CASE REPORT

Assessing TryCycle, a Smartphone-Based Application and Clinician Tool, in Assisting a Client in Recovery from Alcohol and Opioid Abuse

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Background

Substance abuse and substance use disorders constitute a major global health problem. It is estimated that 21.5 million American adults struggle with some form of addiction.[1] Current approaches to treatment have modest impact, with estimates of relapse following recovery at 40-60%.[2] A great deal of attention is currently focused on opioid abuse due to alarming rates of overdose and death. In the US alone, nearly 50,000 opioid overdose deaths occurred in 2017, accounting for an estimated $78 billion annually in associated costs.[3,4]

TryCycle is a predictive technology system, involving a smartphone-based application designed to assist individuals in recovery from substance abuse and substance use disorders. The application is designed to create a digital connection between clients in recovery and their clinician(s) that allows for real-time reporting and monitoring of clients' symptoms, vulnerabilities, sentiments, and overall wellbeing. Clients receive regular prompts to submit journal entries by answering a series of structured questions related to their current status (e.g., temptations to use their drug of choice, triggers, medication adherence, stressful experiences), with severity measured on a scale from 0-9. Following their responses to these structured questions clients are asked to enter free text to convey how they are doing. These structured and unstructured responses are analyzed by IBM Watson and IBM's Natural Language Understanding platform to identify in real-time the risk of relapse for each client.[5] Icons within the journal allow clients to send SMS messages to contacts from their support network. Notifications to the recovery team are automatically generated based on entries in the client's journal to alert clinicians to transitions in status from 'green' to 'red' to denote increased risk of relapse.

The TryCycle system also provides a clincian dashboard to facilitate provider management of clients in their care. Components of the dashboard include a console identifying and organizing all data for each client assigned to a provider, with the capacity to calculate summary data and time trends for each client. Providers can manage the settings associated with each client's journal entries (i.e., for timing and frequency), and can also access the history of provider actions related to each client. An administrative tab allows the provider to access and manage demographic and clinical information for each client.

Case Presentation

M. is a client receiving Recovery Support Services following intensive treatment for alcohol and opioid use disorders at Project Courage from September 2016 to January 2018. Project Courage, a substance abuse recovery center located in Old Saybrook, CT, specializes in the treatment of substance use disorders in adolescents and young adults. It offers a wide array of programs including: Assessment and Evaluation, Outpatient Therapy, Intensive Outpatient Therapy, Family Services, Medication Assisted Treatment (MAT), Medication

Management and Evaluation, Recovery Support Services, Neurofeedback and Screening and Testing Procedures. Project Courage began a pilot implementation of the TryCycle app in late 2017 with approximately 20 clients in recovery. Typical clients using the TryCycle system had cannabis use disorders, alcohol use disorders, or opioid use disorders as a primary diagnosis.

M. had been using the Trycycle app to journal his progress for several months. He reported inconsistent use in the spring of 2018 as he had been in what he described as "a good stretch of sobriety." One weekend evening in early May 2018 he reported feeling a strong urge to go out and drink with friends. He was dressing to go out and had texted his friends that he would meet them at a bar. He decided to use the TryCycle app to reach out to his recovery coach to report that he was feeling lonely and was experiencing very strong temptations to use. He was still getting to know his coach at Project Courage and was more comfortable using the app to make contact (as opposed to calling) due to their unfamiliarity. His journal entries moved his status to 'red' indicating a high-risk for relapse, and his coach called him immediately. After a 45 minute to hour-long conversation M. recognized that these temptations threatened the improved quality of life he had experienced during his sobriety. He canceled his plans to go out drinking that evening.

M.'s subjective assessment of the TryCycle app was very positive. He described it as providing opportunities to monitor his symptoms and connect with his coach that he didn't have in his prior treatment and stated that it was "…one of the best things for recovery that I've seen." M. further stated that the intervention by his coach that was initiated through the TryCycle system enabled him to avert a relapse and that he has continued to remain sober through August 2018. He noted that for clients experiencing extended sobriety, daily journaling was too frequent and that longer intervals between entries would be less burdensome and perceived as more valuable to clients.

Information collected in an interview with M.'s coach at Project Courage corroborated the client's report. The coach felt that M.'s use of the TryCycle app was a safe way to communicate he was not doing well that avoided bothering his coach with a personal call or a text on a weekend. It also gave clients much better access to providers during a crisis: many times clients do not have a direct way to contact their providers, and the closing of the outpatient clinic at 6:30 pm creates a barrier to connecting to therapists after hours. M.s' coach also noted the importance of adjusting the frequency of prompts through the TryCycle app for clients in different stages of recovery to ensure that clients were seeing the value of the digital solution and not viewing it as overly burdensome.

Conclusions

Project Courage's pilot implementation of the TryCycle system resulted in a positive outcome with a client in recovery from substance use disorders. In this case the client used the TryCycle app on his smartphone to communicate his temptation to use with his recovery coach. The recovery coach received an alert from TryCycle that his client was at risk, prompting him to contact the client immediately to provide encouragement and support. This interaction enabled the client to avert a relapse. Reports from the both the client and his recovery coach affirmed the opportunities provided by TryCycle to enhance communication and augment the support provided to clients during recovery.

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References

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