center. Data were collected via chart audits and surveys of RNs. Surveys were emailed to RNs two weeks prior to the scheduled change and again four weeks prior to the end of the study period. Chart audits were continued until preliminary data on all aims were reviewed. Once preliminary data were reviewed, the policy change to every 12 h head-to-toe assessments was made permanent.

Setting

The study was conducted on a 17-bed inpatient pediatric unit at a 393-bed, level I trauma, level III perinatal, Magnet-designated hospital located in the Midwest. The pediatric unit includes floor status and PIMCU patients. RN assignments are determined by patient acuity. Patient acuity is established using an electronic acuity system in which RNs score patients once per shift based on the patient's current condition. RNs on the pediatric unit care for a maximum of four floor status patients or a combination of two to three floor status/PIMCU patients.

Planning the Intervention

In collaboration with hospital leadership, the pediatric assessment policy was revised to include head-to-toe assessments every 12 h with focal assessments every 4 h for floor status patients and every 2 h for PIMCU patients. The choice of head-to-toe assessments every 12 h was based on discussions with the pediatric unit medical director, nursing director and information gained from the query of Magnet facilities conducted by the pediatric nurse manager. Magnet hospitals reported the following: 22% completed head-to-toe assessments on pediatric patients every 4 h, 22% every 6 h, 22% every 8 h, and 33% every 12 h. The goal of the pediatric unit was to make a change significant enough to impact time management, ensure RNs completed assessments no less than once per shift, and maintain patient safety. Due to a lack of research evidence, the nursing and medical directors used their clinical knowledge as well as the responses of Magnet hospitals to determine a change in head-to-toe assessment frequency to every 12 h was appropriate for the study. While the change decreased the number of head-to-toe assessments, the amount of patient contact remained the same as focal assessments were added and no changes to the vital signs or hourly rounding policies were made. RNs were also encouraged to used clinical judgment and complete more frequent assessments as appropriate.

To ensure patient safety following the decrease in head-to-toe assessment frequency, focal assessments were completed every 4 h on floor status patients and every 2 h for PIMCU patients. The RNs were able to focus more frequent assessments on areas of health deviation rather than the entire body. The alteration in type of assessment, from head-to-toe assessment to focal assessment, allowed the RN to concentrate on identifying changes related to the patient's presenting problem. Head-to-toe assessments were performed every 12 h or with any change in primary nurse assignment. In addition to physical assessment, the health of pediatric patients was monitored via vital signs and hourly rounding. Vital signs (including temperature, pulse, and respiratory rate) were taken every 4 h on floor status patients and every 2 h on PIMCU patients, or at a frequency ordered by the patient's physician. The patient's blood pressure was recorded once every 12 h.

Approach to Intervention Assessment

Due to the lack of research evidence, the decision was made by the hospital's nursing leadership to complete a study to ensure the change was safe and evidence-based. The primary concern was patient safety; therefore, chart audits were completed to assess patient safety throughout the pilot period. The second goal of the study was to determine RN satisfaction with the change in head-to-toe assessment frequency. RN satisfaction was measured via survey.

Measures

Chart Audit

The audit tool was developed to collect basic patient information, major changes in assessment findings, and RN compliance with the proposed policy change. The audit tool was created for this study by the researcher and evaluated for quality by the nurse manager, unit educator, and two doctorally prepared nurse researchers. Random chart audits by the primary researcher were used to confirm interrater reliability. No discrepancies between the primary researcher and the data collectors were found. No other assessment of reliability or validity was completed on the chart audit tool and no reliability statistics were completed. The chart audit included a table for tracking any major changes in assessment findings between head-to-toe assessments completed at the beginning of each RN's shift to ensure less frequent assessments did not result in missed condition changes. For any patient who was upgraded to PIMCU status or transferred to the intensive care unit, the head-to-toe assessment at the time of transfer or upgrade was compared to the last head-to-toe assessment to monitor for major changes between assessments.

An additional section of the chart audit was completed for patients that were upgraded to PIMCU status or transferred to the intensive care unit. Supplementary questions included whether the patient was upgraded within 4 h of admission, what actions were taken to improve the patient's condition, and whether more frequent head-to-toe assessments may have prevented the change in patient status. On all transferred and upgraded patients, the Pediatric Early Warning System (PEWS) score was recorded as part of the chart audit. Per hospital policy, the PEWS is charted by bedside RNs every 4 h for floor status pediatric patients and every 2 h for PIMCU patients. The PEWS is a scoring system developed to promote early recognition of a patient's

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