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Spring 5-5-2023

CBT Technology Implementation with Pediatric and Adolescent Populations

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Recommended Citation

Kreipe, Tracey W.; Gage, Heath; and Obiebi, Sandra, "CBT Technology Implementation with Pediatric and Adolescent Populations" (2023). *Doctor of Nursing Practice Projects*. 258.

<https://spark.siu.edu/dnpprojects/258>

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Executive Summary

Introduction of the Problem

Major depression and anxiety are two of the most common mental health disorders in the United States, affecting approximately 61 million Americans during their lifetimes (National Institute of Mental Health, 2020; *Facts & Statistics Anxiety and Depression Association of America, ADAA*, n.d.). According to the National Institute of Mental Health (2020), that equates in the United States to one in five adults and one in six children and adolescents have a mental health disorder. Due to the high prevalence of depression and anxiety in the U.S., access to providers that can accurately diagnose and treat these individuals with evidence-based practices is limited. The lack of mental health providers in the U.S. is especially problematic in the area of pediatric mental health, where fewer professionals can adequately treat these patients. Due to the lack of pediatric mental health providers, referrals for therapy may take 3-6 months or longer in some cases, leaving primary care pediatric offices responsible for treatment until a mental health specialist or counselor can be seen. Such delays can have negative consequences on patient outcomes. The mental health provider deficit is further exacerbated in rural areas due to limited provider availability. The clinical setting used for this project was a large Midwest pediatric primary care practice. Providers from the clinic felt there was a need to provide resources for pediatric patients suffering from mental health issues until they could access a mental health professional. The use of digital therapies has been an ever-increasing healthcare approach to help correct limited access for specific populations and locations.

Literature Review

Primary care providers attempt to deliver optimal care, but many times patient with pediatric mental illness need stop-gap assistance until they can access additional mental health

consultation. The American Psychological Association (2019) depression treatment guidelines for children and adolescents recommend cognitive behavioral therapy (CBT) is a psychotherapy modality grounded in thoughts, feelings, and behaviors and is considered the gold standard of treatment for adolescents with depression. CBT technologies, delivered via a host of digital therapeutics, can enhance existing primary care treatment for children and adolescents, bridge the gap where there is a lack of mental health services, and complement the psychiatric practitioner's plan of care. Results from a recent study show that computerized CBT is beneficial for reducing posttreatment anxiety and depressive symptoms in adolescents and young adults compared with active and passive treatment controls. (Christ et al. 2020). CBT education delivered in a smartphone app format has shown the ability to decrease the severity of anxiety symptoms and assist pediatric patients in making progress towards treatment goals (Lockwood et al. 2022, (Christie et al. 2019).

Project Methods

The setting for project implementation was a pediatric primary care clinic that initially had four providers: one pediatrician, and three Pediatric Nurse Practitioners (PNP). The pediatrician at the practice did not participate in the project, and right before the project's roll-out, one PNP reduced their hours to 2-4 days a month, and another was out on a leave of absence. The reduction in the number of providers dramatically decreased the volume of patients seen by providers to one full-time PNP and one part-time PNP. This project was established in January 2022. A search for suitable CBT applications for the project was made online. Criteria for the search included suitability to the age range stated in the project, the ease of use and the cost of the applications. The training of clinic providers on the use of CBT applications occurred on June 17, 2022. In May 2022, the Institutional Review Board at Southern Illinois University

Edwardsville determined the project to be a quality improvement project and exempt from board review.

Evaluation

The CBT app intervention was implemented from June 13th through August 9th. Patients who had a positive screening for anxiety or depression were given a document with two QR codes linked to a CBT app focused on depression or anxiety. The provider discussed with the patient and parent how to use the app to guide the patient in utilizing CBT techniques until they could get in with a provider. After the data collection period in August 2023, a provider followed up with the patients referred to one of the CBT apps. The provider asked questions about whether they used the app, whether they found it helpful, and whether they could get into a mental health provider. In addition, the number of times the QR code was accessed was tracked. During the intervention period, the QR code to access the app was scanned 4 times.

Due to the reduced number of providers, there was a lower number of pediatric patients seen, reducing the number patients referred to the CBT app to five pediatric patients aged 11-18 years old. Of these five patients, one patient reported accessing the app, using it, and finding benefits. Another patient assessed the app but did not use it. The other three patients did not respond to follow-ups attempts from the providers. The project was limited by a low number of patient referrals to the CBT app. Due to the low number of referrals, it is difficult to conclude how effective this intervention might have been with more patient referrals. Another area for improvement was the need for more support from the practice owner and other providers in the practice. Due to provider turnover, the timing of the project likely impacted project success. With greater provider support and staffing, it may have been easier for the providers to incorporate it into their routines and would have increased the number of patients that received

the CBT apps. Implementation of this intervention in a larger clinic at a time of lower provider to patient ratio with a higher volume of patients would provide a clear sense of the benefits the CBT apps could have for patients.

Impact on Practice

Providers were slow to start referring patients to the CBT app in the initial phase of project implementation. It took frequent reminders and support. After a few weeks, the first patient was added to the referral log document. It was reported that no patients before this had met the criteria for a referral. When patients meet the requirements, the providers shared that it was easy to refer them to the CBT apps, and it was useful to give the patient access to some support while waiting for a mental health provider. Throughout the application of the intervention, five pediatric patients were referred to the CBT application. Even though only one patient responded, providers found it impactful enough to continue using the intervention going forward. For further improvement of this intervention providers requested further guidance be given to on which cognitive behavior therapy applications are more useful for anxiety and which are more useful for depression. In addition, providers should be educated on the age-appropriate ranges for each CBT app.

Conclusions

Digital therapies are an emerging field that can provide a bridge to access for patients with limited availability to mental health providers. Limited access to mental health services has been a progressive problem significantly impacting the pediatric population especially in underserved communities. CBT applications focused on treating anxiety, and depression can assist them in learning coping techniques as they wait to see a mental health provider. The execution of this intervention is straightforward for providers to incorporate into the practice, and

the provider could provide resources to the patient, knowing it will likely take a few months before they will be seen. If the future implementation is based on this quality improvement project, it is recommended that it is implemented in a larger setting. This project should be expanded to not only the pediatric population but patients of all ages who are depressed or anxious. A greater emphasis and internal efforts to promote both patient and provider acceptance of CPT applications are needed to improve usage of this resource.

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