



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Cognitive Behavioural Therapy: A Strategy to Address Pandemic-Induced Anxiety

Margarita Surmai, Elsie Duff



A B S T R A C T

Keywords:

anxiety
cognitive behavioral therapy
COVID-19
mental health
nurse practitioner

Mental health morbidity has increased amid the COVID-19 pandemic due to social isolation, impairment of basic needs, financial instability, and fears of the virus. New cases of anxiety and depression have been on the rise, while preexisting mental and chronic illnesses have been exacerbated. Cognitive behavioral therapy (CBT) is a highly flexible technique used to manage an array of mental illnesses. CBT may be of particular benefit under conditions of social isolation and virtual health care delivery. This report addresses the critical role of nurse practitioners in navigating effective CBT for mental wellness.

© 2021 The Author(s). Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Background

The prevalence of mental illness and substance use is steadily rising in Canada and the United States. These illnesses are associated with an estimated economic burden of \$51 billion annually in Canada and \$225.1 billion in the US.^{1,2} A significant portion of the Canadian (56%) and American (41.5%) population has experienced increased stress and anxiety as a result of the COVID-19 pandemic.^{3,4} In addition, mental illness and substance use are risk factors for early mortality, accounting for an average of 10 to 20 years of life lost.¹ During times of extreme stress, such as a global pandemic, rates of mental illness would be expected to rise rapidly.

The current COVID-19 global pandemic and subsequent forced quarantines and physical lockdowns have dominated every aspect of people's lives worldwide. The pandemic measures have dramatically increased anxiety and fear related to contracting the virus, acquiring required medical supplies, receiving timely medical assistance, and accessing basic necessities and food items. Social, economic, educational, and recreational opportunities were abruptly ceased by governments during the pandemic, which further exacerbated perceived threats to safety and security.^{5–11} Compulsory mandates to conduct work from home disrupted work routines and schedules and placed additional strain on individuals' mental health. Work from home orders also led to dissociation between home and work responsibilities. The consequences of the pandemic are catastrophic for society and have been associated with increased mortality and morbidity, social isolation, and loss of financial security and employment.^{5–11} Due to the negative global impacts of the pandemic on mental health, the purpose of this report is to address cognitive behavioral therapy (CBT) for mental wellness and the role of the nurse practitioner (NP) in providing this therapy.

Clinical Features of Lockdown Anxiety

The generalized societal lockdowns and uncertainties around the spread of COVID-19 have decreased individuals' resiliency and ability to cope in stressful situations. Feelings of anxiety and fear are normal human responses to pandemic circumstances. Individuals with high levels of resiliency and physical/emotional well-being are better able to cope with additional life stressors and may be able to return to their normal baseline postpandemic, with minimal or no residual trauma.^{5,6,12–15} However, the unprecedented safety threats of the pandemic have significantly impaired personal resiliency and ability to cope. The COVID-19 pandemic has created heightened levels of anxiety, perceptions of physical and emotional insecurity, and trepidation related to anticipated, potentially unwanted, and/or unfavorable outcomes of the pandemic.¹³ In addition, research has postulated that quarantine-related symptoms may persist for at least 3 years.^{8,9,12,13}

Individuals have reported aggravation of anxiety symptoms, deterioration in work performance, exacerbation of existing mental health conditions, heightened fears, impaired concentration, as well as increased insomnia, irritability, and isolation.^{8,9,12,13} The incessant updates provided over social media served to further amplify anxiety and stress and aggravate one's ability to effectively cope on a day-to-day basis.^{8,9,12,13}

Older adults, children, health care workers, and individuals with preexisting mental health conditions, who had limited access to mental health support services during lockdowns, have been impacted most profoundly by the pandemic measures and resultant social isolation.^{6,7,9,10,14,15} Disruptions in health service delivery have exacerbated preexisting chronic conditions in the aging population.^{7,12} Health service providers have also experienced negative sequelae as a result of the pandemic, including work-related stress, long work hours, fear of contracting and transmitting the virus, daily

impacts of working with patients affected by the coronavirus, and moral dilemmas associated with life and death situations.^{6,9–11} To prevent self-harm as a result of pandemic restrictions, it is critical that NPs identify and assess vulnerable populations who have pre-existing physical and mental disabilities as well as limited access to health care and community resources.

During the pandemic, even those with no history of mental health conditions have reported high levels of stress. As a result, maladaptive behaviors have increased, including eating disorders, physical inactivity, substance use, and overindulgence on social media and the internet (Table 1).^{3,5,6,8,9,10,12–15} NPs must remain mindful of the combined effects of the pandemic measures, including social distancing requirements, emergent substance dependence, and maladaptive behaviors on individuals' mental health.

Individuals with an impaired sense of well-being who are undergoing emotional distress can experience catastrophic misinterpretations of events, negative self-talk, blame of self and others, black and white patterns of thinking, impairment of rational reasoning, and the tendency to jump to negative conclusions.^{7,16} Therefore, it is essential to address the long-term mental health consequences of pandemic measures, including social distancing and quarantine, to reduce negative impacts on the public health system.¹² For example, there is evidence to support the use of CBT in managing mood conditions and psychologic distress.^{17–19} NPs can consider facilitating the recovery process and prevent future relapses, particularly among individuals experiencing pandemic-related trauma.

CBT to Decrease Symptoms and Build Resilience

CBT can effectively treat a wide array of mental health conditions and is routinely offered to individuals experiencing mild to moderate anxiety. CBT is a research-based therapy that aims to enhance an individual's awareness of their own thoughts, feelings, and experiences.^{17,18} The therapy is aimed at treating the individual's existing anxiety and depression while also preventing other mental conditions. CBT is a strategy to recognize and challenge distorted patterns of thinking using a constructive and functional cognitive model. The goal of CBT is to build and restore personal resiliency.^{13,17,19,20}

The personal ability to withstand distorted thinking, despite exogenous stress, leads to resilience in the face of crisis and stressful life events. Personal resilience is the ability to lower the effects of emotional stress and anxiety, recuperate more quickly

from stressful events, and expand coping capacity with future stressors.^{5,13,19,21,22} CBT is a method that can develop personal resilience in the face of pandemic-related adverse effects while also lowering the lasting effects of emotional agony and improving coping skills.^{12,23}

CBT has superior benefits as a first-line treatment in patients affected by mental health conditions. This therapy has been shown to improve sleep, alleviate symptoms of fatigue, boost confidence, and subsequently, improve overall quality of life and well-being. A significant benefit of CBT is that it is highly flexible and adaptable to individual circumstances; as such, it can be delivered remotely or as guided self-help therapy.^{13,18,21,23}

Amid the pandemic, telehealth services were used to ensure continuity of care and accommodate self-isolation requirements.^{5,10,12,23,24} CBT delivered remotely (via digital health platforms) has been found to be equally effective as in-person services, and remote delivery has the additional benefit of allowing individuals immediate access to the therapy.^{5,10,12,23,24} In addition, prerecorded remote sessions can be accessed or worked on at a convenient time, thereby accommodating individuals' unique circumstances. Remote delivery of CBT also eliminates the need for travel and, in some cases, may reduce the costs associated with the therapy.^{5,10,13,23,24} CBT can be accessed remotely on a smartphone, making it particularly accessible to the average individual, who looks at their phone 150 times per day.²² The in-your-palm access and popularity of smartphone technology can serve as an attractive means for delivery of CBT and a powerful motivator for engagement. In addition, the high level of autonomy and positive effects associated with remote CBT may boost users' confidence and motivation to continue the therapy.^{22,25}

Practical Application of CBT

Self-observation and appraisal of one's own thoughts, emotions, and behaviors are central to CBT and can positively impact the individual's emotions and behaviors. For example, Burn's triple-column CBT technique addresses negative thinking and cognitive distortions and uses rational response as a self-monitoring tool.^{11,16,20} In this technique, observed negative thoughts are labeled as cognitive distortions, replaced with a rational response, and written on a worksheet or in a self-guided therapy book.^{11,19} The rational response transforms the negative cognitive pattern as well as the individual's emotional symptoms.¹⁹ Rather than attempting to replace negative thinking patterns, the goal of CBT is to reframe cognitive thoughts into constructive and rational perspectives.^{11,16} The behavioral component of CBT supplements cognitive reframing and may include several relaxation strategies aimed at releasing physical tension, such as deep breathing or progressive muscle relaxation.²⁰

CBT requires lifestyle changes and a daily commitment to monitor negative thinking pattern, as well as record thoughts, emotions, and behaviors. Lifestyle changes can be a barrier, particularly during low moods. However, even modest adherence to CBT interventions may lead to positive outcomes and significant improvement in overall functioning and quality of life.^{19,24–26} Free or affordable CBT resources can be used to guide the practical application of the therapy and enhance its overall success (Table 2). For example, smartphone applications can provide reminders for at-home practice, allow access to virtual peer support groups, and may enhance self-adherence.^{22,23,25}

Role of the NP

NPs can implement CBT by collaborating with their patients and providing education about the primary principles of the therapy.

Table 1
Clinical Consequences of COVID-19 Pandemic, Social Distancing, and Lockdown

• Alcohol and substance use ^{3,9,12,14}
• Anxiety ^{3,5,6,8,9,12,13,15}
• Depression ^{3,8,9,12,13,15}
• Eating disorders ¹⁰
• Exacerbation of existing mental health conditions ^{6,8,9,12,14}
• Excessive use of social media ^{9,12,15}
• Fears ^{5,6,8,9,13}
• Financial and employment loss ^{8,9,12,14}
• Gambling ¹⁵
• Homelessness ^{8,9,14}
• Impaired concentration and work performance ^{8,9}
• Impaired day-to-day functioning ^{8–10,15}
• Increased morbidity and mortality ^{8–10,12,14}
• Insomnia ^{8,10,12,15}
• Irritability ^{8,12}
• Limited or lack of physical activity ¹⁰
• Posttraumatic stress disorder ^{8–10,13,15}
• Social isolation ^{3,8,9,12–14}
• Suicide ^{8,9,12–15}

Table 2
Examples of CBT and Mindfulness-Based Intervention Resources

CBT authors	Dr. D. Burns, <i>Feeling Good: The New Mood Therapy</i> Judith S. Beck and Aaron T. Beck, <i>Cognitive Behavior Therapy: Basics and Beyond</i>
Mindfulness authors	Jon Kabat-Zinn
Mobile apps	MindShift MoodMission-Cope with Stress, Moods, & Anxiety
Online Resources	Beck Institute Cognitive Behaviour Therapy (https://cares.beckinstitute.org/how-cbt-can-help/) Beck Institute Cognitive Behaviour Therapy: COVID-19 Resources Wellness Together Canada (https://wellnesstogether.ca/en-CA) Mind Relief (https://www.mindrelief.ca)

NPs can also offer resource materials for self-guided practice, prescribe daily CBT, and evaluate the effectiveness of the therapy using clinical tools. NPs can use the Generalized Anxiety Disorder (GAD-7) inventory and the Patient Health Questionnaire (PHQ-9) clinical tool to assess the severity of their patients' anxiety and depression.^{20,27} NPs can facilitate individuals' mental wellness and recovery by conducting a thorough history, including the onset of stress and anxiety symptoms, precipitating events, associated factors, and the degree to which anxiety affects daily living. A focused physical assessment with relevant diagnostic studies, such as complete blood count, electrolytes levels, thyroid panel, blood glucose, iron studies, vitamin B₁₂ serum levels, and possibly an electrocardiogram, can help rule out organic causes of anxiety, such as thyroid, cardiovascular, metabolic conditions, and vitamin/mineral deficiencies.^{20,27}

NPs can assist patients by normalizing appropriate responses to life situations, reaffirming personal resilience, and acknowledging the individual's ability to cope with existing life circumstances. In addition, NPs may need to offer further interventions, including stress management techniques, or refer patients to relevant specialty services such as counseling and mental health resources.^{22,28} Another crucial intervention within the NPs plan of care may be to provide education about the warning signs of anxiety/depression and remind patients to seek professional help when appropriate.¹⁴

NPs are ideally situated to treat anxiety and depression using CBT and to encourage self-monitoring during this therapy. Patients undergoing CBT need to be coached to record their thoughts and emotions, identify any unhelpful or negative thinking patterns, relabel cognitive distortions with a realistic response, and manage psychologic stress with supplementary behavioral strategies.^{11,19}

In addition to CBT, NPs can recommend other powerful techniques to manage emotional distress, including increased physical activity, enhanced mutual support among family members (via digital calls), reduced daily exposure to the news and social media, improved sleep hygiene, and increased engagement in practices such as painting, journaling, acceptance therapy, mindfulness, breathing exercises, and guided imagery.^{7,13,14} Therefore, NPs play a vital role in assessing and diagnosing anxiety and depressive conditions while also facilitating navigation through existing community resources. NPs are ideally positioned to use the central principles of CBT to educate their patients about the management of anxiety and depression, particularly during a global pandemic.

Conclusion

The COVID-19 pandemic has profoundly impacted and increased overall burdens on mental health, perpetuating a mental health pandemic. As a result, mental wellness needs to be integrated rather than ignored as a routine component of all health care encounters. The pandemic measures and subsequent lockdowns have presented an opportunity to close existing gaps in the delivery of mental health services through the integration of effective

alternative therapies and methods. In particular, COVID-19-induced stress and anxiety can be successfully treated using CBT techniques. Growing research confirms that CBT can be delivered remotely or as self-guided support, both of which are particularly beneficial under pandemic restrictions. Remote use of CBT could revive a sense of *joie de vivre* in patients who have suffered from isolation, stress, and anxiety as a result of the COVID-19 pandemic.

References

- Centre for Addiction and Mental Health (CAMH). Mental Illness and Addiction: Facts and Statistics; Accessed April 28, 2021. <https://www.camh.ca/en/driving-change/the-crisis-is-real/mental-health-statistics>
- Open Minds. The U.S. Mental Health Market: \$225.1 Billion in Spending in 2019: An OPEN MINDS Market Intelligence Report. May 6, 2020; Accessed October 1, 2021. <https://www.openminds.com/intelligence-report/the-u-s-mental-health-market-225-1-billion-in-spending-in-2019-an-open-minds-market-intelligence-report/>
- Ipsos. COVID Continues to Take Heavy Toll on Canadians' Mental Health; Accessed April 26, 2021. <https://www.ipsos.com/en-ca/covid-continues-take-heavy-toll-canadians-mental-health>
- Vahratian A, Blumberg S, Terlizzi E, Schiller J. Symptoms of anxiety or depressive disorder and use of mental health care among adults during the COVID-19 pandemic-United States, August 2020-February 2021. *MMWR Morb Mortal Wkly Rep.* 2021;70(13):490-494. <https://doi.org/10.15585/MMWR.MM7013E2>
- Tyrer P. COVID-19 health anxiety. *World Psychiatry.* 2020;19(3):307-308. <https://doi.org/10.1002/wps.20798>
- Kini G, Karkal R, Bhargava M. All's not well with the "worried well": understanding health anxiety due to COVID-19. *J Prev Med Hyg.* 2020;61(3):E321-E323. <https://doi.org/10.15167/2421-4248/JPMH2020.61.3.1605>
- Fofana NK, Latif F, Sarfraz S, et al. Fear and agony of the pandemic leading to stress and mental illness: an emerging crisis in the novel coronavirus (COVID-19) outbreak. *Psychiatry Res.* 2020;291:113230. <https://doi.org/10.1016/j.psychres.2020.113230>
- Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet.* 2020;395(10227):912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry.* 2020;7(6):547-560. [https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Aitena E, Baglioni C, Espie CA, et al. Dealing with sleep problems during home confinement due to the COVID-19 outbreak: practical recommendations from a task force of the European CBT-I Academy. *J Sleep Res.* 2020;29(4), e13052. <https://doi.org/10.1111/jsr.13052>
- Benhamou K, Piedra A. CBT-informed interventions for essential workers during the COVID-19 pandemic. *J Contemp Psychother.* 2020;50(4):275-283. <https://doi.org/10.1007/s10879-020-09467-3>
- Bhandari S, Shaktawat AS, Patel B, et al. The sequel to COVID-19: the antithesis to life. *J Ideas Health.* 2020;3(1):205-212. <https://doi.org/10.47108/jidhealth.Vol3.IssSpecial1.69>
- Paredes MR, Apaolaza V, Fernandez-Robin C, et al. The impact of the COVID-19 pandemic on subjective mental well-being: the interplay of perceived threat, future anxiety and resilience. *Pers Individ Dif.* 2021;170:110455. <https://doi.org/10.1016/j.paid.2020.110455>
- Nelson PA, Adams SM. Role of primary care in suicide prevention during the COVID-19 pandemic. *J Nurs Pract.* 2020;16(9):654-659. <https://doi.org/10.1016/j.nurpra.2020.07.015>
- Imran N, Aamer I, Sharif MI, et al. Psychological burden of quarantine in children and adolescents: a rapid systematic review and proposed solutions. *Pak J Med Sci.* 2020;36(5):1106-1116. <https://doi.org/10.12669/pjms.36.5.3088>

16. Boelen PA, Eisma MC, Smid GE, et al. Remotely delivered cognitive behavior therapy for disturbed grief during the COVID-19 crisis: challenges and opportunities. *J Loss Trauma*. 2020;26(3):211-219. <https://doi.org/10.1080/15325024.2020.1793547>
17. Apolinário-Hagen J, Drüge M, Fritsche L. Cognitive behavioral therapy, mindfulness-based cognitive therapy and acceptance commitment therapy for anxiety disorders: integrating traditional with digital treatment approaches. *Adv Exp Med Biol*. 2020;1191:291-329. https://doi.org/10.1007/978-981-32-9705-0_17
18. Duffy D, Enrique A, Connell S, Connolly C, Richards D. Internet-delivered cognitive behavior therapy as a prequel to face-to-face therapy for depression and anxiety: a naturalistic observation. *Front Psychiatry*. 2020;10:902. <https://doi.org/10.3389/fpsy.2019.00902>
19. Thoma N, Pilecki B, McKay D. Contemporary cognitive behavior therapy: a review of theory, history, and evidence. *Psychodyn Psychiatry*. 2015;43(3):423-461. <https://doi.org/10.1521/pdps.2015.43.3.423>
20. Craske M. Generalized anxiety disorder in adults: Cognitive-behavioral therapy and other psychotherapies. UpToDate (oclc.org); Accessed April 27, 2021, <https://www.uptodate.com/contents/generalized-anxiety-disorder-in-adults-cognitive-behavioral-therapy-and-other-psychotherapies>
21. Li J, Li X, Jiang J, et al. The effect of cognitive behavioral therapy on depression, anxiety, and stress in patients with COVID-19: a randomized controlled trial. *Front Psychiatry*. 2020;11: 580827–580827. <https://doi.org/10.3389/fpsy.2020.580827>
22. Bakker D, Kazantzis N, Rickwood D, Rickard N. Mental health smartphone apps: review and evidence-based recommendations for future developments. *JMIR Ment Health*. 2016;3(1):e7. <https://doi.org/10.2196/mental.4984>
23. Kopelovich SL, Turkington D. Remote CBT for psychosis during the COVID-19 pandemic: challenges and opportunities. *Community Ment Health J*. 2020;57(1):30-34. <https://doi.org/10.1007/s10597-020-00718-0>
24. Murphy R, Calugi S, Cooper Z, Dalle Grave R. Challenges and opportunities for enhanced cognitive behaviour therapy (CBT-E) in light of COVID-19. *Cogn Behav Therap*. 2020;13:e14. <https://doi.org/10.1017/S1754470X2000161>
25. Bakker D, Kazantzis N, Rickwood D, Rickard N. Development and pilot evaluation of smartphone-delivered cognitive behavior therapy strategies for mood-and anxiety-related problems: MoodMission. *Cogn Behav Pract*. 2018;25(4):496-514. <https://doi.org/10.1016/j.cbpra.2018.07.002>
26. Kazantzis N, Brownfield NR, Mosely L, Usatoff AS, Flighty AJ. Homework in cognitive behavioral therapy: a systematic review of adherence assessment in anxiety and depression (2011–2016). *Psychiatr Clin N Am*. 2017;40(4):625-639. <https://doi.org/10.1016/j.psc.2017.08.001>
27. Rhoads J, Penick JC. Anxious mood. In: Rhoads J, Penick JC, eds. *Formulating a Differential Diagnosis: For the Advanced Practice Provider*. 2nd ed. Springer Publishing Company; 2018:21-26
28. Pfefferbaum B, North CS. Mental health and the Covid-19 pandemic. *N Engl J Med*. 2020;383:510-512. <https://doi.org/10.1056/NEJMp2008017>

Both authors are at the University of Manitoba, Winnipeg, Manitoba, Canada. Margarita Surmai, MN NP is a Nurse Practitioner in a primary care clinic and can be contacted at mrs.margarite@gmail.com. Elsie Duff, PhD, RN is an Assistant Professor College of Nursing, University of Manitoba, Winnipeg, Manitoba, Canada.

In compliance with standard ethical guidelines, the authors report no relationships with business or industry that would pose a conflict of interest.