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RESEARCH NOTES

Identifying barriers to dispensing naloxone: A survey of community pharmacists in North Carolina

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ABSTRACT

Objectives: The primary objective of this study was to identify barriers to dispensing naloxone under the North Carolina statewide standing order in the community pharmacy setting. Secondary objectives included identifying areas for additional training.

Methods: This study was conducted as a cross-sectional survey distributed to community pharmacists in North Carolina through an Internet-based questionnaire platform. The questions assessed pharmacists' training regarding naloxone, willingness to dispense naloxone, knowledge of naloxone and opioid overdose, perceived barriers to implementing a naloxone distribution program, and demographic information. Descriptive statistics and Pearson correlation coefficient were used in data analysis.

Results: Only 30% of survey respondents scored greater than 90% on the knowledge assessment portion of the survey. Furthermore, more than 50% of respondents indicated that they were not very comfortable dispensing naloxone, based on their responses to a series of Likert-type scale statements. A statistically significant positive correlation ($r = 0.288$; $P < 0.001$) was found between pharmacists' knowledge of naloxone and opioid overdose and willingness to dispense naloxone. The majority of respondents indicated that lack of training was a major barrier to dispensing naloxone. Additional training needs included information regarding naloxone, strategies to initiate patient discussion, identifying eligible patients, and workflow implementation. More than 95% of respondents indicated that the pharmacy in which they are employed would benefit from additional naloxone training.

Conclusion: Community pharmacists in North Carolina would like to receive additional training regarding naloxone and opioid overdose. Given the statistically significant positive correlation between knowledge concerning naloxone and opioid overdose and willingness to dispense naloxone, it is possible that increased pharmacist training could lead to increased willingness to dispense naloxone under the statewide standing order. These results can be used in a meaningful way to determine the best ways to better educate pharmacists on naloxone and improve patient access to this life-saving medication.

According to the U.S. Department of Health and Human Services, the percentage of adults prescribed opioids quadrupled from 1999 to 2010.[1] During that time frame, overall drug overdoses reflected this upward trend.[2] As recently as 2016, opioid overdoses have continued to increase and surpassed 42,000 deaths, more than any year before.[3] Although younger populations tend to be more likely to use prescription pain relievers for nonmedical uses, the use of opioids prescribed for chronic pain is most common in adults 40 years of age and older and is as high as 7.9% in patients 60 years of age or older.[4] Across all of these populations, it has become increasingly apparent that even when used for legitimate medical purposes, opioid administration does not come without safety

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concerns.[4,5] Furthermore, the use of opioids combined with benzodiazepines or certain chronic conditions increases the risk of respiratory depression and death.

National and state organizations have issued policies and regulations to combat the opioid epidemic. Certain policies have been effective in reducing the prescribing of opioids, such as mandatory Prescription Drug Monitoring Programs (PDMP) and the 2016 Centers for Disease Control and Prevention (CDC) guideline for prescribing opioids for chronic pain.[6,7] Although prescribing rates have declined, opioid use rates (both prescription and illicit) remain high, resulting in increased health care costs and the cost of human lives.

Pharmacists are well positioned to help resolve the opioid epidemic. As of January 2017, 46 states have issued legislation to allow pharmacists to dispense naloxone, a life-saving opioid reversal agent, directly to patients without a physician-issued prescription.[7,8] Per North Carolina's standing order, any licensed pharmacist may dispense naloxone to a patient at risk of opioid overdose, or their family member, friend, caregiver, or other individual able to assist in an opiate-related overdose.[7,9] Therefore, almost every pharmacist in North Carolina (NC) has increased authority to improve patient safety amid the opioid crisis. This is particularly important in NC because it ranks in the top 5 states in the nation regarding increased rate of opioid-related deaths and hospital admissions.[2,10] Despite increased access to naloxone, many individuals who may benefit from naloxone may not initiate discussions with their health care providers because they are unaware of the risks of opioids, underestimate their risk of overdose, are unfamiliar with naloxone, and are concerned about stigma or consequences of accepting naloxone, or for other potential reasons.[11] Therefore, the successful implementation of a naloxone standing order relies largely on pharmacists' ability to identify patients that would benefit and provide education regarding naloxone.[12]

Previous studies have shown that not all pharmacists are comfortable dispensing naloxone without a prescription (via standing order, protocol, or over the counter).[14,15] Therefore, the present study sought to identify the barriers that exist to dispensing naloxone. This project is significant because opioid overdose is a major public health concern. Once the barriers to dispensing naloxone are better understood, efforts can be made to resolve these barriers and increase the number of at-risk patients that receive naloxone and opioid overdose education, and thereby potentially reduce the number of fatal overdoses.

Objectives

The primary objective of this study was to identify the barriers to dispensing naloxone in the community pharmacy setting. A secondary objective included identification of additional training needs for pharmacies.

Methods

This study was conducted as a cross-sectional survey through an Internet-based questionnaire platform, Qualtrics.

The survey consisted of 40 closed-ended questions that assessed pharmacists' training regarding naloxone, willingness to dispense naloxone, knowledge of naloxone and opioid overdose, perceived barriers to implementing a naloxone distribution program, preferred method of receiving educational training, and demographic information. See Appendix 1 for the survey questionnaire. A pilot survey using a convenience sample of pharmacists and student pharmacists was conducted to obtain feedback regarding question interpretation, structure, and validity. Furthermore, the convenience sample reported that the survey took approximately 15 minutes to complete. The “back button” option was removed from the survey to ensure that questions later in the survey did not influence the participants' answers to questions that appeared earlier.

A “knowledge score” was determined based on 25 objective questions (22 true-false, 3 multiple choice) adapted from the Opioid Overdose and Knowledge Score assessment.[16] Questions focused on the indication, proper administration, and duration of action of naloxone, action steps to take in a suspected overdose emergency, and other counseling points. Each question was weighted equally, and the final scores were reported as a percentage of questions answered correctly.

The “level of comfort” was determined based on the answers to questions 4–14 on a Likert-type scale that assessed pharmacists' willingness to dispense naloxone in various scenarios and their perspective on naloxone's role in therapy. The statements were developed by the researchers with input from pharmacists, student pharmacists, and a quantitative survey analysis expert. Pharmacists could select from a range of 5 answers, which were each assigned a point value from 1–5, with 1 being “strongly disagree” and 5 being “strongly agree.” All 11 statements exhibited the same direction meaning that responses of “strongly agree” always meant that the pharmacist was very comfortable dispensing naloxone in that situation, and “strongly disagree” meant they were very uncomfortable dispensing naloxone. The answers to the 11 statements were then averaged to give an aggregate level of comfort score. Scores were categorized as very uncomfortable (1.00 to 1.99 average points), somewhat uncomfortable (2.00 to 2.99), somewhat comfortable (3.00 to 3.99), and very comfortable (4.00 to 5.00).

Pharmacists were also asked to report barriers to dispensing naloxone, and multiple answers were permitted. Multiple choice selections were available, but pharmacists could also free-text their own answers. They were also asked to state whether they thought their practice site would benefit from additional training and what focus areas of training would be needed to implement an effective naloxone distribution program.

Using the NC Board of Pharmacy's database, an e-mail with a link to the survey was distributed to all actively licensed community pharmacists with a functional e-mail address on file. This e-mail included a brief introduction to the survey. The Qualtrics survey was open for a total of 30 days with a reminder e-mail sent at day 15. Participation in the survey was completely voluntary and confidential. To improve survey response, participants had the option to enroll in a drawing to win 1 of 3 $100 gift cards. Winners were chosen at random with the use of a random number generator that was keyed to a numbered list of participants.

Descriptive statistics were primarily used in this study when analyzing survey responses. A Pearson correlation coefficient was also calculated to compare respondents'