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Title: *Concurrent use of benzodiazepines and opioids: a drug utilization review-based investigation in a community hospital*

Purpose

Concurrent use of benzodiazepines and opioids places patients at increased risk of oversedation. Pharmacists are in a unique position to be able to provide prescribers with drug expertise, contributing to safe and optimal patient care. Through utilization of intervention tools and electronic health system reports, pharmacists can identify patients who are at risk for oversedation events related to concurrent benzodiazepine and opioid therapy. The goal of this retrospective drug utilization review-based quality improvement project is to improve patient outcomes and maximize patient safety related to opioids and benzodiazepines in the hospital setting.

Methods

Drug utilization reports specific to the medical and surgical nursing floors of a single hospital site were obtained. Data collected included the number of patients prescribed opioids and benzodiazepines concurrently, the number of patients prescribed opioids, the number of naloxone reversals in patients prescribed opioids, and the number of pharmacist interventions related to concurrent use. Prescriber and pharmacist education was presented and a report was constructed within the electronic health record system to help pharmacists identify patients on concurrent opioid and benzodiazepine therapy. Pharmacists were educated on how to generate the report and were encouraged to track interventions made addressing concomitant medication orders. Data was collected before and after implementation of the electronic health record report and prescriber education.

Results

A total of 70 patients were on concurrent opioid and benzodiazepine therapy in October 2017. A total of 60 patients were on concurrent opioid and benzodiazepine therapy in November 2017. Concurrent drug utilization decreased in 2018, with records of 51 patients in October and 36 patients in November. The surgical nursing floor had higher incidence of concurrent use compared to the medical nursing floor. A total of 20 pharmacist interventions were recorded in 2018 specific to the surgical nursing and medical nursing hospital floors. A total of 705 patients were prescribed opioids during their hospital stay in 2017 compared to 678 patients in 2018. Naloxone administrations decreased from 6 administrations in 2017 to zero administrations in 2018. Overall, there needs to be more studies conducted to determine the relationship between pharmacist methods of communication for intervention and changes in prescribing patterns.

Conclusions

There was a clinically significant reduction in the number of patients on concurrent opioid and benzodiazepine therapy, which was mirrored by a reduction in naloxone reversals as well. These findings suggest that opioid and benzodiazepine stewardship may play a role in reducing adverse events and increasing patient safety overall.