

Diekelman, Allen, and Tanner (1989). Supporting approvals from the University IRB was obtained as well as approval from the sponsoring organization. The results of this study will be shared with ASPMN membership with the goal of receiving feedback, additional data, and consensus on findings.

RESULTS

20 expert (the average of 31 years nursing experience and 10 years working in PACU) PACU nurses from a Canadian suburban hospital were interviewed. Data collection occurred between September 2017 and January of 2018. Analysis is in process.

CONCLUSIONS

The results of this study will inform the development or refinement of sedation scales with the goal of improving sensitivity and specificity to capture all aspects of opioid induced sedation.

5D Investigation of Decision-making in Prescription Drug Monitoring Program Use: A Factorial Survey Experiment



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The National Institute on Drug Abuse has stated that the increase in availability of prescription opioids for the treatment of pain has contributed to the rise in opioid misuse and diversion. In response to this increase, states have implemented Prescription Drug Monitoring Programs (PDMPs) so that healthcare providers can access the controlled substance prescription history of their patients. There is some evidence that PDMPs have been successful in decreases in deaths from overdose. The goals of PDMPs are to reduce opioid abuse, decrease opioid diversion, and help identify when substance treatment is warranted. The purpose of this presentation is to provide preliminary data on a study is to determine what factors most influence a health care provider's decision to consult the Prescription Drug Monitoring Program database (PDMP). Currently, in most states, it is the provider's discretion on when to consult the PDMP for prescribing or dispensing controlled substances. There is a gap in knowledge about the circumstances that lead to PDMP use, including the role implicit biases plays in determining access of the PDMP prior to prescribing or dispensing opioids for pain. The clinical significance of this study is that implicit biases and other subconscious decision-making process could be contributing to health disparities in how controlled substances are prescribed and used. Basic research on patient and provider characteristics associated with PDMP, and provider decision-making is needed to identify if there are implicit biases and what they are. With this knowledge, training and policy changes could be implemented to address non-clinical variation in PDMP use.

5E.1. Associations between the Gut Microbiome and Migraines in 7-18-Year-Old Children: The American Gut Cohort Analysis



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PURPOSE

10% children suffer from migraine which result in more school absences and lower academic performance. Recent literature proposed that the gut microbiome may impact migraines through increased intestinal epithelial permeability and inflammation. This quantitative study examined the associations between the gut microbiome and migraines among a cohort of children aged 7-18 years from the American Gut Project (AGP). Findings can help understand biological mechanisms of migraines so that personalized interventions can be designed towards migraine control. IRB approval is not applicable for this secondary analysis.

METHODS

We analyzed a cohort of children from the AGP, an ongoing national initiative profiling gut microbiome across various populations using 16S rRNA V4 gene. Eligible participants were 7-18-year-old healthy children and had the gut microbiome data available. Raw 16S rRNA sequencing and metadata were obtained from the AGP Public Repository. After quality control of 16S data, alpha-diversity (observed-OTUs, Shannon, Faith's_PD) and beta-diversity metrics (weighted-, unweighted-UniFrac, Bray-Curtis

distances), taxonomic and abundance analyses were conducted using QIIME2™.

RESULTS

381 children (341 without migraines and 40 with migraines) were analyzed. These children had mean age of 11.5 years and mean BMI of 18.0. Migraine children were more White ($p=0.04$), more boys ($p=0.01$), younger ($p=0.002$) and more underweight ($p<0.001$). Compared with those without migraines, children with migraines showed lower estimates in observed-OTUs, Shannon and Faith's_PD ($p<0.01$). All the weighted- and unweighted-UniFrac, and Bray-Curtis distances displayed the gut microbial dissimilarities between children with and without migraines ($p=0.001$). Children with migraines had higher abundances in genus of Actinobacteria (e.g., Bacteroides, Parabacteroides, Eggerthella, Odoribacter), Firmicutes (e.g., Lachnospira, Dorea, Veillonella), and Proteobacteria (e.g., Sutterella) than children without migraines.

CONCLUSION

Associations between gut microbiome diversity and abundances and migraines in children suggested potential biological mechanisms of migraines. Future work needs to examine how the metabolites of gut microbes impact migraines in children.

5E.2. How to Assess for Respiratory Compromise When Your Patient Is Using Supplemental Oxygen



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PURPOSE

Opioid analgesics are commonly administered to hospitalized patients to treat pain, but these drugs pose risks for serious adverse events such as unintended advancing sedation, respiratory depression, and even death. A study was performed to explore which of three types of electronic monitoring devices (pulse oximetry, capnography, or minute ventilation) were more feasible and effective at detecting OIRD in the PACU setting.

METHODS

A study was performed in the PACU at a community hospital in Buffalo NY. Nurse anesthesia students recruited 60 patients in the pre-operative admissions department. Forty-nine of the 60 patients wore three types of electronic monitoring devices while they were recovering from back, neck, hip or knee surgery in the PACU. All patients were on supplemental oxygen while in the PACU. Data was gathered every 2-5 minutes off the three electronic monitoring devices as well as time each dose of medication was delivered. Covariates included sex, age, medical diagnosis, type of anesthesia, STOP-Bang score.

RESULTS

The study found that in the setting of supplemental oxygen, pulse oximetry is not a reliable and effective method to assess respiratory compromise. Twenty-four of the 49 patients exhibited sustained signs of OIRD within minutes of receiving an opioid while in the PACU. While the pulse oximetry readings didn't change, end Tidal CO2 levels increased and Minute Ventilation decreased, representing hypoventilation. A tool commonly used to screen patients for OIRD is the STOP-BANG questionnaire. In this study, the STOP-BANG questionnaire was not predictive of the patients who exhibited signs of OIRD.

CONCLUSIONS

When using supplemental oxygen, capnography and minute ventilation devices are more sensitive and specific in detecting OIRD.

5E.3. Pain-Related Patient Satisfaction in Ambulatory Settings



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The purpose of this quality improvement initiative was to obtain baseline and ongoing monthly measurements of patient satisfaction related to pain in diverse ambulatory settings across an academic medical center. The goal was to utilize this innovative strategy to maintain or improve the pain-related care being delivered. While not a clearly defined concept, patient satisfaction has been linked to quality outcomes in the literature.

Implementing the use of a patient-reported satisfaction metric was intended to complement the pain screening and associated follow-up by a licensed independent practitioner (if applicable) occurring at every ambulatory visit. This coincided with an evidence-based practice initiative related to routinely offering interventions for needlestick pain to both adult and pediatric ambulatory patients. In March 2013, a new Ambulatory Pain Committee began collaborating with the Office of the Patient Experience on this initiative. The available customized questions from the vendor, who sponsors the institution's patient satisfaction surveys, were reviewed. The group recommended the inclusion of a new survey item, Our Sensitivity to Your Pain. In May 2015, final approval and sign-off was obtained from the Chief Nursing and Medical Officers. To date, no other organization has chosen to use the same customized question, preventing external benchmarking. However, internal benchmarking between the 44 ambulatory areas in the organization is occurring and "best practices" are shared between areas. Quarterly pain-related patient satisfaction updates have been provided to the Ambulatory Pain Committee since the survey item was added and an annual update is reported to the Department of Nursing Pain Committee. The addition of this item to the survey has resulted in an increase in free text pain-related comments by patients and family members. Since May 2016, these comments have been shared on a weekly basis to highlight positive patient experiences or additional opportunities to improve pain-related care.

Posters

C1 Transforming Pain Management from the Perspective of a Neurobiopsychosocial Pain Practice

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The purpose of this paper is to reflect on our present-day knowledge about the nature of pain in order to better inform pain assessment and management. Pain has been well defined as a neurobiopsychosocial experience. Evidence supporting this classification has emerged from a multidisciplinary collective, including neuroscience, medicine, nursing, psychology, and a lesser-known component, somatic therapy. Pain, whether acute or chronic, is a phenomenon that elicits an intricate perceptual process and a complex affective response. That pain is an experience of one's entire being is borne out in a continuum of evidence extending from patient narratives to fMRI images. The benefit of integrative strategies to address pain management is well documented, including therapies utilizing exercise and interoception-focused somatic movement, meditation, breath work, psychotherapy, and pharmacology. A numerical rating scale alone has been found to be an inadequate measure of pain and is poorly correlated to patients' satisfaction with overall pain management. And yet, pain assessment continues to primarily reflect a biomedical paradigm, with emphasis on a unidimensional measurement of pain intensity obtained either by numerical or image-based tools. Assessment based on components such as patient narrative tends to be devalued. As a result, pain management continues to primarily reflect a pharmacology-centric model in which multidisciplinary strategies able to modulate the pain experience occur only as alternative and secondary interventions rather than as equally indispensable components that support a well integrated pain management plan of care based on patients' unique attributes and histories. Reconfiguring pain assessment to better match patient characteristics with treatment modalities will require a cultural transformation inclusive of clinician education, methods of pain assessment and skills for effective patient engagement. This paper thus queries the cultural shift necessary to transform the traditional model of pain management into a practice that reflects present-day neurobiopsychosocial knowledge.

C2 Peripheral Nerve Catheters for Post-operative Pain Control in Patients Undergoing Orthopedic Surgeries

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Pain control is critical to help ensure the clinical success of surgery for total knee arthroplasty (TKA). A comprehensive plan of pain care aims to optimize patient comfort in order to support recovery while

minimizing pain management related side effects, particularly those stemming from opioid-based medications. In 2014, The Swedish Orthopedic Institute (SOI) began using the continuous adductor canal nerve block (ACC) for patients undergoing total knee replacement. Subsequently, our group conducted a retrospective data analysis of 796 patients that revealed statistically significant decreases in mean and peak pain scores, decreased total opioid consumption, and better range of motion at discharge for the ACC group (n=406) compared to those without ACC (n=390). Presently, nearly all patients undergoing TKA at SOI receive ACC in addition to treatment with a multi-modal pain protocol. Further, we now use a similar approach to support shoulder (brachial plexus block), hip (femoral nerve block), and ankle (sciatic nerve block) surgeries. A local anesthetic is dispensed as a continuous infusion by an elastomeric pump that delivers a regulated flow of medication through the peripheral nerve catheter (PNC). Patients go home with the PNC, and then remove it themselves once the infusion pump is empty. These PNCs are managed by nurse practitioners and anesthesiologists on the acute pain service, but RNs provide important patient assessment, monitoring, and reinforcement of patient education. The purpose of this clinical presentation is to review PNC placement, function, removal, and patient education, along with key points for relevant patient assessment.

C3 Non-pharmacological Acute Pain Control Utilizing Nurse-led Aromatherapy in Coronary Bypass Graft Patients: A Pilot Study

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AIM OF INVESTIGATION

Coronary Artery Bypass Graft patients require adequate pain control post-operatively in order to effectively participate in cardiac rehabilitation. Complimentary non-pharmacological pain control is essential to limit known side-effects of narcotic agents. Methods of this project included a pre and post pain score evaluation using the pain Assessment Intervention Reassessment (AIR) cycle, a nursing sensitive indicator. A rating system of 1-10 was used before and after intervention. Intervention included distillation of essential oils through aerosol, massage, or application of diffuse cotton gauze to bed linens.

RESULTS

Pre-intervention pain score mean was 6.68 with a median of 6. Post-intervention pain score mean was 5.08 with a median of 5. There were 25 participants with the years of age ranging from 31-82 who had a Coronary Artery Bypass Graft with post-operative acute pain. The average decrease in pain from pre- to post- was 1.6 and the paired t-test for the score reduction from pre- to post was significant ($t = 5.5$ and $p < .0001$). There was a significant decline in pain following Aromatherapy, compared with no treatment.

CONCLUSIONS

Aromatherapy can be used among bedside nurses with a process guided by protocol. Usage of essential oils in the Cardiovascular Intensive Care Unit among CABG patients was shown to be a viable complementary therapy for patients requiring non-narcotic pain control.

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C4 Improving the Understanding of Pain Disability through Concept Analysis

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AIMS

The aims of this concept analysis were threefold: (1) To clarify the concept of pain disability (PD); (2) to provide a global framework for the