PROJECT PURPOSE & AIMS

Aim 1. To modify, then test the usability of a current quality measure of pediatric pain care, and to assemble data regarding the pain assessment-intervention-reassessment (AIR) cycle, to quantify improvement in pain status.

Aim 2. To determine whether, using this measure, children had documented pain relief.

METHODS

1. Modified pediatric pain relief assessment-intervention-reassessment (AIR) process measure originated by Susan Lacey et al.
2. Modifications added pain scale scores and times intervals in two sequential AIR cycles.
3. Recruited hospitals with goal of acquiring data from a minimum of two units per each children's hospital.
4. Nurses used 24-hour retrospective chart review.
5. Data collected between April and August, 2016 from 12 clinical units in 4 children's hospitals.
6. Data included gender, age of child in years and months, unit type.
7. Data also included information for 2 sequential pain AIR cycles, including pain scales used to assess each child, pain scale scores, type of pain recorded, intervention used for pain relief, and times of each pain assessment and reassessment.
8. Data analysis evaluated missing data and illogical responses.
9. Data was analyzed using exploratory descriptive statistics, including frequencies, comparisons of means, cross tabs and non-parametric tests.

RESULTS

Sample Population - 101 hospitalized children ages 3-19 years of age from 4 children's hospitals
Gender: Male 62
Female 39
School Age 30
Adolescent 40
Medical 59
Med-Surg 11
ICU 6
0 of 41 children documented with pain, 54% were female and 66% were male.
81% were adolescent, 22% were school-age, 27% were pre-school age.
Mean pain scale score 4.66; 61% had a reduction in pain score, with mean reduction of 2.36 (based on 1-10 scale) = 25% reduction in pain.
While 42% of preschool age and 83% of school age children had at least 10% reduction, only 42% of adolescents had pain reduction.
Adolescents received pharmacologic intervention 20-40% less often than other children.

KEY FINDINGS

Nurses demonstrated modest success in reducing pain by at least 20% for the majority of hospitalized children.
Nurses intervened about 75% of the time, regardless of the child's initial pain level.
Time Intervals between Assessment and Reassessment after an intervention varied widely (0.5 hours to 6.0 hours), suggesting lack of adherence to an appropriate time interval.
Reliance of nurses on medication to relieve children's pain (73.5%) can limit the pain relief achieved by other interventions for hospitalized children. Given the influence of nurses in the literature to adequately medicate children for documented pain, it suggests that nurses who are not medicating children for pain is important.
Use of most valid pain scales appropriate for the age of the child not followed. Heavy reliance on observational scales for school age children.
Based on the systematic reviews in the literature, FACES would have been appropriate for all age groups, yet only 8.9% of all children were assessed by using this method.
Adolescents who self-reported their pain scores, had relief of pain half as often as did younger children whose pain scale scores were more often documented by nurses.
Children who reported higher pain scale scores were less likely than children with lower scores, to get at least 20% relief of pain.
Hospital policies, reported but not evidenced by this data, have been noted by nurses to not require interventions to relieve children's pain unless the pain score is documented at least 4 out of 10.

RECOMMENDATIONS

Drive development of standards and policy for time to reassessment for pain.
Increase nurses' knowledge of reliable and valid pain scale for each age group.
Use the leverage of a large data engine such as NDNQI to drive examination of pain management processes and reductions in pain for children through use of modified pain quality outcome measures such as Lacey's.
Increase nurses' knowledge of a variety of pain relieving interventions, and collect data regarding their effectiveness.

Contact Information: Dr. Mary Jean Schumann, GW School of Nursing
202-994-3484 Email: smjmjs@gwumc.edu; or mary.schumann1@gmail.com