

## BRIEF

# Evaluating Pharmacy Student Consultations with Standardized Patients on Opioid Medication Use and Opioid-Specific Risks

Tanvee Thakur, MS, Meredith Frey, PharmD, Betty Chewning, PhD

University of Wisconsin-Madison School of Pharmacy, Madison, Wisconsin

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**Objective.** To assess third-year pharmacy students' entry-level verbal and nonverbal communication skills when addressing sensitive topics during opioid consultations with standardized patients.

**Methods.** Seventy-one students were video-taped while consulting with standardized patients who were receiving a one-month supply of oxycodone for lower back pain. Consults were coded quantitatively for the topics students discussed with the patient, terms used, eye contact, and filler words.

**Results.** The majority of pharmacy students discussed common and severe opioid side effects, such as respiratory depression. However, only 30% explained that the medication being dispensed was an opioid or narcotic, and only 23% of students initiated a conversation regarding dependence, addiction, or overdose risk. Students used more filler words when discussing dependence, addiction, or overdose risk as compared to the rest of the consult. Afterwards, students expressed discomfort and the need for additional training and resources for communicating with patients about opioids.

**Conclusion.** Many students lacked confidence with regards to educating patients about opioid-specific risks. This necessitates expanding education regarding discussing sensitive information about opioids at this school of pharmacy. Other schools of pharmacy would benefit from an evaluation of their curriculum to assess the necessity for additional education and training.

**Keywords:** pharmacy students; communication; opioids; education

## INTRODUCTION

Effective communication skills are crucial to facilitate patient care services between pharmacists and patients and can positively impact health outcomes. Examples of these skills include patient education, enabling patient self-monitoring skills, supporting patients, and encouraging feedback.<sup>1</sup> Nonverbal communication also facilitates effective communication as patients perceive nonverbal behaviors, such as eye contact, to be an important part of building relationships with providers, and a signal of empathy and competence.<sup>2-4</sup> To master these skills, pharmacy students must practice these concepts in pharmacy school. The Accreditation Council for Pharmacy Education (ACPE) provides standards for patient counseling within Doctor of Pharmacy (PharmD) curriculum, but does not provide recommendations on the best methods to teach these skills, such as incorporating interviewing techniques, active listening, and empathy.<sup>5</sup> One area needing improvement within PharmD curriculum is with regards to pain management and medication therapy.<sup>6</sup> As accessible health care providers working

closely with patients and prescribers to select, assess, and monitor pain medication regimens, pharmacists are well-positioned to help combat the opioid epidemic.<sup>7,8</sup> Pharmacists can provide important information through patient consultations regarding the signs and symptoms of an overdose, dependence, abuse, and the adverse effects of opioids.<sup>9</sup> Pharmacists are also involved in education and distribution of naloxone, an opioid reversal agent. However, studies suggest structured education is needed for pharmacists to be able to effectively communicate and counsel patients regarding opioids.<sup>7,8,10-13</sup> There is a paucity of literature regarding the topics covered by pharmacists and pharmacy students during opioid medication consults and the communication practices they use.<sup>14-16</sup>

The American Association of Colleges of Pharmacy (AACCP) provides guidance regarding the importance of preparing students to educate patients, families, and caregivers on hardships associated with pain management and substance use disorders.<sup>5</sup> While training programs have been developed for naloxone consultation, opioid use, safety, and monitoring, they do not fully address strategies for communicating specifically about sensitive topics related to opioid dependence or overdose.<sup>9,17,18</sup> To

**Corresponding Author:** Meredith Frey, University of Iowa Hospitals and Clinics, 200 Hawkins Dr., Iowa City, IA 52242. Tel: 262-352-0875. Email: meredith-frey@uiowa.edu

our knowledge, no published research has analyzed videotaped pharmacist-patient encounter data regarding opioids, nor analyzed videotaped pharmacy student communication with standardized patients. In this study we analyzed video-recorded pharmacy students' consultations with standardized patients regarding opioid medication use and safety as part of a quality improvement initiative for a required communication skills laboratory course for third-year pharmacy students. The specific aims of this study were to: explore topics covered by pharmacy students during a consultation for an opioid medication, assess whether students discussed opioid-specific risks, including the potential for dependence and overdose, and, if so, identify how opioid-specific topics were introduced and discussed with patients, and assess students' nonverbal communication, including eye contact and use of filler words. Information from this assessment could inform future skills training programs for students and pharmacists and development of an opioid communication unit within the course curriculum.

## METHODS

Third-year pharmacy students at University of Wisconsin-Madison School of Pharmacy participated in a required course entitled Pharmacist Communication: Educational and Behavioral Interventions. Students were divided into eight skills-based laboratory sections. During the spring 2018 semester, four laboratory sessions were randomly assigned to include an opioid medication scenario. In the other four laboratory sessions, students participated in a blood pressure medication scenario, which had been standard for this course in previous years. This course had not previously covered pain or opioid-related topics. Earlier courses within the pharmacy school curriculum had provided students with clinical information that was relevant to opioid consultations on safe medication use as well as instructions for naloxone use. However, instruction did not focus on communication skills or how to handle sensitive topics specifically.

The scenario involved a patient who presented to the pharmacy with back pain for medication consultation. The patient's pain was due to a fall for which a physician had prescribed a one-month supply of oxycodone tablets (10 milligrams) to be taken by mouth every four to six hours as needed for severe pain. Acetaminophen and naproxen had been previously prescribed and taken for two months with little relief. Students were provided the patient's medication history and a drug information sheet to review for five minutes prior to the consultation. Students were not given instructions or guidance about what topics to cover in the consult.

Students were required to complete a short survey instrument following the consultation. They were asked to state two reasons why the specific scenario was challenging and what they would change if they were to engage in the same consultation again.

Standardized patients (SP) reviewed a patient script, role-played the scenario, and received feedback immediately before participating in the laboratory experience. The script was developed by the investigators in this study, who also served as teaching staff for the course. The consultations were video recorded on a camera from two angles: the pharmacy student only, and the pharmacy student and standardized patient. Recordings were uploaded to an online interface, Learning Space (CAE Healthcare, Sarasota, FL), for review by the students and teaching staff and was made available to study investigators. Each recording was assigned a numeric code prior to review and generation of the structured coding tool.

A structured coding tool was designed based on the Centers for Disease Control (CDC) recommendations for communicating with patients about opioid medications.<sup>19</sup> The categories for adverse reactions were designed from a review of the literature on oxycodone and were included in the patient handout provided for student use during consultation.<sup>20</sup> The coding tool captured dichotomous verbal and non-verbal domains during the assessment and discussion sections of the consultation. Encounters were coded to capture content and the sequence that topics were discussed. The coding tool was not available to students.

In addition, the coding tool captured eye contact and use of filler words. As prior research has documented, provider gaze is associated with higher patient satisfaction,<sup>21,22</sup> recognition of patient psychological distress,<sup>23</sup> and patient perceptions of pharmacist empathy.<sup>24</sup> The coding approach was modeled after a similar study that analyzed nonverbal behaviors in 40-second segments.<sup>3</sup> Eye contact was defined as looking directly into the eyes of the patient. Three time points important for eye contact were sampled, which together covered about a third of the seven-minute consultation time. These included the introduction, when the student established rapport with the patient; midpoint, when the student generally addressed side effects, and closure of the consultation, when the student reiterated key points. In addition, the coding of topics was used to identify any time the student discussed opioid risks. Student eye contact during these segments was analyzed as well. If the student made eye contact with the patient for greater than 75% of the time (30 of 40 seconds), then the student was coded as having high eye contact during that segment. Filler words were defined as a sound or hesitation in speech such as "um," "uh," "yeah," and "like," none of which have meaning, and are

often uttered during a moment of hesitation or low confidence. Filler words were also measured in the same 40-second samples. If the student used more than seven filler words in each of these 40-second periods, the student was coded as using a high number of filler words.

The coding tool and protocol manual were refined over a two-month period prior to analysis. Inter-rater reliability was established prior to data collection. Bi-weekly research team member meetings were held to facilitate coding practice and suggestions for changes to the tool or codebook. Following numerous revisions and refinements to the codebook, two investigators independently coded 20% (15) consults and an inter-rater reliability of 0.9 was obtained.<sup>25</sup> An additional 20% of audio recordings were “double coded” separately by two members of the research team throughout the coding process to establish ongoing inter-rater reliability ( $\kappa=0.89$ ).

The two item post-consultation survey open-ended responses were independently coded by the two investigators using process coding where a word or phrase denoting the problem were extracted (Table 2). Categories for these codes were discussed by the investigators in order to reach consensus on common codes and emerging themes were identified from the codes.

Coded data were entered into an Excel spreadsheet for all potential topics assessed or discussed (eg, yes= 1, no=0). Two investigators entered data from the coding tools and cross-checked the compiled data. Descriptive statistics were calculated using Statistical Package for the Social Sciences (SPSS) Version 15 (IBM, New York, NY).

## Results

Seventy-one student consultations were analyzed. The majority of these students had worked as pharmacy interns or pharmacy technicians in pharmacies throughout Wisconsin. Students had been taught to follow the Indian Health Service (IHS) sequence of questions for their consultations, including what the doctor indicated the medication was for, how the doctor instructed patients to take the medication, and what the doctors said to expect from the medication.<sup>13</sup> Fifty-three of 71 students (75%) followed the IHS sequence during the consultation. When describing oxycodone, 30% of students used the term “opioid” or “narcotic,” and the remaining 70% of students used the term “pain medication.” All the students explained in their consult that oxycodone would help reduce pain.

Regarding administration of oxycodone, 62% (44 of 71 students) advised taking oxycodone only as needed, while 52% (37 of 71 students) advised only taking it for severe or extreme pain. Twenty-one of the 71 students

instructed patients to continue taking naproxen, which had been indicated as prescribed within the patient profile for pain management.

Regarding discussion of self-monitoring, only about half of the students (56%) discussed self-monitoring techniques for assessing pain, medication use, and side effects. Of these 40 students, 93% recommended using a pain scale from zero to 10 to assess pain severity, 35% (14 of 40) suggested recording the time of administration in order to quantify the frequency of use, and 5% (2 of 40) suggested using a calendar to indicate days with extreme pain. Self-monitoring was not discussed in relation to monitoring risk of opioid dependence.

Almost all students (69 of 71) discussed common side effects of oxycodone (Table 1). However, very few discussed dependence risks. Only 23% (16 of 71) of students initiated a discussion about opioid dependence or the habit-forming nature of opioids. Two of the 16 students used the phrase, “Are you aware of the long-term effects of this medication?” to start this discussion. Six students asked, “Have you been prescribed an opioid medication before?” Four students used the phrase, “My advice for you is. . .” Two students stated, “I tell all my patients a few things about opioid dependency,” and two students asked, “Are you familiar with the effects of opioids?” to initiate the discussion about opioid use.

Students chose different times in the consultation to initiate their discussion about opioid-specific risks. Four of the 16 students initiated discussion after the third IHS prime question (“What did the doctor tell you to expect from this medication?”), five students initiated discussion after the second IHS prime question (“How did the doctor tell you to take this medication?”), and seven students used the drug information sheet to initiate the discussion.

Table 1. Side Effects Discussed by Pharmacy Students With Standardized Patients During Consultations on Opioid Medication Use (N=71)

	Students Discussed (%)
Common side effects	
Constipation	97
Sleepiness, tiredness	70
Drowsiness	32
Nausea and vomiting	8
Severe side effects	
Slow and shallow breathing	79
Extreme dizziness	62
Sweating	23
Slow heart rate	3
Seizures	0

Students used different terms or phrases to explain risks of dependence and abuse with opioid use. Five students used the term “addiction,” six used the term “habit-forming,” four used the term “overdose risk,” and four used the phrase “risks due to opioids.”

Only two of the 16 students engaged in less eye contact when discussing opioid-specific risks than they did during the other three segments measured in the consultation. Additionally, 63% (10 of 16) of these students used significantly more filler words during the segment in which they discussed opioid-specific risks compared the other three segments measured during the consultation.

All pharmacy students asked for patient concerns or questions at the end of the consultation and responded directly to a question posed by the SP, consistent with the scripted scenario. Common themes generated from coding student responses to the post-consultation survey are summarized in Table 2.

## DISCUSSION

Previous research emphasizes the importance for training pharmacists to discuss opioid use and risks with patients in a supportive nature.<sup>7,8</sup> Patients reported receiving limited information about opioid risks from providers, and some patients dismissed risks they did hear because they intended to take their medication “as prescribed.” These patient perspectives reinforce the importance of preparing pharmacy students to be knowledgeable and comfortable educating patients about opioids and naloxone, and that other providers also have challenges in educating patients in this area.

Importantly, the students in our study had nearly completed their didactic coursework and were about to start their advanced pharmacy practice experiences.

Although most students followed the IHS consultation model during their encounters and elicited patient questions and concerns, many students did not describe the medication using the terms “opioid” or “narcotic.” It is possible students perceived these terms as too technical for patients to understand, however, students rarely described the medication with other terms, such as “strong pain killer,” to distinguish opioid medications from other more mild pain medications. The lack of students initiating discussions about opioid dependence or the habit-forming nature of opioids, including the importance of self-monitoring opioid use and how to detect medication dependence, represent areas for improvement in communicating the risks of these medications to patients. Although some students instructed the patient to use the drug as needed or only for severe or extreme pain, many students did not explain the differences between oxycodone and other over-the-counter medications, or why it may be important to use both therapies to effectively manage uncontrolled pain. The low frequency of students incorporating this information is significant in the context of limiting unnecessary opioid use among patients and evaluating other pharmacological options for pain control.

A large percent of students discussed self-monitoring techniques for pain management, such as using a scale to record daily pain levels, likely because of the emphasis placed on this subject within the course curriculum. Eye contact among students was consistent throughout the consultation; however, use of filler words when discussing opioid-specific risks was greater than in rest of the consultation. This suggests that students may not be as comfortable or confident in communicating the risks of opioids as they need to be prior to beginning advanced pharmacy practice experiences (APPE). This was also evident from

Table 2. Common Themes Identified in Pharmacy Students’ Open-Ended Feedback Provided After Consultations on Opioid Medication Use With Standardized Patients

Question	Common Themes
What was difficult about this consultation compared to other consultations?	Uncomfortable conversation and the patient may feel judged or accused if we mention dependency or addiction Patient is actively in pain and not interested in discussion Difficult to communicate about adverse effects of opioids Discussion of overdose risk or dependency may worry patients
What would you do differently in the consultation if you were to do it again?	Discuss dependency and risks of overdose Utilize additional resources and training to improve discussions of opioid risks Direct patients to resources for opioid safety and use Utilize the drug information sheet to discuss adverse effects of opioids Discuss pain self-monitoring strategies



the common themes in student feedback elicited from the brief student survey. Students expressed fears they would make patients feel uncomfortable when discussing potential opioid dependence, addiction, or overdose. They requested additional training and resources to assist them in their conversations with patients. Examples of additional tools are guidelines for assessment and consultation, or patient pamphlets that directly name the medication as an opioid and mention the potential for addiction.

This quality improvement study reinforces the need to better prepare students through concrete, specific communication strategies for initiating discussion regarding opioid medications. The 23 students who raised the topic with standardized patients offer excellent examples for how to do this in a nonjudgmental and supportive manner. For example, "I like to explain to all my patients starting this medication that it is an opioid medication and what the potential risks are to ensure it is only used as needed," or, "Even though some more serious side effects are rare when the medication is used as prescribed, I like to make sure all of my patients are aware of what to look for to make sure they are taking the medication safely."

To help students develop skills and self-efficacy regarding opioid communication, our communication course in the future will show these taped peer models, with permission, as a mechanism to offer concrete communication strategies. Skill rehearsal with standardized patients, self-evaluations of their own taped encounters and supportive peer evaluations will be used in small-group peer feedback sessions following social cognitive theory based approaches to increase self-efficacy.<sup>26</sup>

Building on the work of others who are developing communication training programs regarding naloxone and opioid use, safety, and monitoring,<sup>9,17,18</sup> there is a need for more structured instruction to train students to communicate specifically regarding sensitive topics associated with opioid medications. These findings may translate to other schools of pharmacy, as curriculum regarding pain management and opioid communication are lacking among schools of pharmacy nationwide.<sup>6</sup> As frontline dispensers of opioids, there is a strong need for pharmacists to ensure patients are receiving clear education about opioids so they can make informed choices on their use.

This study has some limitations. Generalizability of the results is limited because all participants were from one US school of pharmacy. However, the results align with other research by the authors. This research documents that pharmacy students are reluctant to make patients uncomfortable by naming prescriptions as narcotics or opioids, discuss opioid-specific dependency risks, and discuss how to self-monitor their possible development. Future research can replicate this study to assess the impact of this

experience among other pharmacy students as well as among practicing pharmacists. A second limitation is that students in different laboratory sessions may have discussed the common scenario with one another prior to participating in the experience. If some students were told what the instructors' expectations for the consultation experience were prior to the laboratory session, those students may have handled the scenario more effectively. In an attempt to minimize this possibility, students were instructed to keep information related to the laboratory scenario confidential. Given the large consultation differences between the control and experimental groups of student pharmacists, it appears major contamination did not occur.

Judging from the results at our institution, pharmacy students at the end of their didactic coursework often lack confidence and training with regard to communicating with patients about opioid-specific risks. Despite earlier courses at our institution having trained students about drug-focused opioid abuse, dependency, and risks of overdose, the majority of our students in their last semester of didactic coursework had major communication gaps regarding opioids. They would also have benefitted from more training in communication skills regarding patient opioid use. Skill development could involve simulated scenarios to reinforce communication skills and mechanisms to discuss opioid medications, risks for dependence, self-monitoring strategies, and effective options for pain management. To strengthen their skills, we plan to video tape and review students' simulation tapes, have students review their own tapes using a structured form, and provide feedback on other student's recordings through a group peer review process next year.

## CONCLUSION

Based on these findings, pharmacy students at the end of their didactic coursework often lack confidence and training to counsel patients about risks of opioid medications. Similar to how our institution is using these data to evaluate the need for curricular revision, we recommend other institutions consider implementing a measure to ensure they are achieving the opioid counseling objectives defined in their own curriculum. Because of the current state of opioid use, overdose rates, and the large proportion of opioid medications dispensed, it is essential that pharmacy students are skilled and confident in their ability to provide education to patients on opioid medications and appropriate medication self-management to avoid possible risks.

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