CAS 2024
Pain Management Abstracts

Contents

Enhancing pain education for people living with dementia and family caregivers: analysis of existing resources and future directions

Submission ID

94

AUTHORS

Saeed, Huzaifa;[1] Bajwa, Husnaat;[1] Tupper, Susan;[2] Gibson, Kirstian;[3] Sun, Gloria;[1] Danylyshen-Laycock, Tracy;[4] Compton, Roslyn;[5] Holtslander, Lorraine;[5] Hunter, Paulette[6]

[1]College of Medicine, University of Saskatchewan, Saskatoon, SK, Canada; [2]Department of Anesthesiology, Perioperative Medicine and Pain Management, University of Saskatchewan, Saskatoon, SK, Canada; [3]Saskatchewan Health Authority, Saskatoon, SK, Canada; [4]Saskatchewan Medical Association, Saskatoon, SK, Canada; [5]College of Nursing, University of Saskatchewan, Saskatoon, SK, Canada; [6]St. Thomas More College, University of Saskatchewan, Saskatoon, SK, Canada

INTRODUCTION

The prevalence of dementia has increased dramatically over the past decades. Likewise, there is a growing need for quality education to help people living with dementia (PLwD) and family caregivers (FCG's).[1] Pain is one of the most common symptoms that people with dementia experience and has several negative impacts including unnecessary suffering, verbal, or physical aggression towards FCG's, interference with independence, cognitive function, and social interaction.[2,3] Unfortunately, the pain is often poorly recognized and commonly undertreated because as dementia progresses, communication and the ability to self-manage is impaired.[4] Family caregivers are ideally positioned to support pain recognition and care planning because of their familiarity with and proximity to the PLwD.[5] The aims of this research were to 1) describe the development of a pain management learning curriculum based on identified and prioritized learning needs, 2) map this curriculum against existing sources of publicly available online information, and 3) to screen for quality and readability of the information.

METHODS

Our previous research identified learning needs and priorities of PLwD and FCG's for pain education from 27 semistructured interviews with 29 adult FCG's and seven PLwD through the development of a learning curriculum. The learning curriculum consists of five topics (recognizing pain, understanding pain, supporting caregiver roles, treating pain with medications, and treating pain with nondrug treatments). The study aim was to map the learning curriculum against existing information on publicly available sources. A four-phase approach (phase 1: identification of learning needs and development of the learning curriculum, phase 2: learning priorities survey, phase 3: mapping learning curriculum against existing pain information, phase 4: quality and readability assessment) was used to develop the learning curriculum and evaluate existing publicly available resources. The following inclusion criteria were used to select online resources for review: online websites or PDF's, publication

date or “last updated date” within the last ten years, English, and targeted to the public, people living with dementia, or family caregivers. Duplicates were removed as well as materials targeted for health care providers, academics, or materials in draft form. A total of 34 sources were mapped against the learning curriculum and analyzed using the DISCERN tool and Flesch–Kincaid readability test.

RESULTS

Of the 34 sources analzyed using the DISCERN tool, one (3%) scored excellent, two (6%) scored good, 12 (35%) scored fair, and 20 (59%) scored poor. The values of the DISCERN tool ranged from 0 to 73. The readability grade level and readability ease had a mean of 10.04 and mean of 53.44, respectively. The readability grade level and readability ease ranged from 5.6 to 13.4 and 39.6 to 68.4, respectively.

DISCUSSION

Our research shows the majority of pain information available to FCG’s is not reliable, does not have good quality of information for treatment choices, and has an unsatisfactory overall rating. Moreover, most of these sources that provide information on recognizing, understanding, and treating pain are ineffective for FCG’s as users experience a hard time reading and understanding them. Future research is needed to develop training materials with FCG’s and PLwD input to improve recognition and management of pain and bridge the gap between existing resources and information deemed important for FCG’s and PLwD.

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Incidence and predictors of moderate to severe postorthopedic surgical pain and patients' satisfaction with treatment in a teaching hospital

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56

AUTHORS

Rukewe, Ambrose;[1,2] Orlam, Ivor;[2] Akande, Abayomi;[3] Fatiregun, Akinola Ayoola[4]

[1]Division of Anaesthesiology, School of Medicine, University of Namibia, Windhoek, Namibia; [2]Department of Anaesthesia, Windhoek Central & Katutura State Hospitals, Windhoek, Namibia; [3]Department of Community Medicine, Faculty of Public Health, University College Hospital, Ibadan, Nigeria; [4]World Health Organization, Abeokuta Office, Abeokuta, Ogun State, Nigeria

INTRODUCTION

Orthopedic surgeries are synonymous with high pain scores, especially within the first 24 hr. Studies have shown that despite advances in pain research and pharmaceuticals, a large number of patients continue to experience significant postoperative pain worldwide.[1,2] Our objective was to evaluate the effectiveness of postorthopedic surgical pain management in our center by examining the incidence of moderate to severe pain, influence of the type of anesthesia employed and the predictors of moderate to severe pain as well as patients' satisfaction with treatment.

METHODS

Following Institutional Ethical Committee approval, we conducted a prospective observational cohort study on all patients 18 yr and above who had orthopedic surgeries from 1 February to 31 May 2023. The anesthetic techniques employed were spinal bupivacaine-morphine (SB-M), general anesthesia (GA), peripheral nerve block (PNB) and spinal bupivacaine-fentanyl (SB-F). This study was an attempt at procedure-specific pain intervention in our institution. The numerical rating scale (NRS) was used to measure the severity of postoperative pain at three time points after surgery: in the postanesthesia care unit (PACU), four hours and 24 hr. Each patient was instructed preoperatively in the 11-point NRS viz. 0 = no pain, 1–3 = mild pain, 4–6 moderate pain, and 7–10 = severe pain. We defined NRS ≥ 4/10 as moderate to severe pain. Satisfaction was measured using a 5-point Likert scale. Logistic regression was employed to identify predictors of moderate to severe pain.

RESULTS

We studied 289 patients. The incidence of moderate to severe pain in the PACU, four hours and 24 hr time intervals were 17%, 36%, and 35% respectively. The NRS pain scores for PNB and SB-M patients were significantly lower than GA patients in the PACU and four hours ($P = 0.001$). The mean time to first request for analgesics in the PNB patients was 602.6 ± 335 min *vs* 279.7 ± 293 for GA patients ($P = 0.001$). The mean total pethidine consumption in 24 hr was significantly higher in GA patients than PNB patients ($P = 0.041$). Multivariate binary logistic regression showed that GA was an independent predictor of moderate to severe pain while spinal bupivacaine-morphine was significantly protective in the PACU (odds ratio [OR], 0.10; 95% confidence interval [CI], 0.03 to 0.36; $P = 0.000$), and four hours (OR, 0.34; 95% CI, 0.14 to 0.84; $P = 0.020$). Most participants (75%) expressed satisfaction with the quality of pain management.

DISCUSSION

We found a lower incidence of moderate to severe pain than previous studies.[1–3] The independent predictor of moderate to severe pain was GA, SB-M offered significant protection. A high proportion of participants were satisfied with their pain management. Further research should explore the impact of using regional anesthetic techniques as adjuncts to GA.

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Use of the electronic health record epic to impact the quality and safety of postoperative pregabalin use at a Canadian tertiary academic hospital: an interrupted time series

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93

AUTHORS

Abbas, Ahmed;[1,2] Mysore, Kiran;[1,2] McIsaac, Daniel;[1–3] Pysyk, Christopher;[1,2] Verret, Michael;[4,5] Adeleke, Durotolu;[1,2] Tierney, Sarah[1,2]

[1]Department of Anesthesiology and Pain Medicine, The Ottawa Hospital, Ottawa, ON, Canada; [2]Faculty of Medicine, University of Ottawa, Ottawa, ON, Canada; [3]Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, ON, Canada; [4]CHU de Québec-Université Laval Research Center, Population Health and Optimal Health Practices Research Unit, Trauma-Emergency-Critical Care Medicine, Quebec City, QC, Canada; [5]Department of Anesthesiology and Critical Care Medicine, Division of Critical Care Medicine, Faculty of Medicine, Université Laval, Quebec City, QC, Canada

INTRODUCTION

Optimizing postoperative analgesia is a primary objective of patients and clinicians. Pregabalin is commonly used off-label as a nonopioid analgesic in postoperative multimodal analgesic pathways.[1] Pregabalin's analgesic efficacy in the postoperative period when balanced against its potential for harm has come into question given reports of pregabalin-related adverse effects.[2] Furthermore, adverse respiratory and sedative events are amplified when pregabalin is prescribed concurrently with opioids.[3] Recent evidence suggests that pregabalin's routine use should be reduced considering its analgesic inefficacy in the postoperative period, balanced against its potential for harm.[4] Changes in prescribing can be effected by using practice change advisories in the Electronic Health Record (EHR).[5]

The objective of this study was to investigate the effects of a series of sequential EHR optimization strategies on pregabalin prescribing habits by the Acute Pain Service (APS) at a large academic health sciences centre.

METHODS

This project received ethics exemption as a quality improvement project using routinely collected, de-identified data. We conducted a quasi-experimental interrupted times series (ITS) analysis of retrospective data. We identified all postoperative admissions to our APS from January 2021 to December 2022. Our primary outcome was the proportion of APS admissions prescribed pregabalin; our balancing measure was the highest pain score on postoperative day 1.

Two practice change strategies were implemented in our EHR. First, in January 2022 we introduced a Best Practice Advisory (BPA) that triggered to warn of pregabalin's increased risks

for sedation or respiratory depression if pregabalin was selected on the APS orders. Second, in June 2022, pregabalin was removed as a standard checkbox in the APS orders.

We defined weekly periods across our time series, and used segmented linear regression, accounting for first-degree autocorrelation to estimate the time trend, step change, slope change, and total counterfactual difference (estimating the total impact of slope and step changes over the measurement period) associated with EHR change strategies. Estimation of parameters of interest at the second change point accounted for the effects of the first change strategy. For each parameter, we estimated the point estimate and 95% confidence interval (CI).

RESULTS

We included 10,667 patients (5,563 pre-intervention, 2,750 postchange 1 [BPA] and 2,354 postchange 2 [orders]). Pre-intervention, 1,288 APS admissions had a pregabalin order (23%) compared with 460 (17%) after the BPA and 406 (17%) postorder removal.

From the ITS analysis, step, slope, and total counterfactual differences were not significantly different after either change strategy.

After the BPA, the step change was −2.8% (95% CI, −7.5% to 2.0%; *P* = 0.250), slope change was 0.3%/week (95% CI, −0.002% to 0.5%; *P* = 0.051), and total counterfactual difference was −2.5% (95% CI, −7.1% to 2.1%; *P* = 0.286).

After the order removal, step change was 1.2% (95% CI, −4.4% to 6.8%; *P* = 0.666), slope change was −0.3%/week (95% CI, −0.07% to 0.1%; *P* = 0.197), and total counterfactual difference was 0.9% (95% CI, −4.6% to 6.5%; *P* = 0.735).

The only statistically significant effect estimated was the overall trend prior to implementation (−0.2%/week; 95% CI, −0.3% to −0.1%; *P* = 0.001). No changes in pain scores were identified.

DISCUSSION

Following quality improvement initiative to decrease pregabalin use on our APS service using EHR-based change strategies, we did not identify a significant association of EHR change strategies with pregabalin prescribing immediately after implementation, as a continuing trend, or as a total effect. Nevertheless, over the study period pregabalin prescribing decreased by 6%. The lack of association with our change strategies is likely attributable, at least in part, to a strong pre-existing trend of decreased pregabalin prescribing, which may be explained by the emergence of data on pregabalin's lack of clinical efficacy and safety that were featured in local educational initiatives.

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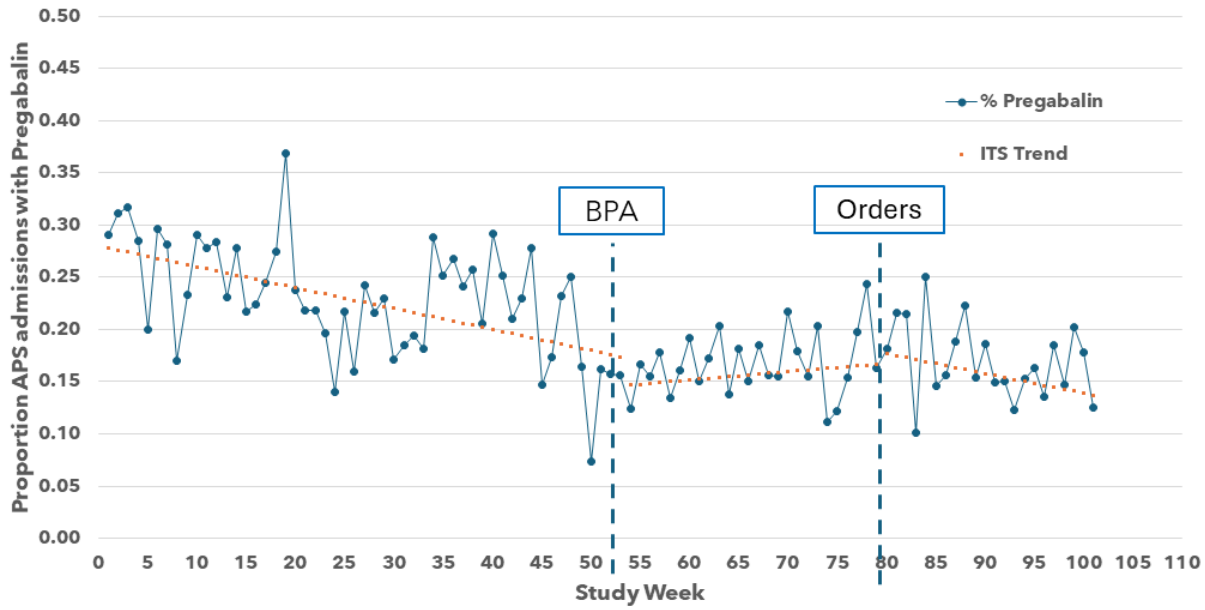
Figure Weekly pregabalin usage for APS admissions



This figure presents the actual weekly proportion of new APS admissions prescribed pregabalin (blue line with dots), the model estimated trend across, and change between, each study segment (red dotted line, from the interrupted time series (ITS)), along with timing of the first (best practice advisory (BPA)) and second (removal of order checkbox) change strategies.