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RESEARCH NOTES

The development and feasibility of a pharmacy-delivered opioid intervention in the emergency department

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ABSTRACT

Objectives: To develop a brief intervention and to assess the feasibility of pharmacy-delivered education on opioid safety and overdose prevention in the emergency department.
Methods: A convenience sample of patients (n = 102) approached between May and June 2016 at a single community-based suburban emergency department located in the Midwest.
Results: The intervention included scripted counseling to be delivered in person and 2 educational brochures. The counseling took approximately 5 minutes, and only 2 patients refused the counseling. All the patients were satisfied with the intervention, and 97.4% of them reported that the counseling improved their knowledge of opioid side effects. The majority of patients thought that their own risk of addiction was significantly less than the general public's risk of addiction when taking opioids.
Conclusion: This study provides preliminary evidence that student pharmacists or pharmacists are able to deliver opioid safety and overdose education in the emergency department.

The nonmedical use of prescription opioids has been associated with diversion, drug overdose, and increased risk of addiction. Research suggests that many individuals with opioid use disorders initiated nonmedical use of prescription opioids before transitioning to heroin.[1,2] The nonmedical use of prescription opioids is associated with significant financial costs to health insurance companies,[3] and improper storage or disposal likely contributes to the availability of opioids for nonmedical use or accidental exposure. People who are prescribed opioids may not be aware of how to store and dispose of opioids properly; furthermore, they may not be aware of the risks associated with nonmedical use of prescription opioids or accidental exposure to children. While there have been efforts to increase prescriber and patient education on the safe use of prescription opioids, it is unknown to what extent these efforts have occurred and whether the content has been empirically demonstrated to improve knowledge and health behaviors. When prescribing opioids, physicians may recommend against driving or operating heavy machinery, but often do not mention the risk of overdose and abuse potential.[4] Opioids are routinely dispensed in the emergency department (ED), and ED physicians are one of the leading prescribers of opioids in the United States.[5] Research suggests patients being discharged from the ED with an opioid prescription are not practicing safe storage and disposal of opioids,[6,7] and patients are not educated on the safe use of opioids and their potential side effects while in the ED.[8] When patients pick up their prescription from an outpatient pharmacy, pharmacists may offer counseling, but this may only occur if the patient informs the pharmacy technician that they have a question for the pharmacist about their prescription. It is not routine practice in community-based pharmacies to provide education on the safe use of prescription opioids.

The ED offers a unique opportunity to educate patients on the safe use of opioids, safe disposal, potential for abuse and dependence, and overdose prevention.[9] In the busy setting of an ED, doctors and nurses may not have time to provide opioid counseling, especially counseling tailored to the patient's experience and knowledge of opioid use and misuse. Pharmacists have knowledge of the pharmacodynamics and pharmacokinetics of opioids and naloxone, and some pharmacy schools may provide training in motivational interviewing (MI).[10,11] MI is an evidence-based practice that is

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At the time the research was conducted, Erin L. Winstanley was at the University of Cincinnati.

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an effective strategy to deliver health education during a brief visit.[12,13] Fourth-year student pharmacists, students enrolled in a doctor of pharmacy program, have in-depth knowledge of prescription opioid safety and are increasingly learning overdose prevention education counseling as part of their degree program. Student pharmacists have unique skills to be able to provide counseling to patients of all types, including those being prescribed opioids and those who have overdosed. There is a limited number of studies on interventions to improve opioid medication safety or overdose prevention in the ED, with the majority focusing on patients at high risk of an opioid overdose.[9,13] A small, randomized, clinical trial found that MI reduced overdose risk behaviors among adults who reported nonmedical use of prescription opioids and were seen in the ED.[14] To our knowledge, there has not been a study on the use of pharmacists or student pharmacists in the ED to counsel patients specifically on opioid safety and opioid overdose prevention.

Objectives

The objective of this project was to develop a brief educational intervention and to assess the feasibility of pharmacist-delivered education on opioid safety and overdose prevention in the ED. More specifically, the authors developed educational content that could be provided to patients in the ED on opioid safety and overdose; they also developed scripted educational content that could be delivered in person by a pharmacist or student pharmacist. This project is the first step toward developing a novel approach to opioid safety and overdose prevention education.

Methods

The intervention is titled "Prescription Opioid Safety Education (POSE)®." The intervention content was developed by the study team and piloted with a convenience sample of patients (n = 102) approached between May and June 2016 at a single community-based suburban ED located in the Midwest. This ED has approximately 22,000 visits annually and the hospital is involved with several regional initiatives to address the opioid epidemic, including a grant-funded project to provide screening, brief intervention, and referral to treatment (SBIRT) for depression and substance use disorders. Two fourth-year student pharmacists documented their interaction with the patient in a REDCap database and systematically tracked the discussion points of each counseling session, in addition to the specific educational materials that were provided to the patients. REDCap is a Web-based, secure survey research tool that is available through academic institutions (for more information see https://projectredcap.org).[15] The questions asked were developed specifically for this project and did not include items or scales from validated instruments. The student pharmacists documented any additional information regarding the interaction in a miscellaneous note box. As this project was initiated as a quality improvement project and an initial test of feasibility, it was determined by the West Virginia University Institutional Review Board to not be human subject research.

The intervention, consisting of 2 educational brochures and scripted educational content, was developed by the study team. The study team was led by a PhD-level addiction scientist and included a pharmacist, 2 student pharmacists, and a research assistant. The addiction scientist and research assistant have been involved with several overdose prevention programs in the region. The pharmacist is a pharmacy director, with oversight of 17 hospitals within her health care system. One brochure included information on the safe use of prescription opioids, how these medications should be used only as prescribed, how to store medications safely, local places to dispose of medication safely, signs of an overdose, a brief overview of naloxone, and local resources (e.g., poison control center hotline number and addiction treatment programs). Naloxone was not prescribed or dispensed in the ED at the time of the intervention; however, there are overdose prevention programs in the local area. The second brochure focused specifically on opioid overdose, including risk factors for overdose, how to identify the signs of an opioid overdose, and how to respond, and information on obtaining and using naloxone to reverse an opioid overdose. The educational brochures were reviewed and approved by the hospital's medical director, the pharmacy director for the health system, the study team members, and the health systems marketing department (see the Appendix for the brochures). Two other patient handouts were available for the student pharmacists to distribute at their discretion. One was a list of local pharmacies that provide naloxone, specified by whether the pharmacy required a prescription or whether naloxone could be dispensed with a standing order. Given the high rate of opioid overdose in this region and that the region is known to have heroin adulterated with fentanyl, the project used a fact sheet on fentanyl that was developed for another overdose prevention program in the area.

Before beginning their rotation in the ED, the student pharmacists were provided with in-person education on opioid safety, overdose, and naloxone by the lead author (E.L.W.). The student pharmacists were also provided with recommended reading to improve their knowledge on these topics. The student pharmacists used the ED's electronic medical record to track the patients' chief complaints and discharge orders. The student pharmacists approached patients with a chief complaint of opioid overdose or with a discharge prescription for an opioid. In addition, patients could be referred to the student pharmacist by an SBIRT technician if the patient had screened positive for drug use. Patients were excluded if they were younger than 18 years, entered under police custody, or were in a physical or mental state that inhibited the intervention. Patients were also excluded if they had cancer pain, intentional overdose (suicide attempt), or with a disposition that resulted in admission to the hospital units or transfer to another institution. The student pharmacists were located in the ED for 1 month each, 4-5 days per week (typically Monday-Friday), typically during the day shift.

Once the physician submitted the patient's discharge orders, the student pharmacist had a window of approximately 15 minutes to approach the patient before they left the ED. The student pharmacist initiated contact with the patient by first introducing themselves and explaining the reason for their presence, which was to discuss opioid medication safety or opioid overdose prevention. The student pharmacist began by asking the patient whether they had ever taken an opioid, followed by 5 short questions to assess their knowledge of