



Online mental health counselling interventions

? Questions

- What are evidence-informed practices for providing online mental health counselling?
- What online platforms and modalities have been used for providing online counselling, and which have been shown to be effective?
- Which populations have been shown to benefit from online counselling?
- What ethical and privacy issues need to be considered when offering online counselling?

Key Take-Home Messages

- There are no universal best practice recommendations for the provision of online counselling.
- Across various platforms, modalities, and populations, study results are varied and often inconclusive with regard to the effectiveness of online counselling.
- Many technologies exist for providing online counselling, such as websites, videoconferencing services, mobile devices, email, chat, and virtual reality (1).
- The evidence suggests that videoconferencing is as effective as face-to-face counselling, with specific guidelines published for its provision (2).
- There is evidence supporting the provision of online counselling among elderly (3, 4) and rural populations (5), and inconsistent evidence among youth (6–11).
- Important ethical concerns that are necessary to consider when offering online counselling include confidentiality, quality assurance, suitability, electronic access, and cultural competence (1, 2, 12–20).

References

1. Mahajan S. E-mental health in Canada: Transforming the mental health system using technology. Ottawa, ON: Mental Health Commission of Canada; 2014.
2. Turvey C, Coleman M, Dennison O, Drude K, Goldenson M, Hirsch P, et al. ATA practice guidelines for video-based online mental health services. *Telemedicine and e-Health*. 2013;19(9):722–31.
3. Hilty DM, Ferrer DC, Parish MB, Johnston B, Callahan EJ, Yellowlees PM. The effectiveness of telemental health: A 2013 review. *Telemedicine Journal and E-Health*. 2013;19(6):444–54.
4. Ramos-Rios R, Mateos R, Lojo D, Conn DK, Patterson T. Telepsychogeriatrics: A new horizon in the care of mental health problems in the elderly. *International Psychogeriatrics*. 2012;24(11):1708–24.
5. Vallury KD, Jones M, Oosterbroek C. Computerized cognitive behavior therapy for anxiety and depression in rural areas: A systematic review. *Journal of Medical Internet Research*. 2015;17(6).
6. Lal S, Adair CE. E-mental health: A rapid review of the literature. *Psychiatric Services*. 2014;65(1):24–32.

The Issue and Why It's Important

Mental health disorders create large economic and societal costs, as well as poor quality of life for patients and their caregivers (21). While evidence-based psychological treatments exist for common mental disorders, many patients do not receive the care they need, even in high-income countries (21). In Canada, it was estimated that the number of individuals who did not receive the mental health treatment they needed was 35% in 2012 (22, 23). Barriers to receiving face-to-face treatment for mental health disorders include lengthy wait times, high cost, mobility challenges, and geographic location. Many individuals seeking mental health services also avoid seeking face-to-face treatment due to the stigma associated with mental illness diagnosis (22).

Advances in technology offer the opportunity for alternative treatment options that may increase client access to psychological services (18, 21, 22). With the rising ubiquity of Internet access, and the decrease in cost of online technologies, many practitioners are implementing technology-based online counselling programs and strategies for mental health issues (24).

Although there is increasing empirical support for the effectiveness of online counselling, there is still some debate as to whether it is as effective as face-to-face treatment (25). There have also been concerns regarding ethical and practice standards (26). Online technologies are a rapidly growing industry, and as such there are few universal policies or regulations of technology-based mental health programs. Organizations and private providers that wish to implement evidence-based services must also take caution when choosing from the overwhelming amount of technologies and programs available to ensure that they are beneficial for their clients (12, 24).

What We Found

There is currently no one agreed upon term for technology-driven mental health interventions, and most definitions do not differentiate between types of interventions (1, 6, 27). Articles included in this review use terms such as “telepsychology”, “telemental health”, “e-mental health”, “computer-based therapy”, “online therapy”, and “web-based interventions”. Barak, Klein, and Proudfoot (2009) describe four categories that comprehensively categorize online interventions: online counselling and therapy; web-based interventions; internet-operated therapeutic software; and other online activities (28). Mohr et al (2013) defines the scope of these interventions mainly by the type of technology (29). As there is little consensus between the reviews found in our search, we are using the term “online counselling” to describe mental health interventions that use Internet and related technologies in general.

7. Stasiak K, Fleming T, Lucassen MF, Shepherd MJ, Whittaker R, Merry SN. Computer-based and online therapy for depression and anxiety in children and adolescents. *Journal of Child and Adolescent Psychopharmacology*. 2016;26(3):235–45.
8. Martin S, Sutcliffe P, Griffiths F, Sturt J, Powell J, Adams A, et al. Effectiveness and impact of networked communication interventions in young people with mental health conditions: A systematic review. *Patient Education & Counseling*. 2011;85(2):108–19.
9. Clarke AM, Kuosmanen T, Barry MM. A systematic review of online youth mental health promotion and prevention interventions. *Journal of Youth and Adolescence*. 2015;44(1):90–113.
10. Reyes-Portillo JA, Mufson L, Greenhill LL, Gould MS, Fisher PW, Tarlow N, et al. Web-based interventions for youth internalizing problems: A systematic review. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2014;53(12):1254–70.
11. Seko Y, Kidd S, Wiljer D, McKenzie K. Youth mental health interventions via mobile phones: A scoping review. *Cyberpsychology, Behavior, and Social Networking*. 2014;17(9):591–602.
12. Ontario Psychological Association Community and Member Services Committee. Guidelines for best practices in the provision of telepsychology. Available from: <http://www.psych.on.ca/OPA/media/Public/OPA%20Guidelines%20and%20Reviews/GUIDELINES-FOR-BEST-PRACTICES-IN-THE-PROVISION-OF-TELEPSYCHOLOGY.pdf?ext=.pdf> Accessed January 24, 2018. 2015.

Evidence-informed practices for providing online mental health counselling

The Federation of Medical Regulatory Authorities of Canada (FMRAC) urges medical regulatory authorities to publish standards for the provision of online counselling (16). Regarding North American guidelines, we identified publications from the following authorities: the Ontario Psychological Association [OPA] (12); the Canadian Nurses Association [CNA] (16); the Canadian Counselling and Psychotherapy Association [CCPA] (14); the Canadian Psychological Association [CPA] (13); the Association of Canadian Psychology Regulatory Organizations [ACPRO] (15); the Mental Health Commission of Canada [MHCC] (1); the Association of State and Provincial Psychology Boards [ASPPB] (17); the American Psychological Association [APA] (18); and the American Telemedicine Association [ATA] (2, 19, 20). All of these guidelines agree that it is important that the standard of care delivered via online technologies is equivalent to that of any other type of care (1, 2, 12-20, 26, 30). However, there are currently no universal guidelines for Canada (16, 30) or the U.S. (26).

Platforms and modalities used to provide online counselling

While there are many different definitions of what constitutes online counselling, the use of some form of technology is a unifying characteristic (1, 27, 28). These technologies may be used as stand-alone services, or in addition to face-to-face therapies (18). Types of technology may include videoconferencing services, websites, email, forums, chat, webcams, mobile devices, social media, blogs, virtual reality, videogames, sensor technologies, and CD-ROMs – to name a few (1, 27). Some online counselling interventions may not involve the aid of a therapist, while others involve distance communication exchanges between a client and a therapist (1). Communication exchanges may be synchronous (occurring in real-time, such as chat or videoconferencing) or asynchronous (with time between contacts, such as email and web-based forums) (1, 18, 26, 27). While studies have been conducted on the effectiveness of interventions that use numerous technologies, we found that only some modalities were evaluated through systematic reviews. One review comparing multiple meta-analyses reported that their findings suggest that all counselling modalities for depression are about as equally effective, regardless of format (21). Findings from other reviews are summarized below.

Internet-Based, web-based, computer-based interventions: Most of the systematic reviews we found examined internet-based, web-based, or computer-based interventions. These interventions are software-driven programs that deliver structured counselling content via an interactive computer interface (7). While there

13. Canadian Psychological Association. Draft ethical guidelines for psychologists providing psychological services via electronic media. Available from: <https://www.cpa.ca/aboutcpa/committees/ethics/psychserviceselectronically/> Accessed January 24, 2018. 2006.

14. Canadian Counselling and Psychotherapy Association. Standards of practice 5th edition. Ottawa, ON: Canadian Counselling and Psychotherapy Association; 2015.

15. Association of Canadian Psychology Regulatory Organizations. Model standards for telepsychology delivery. Available from: <http://www.acpro-aocrp.ca/documents/ACPRO%20Model%20Standards%20for%20Telepsychology%20Service%20Delivery.pdf> Accessed January 24, 2018. 2011.

16. Rojubally A, Stephen J, Fergus K, Sellick S, McLeod D, Specia M, et al. Professional positions on online psychosocial care in Canada: A review of current policy statements. *Canadian Journal of Community Mental Health*. 2013;32(3):69–87.

17. Association of State and Provincial Psychology Boards. ASPPB telepsychology task force principles and standards. Available from: https://c.ymcdn.com/sites/asppb.site-ym.com/resource/resmgr/PSYPACT_Docs/ASPPB_TELEPSYCH_PRINCIPLES.pdf Accessed January 24, 2018. 2013.

18. American Psychological Association. Guidelines for the practice of telepsychology. *American Psychologist*. 2013;68(9):791–800.

19. Yellowlees P, Shore J, Roberts L, American Telemedicine Association. Practice guidelines for videoconferencing-based telemental health - October 2009. *Journal of Telemedicine and E-Health*. 2010;16(10):1074–89.

are definitely differences between these technologies (27), these differences depend largely on whether this software is installed directly onto a personal computer, or accessed remotely from a website or the internet. These Interventions usually rely on self-help principles based on face-to-face therapies, and may be augmented by guidance from a therapist through electronic communication (27). Interventions may also involve advanced software programming, such as artificial intelligence or language recognition, that can analyze clients text inputs and provide suitable responses – simulating therapeutic conversations (27). There are also online support groups (which allow people with mental health issues to communicate with one another with or without therapist moderation using forums or chat) and smart phone applications (which may allow people to track their moods and behaviours) (27).

Eleven of the reviews found investigating web-, internet-, or computer-based technologies examined interventions using some form of cognitive behavioural therapy (CBT) (5-7, 9, 10, 21, 22, 31-34). Support for the effectiveness of these interventions in improving depressive and anxiety symptoms was found in most reviews (5-7, 9, 10, 31, 32, 35). Some reviews, however, found mixed evidence for the effectiveness of computer-, internet-, and web-based CBT. One systematic review of web-based CBT treatment programs for depression, anxiety and suicide prevention in children and adolescents found that seven of ten randomized control trials reported no significant changes in symptoms (10). Another systematic review of web-based interventions for people with chronic mental and physical conditions found that six of 19 studies found no effect on anxiety or depression symptoms (34). A scoping review exploring depression intervention websites using mostly CBT approaches found that only 12 of 32 programs had evidence in support of their effectiveness (22).

One specific web-based program based on CBT that was assessed in a number of reviews found was MoodGYM. While the program has been distributed as an intervention for depression in children and adolescents by public health agencies across Australia (7), findings for MoodGYM's effectiveness in treating depression and anxiety, however, were also mixed among these reviews (6, 7, 9). Some of these reviews do state, however, that the program is probably efficacious, but further investigation is required (7, 9).

Internet-based interventions incorporating CBT also showed mixed results in improving health-related distress and physical symptoms among clients with chronic conditions (33, 34). One systematic review assessing the impact of web-based interventions on chronic conditions found that among 36 studies, significant positive effects were found in 20, no positive effects were found in 11, and mixed effects were found in five (34). The authors did explore whether participant characteristics may influence these outcomes, but once again found varied results (34). Another systematic review explored the effects of internet based self-help therapeutic interventions

20. Grady B, Myers KM, Nelson EL, Belz N, Bennett L, Carnahan L, et al. Evidence-based practice for telemental health. *Telemedicine and e-Health*. 2011;17(2):131–48.
21. Cuijpers P, Kleiboer A, Karyotaki E, Riper H. Internet and mobile interventions for depression: Opportunities and challenges. *Depression and Anxiety*. 2017;34(7):596–602.
22. Renton T, Tang H, Ennis N, Cusimano MD, Bhalerao S, Schweizer TA, et al. Web-based intervention programs for depression: A scoping review and evaluation. *Journal of Medical Internet Research*. 2014;16(9):50–71.
23. Sunderland A, Findlay LC. Perceived need for mental health care in Canada: Results from the 2012 Canadian community health survey: Mental health. *Health Reports*. 2013;24(9):3–9.
24. Chou T, Comer JS, Turvey CL, Karr A, Spargo G. Technological considerations for the delivery of real-time child telemental healthcare. *Journal of Child and Adolescent Psychopharmacology*. 2016;26(3):192–7.
25. Jenkins-Guarnieri MA, Pruitt LD, Luxton DD, Johnson K. Patient perceptions of telemental health: Systematic review of direct comparisons to in-person psychotherapeutic treatments. *Telemedicine Journal and E-Health*. 2015;21(8):652–60.
26. Shah P. Ethical online therapy: A review of treatment guidelines: University of Hartford; 2016.
27. Dowling M, Rickwood D. Online counseling and therapy for mental health problems: A systematic review of individual synchronous interventions using chat. *Journal of Technology in Human Services*. 2013;31(1):1–21.

on disease-related distress among adults living with chronic conditions (33). The studies they found showed consistent support for the benefits of internet-based counselling for distress among individuals suffering from tinnitus, irritable bowel syndrome, and heterogeneous chronic illness. However, moderate support was found in studies on patients with chronic pain, and very little support was found for patients with diabetes (33).

Other therapeutic frameworks examined in reviews that showed improvements in depressive and anxiety symptoms included mindfulness (36), emotive writing (31), self-help therapies (21, 37), mental health education (9), stress management techniques (9), and mental health promotion games (9). These reviews examined interventions using websites (6, 36), computer software (6, 7, 9, 32), virtual classrooms (36), blogging interventions (9), and smartphone apps (9, 10, 36).

While there seems to be much evidence for the effectiveness of these kinds of interventions, there was mixed evidence with regard to how they compared to other forms of counselling. For example, one meta-analysis examining 20 randomized control trials on internet-based interventions for posttraumatic stress disorder found that CBT and emotive writing interventions were effective compared to no intervention. However, neither CBT nor emotive writing were more effective when compared to other interventions (31). A 2016 systematic review of online psychotherapies reported two studies comparing web-based interventions to face-to-face counselling, finding that one study reported that web-based interventions were superior in improving symptoms, while the other found no significant differences between therapies (37). They also found that web-based interventions combined with face-to-face counselling or group discussion produced greater effects than web-based counselling alone (37). Other systematic reviews have found that Internet-based self-help interventions for depression and anxiety disorders have effect sizes that are comparable to face-to-face interventions (35), or that internet-based CBT interventions for anxiety and depression are more effective (6).

Even though findings of the above reviews are inconsistent, both the Canadian Network for Mood and Anxiety Treatments and the UK National Institute for Health and Clinical Excellence recommend computerized CBT for the treatment of depression (22, 38, 39).

Videoconferencing: Videoconferencing is considered to be the most similar to face-to-face counselling, as it allows a two-way conversation with full audio and video (26). We identified five systematic reviews that included videoconferencing technologies in their investigations (3, 25, 37, 40, 41). Three of these systematic reviews noted that CBT was the most commonly investigated counselling used by studies they examined (25, 40, 41). Of systematic reviews comparing clinical outcomes of videoconferencing to face-to-face counselling, most reported that outcomes were equivalent to face-

28. Barak A, Klein B, Proudfoot JG. Defining internet-supported therapeutic interventions. *Annals of behavioral medicine*. 2009;38(1):4–17.
29. Mohr DC, Burns MN, Schueller SM, Clarke G, Klinkman M. Behavioral intervention technologies: Evidence review and recommendations for future research in mental health. *General Hospital Psychiatry*. 2013;35(4):332–8.
30. Johnson GR. Toward uniform competency standards in telepsychology: A proposed framework for Canadian psychologists. *Canadian Psychology*. 2014;55(4):291–302.
31. Kuester A, Niemeyer H, Knaevelsrud C. Internet-based interventions for posttraumatic stress: A meta-analysis of randomized controlled trials. *Clinical Psychology Review*. 2016;43:1–16.
32. Grist R, Cavanagh K. Computerised cognitive behavioural therapy for common mental health disorders, what works, for whom under what circumstances? A systematic review and meta-analysis. *Journal of Contemporary Psychotherapy*. 2013;43(4):243–51.
33. Beatty L, Lambert S. A systematic review of internet-based self-help therapeutic interventions to improve distress and disease-control among adults with chronic health conditions. *Clinical Psychology Review*. 2013;33(4):609–22.
34. Paul CL, Carey ML, Sanson-Fisher RW, Houlcroft LE, Turon HE. The impact of web-based approaches on psychosocial health in chronic physical and mental health conditions. *Health Education Research*. 2013;28(3):450–71.

to-face therapies across a variety of disorders (e.g. posttraumatic stress disorder, bulimia nervosa, depression, substance abuse, developmental disabilities, and obsessive-compulsive disorder) (3, 37, 40, 41), populations (e.g. ethnic, youth, adult, geriatric) (3), and settings (e.g. home, emergency) (3). One 2015 systematic review examined 20 studies on videoconferencing therapies for anxiety disorders (41). Not only were there no significant differences between face-to-face counselling and videoconferencing, but high effect sizes and significant improvements in symptoms across a large array of disorders were also found (41).

Another systematic review exploring online counselling for adults examined two studies comparing videoconferencing to other forms of online counselling (37). The authors found that videoconferencing was just as good as email-based counselling for improving symptoms in multiple diagnoses in one study, but worked better than telephone-based counselling for improving depression in men with acute coronary syndrome in another (37).

With respect to client satisfaction and effects on the therapeutic relationship, one systematic review found mixed results (25). Thirteen of the 14 studies they examined included videoconferencing interventions, with no statistically significant differences in satisfaction ratings when compared to face-to-face treatment. Ratings of the therapeutic relationship varied however, with six studies finding no significant differences with the face-to-face treatment, and four finding higher ratings for face-to-face treatment. The authors noted, however, that three of these four studies involved group counselling, meaning counselling format may have had an effect on these ratings (25).

As there are numerous studies supporting the effectiveness of videoconferencing technology for online counselling, the American Telemedicine Association has published specific guidelines for videoconferencing (19) and video-based mental health services (2). These guidelines offer detailed specifications for location (e.g. lighting and backdrop), equipment (e.g. cameras and microphones), digital imaging standards, software updates, bandwidth requirements, transmission speed, data encryption, and electronic record-keeping (19).

Email: Two systematic reviews examining the use of asynchronous communication with clients via email were identified. One review exploring online psychotherapy for adults, in which two of 59 studies involved the use of email, reporting mixed results (37). Another systematic review of networked communication technologies to treat mental health disorders among adolescents found that, while clients in two of the seven studies reported concerns regarding privacy and the therapeutic relationships, no clients reported negative effects from interventions using email as part of regular counselling or in tandem with face-to-face consultation (8).

35. van Beugen S, Ferwerda M, Hoeve D, Rovers MM, Koullil SS-v, van Middendorp H, et al. Internet-based cognitive behavioral therapy for patients with chronic somatic conditions: A meta-analytic review. *Journal of Medical Internet Research*. 2014;16(3):251–65.

36. Spijkerman M, Pots W, Bohlmeijer E. Effectiveness of online mindfulness-based interventions in improving mental health: A review and meta-analysis of randomised controlled trials. *Clinical Psychology Review*. 2016;45:102–14.

37. de Bitencourt Machado D, Laskoski PB, Severo CT, Bassols AM, Sfoglia A, Kowacs C, et al. A psychodynamic perspective on a systematic review of online psychotherapy for adults. *British Journal of Psychotherapy*. 2016;32(1):79–108.

38. Parikh SV, Quilty LC, Ravitz P, Rosenbluth M, Pavlova B, Grigoriadis S, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 clinical guidelines for the management of adults with major depressive disorder: section 2. psychological treatments. *The Canadian Journal of Psychiatry*. 2016;61(9):524–39.

39. Clark DM. Implementing NICE guidelines for the psychological treatment of depression and anxiety disorders: The IAPT experience. *International Review of Psychiatry*. 2011;23(4):318–27.

40. Backhaus A, Agha Z, Maglione ML, Repp A, Ross B, Zuest D, et al. Videoconferencing psychotherapy: A systematic review. *Psychological Services*. 2012;9(2):111–31.

41. Rees CS, Maclaine E. A systematic review of videoconference-delivered psychological treatment for anxiety disorders. *Australian Psychologist*. 2015;50(4):259–64.

Mobile devices: Only one scoping review was found exploring the use of mobile phones for online counselling of youth, aged 13–24 (11). Sixteen of the seventeen studies found in this review used asynchronous features of mobile phones such as apps and SMS, while one used synchronous voice-messaging features. Only six of these studies found statistically significant impacts on youth mental health. These included two randomized control trials using the ‘MobileType’ app, which reported increases in emotional self-awareness and improvement in mild depressive symptoms (42, 43); one SMS-based drinking intervention which reduced the number of heavy drinking days and number of drinks per day (44); and three multimedia interventions using audiovisual relaxing messages which significantly reduced anxiety (45–47). The authors also noted that study participants mostly reported positive attitudes and high satisfaction towards mobile mental health interventions. Studies analysing content of SMS messages, however, revealed both advantages and disadvantages related to therapeutic relationship and client comfort (11).

Virtual reality: The ability for technology to create computer-generated simulations of a three-dimensional environment is now being used in mental health care. One advantage of virtual reality is that it can recreate situations that may not be possible to recreate in a real-life counselling setting (1). One systematic review of online psychotherapy for adults found two studies evaluating virtual counselling via a program called ‘Second Life’ (37). Despite reported technical problems, these studies showed that this counselling improved clinical outcomes and therapeutic relationships (37, 48, 49). Another systematic review of networked communications for adolescents with mental health conditions assessed one study that incorporated virtual reality for the treatment of anorexia nervosa (8). This study reported improvements in motivation, body satisfaction and awareness (8, 50).

Chat: After videoconferencing, synchronous chat or real-time text exchange is the most similar to the communication in face-to-face counselling, as conversations are able to occur in real-time (26). A systematic review of online psychotherapy for adults found mixed results for the five studies they found investigating chat-based counselling (37). Another systematic review assessed the effectiveness of individual synchronous interventions using chat (27). All six of the studies included in this review found significant positive effects of online chat counselling. Two of these studies found that synchronous chat was equivalent to face-to-face counselling, one found that it was equivalent to telephone counselling, one found that it was better than telephone based counselling at reducing anxiety, and another found that it was better than wait-list control groups. The authors noted, however, that the overall quality of the studies was poor, and only two randomized control trials were found (27).

42. Reid SC, Kauer SD, Hearps SJ, Crooke AH, Khor AS, Sanci LA, et al. A mobile phone application for the assessment and management of youth mental health problems in primary care: A randomised controlled trial. *BMC family practice*. 2011;12(1):131.

43. Kauer SD, Reid SC, Crooke AHD, Khor A, Hearps SJC, Jorm AF, et al. Self-monitoring using mobile phones in the early stages of adolescent depression: Randomized controlled trial. *Journal of Medical Internet Research*. 2012;14(3).

44. Suffoletto B, Callaway C, Kristan J, Kraemer K, Clark DB. Text-message-based drinking assessments and brief interventions for young adults discharged from the emergency department. *Alcoholism: Clinical and Experimental Research*. 2012;36(3):552–60.

45. Riva G, Preziosa A, Grassi A, Villani D. Stress management using UMTS cellular phones: A controlled trial. *Studies in Health Technology & Informatics*. 2006;119:461–3.

46. Riva G, Grassi A, Villani D, Gaggioli A, Preziosa A. Managing exam stress using UMTS phones: The advantage of portable audio/video support. *Studies in health technology and informatics*. 2007;125:406–8.

47. Grassi A, Gaggioli A, Riva G. The green valley: The use of mobile narratives for reducing stress in commuters. *CyberPsychology & Behavior*. 2009;12(2):155–61.

48. Yuen EK, Herbert JD, Forman EM, Goetter EM, Comer R, Bradley JC. Treatment of social anxiety disorder using online virtual environments in second life. *Behavior Therapy*. 2013;44(1):51–61.

Populations shown to benefit from online counselling

Little evidence was found that directly compared the effectiveness of online counselling between different populations. One systematic review exploring 42 videoconferencing studies noted that effectiveness of videoconferencing was supported across a diverse range of study populations (adult, elderly, children and adolescents, veteran, African American, Hispanic, and Native American), but did not compare these effects between groups (40). The authors made specific mention that few studies they examined compared the differences in clinical outcomes between genders, or between ethnic and racial groups (40). A systematic review and meta-analysis of computerised CBT interventions explored possible moderators to treatment effects, including age, gender, education, and type of mental health issue (32). The authors found that none of these characteristics, except age, had any influence on treatment effect. The authors suggested that the effectiveness of computerised CBT may, therefore, be similar across a wide range of populations and contexts (32).

We were able to identify review articles exploring the effectiveness of online therapies within three specific populations: children, adolescents and youth (3, 6-11, 22), the elderly (3, 4), and rural populations (5).

Children, adolescents, youth: The reviews generally reported that evidence for the effectiveness of online counselling in this population is inconsistent (6-11). For example, one systematic review of networked communications for adolescents found that six of seven studies reported symptom improvement in mental health symptoms (using videoconferencing, email, and virtual reality), but only three were statistically significant. It was recognised that these changes correlated with the patient's and clinician's motivation to use the technologies (8). Another systematic review reported that their results supported the effectiveness of computerized CBT on adolescents' and emerging adults' anxiety and depression symptoms in prevention interventions (9). Another systematic review on computer-based self-help software for depression and anxiety in children and adolescents found that randomized control trials reported greater improvement in symptoms in adolescents than in children (7).

No significant effects on depressive symptoms were found in seven of 17 studies examined in a systematic review investigating web-based interventions (10), and 11 out of 17 examined in a systematic review exploring mobile device interventions (11).

One scoping review reported that research showed improvements in clinical outcomes were found for CBT-based online counselling for depression in this population, and that this counselling may be

49. Quackenbush DM, Krasner A. Avatar therapy: Where technology, symbols, culture, and connection collide. *Journal of Psychiatric Practice*. 2012;18(6):451-9.

50. Martin S, Sutcliffe P, Griffiths F, Sturt J, Powell J, Adams A, et al. Effectiveness and impact of networked communication interventions in young people with mental health conditions: A systematic review. *Patient Education and Counseling*. 2011;85(2):e108-e119.

51. Drum KB, Littleton HL. Therapeutic boundaries in telepsychology: Unique issues and best practice recommendations. *Professional Psychology: Research and Practice*. 2014;45(5):309-15.

more effective than face-to-face treatment for this population (3).

Finally, as mentioned previously, one systematic review and meta-analysis of computerised CBT found that age significantly influenced treatment effects (32). This moderating effect was such that as participant age increased, the effectiveness of computerised CBT decreased, implying that this treatment was more effective for younger participants (32).

Rural populations: One of the benefits of online counselling is its ability to bridge large geographical distances between patients and providers. This may allow rural populations (including the First Nations, Inuit, and Métis communities located in rural and northern parts of Canada, that often experience greater health disparities) to access care (1). One systematic review investigating computerised CBT interventions for the treatment of anxiety and depression in rural populations was found in our search (5). This review showed that among 11 studies, computerised CBT was equally effective for both rural and urban participants and that rural participants reported that they were less likely to want more face-to-face contact with a practitioner (5).

Elderly populations: Elderly populations often suffer from several comorbidities, and may have restricted access to mental health care due to physical impairments. These impairments may also be cognitive, visual, or auditory, and so online therapies may be difficult to use in this population (19). Results for elderly populations were somewhat mixed. A 2013 scoping review found that in geriatric populations, online counselling had generally positive results with respect to clinical outcomes and patient satisfaction, and that these results were similar to in-person care (3). One systematic review specifically on online counselling for the elderly found a lack of studies assessing the outcome of online interventions within this population (4). They did, however, find a few studies that focused on satisfaction and acceptance of online therapies within geriatric populations in nursing homes. These studies showed that elderly patients generally prefer face-to-face counselling, but they would rather complete online counselling than travel. They also found studies on diagnostic assessments for elderly populations via videoconferencing, and

found that there were no differences between subjects with or without dementia in their ability to accept interviews and be assessed using this technology. There was, however, no agreement between studies as to the effects of divergent attention in patients with dementia on these assessments. There was agreement that the presence of a caregiver is necessary in these consultations (4).

The American Telemedicine Association practice guideline for videoconferencing is the only guideline found in our search to include specific recommendations regarding youth, elderly, and rural populations (19). The Mental Health Commission of Canada guidelines also outlined youth, rural, and First Nations, Inuit, and Métis populations as groups that could benefit from online counselling, but did not make specific recommendations (1).

Ethical and privacy issues to be considered when offering online counselling

The guidelines discussed in this review address a number of ethical concerns surrounding online counselling. These ethical concerns, and the corresponding recommended practices from guidelines are categorized and summarized below:

Identity verification: Confirming a client's identity can be difficult when using online technologies, and this is particularly true with chat, text, email, and web-based message systems where visual identity confirmation cannot be provided (1, 26). Most guidelines recommend that the service provider take steps to verify the identity of online clients prior to acquiring informed consent (2, 13–15, 18, 19, 26). Some suggest using code words or numbers (13–15), while others encourage that an initial face-to-face meeting take place for assessment, if possible (18, 26). In the case of videoconferencing specifically, some guidelines recommend that clients present a government issued ID over the video screen (2, 19, 26). If video is not a viable option, it is recommended that identity verification, as well as informed consent, take place in real-time communication (18–20). Ongoing client verification at each session is recommended by some guidelines as a further

layer of security (2, 17, 19, 20, 26).

Quality assurance: It is important that any public health intervention be based on high quality empirical evidence, however the appropriate research studies (such as randomized control trials) may take years to complete. The speed with which technologies evolve makes it difficult to keep programs evidence-based (1). The Mental Health Commission of Canada (1) explicitly states that all devices and treatment modalities used for online counselling should be based on effective evidence, while the American Telemedicine Association (2, 19, 20) recommends that devices and software not only be selected based on effectiveness, but also be the most appropriate for online counselling with respect to equipment quality, security and software updates. The Association of Canadian Psychology Regulatory Organizations suggests creating a technology maintenance plan (15). The Canadian Psychological Association and American Telemedicine Association encourage awareness of potential modifications that must be made to program materials in light of changing technologies, and the potential impact this may have on treatment efficacy (2, 13).

Emergencies: The distance between therapist and client that is inherent in online counselling interventions can be hazardous if the client becomes a danger to themselves or others. In these cases, it is difficult for the therapist to intervene – especially when using technologies such as email, where the therapist may not be notified of the crisis situation in time (1, 26). Most guidelines recommend making plans with the client for emergency situations (2, 12-15, 18-20). Some guidelines suggest that the provider verify the client's location before each session (2, 19, 20), have the local emergency contact information on hand, and know where abusive, suicidal or homicidal behaviours may be reported to local authorities (2, 12-15, 18-20).

Confidentiality and privacy: In an online context, it is extremely difficult to keep patient records, transcripts, files of sessions, and data confidential, especially when using mobile technology (1, 26). All guidelines suggest that at least some protocols for secure recording, storage, and disposal of data be made (1, 2, 12-15, 17-20, 26). It is encouraged that technology-related security vulnerabilities (e.g. hacking and viruses) and access issues (e.g. using

computers on shared networks) be discussed with the client during the informed consent process, as well as the measures that will be taken to protect against these possible challenges (2, 13, 14, 18-20, 26). Some guidelines recommend that all communication be protected by some level of encryption security (14, 18, 26). In the case of compromised information, it is suggested that the therapists have the ability to remotely 'wipe' communication devices and have secure back-up of records (2, 19, 20, 26).

Legal concerns: Issues may arise when therapists from one legal jurisdiction provide services to clients from other jurisdictions where laws and regulations may differ. This may affect licensing, billing, and insurance coverage (1, 16, 26). Most guidelines encourage the discussion of legal issues and protocols with clients during the informed consent process (2, 13-6, 18-20, 26). Most guidelines also recommend that the client be provided with information for the regulatory bodies required to verify the validity of the provider's credentials (2, 13, 17, 19, 20, 26), as well as where to file complaints if there is a problem (15, 17). Almost all guidelines recommend that the providing organization be aware of the laws of both the provider's and client's jurisdictions regarding licensure, liability insurance, electronic record-keeping, and billing (2, 12-15, 17-20, 26). Some guidelines go so far as to recommend being legally entitled to practice in the client's jurisdiction (14, 15, 17) or being licensed in both the client and provider's jurisdictions (13, 26). The Association of Canadian Psychology Regulatory Organizations suggests that a licensed supervising psychologist should suffice (15). The Canadian Nurses Association recommends licensure for any nurses engaged online counselling (16). As social work legislation in Canada is the responsibility of provinces, it is recommended that social workers providing online counselling know the laws of the province in which they practice, and their clients' home provinces (16).

Professional therapeutic relationships: Some researchers argue that a good relationship between therapist and client is needed for counselling to be effective, which is missing from many online counselling formats. Other online formats, such as text or chat, present barriers to a good therapeutic relationship, as there are no visual or auditory cues to prevent

misunderstandings (26). Professional boundaries may also be harder to maintain over online platforms, which promote more casual interactions (51). Few guidelines underline the importance of explaining the difference between online and face-to-face counselling with clients with respect to professional boundaries and therapeutic relationships. For videoconferencing specifically, the American Telemedicine Association suggests that specific measures be taken to ensure that background, lighting, seating, and camera positions are conducive to a professional, comfortable, and secure environment (2, 19). The American Psychological Association recommends discussing issues related to online presence in social media and the internet, and the potential consequences of crossing boundaries within the patient-provider relationship (18). The Canadian Psychological Association specifically encourages the use of procedures to keep text-based counselling professional with respect to messaging times, language, speed of response, and clients' privacy on social media (14). Some guidelines recommend having protocols in place for technological failures or if the provider is unavailable to maintain flexibility without making the relationship too casual (14, 15, 17).

Suitability for online counselling: It is important that professionals who provide online counselling are experienced in delivering this kind of service. Unfortunately, many therapists are not trained in using computerized therapies (14, 26). It is also important to ensure that the client will benefit from online counselling. Researchers argue that some clients, such as those with severe mental disorders that require routine observation, may not be suited to online counselling due to the level of care they require, or a lack of competence with online technologies (26). Most guidelines recommend that each client's treatment history (e.g. substance abuse, harmful behaviors, medical conditions, mental stability, etc.), geographic location and culture, capabilities (e.g. physical, linguistic, intellectual, etc.), technical competence, and treatment goals be reviewed prior to counselling, to assess whether the client can participate and benefit from online counselling (2, 12-14, 18-20, 26). Some suggest that this should be achieved through an initial intake procedure (13, 14, 26), while others recommend an ongoing evaluation process (2, 18-20). If it is the case that the client would be better suited to face-to-face

counselling, all guidelines emphasize that the therapist refer the client to other services without abandonment (1, 2, 13-20, 26).

Most guidelines also suggest that the therapist assess their own ability to administer online counselling (2, 13-15, 17, 19, 20, 26). They recommend that the therapist should keep up-to-date on online counselling research (12, 13), and ensure competence in the technical aspects of online counselling (2, 15, 19, 20, 26). The American Psychological Association (18) and the Ontario Psychological Association specifically recommend consulting with electronic security experts to ensure that access to clients' information is controlled and secure (12). The American Telemedicine Association recommends that any organization administering online counselling should ensure that staff members' competency should be assessed before, during, and after online counselling encounters of any kind (19, 20). The Ontario Psychological Association recommends that technical competencies, training, experience, and risk management practices can be kept up-to-date through accessing continuing education opportunities, reviewing literature, or seeking consultation from other professionals (12).

Electronic access: According to the Mental Health Commission of Canada, 98% of Canadian households within the highest income quartile have home Internet access, compared to only 58% of households within the lowest income quartile (1). Providing online services, therefore, may have the potential to exacerbate existing health disparities that exist between high and low socioeconomic statuses (1, 26). More serious mental or physical illnesses may also present barriers to the use of online technologies, and further marginalization. Users must also be competent in computer technologies, which may exclude older or less educated populations (26). Some U.S. guidelines recommend that the therapist should provide services in such a way that the client will have reasonable access, but do not specify how this can be achieved other than to offer information regarding where to access free public internet (26). To address barriers related to motor control, executive function, and concentration, the Mental Health Commission of Canada encourages the consideration of designing interventions for people with specific health conditions (1). They recommend consulting 'health care human

factors research', which investigates how people interact with products, tools, and procedures in health care environments (1).

Cultural competence: Online text-based formats may miss cultural cues, such as language and race, and cultural context may not be accounted for in these types of counselling (1, 26). Most guidelines suggest that the provider consider cultural concerns that may influence online counselling (i.e. client's race, language, gender, age, sexual orientation, socioeconomic status, religious practices, immigration history, cultural background etc.) (1, 2, 12, 15, 18–20, 26), but there is not much explanation of how this is to be achieved. The American Psychological Association encourages providers to reflect on their own cultural identity, limited competency, and individual prejudices. They also recommend considering how culture may influence the expression of symptoms and dysfunction in clients (18). The Mental Health Commission of Canada specifically recommends that the therapist not only consider cultural concerns, but discuss them with prospective clients and design services collaboratively (1).

Lack of regulation: This is an overarching ethical concern with online counselling that does not have any specific recommendations. While efforts have been made in both Canada and the U.S. to regulate online counselling programs, these efforts have been limited, and often are restricted to technologies that fall under the stringent criteria of 'health devices' (1). This is particularly troublesome with the rate of mobile app creation (1), and regulators that wish to ensure safety without obstructing innovation (1). There is also the concern surrounding the restriction of language such as 'therapy' or 'counselling' to be only provided by certain professionals. Some providers change their language to avoid legal issues, but bypass regulation as a result (1, 26). Many sites or therapists provide inaccurate information about their professional status, or effectiveness of their treatment. Identity and credentials of the therapist cannot always be verified in online formats if the proper information is not provided (26). There are also no national laws or standards for online counselling in Canada (1).



Factors That May Impact Local Applicability

The diversity of study settings, populations, clinical outcomes measured, and intervention characteristics make it difficult to generalize conclusions. While guidelines were limited to those published in Canada and the U.S. for brevity in this review, online counselling interventions inherently allow for long-distance (potentially transcontinental) communication between patient and providers. Therefore, it may be prudent to assess guidelines and regulations from countries not included in this review when considering the implementation of online counselling.



What We Did

We searched Medline and PsycInfo using a combination of Mental health (key word or MeSH term) with the following keywords: [online counsel* or skype or videoconferencing or internet counsel* or web counsel* or cyber counsel* or online support or internet support or web-based support or cyber support or video or online therapy or e-therapy or telepsychology or Internet therapy or Internet psychotherapy or cybertherapy or chat support]. Reference lists of identified literature reviews and systematic reviews were also searched. All searches were conducted on January 23, 2018 and results limited to English articles published from 2008 to present. The search yielded 1007 references. Only review articles (systematic reviews, meta-analyses, scoping reviews) and guidelines were included in this summary.

Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers quick access to research evidence to help inform decision making, service delivery and advocacy. In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

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