

Section I: Research Question

While the Opioid Crisis has necessitated tighter regulations on opioid prescription, an unintended consequence of the rise in opioid addiction is the misperception of chronic pain patients as opioid-seeking victims of addiction and illicit prescription drug dealers. Sickle cell disease (SCD) patients are particularly vulnerable to be misperceived as drug seekers due to their vaso-occlusive chronic pain not being immediately visible to pharmacists, SCD patients being predominantly African-decent and facing racial biases, and the high incidence of opioid tolerance in SCD patients necessitating patient-initiated conversations about increasing their opioid pain medication [1]. This mislabeling of SCD patients as drug seekers has resulted in pharmacists giving unsolicited addiction recovery resources, denying or delaying opioid pain medication refills, and demanding drug testing that leads to deterioration of patient-pharmacist relationships and SCD patients left with untreated debilitating pain [2, 3].

Addressing this harmful misperception of responsible chronic opioid using SCD patients in American pharmacists will require an optimization in training across the pharmacist lifespan as described in AACP's strategic priority #2. One promising solution to addressing pharmacist misperceptions of patients is the use of patient testimonial videos where students hear the emotional turmoil and see the personal impact of opioid use stigma on patient care straight from members of the afflicted patient population [4, 5]. While previous studies have demonstrated healthcare professionals that watch patient testimonial videos have reduced trainees' agreement to harmful misperceptions of mental illness and transgender treatment, there is an unmet need for educational materials in the PharmD curriculum and ongoing pharmacist diversity equity and inclusion (DEI) training that addresses harmful SCD misconceptions.

To bridge education on opioid use stigma to more equitable pharmacy practice, the research team has created a publicly available video compilation of SCD patient testimonials on the impact of opioid use stigma on their healthcare titled "[Perception or Reality? Pain and Sickle Cell.](#)" The team has also developed the experimentally validated opioid use misconceptions assessment survey consisting of 16 Likert scale questions that has already demonstrated decreased agreement to many harmful misconceptions about chronic opioid use in undergraduate students that have watched the patient testimonial video compared to students that watched a control video on SCD that did not cover pain management (Appendix Table 1). **Given the success of our patient testimonial video at reducing misconceptions on sickle cell disease patients' chronic opioid use, the research team hypothesizes that incorporating SCD patient testimonial videos into the PharmD curriculum and ongoing pharmacist DEI training can reduce misconceptions on chronic opioid use in both PharmD students and licensed pharmacists, resulting in reduced misperception of SCD patients as drug seekers.**

Specific Aim Hypotheses

- 1: Incorporating SCD patient testimonial videos into the third year P3 pain management curriculum reduces PharmD student misconceptions of chronic opioid use in SCD patients.
- 2: Incorporating SCD patient testimonial videos into the required annual DEI training reduces pharmacist misconceptions of chronic opioid use in SCD patients.
- 3: SCD patients report fewer instances of being misperceived as a drug seeker when treated by pharmacists that completed the SCD patient testimonial video DEI training.

Section II: Project Design and Implementation

Aim 1: The research team includes members of the P3 pain management instructional team that can immediately incorporate the SCD patient testimonial video into their curriculum to determine patient testimonial's impact on decreasing PharmD student misconceptions on chronic opioid use. Prior to assigning students to watch the patient testimonial video, P3 students will be tasked to take the chronic opioid use misconceptions survey (Appendix Table 1) at pre-implementation to

determine baseline understanding of chronic opioid use stigma. Instructors will then introduce students to the testimonial video and follow up with another chronic opioid use misconceptions survey a week later to compare pre/post-implementation changes in P3 student misconceptions of chronic opioid use. In addition to assessment questions, instructors will survey students' demographic information and incidence of opioid addiction and SCD in the family to include in a multi-variate ANCOVA analysis to determine significance when appropriate. We would predict that with all variables controlled, PharmD students that watch the patient testimonial video will report higher agreement scores to statements contracting opioid misconceptions while reporting lower agreement to statements affirming misconceptions, similar to our pilot study with the undergraduate students (Appendix Table 1).

Aim 2: The research team also includes pharmacists, nurse specialists, and physicians involved in the Ohio State University's palliative medicine department and sickle cell disease team that has access to the pharmacies serving the ~550 SCD patients within our network. We already have received approval from our Director of Pharmacy to include our patient testimonial video and chronic opioid use misconceptions survey into the annual diversity, equity, and inclusion (DEI) training required for our pharmacists. This aim is therefore well within the two-year timeline to implement a similar assessment of SCD patient testimonial video impact on pharmacist opioid use misconceptions in ongoing DEI training as seen in the PharmD students in Aim 1. We would likewise predict pharmacist that watch the patient testimonial video will report lower agreement to opioid use misconceptions.

Aim 3: In order to determine if patient testimonial educational videos lead to enhanced pharmacy practice in precepting PharmDs and Ohio State's SCD-serving pharmacies, the research team has designed an expert-validated SCD patient survey that includes 5 questions addressing common mistreatments on SCD patients caused by pharmacy staff misperceiving patients as drug seekers in addition to a qualitative question asking patients to comment on any other concerns they have about being treated at their current pharmacy (Appendix Survey 2). In order to also validate that the patient testimonial video doesn't exacerbate opioid abuse potential, the survey also includes 5 questions derived from The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and COMM (community opioid misuse measure) to assess opioid misuse [6, 7]. The ~550 SCD patients readily accessible in our network will be invited to take the patient survey prior to and again at least 60 days after their primary pharmacy has received the patient testimonial DEI training described in Aim 2. Matched funds from Ohio State's College of Pharmacy in additional support if this grant is awarded would allow for SCD patient compensation for taking a 5-10 minute survey that would likely provide the ~25% response rate to achieve statistically significant sample size of ~150 participants seen in the undergraduate study (Appendix Table 1). Patient demographic data will also be collected to perform a multi-variate ANCOVA analysis to determine significance in Likert score changes in questions regarding drug seeker misperception from pharmacy staff and opioid abuse potential. Patient qualitative responses will be coded by at least two coders to achieve satisfactory interrater reliability before determining changes in patient concerns about their experience with the pharmacy staff with Chi-square analysis. We would predict that SCD patients treated by pharmacists that watch the patient testimonial video will report lower agreement scores to statements validating pharmacists misperceiving the SCD patients as drug seekers while having no change in scores agreeing with statements predictive of opioid abuse.

The research team is confident that the support of the AACP SoTL Grant will allow for project completion within the budget and timeline for the grant because the patient testimonial video is already made, the surveys for PharmD student and pharmacy staff opioid use misconceptions is already experimentally validated, the survey for SCD patient opioid use stigma and opioid abuse potential are expertly validated and adding the study to Ohio State's pharmacy network's DEI

training is already approved. With IRB approval at the start of the award period June 2023, the research team will finish implementation of the annual DEI training in Aim 2 and pre-implementation patient surveying in Aim 3 over Qualtrics during SU23. The PharmD P3 pain management curriculum will implement Aim 1 during AU23, followed by post-implementation patient surveying for aim 3 during SP23. By the end of SP23 our initial data will be analyzed and decisions for another round of data collection in 2023-2024 can be determined for statistical significance. AJPE and AACP's annual meeting would be the primary platforms for dissemination in addition to potentially other national conferences related to hematology and SCD clinical practice. OSU College of Pharmacy matching funds for earning external grants will cover the patient compensation for survey participation while the AACP grant will cover the student assistant participation, travel, and operations cost necessary to implement the research and disseminate our findings.

With the assured collaboration of specialists in pharmacist education, pharmacy practice, and SCD care, the research team is confident that the proposed research incorporates the most effective methods to assess how patient testimonial videos educate PharmD students and practicing pharmacists on the impact opioid use misconceptions have on SCD patients. With the patient testimonial video already freely available to the public, the assessments and data generated from this proposed project can be immediately utilized to guide other colleges of pharmacy that wish to benefit from incorporating our educational tools into their own curriculum. The potential for alleviating misconceptions about chronic opioid use may also benefit pharmacists that treat the >20% chronic pain patients victimized by opioid use stigma.

Future directions for this research beyond the scope of this grant could involve expanding the study outside of Ohio State's network into other geographical areas that treat the most SCD patients or expanding our understanding of chronic pain patients' experience with pharmacists. One potential limitation to using Ohio State's pharmacy network is that our pharmacists already undergo annual DEI training requirements that may indirectly alleviate SCD patient misperception as drug seekers, so there is the risk that SCD patients within the study group experience opioid stigma differently from the majority of SCD patients nationwide. While the study aims are related, they are independent because the data may suggest an improved learning against opioid use misconceptions without a change in pharmacy practice or vice versa. The research team hopes that adding the qualitative free response question to the patient survey would capture any unforeseen experiences SCD patients have with opioid use stigma and drug seeker misperception by pharmacists that may be worth investigating in a future research study. Likewise, a future study investigating the impact of patient testimonial videos on pharmacists in networks that have high rates of SCD such as UCLA's network could help validate the generalizability of the research while educating pharmacists that have the maximal impact on SCD patients.

Student Survey Question	Control Mean	Control SD	Testimonial Mean	Testimonial SD	p-value
Opioids are always dangerous when used long term, regardless of the disease type or patient.	3.84	0.95	3.26	1.02	0.00075
I know the current Ohio opioid laws well.	2.51	0.94	2.37	0.92	0.45
The current opioid laws work as intended.	2.41	0.77	2.44	0.56	0.78
The current opioid laws increase trust in the patient-doctor relationship.	2.80	0.73	2.59	0.69	0.085
If you don't like the current opioid laws, then you are likely abusing opioids.	1.87	0.77	1.68	0.64	0.062
Doctors overwhelmingly like pain agreements.	2.96	0.71	2.85	0.67	0.79
Race has a negligible impact on the perception of a patient's drug habits.	2.51	1.16	2.06	1.09	0.0025
A patient can receive great quality care without being treated for pain.	3.64	0.89	3.18	0.96	0.019
The current opioid laws impact all patients the same.	1.99	0.74	1.74	0.65	0.091
I think that patients worry about being labeled a drug seeker.	3.61	0.86	4.02	0.89	0.014
If a patient is worried about being labeled a drug seeker, then they probably are a drug seeker.	2.03	0.88	1.66	0.72	0.0005
If a patient knows their dosage at a healthcare visit, then they are most likely a drug seeker.	1.90	0.77	1.63	0.70	0.0055
Alternatives to opioids are always preferable.	3.51	0.90	3.45	0.91	0.39
The overwhelming majority of patients on chronic opiates have a poor quality of life due to their pain or addiction.	3.00	0.90	2.89	0.81	0.11
The overwhelming majority of patients on chronic opiates are addicted.	2.82	0.92	2.63	0.87	0.27
Lowering the dose of opioids for patients on chronic opiates is greatly beneficial to the patient.	3.20	0.86	2.87	0.91	0.038

Patient Survey of Care Experience

For the purpose of this survey, opioid pain medicines include fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine, etc. Opioid drugs may include opioid pain medicines as well as street opioids such as heroin and opium.

Based on your care with this pharmacy in the last 60 days, rate your agreement to these statements on a scale of 1 (strongly disagree) to 5 (strongly agree):

1. The pharmacy staff frequently push drug abuse help resources on me, even though I did not ask the staff for help with drug abuse.
2. I often choose not to ask for a stronger dose nor refills of my opioid pain medicine because I am afraid of the pharmacy staff thinking I am a "drug seeker."
3. I often need to use recreational drugs like marijuana or alcohol to manage my pain because I do not have enough prescription opioid pain medicine.
4. I am often forced to give a drug test (e.g. urine test) before the pharmacy staff will give me opioid pain medicine.
5. The pharmacy staff often disagree with my need for opioid pain medicine because they say I do not look like I am in pain.
6. I often engage in illegal activities (e.g. stealing) or borrowing from friends and family to get more opioid drugs.
7. I often sell or give my prescribed opioid pain medicine to other people.
8. My friends and family often complain about my opioid drug use.
9. I often feel too intoxicated to work, drive, clean, or take care of family after taking opioid drugs.
10. I often have health issues because of my opioid drug use such as depression, mood swings, constipation, memory loss, reduced libido or impotence, nausea or vomiting, or trouble breathing.
11. Please share any other comments you have about how this pharmacy handled your pain management care:

References

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