

THE ARTS IN HEALTH PROFESSIONS EDUCATION

A Music Assignment to Develop Pharmacy Students' Empathy Toward People with Opioid Use Disorder

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Objective. To determine the effectiveness of using music to assist pharmacy students in developing empathy toward patients with opioid use disorder.

Methods. Students were given an extra credit assignment as part of an elective course in neuropsychiatry. Students were to listen to the autobiographical album, *The Heroin Diaries Soundtrack*, about the life of rock music star Nikki Sixx and his struggles with heroin addiction. They were then required to write a reflection about how the lyrics and music from the album affected their personal views on persons with opioid use disorder.

Results. Eighteen of 25 students in the course completed the assignment. Students' response to the assignment was universally positive. Many commented on their previous views that opioid use was a choice and a problem for law enforcement to manage. Students stated how their perspectives changed significantly after listening to the music and developing an appreciation for the symptoms and problems related to opioid use disorder and attempts to abstain. Many students remarked how the musical accompaniment to the lyrics and narration helped shape their emotional response.

Conclusion. Health professions students often have difficulty understanding mental illnesses, including substance use disorders. Music can be used to enhance student's empathy toward patients with mental health and substance use disorders. Music and other art forms may be especially useful when teaching subject matter related to the affective domain.

Keywords: opioid, reflection, music, empathy, affective

INTRODUCTION

Traditional curricula for the Doctor of Pharmacy (PharmD) degree program typically focus on the knowledge and skills needed to develop competency as a pharmacist. While the affective domain of student education is also a requirement within the standards of the Accreditation Council for Pharmacy Education (ACPE),¹ it is more difficult to educate and assess student competency in this area. This could be because of the resources and time needed to develop student ability in this area, as demonstrated in numerous studies.²⁻¹¹ This is contrary to data demonstrating that the physicians' affect can impact levels of patient satisfaction and treatment adherence,¹²⁻¹⁶ which likely correlates to the profession of pharmacy in a similar manner. One aspect of affect includes the concept of empathy, which is defined by the Merriam-Webster dictionary as "the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience

of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner; and the capacity for this."¹⁷

One significant barrier to effective treatment of substance use disorders, such as opioid use disorder, is the stigma surrounding this illness. This stigma is not only observed in the lay public, but among health care professionals, including pharmacists.¹⁸⁻²¹ One method of overcoming this stigma is through a deeper understanding of the illness itself, potentially changing people's perception. Another method could be through the development of empathy for those affected with opioid use disorder, understanding the affective components of the illness beyond the medical diagnosis. While studies discussing methods of imparting empathy to pharmacy students have been published,^{2-7,9,11} there is no universal standard of accomplishing this.

Music and other art forms have long been used to describe emotion in both verbal and non-verbal forms. Empathy involves understanding and awareness of the feelings and experiences of others, and music is a method of describing the feelings and experiences of others through emotional, artistic expressiveness. Therefore, we

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hypothesized that listening to music regarding sensitive subjects within pharmacy education might help to illicit an emotional response in pharmacy students leading to heightened empathy.

The development of the affective learning domain, and empathy specifically, has shown positive benefits in pharmacy and medical education. The objective of this study was to assess pharmacy students' perceptions and changes in empathy levels regarding opioid use disorder after listening to and reflecting upon an autobiographical music album about opioid use disorder.

METHODS

In the spring 2018 semester, students enrolled in a professional elective course, "Advanced Topics in Neurology and Psychiatry," were offered an extra credit assignment on opioid use disorder. The assignment involved listening to the album *The Heroin Diaries Soundtrack*²² by the band Sixx AM and submitting a reflection on how the music, lyrics, and overall experience affected them and their perception of opioid use disorder. *The Heroin Diaries Soundtrack* tells the life story of rock music star Nikki Sixx, bass guitarist for the famous 1980s-1990s rock band Motley Crüe, and his personal struggle with heroin addiction. It combines a mix of music and personal narration by Sixx as he describes his heroin use, attempts to quit, relapse, and his interpersonal difficulties with family and friends. Students were instructed to listen to the album and then reflect on how it affected their personal views on opioid use disorder, with a particular emphasis on the lyrics used and the musical styles employed to convey emotion. For example, in one song, "X-mas in Hell," Sixx describes being alone on Christmas day with just his heroin, and the music in the background is the familiar Christmas song "Carol of the Bells" being played in a bizarre, twisted manner. The students were given two weeks to listen to the album and prepare a one-to two-page reflection on how the album affected their views regarding opioid use disorder. Students were specifically required to comment on the musical and lyrical content of the album in their reflections. Initial review of the reflections took place in April 2018.

The reflections were reviewed again by the course coordinator in spring 2019 after approval was granted by the university's institutional review board. At that time, the reflections were reviewed for specific content along five central themes: a change in their perception of opioid use, a change in empathy towards those diagnosed with opioid use disorder, putting a face to the opioid epidemic, using art/music as a method of education, and appreciation of the assignment (Table 1). These themes were selected after the initial review and grading of the reflections, but

Table 1. Themes Found Within Pharmacy Students' Reflections Written After Completing an Assignment on Opioid Use Disorder That Involved Listening to Music

Theme	Reflections Mentioning Theme, N (%)
Change in perception of OUD	13 (72.2)
Change in empathy towards individuals diagnosed with OUD	13 (72.2)
Putting a face to the OUD epidemic	12 (66.7)
Using art/music as a means of education	11 (61.1)
General appreciation of the assignment	2 (11.1)

Abbreviations: OUD=opioid use disorder

prior to the second review conducted for the purposes of this research. The content of the reflections formed the basis of this descriptive study, with the content being assigned to one or more of the five themes, and with selected student quotes and other remarks from the reflections provided here. In order to maintain the confidentiality of the students who completed the assignment, no other individuals were allowed to read the reflections. However, random, de-identified quotes were shared with three other faculty members for review and to confirm the appropriate theme(s) were assigned to them.

RESULTS

Of 25 students enrolled in the course, 18 (72%) completed the assignment, including several who did not need the extra credit in the course. All students commented on how the music affected their emotional state, provoking such feelings as anxiety, sadness, fear, concern, and happiness. Among the 18 reflections, the five themes were reflected to different degrees. Thirteen (72.2%) reflections commented on how the assignment changed their perception of the illness (theme 1). Of the two students' whose reflections did not mention this change in perception, one student mentioned having a family member with opioid use disorder and having seen how the illness affected them. The second student mentioned having a family member with alcohol use disorder, and this too had affected their perception of any substance use disorder.

Thirteen (72.2%) students noted having a "change in empathy towards those with OUD [opioid use disorder]" through this assignment (theme 2). Some students specifically stated that they felt more empathetic or connected with patients struggling with opioid use disorder after completing the assignment. Others commented on how they could better identify with the role of a patient

with opioid use disorder and dealing with the dysfunction of the illness after listening to the album. As this is the definition of empathy, understanding and appreciating the experiences of others, these comments were also counted as a change in empathy.

Twelve (66.7%) students stated that listening to the album helped put a face on opioid use disorder, allowing them to see it as more than an epidemic or an illness (theme 3). Eleven (61.1%) students included comments about the use of music as a means of education (theme 4). All of these students stated how music was effective for helping them understand and appreciate the concepts of opioid use disorder and that it augmented their traditional didactic education on opioid use disorder. While all of the students seemed to appreciate the effect the assignment had on them and their views of opioid use disorder, only two (11.1%) students stated specifically that they appreciated being given the assignment (theme 5).

Within each of the five themes, there were quotes that illustrated the effect of this assignment on the students. For example, within the first theme regarding a change in perception about opioid use disorder, one student commented, “after listening to this album twice I took away a different opinion on what happens to addicts and the story they go through.” Another stated, “Nikki Sixx’s story taught me things about addiction that you can’t learn in a textbook, or medical journal. His story will make an impact on how I approach patients with not just addiction, but other mental states as well.” A third student commented, “Hearing about addiction from someone who actually experienced it made me realize that there are many misconceptions and changed my perception of addiction.”

A similar impact on students was seen in quotes related to the second theme on a change in empathy towards patients with opioid use disorder. “This made me think more of if I was an addict myself and had to look for help but whenever I tried to look for it people would just think you were being selfish because you are an addict,” was one student’s comment on the song “Life After Death,” which talks about how, “addicts think everything is about themselves.” The same student later commented, “this story makes me think about addicts differently, it makes me feel as if I’m there with Nikki talking about his abuse, depression, and addiction in general. The putting a story to an addict can help others realize this as well.” Another student provided, “through the lyrics and emotion that can be felt in all of the songs, it becomes clear, and very real to the listener how addiction can be a spiraling disease. For me, his emotions were so palpable, I could feel the depression, agony, and sense of hopelessness that goes along with this disease.” One quote related to pharmacy

education directly, stating, “I feel as though treating addiction needs to have a separate class to understand the emotional component behind the treatment. There are a lot of complications behind treatment beyond the drug interactions, as a lot of people have internal struggles that may affect their treatment.” Similarly, another student commented on how this assignment affected their personal education and empathy, writing, “that’s why it was very interesting, and educational, to hear about how this isolation makes him feel. I honestly think this could change the way I interact with patients with addiction because I don’t believe any person deserves to feel that alone.” The same student later wrote, “it was a learning experience for us because now we understand the emotional aspect of addiction, which will help in terms of empathy with our patients.”

The third theme of being able to place a face on opioid use disorder also had several interesting quotes. One student shared, “this album also really placed a story to the opioid epidemic. Usually when we think of the opioid epidemic, unless you are personally affected by it, most will just recognize the problem but not truly understand it. By having a personal testimony in an artistic form, it made me understand more what the day to day thoughts of a heroin addict were like.” Another student wrote, “listening to anyone’s personal story definitely makes me consider this addiction problem differently than as a national epidemic. When there’s a face attached to a problem, it becomes so much more personal. That person is someone’s father, son, cousin, etc.” Another student related this theme to their pharmacy education as well, stating, “as future medical professionals, I feel we understand addiction with a very calculated and logistical perspective. However, while in school, we don’t really get the opportunity to hear about addiction from the patient’s point of view. . . I think the most important lesson to take away from this album is to put a face and a feeling to addiction.”

The fourth theme regarding the effectiveness of using music and the arts as a methodology in pharmacy education produced interesting quotes as well. One student commented, “I think the expression of addiction through music may be the closest thing we can use to simulate the raw, emotional feelings people have when they’re battling with addiction.” Another wrote, “through powerful lyrics he describes what heroin did to him; from tearing apart his love and family life to making him feel hopeless and suicidal. The album really puts into perspective one man’s internal struggle of what it feels to be addicted to opioids.” Another student commented, “I think this album was a great depiction of heroin addiction. Sixx did not try to glamorize his life or drug use,

and used his music to convey how terrifying and hopeless his life was at times.” A particularly directed quote on the impact of the music was, “overall, this album changed how I thought about addiction in a powerful way that only music and art can. Everyone knows what addiction is like on the surface, but I have never heard what addiction was like from an addict himself.” The fifth theme regarding students’ appreciation for being given this assignment did not produce any significant quotes due to the low percentage of reflections containing this theme.

DISCUSSION

While the results presented are descriptive in nature, they demonstrate the potential effectiveness of the musical listening and reflection assignment on students’ perception and empathy regarding opioid use disorder. Over 70% of students commented, either directly or indirectly, that their perception toward opioid use disorder and their empathy for patients struggling with it were positively affected, and over 60% appreciated how it put a face to what had been a faceless epidemic. In support of the instructional method of using music to convey an educational message within the affective domain, over 60% of students commented on the effectiveness of this methodology in their reflections.

Interestingly, despite all of these positive findings, only a small percentage of students (11.1 %) specifically stated that they appreciated this assignment. Considering this was an extra credit assignment for the course, this percentage seemed unusually low. One potential explanation for this finding could be that students were so focused on the personal impact the assignment had on providing them with affective “knowledge” that could not be garnered from other sources, that their original motive of earning points became secondary to them.

One unexpected finding was the consistent use of the word “addict” across the students’ reflections. Considering this is generally viewed as a negative, stigmatizing term within opioid use disorder, it was odd to find it used almost universally within the reflections. This is actually the way that Sixx refers to himself, and other heroin users, throughout the album. It is likely that the students, having listened to the album, used the same terminology (whether positive or negative) that he did. Reflecting the terms and methods he used to refer to himself and his illness may have been an indirect marker of the connection with or even the empathy they developed for him in listening to his story.

There are several limitations to this study. First, this assignment was conducted within a small professional elective course on neuropsychiatric illnesses, and these students may not have been representative of the student

body at large. These students likely had an interest in this subject area, including an interest in substance abuse, which could have biased their views of the assignment. In addition, not all students in the course completed the assignment. Thus, there is the potential for another bias as the students who did not complete the assignment may have had very different responses to the album had they completed the assignment. Also, these students may have disliked using music or art as an educational tool, which would have affected their views on this assignment. Similarly, students who did complete the assignment may have done so because of an innate appreciation of music and the arts, which would have made them more likely to be affected by an assignment such as this. Finally, this was an extra credit assignment within the course and subjective reflections were used to assess the impact, so there is the potential that students wrote what they thought they were expected to write (as opposed to their true perceptions). As mentioned previously, objective assessment of affective learning, and empathy in particular, is not easy to measure.

It would be interesting to perform this assignment again, but with the addition of pre- and post-assignment assessments of students’ empathy towards opioid use disorder to determine if a more objective change can be demonstrated by using this method. While our results suggest there would be a measurable effect, a deliberate study using this methodology would be more definitive.

CONCLUSION

A descriptive assessment of pharmacy students’ reflections on this assignment provided preliminary information on the potential utility of music to reinforce the affective domain when discussing opioid use disorder. Positive findings were seen on students’ perception and empathy towards opioid use disorder, as well as on using music to develop these areas. These findings should be replicated using larger numbers of pharmacy students within a more general pharmacy education setting, as opposed to a professional elective course. Application to other areas of treatment that involve stigma and other barriers, including mental illness and human immunodeficiency virus infection, should also be considered. Additionally, application of more objective measurements, including pre- and post-assignment measures, would provide more credible evidence to this educational methodology.

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