Improving the Treatment of Substance Use Disorders Across a Large Health System

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Background

The University of Pittsburgh Medical Center (UPMC) health system is based out of Pittsburgh, PA and operates 40 hospitals and 700 physician offices and clinics. However, our Opioid Use Disorder Center of Excellence is located up to 200 miles away from our most remote office, which created an issue that limits our ability to fulfill the mission across our system. As of October 2019, the Health Resources and Services Administration of the U.S. Department of Health and Human Services consistently reported high numbers of overdose deaths, especially involving opioids, for the counties served by our health system.

The purpose of this study is to improve treatment access to Substance Use Disorders (SUDs) patients. By providing education that is tailored to evaluating, treating, and monitoring Substance Use Disorder patients, providers will be better prepared to treat affected patients. As more providers participate in SUD treatment, it will provide better access to patient care.

Methodology

The study is conducted via online surveys and Powerpoint/video presentation. Participants are all employees of the University of Pittsburgh Medical Center healthcare system. Participants are Advanced Practice Providers who are license and are able to prescribe medications, including controlled substances.

The study is divided into 4 phases and follows the Plan, Do, Study, Act (PDSA) model.

- The initial phase was systematic review of literature research to better understand the provider barriers to Substance Use Disorders treatment.
- The second phase was surveying the health system's Advanced Practice Providers' baseline knowledge of Substance Use Disorder treatment. The survey was developed using SurveyMonkey.com template with various questions pertaining to each provider's involvement and/or knowledge in Substance Use Disorder treatment. The survey was sent electronically via email notification system to all participants.
- The third and fourth phases were developing and implementing an educational tool to enhance provider's knowledge and experience in substance use disorder treatment. Using the data obtained from the survey as well as literature review, a Powerpoint lecture format with video-embed was developed. The lecture was 1 hour long and addressed many issues that was brought up in the survey. The lecture was available online for all Advanced Practice Providers to access.

Results

The study was conducted internally within UPMC health system. There were 2600 participants including Physician Assistants, Nurse Practitioners, Nurse Anesthetists, and Nurse midwives. The platform of the study was through online interaction using audiovisual format. The testing modality was comparing pre-testing data with the post-testing data once participants viewed the educational lecture.

The initial survey to gather providers' SUD treatment experience was sent via SurveyMonkey.com and was made available for participants for 1 month duration. There were a total of 245 respondents to the survey.

The dissemination tool was a Powerpoint educational lecture and was made available to participants for a 3-week duration. A pre-test was given prior to viewing the Powerpoint and then a post-test was given again after viewing the Powerpoint. Pretest and posttest data were obtain using automated data collecting system. At the conclusion of the educational lecture, 13 participants voluntarily participated in the Powerpoint educational lecture. Of the 13 participants, 3 participants were disqualified due to invalid answers. Data obtained were from the remaining 10 participants.

The result from the pre-test and post-test indicated that there was a difference in knowledge gained. Prior to viewing the educational material, average pre-testing score was 75% whereas the average post-test scoring was 86.4%.

Figure 1: Responses to a survey question "what are your challenges, concerns, or barriers that prevent you from effectively treating OUD patients?"
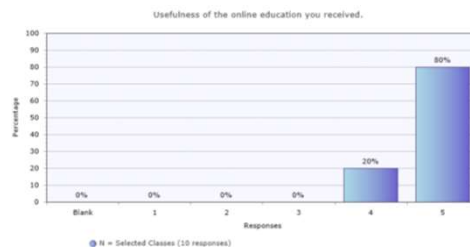

Figure 2: Participant's evaluation of the usefulness of the educational module

Discussion

The data from the study indicated that participants improved knowledge of substance use disorder treatment from 75% at baseline to 86.4% after viewing the education module. The change, which is an increase by 15.2%, is an indication that participants have a better understanding of treating SUDs through the education that they received. The result from this project supported our proposal, which was to improve the treatment of substance use disorders.

The purpose of the project was to provide educational material to providers. Therefore, we did not do follow up on the application of the knowledge gained to the patient population. That may be the next phase of the project if needed.

There were limitations during the project that may affect the outcome. COVID 19 pandemic occurred when the initial survey was disseminated which limited the number of participants in the survey. At that time, the APPs within the health system were mobilized to focus on managing COVID-19 pandemic related issues. Therefore, APPs may not have been able to participate during the duration that the Powerpoint educational module was made available. The second limiting factor was the duration with which the educational module was disseminated, which was only 3 weeks long. The limited amount of time limits the number of people who were able to participate in receiving the educatio..

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