



Spring 2023

Cognitive Behavior Therapy versus Internet Cognitive Behavior Therapy In Adults with Anxiety or Depression

Heather Greenwood

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: <https://commons.und.edu/pas-grad-posters>

Recommended Citation

Greenwood, Heather, "Cognitive Behavior Therapy versus Internet Cognitive Behavior Therapy In Adults with Anxiety or Depression" (2023). *Physician Assistant Scholarly Project Posters*. 259.
<https://commons.und.edu/pas-grad-posters/259>

This Poster is brought to you for free and open access by the Department of Physician Assistant Studies at UND Scholarly Commons. It has been accepted for inclusion in Physician Assistant Scholarly Project Posters by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

Cognitive Behavior Therapy versus Internet Cognitive Behavior Therapy In Adults with Anxiety or Depression

Heather Greenwood, PA-S with Contributing Author Mindy Staveteig, MMS, PA-C
Department of Physician Assistant Studies, University of North Dakota School of Medicine & Health Sciences
Grand Forks, ND 58202-9037



Abstract

According to the American Psychiatric Association, the prevalence of anxiety and depression in adults in their lifetime are nearly 30% and 16.6% respectively. The combination of pharmacotherapy and psychotherapy interventions (including talk therapy or cognitive behavior therapy (CBT)) are considered best practice, but in recent years there has been an increase in the popularity of applications and web-based services categorized as “internet cognitive behavior therapy”, or ICBT. The question proposed is, are these services as good for patient outcomes as traditional in-person CBT? A literature review was performed using electronic medical database PubMed with key word searches for cognitive behavior therapy and internet delivered cognitive behavior therapy for both anxiety and depression in adults. All searches were limited to the years between 2015 and 2022, with preference to 2018 to 2022 and filters were set to include “Clinical Trial” and “Randomized Control Trial” only. Many articles were eliminated to only include adult populations and the use of true “internet cognitive behavior therapy”, not telemedicine use. Data reviewed shows evidence that participants who used ICBT had statistically significant ($p < 0.05$) improvement in anxiety or depressive symptoms similar to that of traditional CBT and both CBT and ICBT show substantial improvement from control groups. Overall, more studies are needed utilizing a focus of anxiety or depression alone in adults, for longer periods of time utilized or followed, and as more applications or ICBT options become available. The data thus far is evident, though, that ICBT provides a promising option for patients in which in-person CBT is not an option or is not desired.

Keywords: Cognitive Behavior Therapy, CBT, Internet Cognitive Behavior Therapy, ICBT, Anxiety, Depression

Introduction

Anxiety and depression are some of the most prevalent and frequently diagnosed disorders with the American Psychiatric Association claiming nearly 30% of adults will be affected by an anxiety disorder and one in six people will experience depression in their lifetime and the best treatment is a combination of pharmacotherapy with psychotherapy. This includes cognitive behavior therapy (CBT), which teaches tools for managing the issues that cause the patient’s anxiety or depression (American Psychiatric Association, 2020 and 2021). In recent years, the use of internet-based CBT (iCBT or ICBT) has gained popularity with many now using apps, such as BetterHelp, TalkSpace and Cerebral; yet healthcare professionals often disregard these as a valid option or consider them as “second best” to in-person CBT. Are these options really second best in areas where the waitlists to see a counselor are months long or patients need to travel to access a counselor? Note that telemedicine, counseling that is occasionally performed via video conference, and self-help or meditation applications are not considered “internet cognitive behavior therapy” and not included in this analysis. ICBT is the use of a website or application that provides therapy services by pairing patients with a therapist or counselor who will communicate via text, e-mail, phone call or video chat. Patients can select the services they need through package options or a la-carte options, depending on the app. Some offer 24/7 services and most claim to pair a patient with a counselor within 24-48 hours. Many offer the ability to file through insurance companies and several apps are tailored to specific patient populations, such as teen patients, LGBTQ+ patients, or Christian based therapy.



[What is Depression? | Anxiety and Depression \(adaa.org\)](https://adaa.org)

Statement of the Problem

Traditionally we have relied on in-person talk therapy to provide the best care for our patients with depression and anxiety, but with limited resources and long waitlists to see a counselor, could on-line options be of good use? Several providers suggest using an app or online option to help their patients while they wait to see someone locally, but why is it so often treated as a lesser option? With convenience, 24/7 accessibility and a greater sense of confidentiality an online option may be more appealing to patients. This could be particularly true for younger adult patients who have been immersed and raised in technology their entire lives or for many during this post-COVID era.

Research Question

Are online counseling or therapy options as effective as in-person counseling when treating adults with anxiety or depressive symptoms?

Literature Review

Patients receiving in-person CBT for anxiety disorders

- Stefan et al. (2019) compared the efficacy of 3 CBT methodologies in the treatment of Generalized Anxiety Disorder (GAD) and found no significant difference between the 3 treatment groups in reducing GAD symptoms, worry, frequency of dysfunctional thoughts and believability of dysfunctional thoughts.
- Simon et al. (2021) conducted a study to determine the efficacy of Kundalini yoga (KY), CBT, and stress education (SE) for superiority and for KY noninferiority to CBT and found that there is a significant difference in efficacy of CBT and KY versus SE and they were unable to support their hypothesis that KY would be noninferior to CBT.

- Axelsson et al. (2020) compared the use of ICBT versus CBT in patients with health anxiety at baseline, once weekly during treatment, post-treatment and at 6 and 12 months after treatment and found ICBT is non-inferior when compared to face-to-face CBT treatment and there was substantial reduction of net costs for ICBT versus an in-person therapy (mean [SD]: \$454 [257] vs \$2059 [595]).

Patients receiving in-person CBT for depressive symptoms

- Forand et al. (2019) compared the use of iCBT with the “gold standard” CBT in a trial against samples from 2 randomized control trials (RCTs) on depression treatment, PennVandy and U. Washington, and found that iCBT can produce changes in symptoms that are noninferior to the traditional CBT and a greater change than placebo groups and have evidence that supports that iCBT is superior to CT in this trial, but that the iCBT group showed higher dropout rates than other more traditional treatments.

Literature Review

Patients receiving in-person CBT for depressive symptoms (cont.)

- Nakagawa et al. (2017) tested the effectiveness of CBT on patients with major depressive disorder who have had difficulty or failure with pharmacotherapy alone and found that adding CBT to the traditional pharmacotherapy was more effective in treatment of major depression, specifically for those that had previously been resistant to treatment.

Patients receiving ICBT for anxiety disorders

- Hwang et al. (2022) demonstrated the effectiveness of ICBT in the improvement in work related stress, work engagement, and improvement in quality of life using the app BetterLife with statistically significant improvement in PSS ($p < .001$) and UWESK scores ($p = .0046$) versus the control group.
- Axelsson et al (2020) conducted a randomized clinical trial to compare ICBT to CBT for patients with health anxiety and showed ICBT is non-inferior compared to face-to-face CBT with a reduction in costs for ICBT versus an in-person therapy.
- Howell et al. (2019) conducted a study on graduate students and found those who participated in webCBT showed less anxiety at follow-up and that, for students who have mild to moderate anxiety (GAD-7 between 5 and 10), a web-based CBT can help to significantly lower anxiety symptoms.

Patients receiving ICBT for depressive symptoms

- Rauen et al. (2020) compared ICBT with the addition of face-to-face outpatient psychotherapy (ICBT+) or without (ICBT) face-to-face therapy in patients with moderate to severe depression at baseline, postintervention 12 weeks, and follow-up at 6 months and found there appeared to be a beneficial effect, and may help with stabilization, with additional face-to-face outpatient psychotherapy over time.
- Forand et al. (2019) compared iCBT with CBT for depression against data from two RCTs (PennVandy and U. Washington) and showed iCBT can produce changes in symptoms that are noninferior to traditional CBT and a greater change than placebo groups and supports that iCBT is superior to CT.

Discussion

For decades it has been known that the best treatment for anxiety or depression is a combined approach of pharmacotherapy and cognitive behavioral therapy. Internet cognitive behavioral therapy has surged in popularity, likely due to the increased use in technology, improvements in quality of technology available and broadening of technology into more areas of our lives. Additionally, the impacts of COVID-19 and normalization of video conferencing has introduced us to interaction options people had not explored before. Trials used forms of questionnaires or survey to quantify the severity of the anxious or depressive symptoms and/or the impact of symptoms on daily life and the analysis of the articles here have repeatedly shown statistically significant ($p < 0.05$) improvement in anxiety or depressive symptoms with the use of ICBT when compared to CBT. Both CBT and ICBT show substantial improvement from control groups. The data was limited considering the trend in use of these apps. More studies are needed using the apps that we see used more commonly, such as TalkSpace, Cerebral or BetterHelp. As an after effect of the COVID-19 pandemic it is expected to see an increase in these studies and trials.



[Facts & Statistics | Anxiety and Depression \(adaa.org\)](https://adaa.org)

Applicability to Clinical Practice

Regarding clinic practice and patient care, it appears that suggesting the option of an app does not need to be regarded as second-best practice. The data presented here shows that patient outcomes for the use of ICBT are comparable to in-person CBT. The additional benefits that are offered by using an ICBT, such as 24/7 availability, at home privacy and confidentiality, and faster time to be seen and easier availability in rural or underserved areas may appeal to some patient populations that would not otherwise consider therapy. Best practice for patients would be tailored recommendations to each patient and realize that some patients would best benefit from in-person CBT, and they may need the face-to-face connection, while others may not.

References

- American Psychiatric Association. (2021, June). *What are Anxiety Disorders?*. <https://www.psychiatry.org/patients-families/anxiety-disorders/what-are-anxiety-disorders>
- American Psychiatric Association. (2020, October). *What is Depression?*. <https://www.psychiatry.org/patients-families/depression/what-is-depression>
- Axelsson, E., Andersson, E., Ljotsson, B., Björkander, D., Hedman-Lagerlöf, M., & Hedman-Lagerlöf, E. (2020). Effect of Internet vs Face-to-Face Cognitive Behavior Therapy for Health Anxiety: A Randomized Noninferiority Clinical Trial. *JAMA psychiatry*, 77(9), 915–924. <https://doi-org.ezproxylr.med.und.edu/10.1001/jamapsychiatry.2020.0940>
- Forand, N. R., Feinberg, J. E., Barnett, J. G., & Strunk, D. R. (2019). Guided internet CBT versus “gold standard” depression treatments: An individual patient analysis. *Journal of clinical psychology*, 75(4), 581–593. <https://doi-org.ezproxylr.med.und.edu/10.1002/jclp.22733>
- Howell, A. N., Rheingold, A. A., Uhde, T. W., & Guille, C. (2019). Web-based CBT for the prevention of anxiety symptoms among medical and health science graduate students. *Cognitive behaviour therapy*, 48(5), 385–405. <https://doi-org.ezproxylr.med.und.edu/10.1080/16506073.2018.1533575>
- Hwang, H., Kim, S. M., Netterstrom, B., & Han, D. H. (2022). The Efficacy of a Smartphone-Based App on Stress Reduction: Randomized Controlled Trial. *Journal of medical Internet research*, 24(2), e28703. <https://doi-org.ezproxylr.med.und.edu/10.2196/28703>
- Nakagawa, A., Mitsuda, D., Sado, M., Abe, T., Fujisawa, D., Kikuchi, T., Iwashita, S., Mimura, M., & Ono, Y. (2017). Effectiveness of Supplementary Cognitive-Behavioral Therapy for Pharmacotherapy-Resistant Depression: A Randomized Controlled Trial. *The Journal of clinical psychiatry*, 78(8), 1126–1135. <https://doi-org.ezproxylr.med.und.edu/10.4088/JCP.15m10511>
- Rauen, K., Vetter, S., Eisele, A., Biskup, E., Delsignore, A., Rufer, M., & Weidt, S. (2020). Internet Cognitive Behavioral Therapy With or Without Face-to-Face Psychotherapy: A 12-Weeks Clinical Trial of Patients With Depression. *Frontiers in digital health*, 2, 4. <https://doi-org.ezproxylr.med.und.edu/10.3389/rdgh.2020.00004>
- Simon, N. M., Hofmann, S. G., Rosenfield, D., Hoepfner, S. S., Hoge, E. A., Bui, E., & Khalsa, S. (2021). Efficacy of Yoga vs Cognitive Behavioral Therapy vs Stress Education for the Treatment of Generalized Anxiety Disorder: A Randomized Clinical Trial. *JAMA psychiatry*, 78(1), 13–20. <https://doi-org.ezproxylr.med.und.edu/10.1001/jamapsychiatry.2020.2496>
- Stefan, S., Cristea, I. A., Szentagotai Tatar, A., & David, D. (2019). Cognitive-behavioral therapy (CBT) for generalized anxiety disorder: Contrasting various CBT approaches in a randomized clinical trial. *Journal of clinical psychology*, 75(7), 1188–1202. <https://doi-org.ezproxylr.med.und.edu/10.1002/jclp.22779>

Acknowledgements

I want to thank my project and program advisor Mindy Staveteig, MPAS, PA-C, for her guidance and direction in the development of my scholarly project and educational goals. I would like to thank scholarly project course director and professor Russ Kauffman, MPAS, PA-C, for his patience, understanding, and guidance during the scholarly project development process. I want to thank David Franta, PA-S for his time and contributions to the improvement of my scholarly project. I would also like to thank Dr. Marilyn Klug for her time and guidance on the statistical analysis, data assessment, and project organization. I want to thank Lindsey Hiatt, PA-C at Saint Sophie’s Psychiatric Center in Fargo, North Dakota for her feedback and insight into the patient and provider impact. Lastly, I would like to thank my family and friends for their unwavering and endless support.