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COMMENTARY

COVID-19 and Telemental Health: Benefits, Challenges, and Future Directions

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Although the medical impacts of COVID-19 are notable, the interpersonal, financial, and social consequences of the pandemic are likely to have the largest and most sustained effect on the psychological health of Canadians. Since the onset of the pandemic, mental illness has increased and demand for resources and services are on the rise. COVID-19 has served as a catalyst for the rapid implementation and acceptance of telemental health as a psychological service delivery option. Telemental health has several benefits, including increased reach and accessibility for those living in rural areas, reduced treatment attrition, and cost savings due to reduced travel. Although telemental health may be an innovative solution for broadly delivering psychological services, it can also pose threats to confidentiality and is limited to individuals with accessibility to the Internet and capability to navigate online platforms. Telemental health may also not be appropriate for individuals with severe mental illness (e.g., active psychosis, suicidality), who require in-person services to mitigate acute risk, or in situations in which a high degree of confidentiality is critical for accurate disclosure (e.g., child maltreatment, domestic violence). In this commentary, we describe the benefits and challenges of telemental health, and also highlight important considerations for clinicians, children and youth, systems that coordinate and facilitate mental health services, and future research. We conclude that telemental health is not a panacea and requires careful consideration for appropriateness depending on client needs and confidentiality, and standards for ensuring optimal outcomes for clients.

Public Significance Statement

COVID-19 and its associated physical-distancing requirements served as a catalyst for the rapid uptake and implementation of telemental health. This commentary explores both the benefits, as well as the cautions and challenges of using telemental health as a psychological service delivery option during COVID-19 and in a postpandemic future. It is argued that each client's clinical needs, safety, and confidentiality, as well as comfort with online platforms, should be considered when determining their appropriateness for telemental health.

Keywords: telemental health, telepsychology, mental health

The primary focus of COVID-19 has been on its impact on physical health. However, the pandemic has had a multidimensional and

multisystem impact on the lives of Canadians and individuals worldwide, from increased family and occupational stress, to increased health anxiety due to fear of illness or contagion (Asmundson & Taylor, 2020), to educational changes (e.g., homeschooling), to job loss and financial insecurity, to lack of essential supplies, fear of infection, loss of resources, supports, and interpersonal connection, and potentially separation and/or death of loved ones (Gruber et al., 2020). Not surprisingly then, one of the largest and most sustained effects of the COVID-19 pandemic is its impact on mental health (Cooke, Eirich, Racine, & Madigan, 2020; Racine, Cooke, et al., 2020) and, by extension, the prosperity of nations worldwide.

Due to the financial, social, and psychological stress of COVID-19, and the reduction in supports attributed to physical

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distancing requirements, it is expected that anxiety, depression, and traumatic stress will increase dramatically as a function of COVID-19 (Cooke et al., 2020; Racine, Cooke, et al., 2020). A recent study by Wang et al. (2020) demonstrated the profound and immediate effects of COVID-19 in China, with 53.8% of the general population reporting moderate-to-severe levels of psychological impact due to the pandemic, 16.5% reporting moderate-to-extremely severe depressive symptoms, and 28.8% reporting moderate-to-extremely severe anxiety symptoms. Moreover, as physical distancing measures persist, and quarantine orders are (re)implemented, increased rates of mental illness are expected: Being quarantined is associated with a fourfold increased risk in stress-related symptoms (Sprang & Silman, 2013). It is also expected that COVID-19 will exacerbate symptom distress in individuals with preexisting mental health difficulties. In a sample of Canadian and American adults, Asmundson et al. (2020) demonstrated that the psychological burden of COVID-19 is higher in individuals with preexisting anxiety and mood-related disorders compared to those without mental illness. Without treatment, depression, anxiety, and stress symptoms can negatively impact daily functioning, quality of life, and mental health throughout the life span (e.g., Korczak & Goldstein, 2009; Scott et al., 2009; Van Ameringen, Mancini, & Farvolden, 2003; Whiteford et al., 2013). Preparation for an overburdened mental health care system due to mental illness that is precipitated, and exacerbated by COVID-19, is paramount.

COVID-19 has necessitated an immediate change to the acceptance and implementation of mental health care service delivery. This includes the implementation of telehealth services to respond to the influx of need for psychological services, while also responding to physical-distancing requirements imposed around the world. For the purpose of this commentary, we refer to *telemental health* as psychological service delivery via videoconferencing, telephone, or texting (Hilty et al., 2013; Jones et al., 2014; Siemer, Fogel, & Van Voorhees, 2011). Telemental health has also been expanded to include the assessment and diagnosis of mental illness (Hilty et al., 2013).

Research over the last decade has demonstrated that telemental health can be effectively delivered to individuals with a variety of psychiatric and somatic conditions, including anxiety, depression, and conduct disorders (Berryhill et al., 2019; Hailey, Roine, & Ohinmaa, 2008; Hilty et al., 2013; Siemer et al., 2011; Vigerland et al., 2016). Telemental health can be as effective in treating mental health difficulties when compared to in-person treatment (Gloff, LeNoue, Novins, & Myers, 2015). Telemental health may also be effective in reducing common barriers to accessing treatment, such as transportation to treatment sessions (Nelson, Cain, & Sharp, 2017), increasing access to evidence-based services in rural areas or in communities without specialized mental health services in Canada (Francisco & Archer, 2016; Gibson et al., 2011), and in low- and middle-income countries with low funding for in person services (Acharibasam & Wynn, 2018).

Importantly, although there are myriad benefits to telemental health, there are also notable limitations, and these should be weighed prior to the widespread adoption of telemental health practices with all clients during and beyond COVID-19. In this commentary, we summarise the potential benefits and challenges of implementing telehealth services during the COVID-19 pandemic. We also provide considerations from the client and pro-

vider perspectives, with special attention dedicated to child and adolescent clients. Finally, we highlight important considerations for research and policy.

Benefits of Telemental Health

There are several benefits of telemental health during COVID-19. First, physical distancing measures have been instituted across the world and may persist over the next year. Telemental health ensures the medical safety of clients and clinicians. Moreover, individuals with preexisting medical (e.g., cardiac disease, diabetes) and mental health comorbidities require strict adherence to physical-distancing precautions, as their health places them at greater risk of severe COVID-19 infection (Yang et al., 2020; Yao, Chen, & Xu, 2020). Second, a multitude of in-person psychological services (e.g., university/college clinics, schools, assessment centres) have been temporarily suspended due to the pandemic. Without alternatives or shifts in care delivery models, such as telemental health, many individuals would be left without access to needed treatment.

Third, many mental health programs have long waitlists, especially for individuals who are seeking treatment and unable to wait for the resolution of the pandemic to receive services. Fourth, telemental health offers wide availability of psychological services in both rural and urban settings. There are approximately 6.5 million Canadians living in rural settings (18.7% of population; Statistics Canada, 2017), and telemental health can reduce the barrier of accessibility to resources, thereby shrinking health inequalities that frequently exist for individuals in rural settings (Bready et al., 2017; Hilty et al., 2013; Richardson, Christopher Frueh, Grubaugh, Egede, & Elhai, 2009). Fifth, as mentioned, those with anxiety symptoms, in particular, may experience heightened stress due to COVID-19 (Asmundson et al., 2020) and may therefore be more responsive to telemental health to gradually reintroduce anxiety-provoking situations (e.g., leaving the house, separating from caregiver). Finally, given the financial stress experienced by many individuals due to COVID-19, cost could be a significant barrier to seeking services. Preliminary evidence suggests potential cost-savings associated with telemental health, particularly with regard to reduced income loss due to travel and attendance at appointments (American Academy of Child and Adolescent Psychiatry Committee on Telepsychiatry, 2017). Taken together, the increased integration of telemental health presents opportunities for more equitable service delivery with a broader reach.

Considerations for All Clients

There are also several cautions and considerations that should be evaluated prior to universally pivoting to telemental health, as it may not be appropriate for all clients. First, there are telehealth challenges related to geographic rules regarding licensing and privacy regulations (Shachar, Engel, & Elwyn, 2020). In Canada, for example, the College of Alberta Psychologists dictates that registered psychologists within the province may only deliver services outside of Alberta if they are also registered with the local regulatory body of the client (College of Alberta Psychologists, 2018). Second, although telemental health can reduce some systemic barriers, it also has the potential to exacerbate others, par-

ticularly social inequalities. For example, despite increasing access to technology and Internet, 14% of Canadian adults do not have mobile devices and 20% do not have adequate Internet connections (Canadian Radio-TV and Telecommunications Commission of Canada, 2018). A digital divide in access exists among Canadians as well, in that access is less likely to be available in individuals or families with low income, low education level, or with immigration status (Haight, Quan-Haase, & Corbett, 2014). Indeed, it has been documented that individuals with lower income are less likely to have the necessary resources for connecting via telemental health (Ryan & Lewis, 2017). Moreover, for some individuals, the capability to navigate online resources will be extremely limited and may act as a deterrent for receiving psychological care. In the cases described above, empirically supported approaches that use telephone calls (e.g., McGrath et al., 2011; Mohr, Vella, Hart, Heckman, & Simon, 2008; Podina, Mogoase, David, Szentagotai, & Dobrea, 2016) may be a treatment option.

Third, individuals living in smaller dwellings, with immediate or extended family members and/or roommates, may not have a private location to engage in telemental health, and thus, there are threats to confidentiality which require serious consideration. When client confidentiality has the potential to be compromised, it is incumbent on the therapist to mitigate this risk by reviewing and repeatedly evaluating threats to confidentiality with the client. Fourth, there are potential limitations to telemental health in terms of providing psychological assessments over video-conferencing. In particular, many standardized assessment measures have not been validated for telehealth use in large, representative samples and it may be difficult to control for environmental factors that could impair performance on neurocognitive measures. Finally, it may be difficult to adequately monitor client presentations (e.g., facial affect, behavioural indicators of dissociation), especially in the absence of video-conferencing, if visual cues are less noticeable or absent. In sum, telemental health is not a panacea and requires careful consideration for appropriateness depending on client needs and standards for ensuring client confidentiality and security.

Considerations for Children and Youth

In an effort to curb the spread of COVID-19, significant changes to youth's daily activities and operations have been imposed, including school closures, required social distancing from peers and other supports (e.g., teachers), loss of athletics and other organized activities that are frequently sources of strength and support, loss of resources, home confinement, and potential increased family stress (e.g., lost family income; increased violence in the home). The capacity of youth to cope with these circumstances may be limited.

Prior to COVID-19, nearly one in five children had a mental health disorder, and in Canada, only a third of those children received services to meet their mental health needs (Waddell, Shepherd, Schwartz, & Barican, 2014). Initial estimates from other countries initially affected by COVID-19 suggest elevated mental health concerns in children and youth related to COVID-19 (see review by Racine, Cooke, et al., 2020). Importantly, for vulnerable youth, such as those with preexisting mental health difficulties, 83% reported worsened mental health symptoms and 26% reported being unable to access any mental health support since the onset of

COVID-19 (Lee, 2020). Arguably, the Canadian context may differ from other countries, but to our knowledge, no studies estimating mental illness in children and youth due to COVID-19 are currently available. Nonetheless, since the onset of the COVID-19 pandemic, distress and support line calls and texts to Kids Help Phone in Canada have increased by 70% and 51%, respectively (Watson, 2020). Thus, there is likely to be an influx of need for mental health services in children and youth.

As noted above, telemental health has several benefits, including increased reach and accessibility for children living in rural areas, reduced treatment attrition, and cost savings for parents due to reduced travel cost and time off work (Nelson et al., 2017). Some children and youth may also experience greater comfort with telemental versus in-person approaches. Parents and youth endorse equal satisfaction with telemental and in-person care (Mayworm et al., 2020), and satisfaction tends to increase upon return appointments as the patient and family becomes more acquainted with the treatment approach (Myers, Valentine, & Melzer, 2008). Moreover, in addition to servicing children and youth, many clinicians and children's mental health centres provide instrumental support to caregivers and families (i.e., childcare, respite care, meals; Hoagwood et al., 2010). The adoption of telemental services ensures that caregivers and families continue to receive essential support, guidance, and coping strategies for managing child and youth emotional and behaviour difficulties (Racine, Birken, & Madigan, 2020).

However, there are several telemental health considerations specific to children and youth. First, threats to confidentiality require special consideration for youth. This is of particular relevance for youth struggling with highly sensitive issues such as disclosures of gender identity or sexual orientation concerns, substance use disorders, and/or for those where the home environment is unsafe (e.g., abuse, witnessing domestic violence, see Racine, Hartwick, Collin-Vézina, & Madigan, 2020). The possibility for a parent or family member to overhear a therapy session is increased and largely out of the control of the therapist. Second, youth who struggle with emotional and self-regulatory abilities may experience considerable difficulty sitting in front of a computer for a full therapy session and may leave the room abruptly if feeling overwhelmed. Youth with attentional difficulties, severe mental illness (e.g., suicidality) and/or high levels of emotion dysregulation or family conflict may struggle to engage over telemental health platforms, and, if possible, in-person support may need to be prioritized for these clients during COVID-19. Third, approximately 70–80% of youth interventions are provided in schools (Bernstein, Layne, Egan, & Tennison, 2005; DuPaul & Eckert, 1997; Rones & Hoagwood, 2000; Wilson & Lipsey, 2007) and this option may become unavailable to youth given that many schools districts are expected to be closed or limited in physical space for additional requests such as therapy, while navigating COVID-19 restrictions. Thus, telemental health could provide access to psychological services for the students without the option to receive this service in schools. Finally, although telemental health has the benefit of providing the therapist with a window into the child's home environment that would not be available with in-person care, the narrow "lens" of the telemental health camera may limit assessment of interpersonal interactions, family dynamics, and precludes detection of softly spoken but potentially clinically important parallel conversations.

Considerations for Clinicians

Prior to COVID-19, the implementation and uptake of telemental health services within the public and private sector was slow. Despite clinicians' positive attitudes toward telemental health (Simms, Gibson, & O'Donnell, 2011), several barriers were identified that reduced clinician enthusiasm for telemental health, including perceived challenges in establishing client rapport and therapeutic alliance (Berger, 2017; Goldstein & Glueck, 2016), threats to confidentiality and privacy, and concerns related to payments for services (Shachar et al., 2020). With the rapid adoption of telemental health in the face of COVID-19, many practitioners and community- and hospital-based mental health systems have been able to address or overcome these barriers to provide services to clients. For example, clinicians are using strategies to engage clients online (e.g., shortened appointments, session breaks, and interactive online activities) and many are using software platforms that meet regional requirements for privacy and confidentiality.

Nevertheless, clinicians may still face unique challenges in the delivery of telemental health services during the COVID-19 pandemic. The anticipated rise in the onset and exacerbation of mental illness due to COVID-19 may leave agencies with high referral rates and long wait lists. Consistent with Principle II: Responsible Caring from the Canadian Code of Ethics (Canadian Psychological Association, 2015), clinicians and their agencies will have to determine how to provide high-quality services for a large body of Canadians in need, while ensuring caseloads remain manageable for clinicians.

Concerns in regard to the ethical delivery of telemental health have been a particular focus for clinicians during the COVID-19 pandemic. However, established practice guidelines are available from multiple governing bodies (e.g., American Psychological Association, 2013; Canadian Psychological Association, 2020) to ensure there is guidance for clinicians on telehealth-specific ethical challenges. These guidelines document the importance of providing informed consent that dictates the associated risks of telehealth services, such as limitations to confidentiality (e.g., via Internet hacking, public discovery), potential communication difficulties (e.g., missed visual cues), and limitations of technology (e.g., time delays, poor Internet connection). Emphasis is also placed on ensuring clinicians maintain boundaries of competency (e.g., remaining up-to-date on the efficacy of telehealth services, demonstrating clinical competence in person prior to utilizing telehealth) and preparing for potential crises (e.g., suicide risk) during telemental health sessions. Relatedly, some authors have determined that although COVID-19 poses distinct challenges to psychology doctoral trainees, the pandemic also serves as a rare training opportunity to build additional ethical and clinical competencies (Desai, Lankford, & Schwartz, 2020).

Considerations for Systems

On May 3, 2020, the federal government committed to invest \$240M in telehealth services to respond to the influx of Canadians in need of virtual medical care due to COVID-19. However, to prepare for the potential inundation of individuals in need of brief or sustained psychological intervention due to COVID-19, it is imperative for governmental officials and policymakers to allocate resources for telemental health (and/or telemental health research)

as well. Given the economic impact and job losses associated with COVID-19, it may become difficult for individuals to pay for psychological services. It is essential to ensure that vulnerable and minority groups can gain access to mental health care (Gruber et al., 2020). Moreover, given that one of the central barriers to practitioners using telemental health is technology-specific (i.e., computer literacy; Scott Kruse et al., 2018), policy resources could be allocated to online training modules to increase practitioners' computer literacy for telemental health platforms, so that access to care could be expanded.

As we are on the precipice of a wave of increased and likely sustained mental health needs due to COVID-19, clinicians and organizations that provide mental health care need to prepare to meet the incoming demand, while also balancing physical distancing rules, client and clinician safety, and confidentiality. At a systems level, needs assessments are required to determine for whom, and under what circumstances, in-person support should be prioritized (American Academy of Child and Adolescent Psychiatry Committee on Telepsychiatry, 2017; Kaufman, Petkova, Bhui, & Schulze, 2020). For example, emergency and intensive psychological and psychiatry services should remain open, and cases can be triaged to determine if in-person services are needed to ensure client safety. This includes consideration of vulnerable populations and alternative resources for those without accessibility to the Internet.

Considerations for Research

Despite several challenges to telehealth have been noted in this commentary (e.g., lack of a private location, lack of standardized measures, problems reading visual cues), to our knowledge, there is no literature documenting the actual frequency that clinicians encounter these challenges. It has been shown, however, that one predictor of telemental health use is the perception of ease of use (Simms et al., 2011). Thus, future research that documents the frequency of encountering telemental health barriers is warranted. If it is found that encountered barriers are infrequent, it may serve to assuage clinicians who are hesitant to use telemental health services.

Although telehealth interventions have shown some positive treatment effects (Hailey et al., 2008; Pennant et al., 2015), it is essential to determine which characteristics of existing telehealth interventions can be further scaled, without losing treatment efficacy (or causing harm), to reach the expected number of individuals needing services. For example, can telehealth interventions for mental illness be effectively delivered by paraprofessionals (e.g., nurses or coaches) versus professionals (e.g., psychologists, psychiatrists), and in group-based versus individual telehealth to reach larger groups and further broaden the reach to meet the expected influx of mental health needs and resources due to COVID-19? Research evidence supports that varied approaches to telemental health in adult populations (i.e., group-based telehealth; delivery by a paraprofessional; online modules to waitlisted groups) can be adopted and treatment effectiveness can be maintained. However, the literature on whether these varied approaches are effective for child and youth populations is limited, highlighting an important gap in the literature (Jones et al., 2014; Vigerland et al., 2016). Thus, the rapid move to telemental health due to COVID-19 presents research opportunities, especially for under-

studied child and youth populations, to garner knowledge on which clients are most likely to benefit and/or experience adverse effects from telemental health service delivery.

Innovative processes and techniques that increase the scalability of mental health services will be critical. For example, the development of online psychoeducation modules that can be provided to individuals or families on waitlists, and evidence-based self-guided programs delivered online, are particularly welcome (Vigerland et al., 2016). Brief and low-intensity telemental health interventions (e.g., single- or one-session interventions; Davis, Ollendick, & Öst, 2019; Schleider & Weisz, 2017) that demonstrate treatment efficacy should also be a priority for individuals who meet the criteria. Another possibility is to move to group versus individual-based telemental health treatments when appropriate to increase the reach of mental health resources to individuals in distress. When feasible, hybrid models could be explored, wherein in-person care is utilized for building rapport, establishing therapeutic alliance, ensuring confidence in diagnostic formulation, and treatment planning, followed by telemental health sessions for ongoing monitoring and treatment.

Although many of these treatment configurations are being implemented to meet the rapidly evolving mental health needs of Canadians due to COVID-19, research evaluations of these modalities and therapeutic formations are needed. Indeed, all of the approaches above, and their adaptations due to COVID-19, will require thorough empirical examination. These approaches could then inform the development of empirically driven telehealth practice guidelines or expert consensus statements, in a post pandemic future.

Conclusions

In the modern technology era, it is surprising that the uptake of telemental health services has remained relatively slow. COVID-19 has served as a catalyst for the acceptance and implementation of these services and this newfound positive regard for telemental health services by professionals and clients alike, may be maintained long after COVID-19 (Wind, Rijkeboer, Andersson, & Ripper, 2020). For the general population, telemental health provides an innovative way of delivering much-needed services to a large number of people in a safe manner. However, clinicians should keep in mind that telehealth services are not a catch-all solution to the suspected mental health wave of the pandemic. Although telemental health may be appropriate for some clients, others will continue to require more intensive in-person care. For individuals with severe mental illness (e.g., active psychosis, suicidality), complex family dynamics, and in situations in which confidentiality concerns are paramount (e.g., maltreatment), in-person care should remain available. Moreover, despite the exponential trends in media use, telehealth services are not accessible for all clients. Vulnerable groups (e.g., low socioeconomic status, homeless, rural communities) have historically struggled to receive adequate health care services and will continue to struggle without alternative means of delivery for psychological services. Government officials, policymakers, researchers, and clinicians must come together to ensure high-quality mental health services are available to all Canadian citizens during this global crisis.

Résumé

Bien que les répercussions médicales de la COVID-19 soient notables, les conséquences interpersonnelles, financières et sociales de la pandémie auront probablement l'effet le plus important et le plus soutenu sur la santé psychologique des Canadiens. Depuis l'apparition de la pandémie, la maladie mentale a augmenté et la demande de ressources et de services est en hausse. La COVID-19 a servi de catalyseur à la mise en œuvre et à l'acceptation rapides de la télésanté mentale comme option de prestation de services psychologiques. La télésanté mentale a plusieurs avantages, notamment une portée et une accessibilité accrues pour les personnes vivant dans les zones rurales, une réduction de l'attrition dans le traitement et des économies en raison de déplacements réduits. Bien que la télésanté mentale puisse être une solution novatrice pour offrir des services psychologiques à grande échelle, elle peut également poser des menaces à la confidentialité et est limitée aux personnes ayant accès à Internet et ayant la capacité de naviguer sur les plateformes en ligne. La télésanté mentale peut également ne pas être appropriée pour les personnes atteintes d'une maladie mentale grave (p. ex., psychose active, tendances suicidaires), qui ont besoin de services en personne pour atténuer le risque aigu ou dans les situations où un degré élevé de confidentialité est essentiel à une divulgation exacte (p. ex., maltraitance des enfants, violence familiale). Dans ce commentaire, nous décrivons les avantages et les défis de la télésanté mentale, et nous mettons également en évidence des considérations importantes pour les cliniciens, les enfants et les adolescents, les systèmes qui coordonnent et facilitent les services de santé mentale et les recherches futures. Nous concluons que la télésanté mentale n'est pas une panacée et qu'elle nécessite un examen minutieux de sa pertinence en fonction des besoins des clients et de la confidentialité, ainsi que des normes visant à garantir des résultats optimaux pour les clients.

Mots-clés : télésanté mentale, télépsychologie, santé mentale.

References

- Acharibasam, J. W., & Wynn, R. (2018). Telemental health in low- and middle-income countries: A systematic review. *International Journal of Telemedicine and Applications*. Advance online publication. <http://dx.doi.org/10.1155/2018/9602821>
- American Academy of Child and Adolescent Psychiatry Committee on Telepsychiatry and AACAP Committee on Quality Issues. (2017). Clinical update: Telepsychiatry with children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56, 875–893. <http://dx.doi.org/10.1016/j.jaac.2017.07.008>
- American Psychological Association. (2013). *Guidelines for the practice of telepsychology*. Retrieved from <https://www.apa.org/practice/guidelines/telepsychology>
- Asmundson, G. J. G., Paluszek, M. M., Landry, C. A., Rachor, G. S., McKay, D., & Taylor, S. (2020). Do pre-existing anxiety-related and mood disorders differentially impact COVID-19 stress responses and coping? *Journal of Anxiety Disorders*. Advance online publication. <http://dx.doi.org/10.1016/j.janxdis.2020.102271>
- Asmundson, G. J. G., & Taylor, S. (2020). How health anxiety influences responses to viral outbreaks like COVID-19: What all decision-makers, health authorities, and health care professionals need to know. *Journal of Anxiety Disorders*, 71, 102211. <http://dx.doi.org/10.1016/j.janxdis.2020.102211>
- Berger, T. (2017). The therapeutic alliance in internet interventions: A narrative review and suggestions for future research. *Psychotherapy*

- Research*, 27, 511–524. <http://dx.doi.org/10.1080/10503307.2015.1119908>
- Bernstein, G. A., Layne, A. E., Egan, E. A., & Tennison, D. M. (2005). School-Based Interventions for Anxious Children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44, 1118–1127. <http://dx.doi.org/10.1097/01.chi.0000177323.40005.a1>
- Berryhill, M. B., Culmer, N., Williams, N., Halli-Tierney, A., Betancourt, A., Roberts, H., & King, M. (2019). Videoconferencing psychotherapy and depression: A systematic review. *Telemedicine Journal and e-Health*, 25, 435–446. <http://dx.doi.org/10.1089/tmj.2018.0058>
- Brearily, T. W., Shura, R. D., Martindale, S. L., Lazowski, R. A., Luxton, D. D., Shenal, B. V., & Rowland, J. A. (2017). neuropsychological test administration by videoconference: A systematic review and meta-analysis. *Neuropsychology Review*, 27, 174–186. <http://dx.doi.org/10.1007/s11065-017-9349-1>
- Canadian Psychological Association. (2015). *Canadian code of ethics for psychologists* (4th ed.). Retrieved from https://cpa.ca/docs/File/Ethics/CPA_Code_2017_4thEd.pdf
- Canadian Psychological Association. (2020). *Providing psychological services via electronic media: Interim ethical guidelines for psychologists providing psychological services via electronic media*. Retrieved from <https://cpa.ca/aboutcpa/committees/ethics/psychserviceselectronically/>
- Canadian Radio-Television and Telecommunications Commission of Canada. (2018). *Communications services in Canadian households: Subscriptions and expenditures 2012–2016*. Retrieved from <https://crtc.gc.ca/pubs/cmr2018-en.pdf>
- College of Alberta Psychologists. (2018). *Practice guideline: Telepsychology services*. Retrieved from <https://www.cap.ab.ca/Portals/0/pdfs/Practice%20Guideline-%20Telepsychology%20Services.pdf?ver=2019-12-03-110441-087×tamp=1575396294218>
- Cooke, J. E., Eirich, R., Racine, N., & Madigan, S. (2020). Prevalence of posttraumatic and general psychological stress during COVID-19: A rapid review and meta-analysis. *Psychiatry Research*. Advance online publication. <http://dx.doi.org/10.1016/j.psychres.2020.113347>
- Davis, T. E., III, Ollendick, T. H., & Öst, L.-G. (2019). One-session treatment of specific phobias in children: Recent developments and a systematic review. *Annual Review of Clinical Psychology*, 15, 233–256. <http://dx.doi.org/10.1146/annurev-clinpsy-050718-095608>
- Desai, A., Lankford, C., & Schwartz, J. (2020). With crisis comes opportunity: Building ethical competencies in light of COVID-19. *Ethics & Behavior*. Advance online publication. <http://dx.doi.org/10.1080/10508422.2020.1762603>
- DuPaul, G. J., & Eckert, T. L. (1997). The effects of school-based interventions for attention deficit hyperactivity disorder: A meta-analysis. *School Psychology Review*, 26, 5–27. <http://dx.doi.org/10.1080/02796015.1997.12085845>
- Francisco, K., & Archer, N. (2016). The impact of telehealth on mental healthcare in Canada. *American Journal of Medical Research*, 3, 59. <http://dx.doi.org/10.22381/AJMR3220163>
- Gibson, K. L., Coulson, H., Miles, R., Kakekakekung, C., Daniels, E., & O'Donnell, S. (2011). Conversations on telemental health: Listening to remote and rural First Nations communities. *Rural and Remote Health*, 11, 1656.
- Gloff, N. E., LeNoue, S. R., Novins, D. K., & Myers, K. (2015). Telemental health for children and adolescents. *International Review of Psychiatry*, 27, 513–524. <http://dx.doi.org/10.3109/09540261.2015.1086322>
- Goldstein, F., & Glueck, D. (2016). Developing rapport and therapeutic alliance during telemental health sessions with children and adolescents. *Journal of Child and Adolescent Psychopharmacology*, 26, 204–211. <http://dx.doi.org/10.1089/cap.2015.0022>
- Gruber, J., Prinstein, M. J., Clark, L. A., Rottenberg, J., Abramowitz, J. S., Albano, A. M., & Weinstock, L. M. (2020). Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. *American Psychologist*. Advance online publication. <http://dx.doi.org/10.1037/amp0000707>
- Haight, M., Quan-Haase, A., & Corbett, B. A. (2014). Revisiting the digital divide in Canada: The impact of demographic factors on access to the internet, level of online activity, and social networking site usage. *Information, Communication & Society*, 17, 503–519. <http://dx.doi.org/10.1080/1369118X.2014.891633>
- Hailey, D., Roine, R., & Ohinmaa, A. (2008). The Effectiveness of Telemental Health Applications: A Review. *Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie*, 53, 769–778. <http://dx.doi.org/10.1177/070674370805301109>
- Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: A 2013 review. *Telemedicine Journal and e-Health*, 19, 444–454. <http://dx.doi.org/10.1089/tmj.2013.0075>
- Hoagwood, K. E., Cavaleri, M. A., Serene Olin, S., Burns, B. J., Slaton, E., Gruttadaro, D., & Hughes, R. (2010). Family support in children's mental health: A review and synthesis. *Clinical Child and Family Psychology Review*, 13, 1–45. <http://dx.doi.org/10.1007/s10567-009-0060-5>
- Jones, A. M., Shealy, K. M., Reid-Quinones, K., Moreland, A. D., Davidson, T. M., Lopez, C. M., . . . de Arellano, M. A. (2014). Guidelines for establishing a telemental health program to provide evidence-based therapy for trauma-exposed children and families. *Psychological Services*, 11, 398–409. <http://dx.doi.org/10.1037/a0034963>
- Kaufman, K. R., Petkova, E., Bhui, K. S., & Schulze, T. G. (2020). A global needs assessment in times of a global crisis: World psychiatry response to the COVID-19 pandemic. *BJPsych Open*, 6, 1–3. <http://dx.doi.org/10.1192/bjo.2020.25>
- Korcak, D. J., & Goldstein, B. I. (2009). Childhood onset major depressive disorder: Course of illness and psychiatric comorbidity in a community sample. *The Journal of Pediatrics*, 155, 118–123. <http://dx.doi.org/10.1016/j.jpeds.2009.01.061>
- Lee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet. Child & Adolescent Health*, 4, 421. [http://dx.doi.org/10.1016/S2352-4642\(20\)30109-7](http://dx.doi.org/10.1016/S2352-4642(20)30109-7)
- Mayworm, A. M., Lever, N., Gloff, N., Cox, J., Willis, K., & Hoover, S. A. (2020). School-based telepsychiatry in an urban setting: Efficiency and satisfaction with care. *Telemedicine Journal and e-Health*, 26, 446–454. <http://dx.doi.org/10.1089/tmj.2019.0038>
- McGrath, P. J., Lingley-Pottie, P., Thurston, C., MacLean, C., Cunningham, C., Waschbusch, D. A., . . . Chaplin, W. (2011). Telephone-based mental health interventions for child disruptive behavior or anxiety disorders: Randomized trials and overall analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50, 1162–1172. <http://dx.doi.org/10.1016/j.jaac.2011.07.013>
- Mohr, D. C., Vella, L., Hart, S., Heckman, T., & Simon, G. (2008). The effect of telephone-administered psychotherapy on symptoms of depression and attrition: A meta-analysis. *Clinical Psychology: Science and Practice*, 15, 243–253. <http://dx.doi.org/10.1111/j.1468-2850.2008.00134.x>
- Myers, K. M., Valentine, J. M., & Melzer, S. M. (2008). Child and adolescent telepsychiatry: Utilization and satisfaction. *Telemedicine and e-Health*, 14, 131–137. <http://dx.doi.org/10.1089/tmj.2007.0035>
- Nelson, E. L., Cain, S., & Sharp, S. (2017). Considerations for conducting telemental health with children and adolescents. *Child and Adolescent Psychiatric Clinics of North America*, 26, 77–91. <http://dx.doi.org/10.1016/j.chc.2016.07.008>
- Pennant, M. E., Loucas, C. E., Whittington, C., Creswell, C., Fonagy, P., Fuggle, P., . . . Expert Advisory Group. (2015). Computerised therapies for anxiety and depression in children and young people: A systematic review and meta-analysis. *Behaviour Research and Therapy*, 67, 1–18. <http://dx.doi.org/10.1016/j.brat.2015.01.009>

- Podina, I. R., Mogoase, C., David, D., Szentagotai, A., & Dobrean, A. (2016). A meta-analysis on the efficacy of technology mediated CBT for anxious children and adolescents. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 34*, 31–50. <http://dx.doi.org/10.1007/s10942-015-0228-5>
- Racine, N., Birken, C., & Madigan, S. (2020). Supporting the mental health of parents and children during and after coronavirus. *Journal of Developmental and Behavioral Pediatrics*. Advance online publication. <http://dx.doi.org/10.1097/DBP.0000000000000847>
- Racine, N., Cooke, J. L., Eirich, R., Korczak, D. J., McArthur, B., & Madigan, S. (2020). Child and adolescent mental illness during COVID-19: A rapid review. *Psychiatry Research*. Advance online publication. <http://dx.doi.org/10.1016/j.psychres.2020.113307>
- Racine, N., Hartwick, C., Collin-Vézina, D., & Madigan, S. (2020). Telemental health for child trauma treatment during and post-COVID-19: Limitations and considerations. *Child Abuse & Neglect*. Advance online publication. <http://dx.doi.org/10.1016/j.chiabu.2020.104698>
- Richardson, L. K., Christopher Frueh, B., Grubaugh, A. L., Egede, L., & Elhai, J. D. (2009). Current directions in videoconferencing tele-mental health research. *Clinical Psychology: Science and Practice, 16*, 323–338. <http://dx.doi.org/10.1111/j.1468-2850.2009.01170.x>
- Rones, M., & Hoagwood, K. (2000). School-based mental health services: A research review. *Clinical Child and Family Psychology Review, 3*, 223–241. <http://dx.doi.org/10.1023/A:1026425104386>
- Ryan, C., & Lewis, J. (2017). *Computer and internet use in the United States: 2015*. Retrieved from <https://www.census.gov/content/dam/Census/library/publications/2017/acs/acs-37.pdf>
- Schleider, J. L., & Weisz, J. R. (2017). Little treatments, promising effects? Meta-analysis of single-session interventions for youth psychiatric problems. *Journal of the American Academy of Child & Adolescent Psychiatry, 56*, 107–115. <http://dx.doi.org/10.1016/j.jaac.2016.11.007>
- Scott, K. M., Von Korff, M., Alonso, J., Angermeyer, M. C., Bromet, E., Fayyad, J., . . . Williams, D. (2009). Mental–physical co-morbidity and its relationship with disability: Results from the World Mental Health Surveys. *Psychological Medicine, 39*, 33–43. <http://dx.doi.org/10.1017/S0033291708003188>
- Scott Kruse, C., Karem, P., Shifflett, K., Vegi, L., Ravi, K., & Brooks, M. (2018). Evaluating barriers to adopting telemedicine worldwide: A systematic review. *Journal of Telemedicine and Telecare, 24*, 4–12. <http://dx.doi.org/10.1177/1357633X16674087>
- Shachar, C., Engel, J., & Elwyn, G. (2020). Implications for telehealth in a postpandemic future: Regulatory and privacy issues. *Journal of the American Medical Association, 323*, 2375. <http://dx.doi.org/10.1001/jama.2020.7943>
- Siemer, C. P., Fogel, J., & Van Voorhees, B. W. (2011). Telemental health and web-based applications in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America, 20*, 135–153. <http://dx.doi.org/10.1016/j.chc.2010.08.012>
- Simms, D. C., Gibson, K., & O'Donnell, S. (2011). To use or not to use: Clinicians' perceptions of telemental health. *Canadian Psychology / Psychologie Canadienne, 52*, 41–51. <http://dx.doi.org/10.1037/a0022275>
- Sprang, G., & Silman, M. (2013). Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster Medicine and Public Health Preparedness, 7*, 105–110. <http://dx.doi.org/10.1017/dmp.2013.22>
- Statistics Canada. (2017). *Population centre (POPCTR)*. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo049a-eng.cfm>
- Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of Anxiety Disorders, 17*, 561–571. [http://dx.doi.org/10.1016/S0887-6185\(02\)00228-1](http://dx.doi.org/10.1016/S0887-6185(02)00228-1)
- Vigerland, S., Lenhard, F., Bonnert, M., Lalouni, M., Hedman, E., Ahlen, J., . . . Ljotsson, B. (2016). Internet-delivered cognitive behavior therapy for children and adolescents: A systematic review and meta-analysis. *Clinical Psychology Review, 50*, 1–10. <http://dx.doi.org/10.1016/j.cpr.2016.09.005>
- Waddell, C., Shepherd, C., Schwartz, C., & Barican, J. (2014). *Child and youth mental disorders: Prevalence and evidence-based interventions*. Retrieved from <https://childhealthpolicy.ca/wp-content/uploads/2015/12/2015-10-05-Waddell-et-al-Report-2014.06.16-w-errata.pdf>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*, 1729. <http://dx.doi.org/10.3390/ijerph17051729>
- Watson, B. (2020, July 14). Kids help phone reports spike in calls from B. C. children during COVID-19 pandemic. *CBC News*. Retrieved from <https://www.cbc.ca/news/canada/british-columbia/kids-help-phone-b-c-1.5648891>
- Whiteford, H. A., Harris, M. G., McKeon, G., Baxter, A., Pennell, C., Barendregt, J. J., & Wang, J. (2013). Estimating remission from untreated major depression: A systematic review and meta-analysis. *Psychological Medicine, 43*, 1569–1585. <http://dx.doi.org/10.1017/S0033291712001717>
- Wilson, S. J., & Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine, 33*(2, Suppl.), S130–S143. <http://dx.doi.org/10.1016/j.amepre.2007.04.011>
- Wind, T. R., Rijkeboer, M., Andersson, G., & Riper, H. (2020). The COVID-19 pandemic: The “black swan” for mental health care and a turning point for e-health. *Internet Interventions: The Application of Information Technology in Mental and Behavioural Health, 20*, 100317. <http://dx.doi.org/10.1016/j.invent.2020.100317>
- Yang, J., Zheng, Y., Gou, X., Pu, K., Chen, Z., Guo, Q., . . . Zhou, Y. (2020). Prevalence of comorbidities and its effects in patients infected with SARS-CoV-2: A systematic review and meta-analysis. *International Journal of Infectious Diseases, 94*, 91–95. <http://dx.doi.org/10.1016/j.ijid.2020.03.017>
- Yao, H., Chen, J.-H., & Xu, Y.-F. (2020). Patients with mental health disorders in the COVID-19 epidemic. *The Lancet Psychiatry, 7*(4), e21. [http://dx.doi.org/10.1016/S2215-0366\(20\)30090-0](http://dx.doi.org/10.1016/S2215-0366(20)30090-0)

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