Implementation of Mindfulness with Emergency Nurse Practitioners to Decrease Burnout

Jennifer Brown

Problem & Purpose: The emergency department is challenging due to its fast-paced and highly stressful environment. Nurse Practitioners (NPs) are at risk for increased stress and decreased well-being leading to burnout. This quality improvement project aim was to teach nurse practitioners the skill of mindfulness, specifically guided sitting meditation. With effective intervention, it's expected that the skill of mindfulness can directly impact stress and well-being with the goal of decreasing burnout amongst the group. The Maslach Burnout Inventory (MBI) tool was used to identify burnout.

Methods: This quality improvement project involves nurse practitioners that work in an urban emergency department. The project had a pretest/posttest design. NPs were invited to four mindfulness sessions and introduced to guided sitting meditation. The MBI pretest was administered to the NPs at the start of the mindfulness session. After each session, NPs had access to a self-guided sitting meditation via electronic file. The NPs were encouraged to practice the guided sitting meditation for 10 minutes a day for at least 5 days a week independently and report weekly the frequency of use. The sessions and self-guided practices lasted 13 weeks.

Results: Twenty-one NPs participated in four mindfulness sessions. MBI pretests showed mean scores for Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA) as follows 25.1, 9.9 and 33.4 meaning that the NPs scored in the moderate level for each of the categories. Fifteen emergency nurse practitioners completed the post-MBI survey with the scores for (EE), (DP) and (PA) as follows 22.9, 9.3, 33.4, meaning that the scores remained within the moderate level on the MBI scoring tool after the intervention. P-values were as follows for each category 0.27, 0.70 and 0.4, respectively. The significance of X was set at $p<0.05$.

Conclusions: With this QI project, the foundation of ongoing mindfulness workshops and training was established. This project helped to shape what future training around mindfulness can look like for emergency nurse practitioners. After 13 weeks of practicing mindfulness, data trended towards improved scores regarding burnout. This is promising, showing the impact that mindfulness has on the reduction of burnout. Incorporating brief mindfulness has value to the individual and organization.

Postoperative Interventions for Enhanced Recovery After Gynecological Surgery

Claire Du

Problem and Purpose: Enhanced recovery after surgery (ERAS) programs aim to minimize the insults of surgery by guiding providers in the provision of perioperative care that preserves and restores normal physiological function. ERAS protocols are broken down into three phases: preoperative, intraoperative, and postoperative. An East Coast community hospital reported challenges to gynecological (GYN) surgery recovery. These challenges of recovery include complications such as inadequate pain control, nausea and vomiting, and ileus. The institution lacked a clear menu of evidence-based interventions for the perioperative care of this patient population. The aim of this DNP project was to develop the postoperative interventions of a clinical practice guideline (CPG) for ERAS guided care of GYN patients. This project will be combined with another DNP project focused on the preoperative and intraoperative phases to provide the facility with a complete perioperative GYN ERAS CPG.
Methods: A literature review was conducted and shared with key stakeholders. Subsequently a CPG for the postoperative phase of GYN patients was drafted from the findings. A combined draft containing all three perioperative phases was presented to key stakeholders for feedback via the Agree II tool. Edits were completed accordingly and an updated version was presented at an anesthesia department meeting. Anesthesia providers' attitudes and beliefs towards the CPG were assessed using the Practitioner Feedback Questionnaire (PFQ). Data collected from the AGREE II tool and the PFQs were analyzed using descriptive statistics.
Results: The overall calculated AGREE II domain score was 93.5% which reflects a high grade of quality. Fifteen anesthesia providers were in attendance and 100% of PFQ surveys were collected (n=15). In reviewing data from the PFQ surveys, the overall attitudes were positive towards the CPG. The results showed that 100% of the providers agreed that the quality of the CPG was high. 100% of providers replied that they would apply the recommendations set forth in the CPG to their patients.
Conclusions: The CPG was formally approved by administrators. The next step for the institution will be the implementation of the CPG.

Implementing Patient Triage Communication: Improving Nurse-Provider Communication and Promoting Safety

Stacey Graham

Problem & Purpose: Ineffective handoff communication is a critical patient safety problem resulting in delays in treatment and adverse events. At a large, hospital-based outpatient clinic of a large East Coast academic medical center, the lack of a standardized communication tool resulted in messages that were misunderstood or lacked valuable information. The purpose of this evidence-based quality improvement project was to facilitate nurse-provider communication through the implementation and evaluation of a patient triage communication tool based upon situation, background, assessment, recommendation (SBAR) methodology.
Methods: This DNP project was guided by Lewin's Change Theory. A retrospective electronic health record (EHR) review demonstrated a lack of a structured communication method resulting in communication breakdowns. A literature review demonstrated that SBAR methodology creates a common language for nurse-provider communication. An adapted SBAR methodology communication tool was uploaded into the EMR. Over nine weeks, triage nurses and providers from trauma general surgery teams A, B, C, D, and ACES utilized the communication tool for every patient call. Weekly chart audits evaluated the median time at each point in communication and length of time to close the call encounter. Safety Attitude Questionnaire (SAQ) evaluated teamwork and safety climate pre-implementation and post-implementation.
Results: Compliance with the standard communication tool ranged from 83% to 100% (average 95%). The reason for the lack of use in week one of implementation was electronic health record coding issues within the communication tool. Comparing data 1-month pre-implementation through 9 weeks of implementation: SAQ demonstrated the lack of teamwork remained steady at 60%, and communication breakdowns decreased from 70% to 40%; time cycling demonstrated: nurse to provider communication response mean decreased from 1.91 to 1, provider to nurse communication response mean decreased from 0.97 to 0.84 and nurse to patient communication response mean decreased from 1.05 to 0.86. The median length of time from the initial call to the encounter closure decreased from 245.5 (4.09 hours) to 155 (2.58 hours). Process cycling revealed that the triage process could not be standardized under the defined steps as it did not account for variability in nursing practice or quality of the voice messaging system.
Conclusions: The standardization of triage documentation impacted the time from the initial call to encounter closure as well as the number of responses between nurses and providers. While the time benchmark of 120 minutes (2 hours) was not met, the improved response times have led to leadership support for sustainability and spread to the remaining four trauma specialty surgery teams.

Reducing Hemodynamic Variations from Oxytocin Administration during Cesarean Sections: Clinical Practice Guideline

Ashton R. Hyde

Problem & Purpose: Oxytocin is administered during cesarean sections to prevent uterine atony; however, oxytocin's adverse side effects include decreased systemic vascular resistance, reflex tachycardia, arrhythmias, bradycardia, transient asystole, myocardial ischemia, and ST segment changes. Previously, intravenous bolus doses of 10 units were commonly administered, which have led to significant hemodynamic effects and, in some cases, patient demise. Similar cardiovascular effects have been observed in the five-unit bolus dosing range. Currently, oxytocin is administered as an unregulated infusion with the potential for 20-30 units in a minimum of ten minutes. Methods used in clinical practice vary profoundly and no widely accepted oxytocin uterotonic management guideline exists. The purpose of this Quality Improvement (QI) project is to develop a Clinical Practice Guideline (CPG) that examines administration methods to reduce variable hemodynamics.

Methods: This project consisted of four phases, which included: formation of a stakeholder team and CPG development using AGREE II tool feedback, dissemination of a formalized presentation, revision of the CPG using the responses elicited via the Practitioner Feedback Questionnaire (PFQ), and a confidential data analysis. Although improvements in hemodynamics were observed in clinical practice, this data was not collected or analyzed.

Results: The AGREE II had high quality scoring for the overall guideline (93%). Key stakeholders recommended use of the CPG in practice. PFQ indicated an 80.7% (n=12) agreement among the questionnaires for quality, recommendation acceptance, recommendations applicability, comparative value, and outcome variables. Providers and students subjectively reported reductions in hemodynamic variability and the lack of definitive data precluded a formal analysis.

Conclusion: Circumventing practice variation will mitigate hemodynamic instability and communication failures. Practitioners deemed the CPG as high quality and easily translatable to practice; however, resistance persists for widespread clinical implementation. Future recommendations include reducing these institutional barriers, performing data analyses of hemodynamic changes pre and post utilization of the CPG, and evaluating the extent of improved patient outcomes.

Medical Clearance Algorithm for Adult Behavioral Health Patients in the Emergency Department

Micah G. Malenfant

Problem and Purpose: Patients with psychiatric symptoms may receive medical clearance in the emergency department (ED) to identify medical conditions which are contributing to the psychiatric condition or that require emergent treatment prior to admission to the inpatient behavioral health unit (BHU). Diagnostic testing is indicated when specific conditions are revealed on a thorough history or physical (H&P), but patients may receive unnecessary laboratory or other diagnostic testing.
Methods: Time from triage to disposition decision was collected over a 3-week baseline and two-month implementation period. An algorithm checklist was used to track presenting symptoms, significant clinical findings from the H&P, and disposition type.
Results: Of patients evaluated with the algorithm, there was a non-significant ($t= -0.25$; $p = 0.81$) increase of 9.5 minutes from triage to disposition (320.4 min., SD= 236.4; 329.9 min., SD= 234.4). During implementation, 40.9% of patients received no laboratory testing. One patient (over age 65) who was admitted to the BHU required a transfer to a medical unit for a medical condition within 72 hours. This admission occurred on the 3rd day of the project implementation, while providers were adjusting to the new protocol; use of the algorithm would have prompted lab draws in the ED prior to admission.
Conclusion: The algorithm-based protocol helped to shift provider focus from reliance on expensive diagnostic and laboratory testing to performing more thorough and comprehensive patient assessments. Surveyed providers favored the practice change and believed it to be safe and acceptable. Patient safety did not appear to be compromised.
Keywords: medical clearance, medical clearance algorithm, emergency department, behavioral health

Stopping Elderly Accidents, Deaths, and Injuries: Fall Prevention for Community-dwelling Older Adults

Sarah Neser

Problem & Purpose: Falls are the leading cause of death due to injury among older adults, yet most older adults who fall fail to report falling to their provider. Lack of routine fall screening and management among community-dwelling older adults places them at risk for future falls and injuries. The purpose of this 12-week quality improvement project was to implement the Centers for Disease Control and Prevention's Stopping Elderly Accidents, Deaths, and Injuries protocol in a primary care office to screen older adults for falls and address modifiable risk factors for those at increased risk.

Methods: A literature review supported the protocol in reducing falls among older adults. Publicly available resources were adapted into training presentations and case scenarios for providers and staff. Per protocol, staff screened eligible older adults during their office visit. Providers assessed gait and balance for those with a positive screen and identified fall-risk (low, moderate or high). Moderate- and high-risk patients received a risk assessment and fall plan of care. Protocol steps were recorded on checklists reviewed weekly by the project leader to evaluate protocol adherence. Ongoing chart reviews, case scenarios, and a mid-project training session reinforced the protocol. Data was analyzed in three four-week time intervals with a goal of 80% adherence to all protocol steps.

Results: The majority of protocol steps remained above goal over all time intervals or improved with training. All moderate- and high-risk patients received a fall care plan, despite risk assessments dropping below goal in the final interval. Moderate-risk patients were difficult to correctly identify. Overall protocol adherence was highest for low-risk patients (97%) and lowest for high-risk patients (80%) compared to moderate-risk (81%).

Conclusion: With continued staff education and protocol reinforcement, the Stopping Elderly Accidents Deaths and Injuries protocol can be successfully implemented in the primary care daily workflow. Protocol adherence may be complicated by fall-risk level. This project's results support the 2019 modified protocol in removing stratified risk level. Barriers to implementation include lack of protocol reimbursement and time to complete the protocol. Future studies should assess effectiveness of the protocol in reducing falls at one-year follow-up.

Cranial Electrical Stimulation in an Outpatient Pain Management Clinic

T. Victoria Proctor

Problem & Purpose: Recognition of overreliance on opioids to treat chronic pain and the resulting national epidemic of opioid addiction and overdose deaths have contributed to growing clinical interest in non-pharmacologic adjunct treatment modalities for chronic pain management. Cranial electrical stimulation (CES) is one such non-pharmacologic modality with evidence to support its potential as an adjunct therapy to treat chronic pain and anxiety. For over five years, CES has been successfully used as an adjunct chronic pain and anxiety treatment at an urban inpatient rehabilitation facility. The purpose of this quality improvement project was to expand the use of CES as a non-pharmacologic adjunct treatment therapy to an affiliated outpatient pain management clinic, by training staff in CES administration to address pain and anxiety among the clinic patient population.

Methods: Outpatient clinic staff were trained in the proper administration of CES per the protocol already in use for the inpatient population at this site. They were tested for competency and observed for CES administration. Cranial electrical stimulation uses a micro-current waveform that modulates pain signals along the sensory nerve pathway, thus reducing pain and anxiety of various origins. The device used to administer CES was the Alpha-Stim AID. Data collection included the total number of patients who received written information about the Alpha-Stim device and who received CES treatment. A patient satisfaction survey was distributed to patients after treatment, and run charts were created to show the mean ratings of patient satisfaction with CES treatment over time.

Results: During the 11-weeks of this project, 2 of 3 items on the patient satisfaction surveys (patient enjoyment and relaxation with CES) averaged 4.5 (90%) and (4) 80%, respectively on the five-point Likert scale. The mean rating for change in pain after CES treatment did not reach the intended goal of 4.0 (80%) on the 5-point Likert scale.

Conclusions: CES is a desirable treatment option in an outpatient pain management clinic. However, the logistical constraints at this clinic, such as lack of frequency of outpatient visits, were barriers to treatment available as widely and frequently as in the in-patient environment.

Universal Suicide Screening in a Pediatric Gastroenterology Outpatient Clinic

Morgan Stankiewicz

Problem and Purpose: Suicide is the second leading cause of death in young people ages 10-24 in the United States. The Joint Commission issued a sentinel event recommending healthcare providers screen all patients for suicide. Universal screening is a key strategy to prevent suicide in the pediatric population. This quality improvement (QI) project implemented an evidence-based suicide screening tool for patients ages 10-21 who presented to a multidisciplinary pediatric gastroenterology (GI) outpatient clinic affiliated with a large urban academic medical center and referred at risk patients for further evaluation and treatment.
Methods: The Ask Suicide-Screening Questions (ASQ) screening tool was chosen for its robust reliability and validity among pediatric medical patients. The GI clinicians were trained to use the ASQ tool and to further assess at risk patients with a brief suicide safety assessment (BSSA). The clinic social worker screened all patients meeting inclusion criteria, and results were entered into the electronic health record (EHR). Patients were excluded from screening if they were less than age 10, the guardian refused, or the patient could not answer the questions due to a developmental delay. Patients at risk for suicide received a safety plan and follow up resources.
Results: The clinicians self-reported 100% competency prior to implementation. During the implementation phase, sixteen patients met inclusion criteria, and one guardian refused screening. Ten patients had screening results recorded in the EHR (66%), and two patients (20%) were found to be at risk for suicide. Both patients screened positively due to previous suicide attempt(s) which is a strong predictive factor for future suicidal behaviors.
Conclusions: With proper training, the GI clinicians were confident to implement suicide screening using the ASQ tool. Twenty percent of patients screened at risk for suicide and received mental health resources. This QI project validates the feasibility and value of suicide screening in a pediatric subspecialty clinic and suggests screening could be implemented in other subspecialty clinics within the hospital system.

Implementation of an Algorithm for Goal-Directed Hemostatic Resuscitation in Trauma

Lauren Westbrook

Problem & Purpose: Hemorrhage causes 30 to 40 percent of trauma deaths, and is the leading preventable cause of death following an injury. Trauma patients are highly susceptible to life-threatening coagulopathies which potentiate bleeding and require specialized diagnostics to identify and manage. Thromboelastography (TEG) effectively identifies trauma-induced coagulopathies, and offers customized strategies for hemostatic resuscitation, resulting in less blood product transfused, better survival rates, and shorter length of stay. The purpose of this evidence-based quality improvement project was to facilitate the process of goal-directed hemostatic resuscitation in trauma patients by protocoling the use of an algorithm for rapid TEG (rTEG) guided hemostatic resuscitation during massive transfusion events.
Methods: For a Level I trauma admitting unit with rTEG capabilities, an evidence-based algorithm for rTEG interpretation and application was modified to include rTEG in the existing massive transfusion event (MTE) criteria. Multi-modal educational resources for rTEG interpretation were provided, and processes impeding unit workflow and practices to facilitate integration of rTEG in to active trauma resuscitation were addressed. Total number of blood products given during MTEs were compared with unpaired T-tests between implementation (September – October 2019) and baseline (September – October 2018) timeframes. Staff perceptions of TEG value and application in trauma were assessed before and after implementation of the algorithm.
Results: Staff were significantly more comfortable with interpreting TEGs (p=0.002) and teaching TEG interpretation to other nurses (p=0.04) following implementation of the algorithm. Cryoprecipitate (CRYO) administration increased despite having less MTEs in the implementation period, which may reflect increased awareness of hemostatic resuscitation strategies (ratio of CRYO to MTE in 2018: 0.48; 2019: 0.78). No significant difference was found between the volumes of blood products transfused during implementation and baseline.
Conclusion: Algorithmic approaches to rTEG application in trauma resuscitation should be considered to enhance nurses' confidence in rTEG interpretation. Protocoling the use of TEG in trauma-related MTEs may improve adherence to evidence-based goal-directed hemostatic resuscitation strategies through the use of hemostatic blood products. Point-of-care rTEG procedures require extensive multi-disciplinary collaboration, which can be facilitated by a designated process champion.