

## Exploring the Newer Horizons of Online Therapy – Its use and Effectiveness

<sup>1</sup>Sharma Bhawana, <sup>2</sup>Kshirsagar Sharad, <sup>3</sup>Deshmukh Ajay,  
<sup>4</sup>Amjad Ali

Received: 13- February -2023

Revised: 22- March -2023

Accepted:13-April-2023

<sup>1</sup>Department of Psychiatry,  
Krishna Institute of Medical Sciences,  
Krishna Vishwa Vidyapeeth (Deemed to be University), Karad,  
Email: medhavidesh@gmail.com

<sup>2</sup>Department of Psychiatry, Krishna Institute of Medical Sciences,  
Krishna Vishwa Vidyapeeth (Deemed to be University), Karad,  
Email: medhavidesh@gmail.com

<sup>3</sup>Department of Psychiatry  
Krishna Institute of Medical Sciences,  
Krishna Vishwa Vidyapeeth (Deemed to be University), Karad,  
Email: medhavidesh@gmail.com

<sup>4</sup>Department of Management Studies,  
Graphic Era Deemed to be University, Dehradun,  
Uttarakhand, India 248002,  
amjadali\_25@geu.ac.in

### Abstract

The advancement of computing technology is becoming more important in the healthcare industry. Remotely assisted pain management treatments (Eaton et al., 2014) and tele-psychology (Godleski et al., 2012; Caver et al., 2020) have both been effectively adopted in the Veterans Affairs (VA) system throughout the United States. The American Psychological Association (2013) notes that the increasing reliance on technology to facilitate the delivery of psychological services brings with it a number of novel possibilities, factors to consider, and obstacles to practise. Glueckauf et al. (2018) found that although approximately 40% of practising clinical psychologists in the United States had utilised tele-psychology, the vast majority (60%) had never done so. Most clinical psychologists they surveyed expressed reservations about providing services through video chat and hence exclusively saw patients in person. Glueckauf et al. (2018) found that over half of psychologists surveyed felt they needed more training in crisis management for online therapy, and that nearly all therapists (79%) were worried about issues related to security, confidentiality, and HIPAA.

**Keywords:** Tele-psychology, digital mental health, online therapy, young people, Theory of Change, positive virtual ecosystems, COVID-19, virtual reality, mental health burnout, professional, psychology, stress, anxiety

### Introduction

The majority of researchers that have documented the evolution of internet treatment have used more expansive criteria. According to some researchers, it all started at the 1972 International Symposium on Computers, when researchers from Stanford and UCLA demonstrated a psychotherapy session using networked computers. Although similar to current online chat rooms, this was not a genuine therapy session with a trained professional. However, it did prove the viability of internet counselling as a concept.

### Historical Perspective on the Platform of Therapy

It was in 1986 when Dear Uncle Ezra, a question and answer forum at Cornell University where individuals commonly addressed mental health difficulties, is credited with being the first step in what is now known as online counselling. Whoever was fielding the inquiries may or may not have been a trained therapist. Uncle Ezra was "an unidentified Cornell worker with a mental health background," according to a 2007 story in the Cornell Chronicle.

- a) After Dear Uncle Ezra, several more prominent articles and forums devoted to mental health counselling emerged. In 1995, therapist John Grohol started a public talk about mental health, which grew into the widely read journal and forum Psych Central. The first ever for-profit mental health

consulting service was provided by psychologist Leonard Holmes, who asked for donations rather than payment. Soon after, more commercial mental health care options emerged, but none of them are operational at now.

- b) Online counselling with ongoing communication and confidentiality was pioneered by Dr. David Sommers. His work was a radical break from the traditional model of mental health care, which had been characterised by the general mental health advice columns and online forums. His practise, also founded in 1995, served hundreds of customers across several nations through email and some real-time conversations. Clients paid Sommers a charge for private, one-on-one counselling that mirrored conventional therapy more closely than the free public versions.
- c) In the exact same year, Ed Needham began offering online counselling for a fee of \$15 per hour. According to Dror Green, a pioneer in the field of internet therapy, Needham was the initial therapist to rely only on chat rooms while working with clients.
- d) Online therapy's profile and prevalence grew steadily during the 2000s. Many organisations and therapists set out to increase their client base so they could help more people at once. Oren and Roni Frank began their online treatment platform in 2012, and since then, they've expanded it to include limitless message-based therapy sessions. It wasn't the first startup to provide online meeting spaces for therapists and their clients. However, it did usher in a new age of massive-scale virtual treatment. Even in its infancy, the network offered users more than just emailing back and forth with a therapist. The programme let users to send unlimited text, video, and audio messages to anybody else in the same room using their smartphones. The recent Covid -19 epidemic saw widespread acceptance and successful use of online therapy.
- e) The worldwide healthcare system, the economy, and people's well-being have all been severely impacted by the 2019 Corona Virus illness (COVID-19) pandemic. It is possible that COVID-19's foreboding and physically unseen presence will have long-lasting effects on the mental health and daily lives of millions of people globally, in addition to its catastrophic effects on the medical well-being of the global population. Over one million cases have been verified, and over 5 million fatalities have occurred over a total of 187 nations. The mental health of millions of individuals is at risk, not only the health care employees who face arduous work routines and the need to handle patients enduring great pain.

Health care workers and the general public are both at risk for stress-related psychopathological symptoms like depression, anxiety, ethical harm, and post- Traumatic Stress Disorder (PTSD), all of which can have serious psychological and physiological repercussions.

### **The Way Forward for Providing Online Therapy through Virtual Reality**

Virtual reality (VR) as well as augmented reality (AR) have been shown in numerous scientific studies to be highly specialised and effective instruments for the prevention, assessment, and treatment of psychological problems like stress-related signs of psychopathology depression, and anxiety disorders like post-traumatic stress disorder (PTSD). In reality, patients may benefit from these technologies in two ways: they can help them deal with the emotional components of traumatic memories, and they can teach them the tools they need to cope with the stresses associated with COVID-19. These methods have been successful in helping people recover from stress and trauma caused by other events, such as catastrophes, war, interpersonal violence, and terrorist attacks. Furthermore, several studies have shown that individuals play VGs because of their innate potential to serve as a distraction from undesired emotional states, such worry and tension, by enabling a short-term escape from such events or feelings in the real world. Casual video games (CVGs) & exergames in particular have been shown to be effective in generating happy feelings and reducing tension and anxiety in players. Virtual reality and augmented reality games were also recently shown to be useful in reducing stress and anxiety.

Most therapists didn't use tele-psychology before COVID-19 because they were worried about the safety of their patients. Patients continued to have a need for treatment even throughout the COVID-19 lockdown, but it became too dangerous to have sessions in person. The present research assessed therapists' use of tele-psychology prior to and during Covid-19, as well as their level of training in the field and familiarity with relevant legal limits. However, respondents' knowledge gaps highlight the need for additional specialised

training and education, despite the American Psychological Association's (APA) ethical rules encouraging therapists to employ tele-psychology with patients during the crisis. Virtual reality is a potential new tele-psychology tool, yet the present research found that therapists seldom utilise it. There is a present multi-billion dollar push to mass produce fully immersive VR devices. Therapists and patients in distant places may soon be able to "meet" in a shared generated by computers environment made for treatment sessions, perhaps including group sessions, when networked immersion virtual reality becomes more commonly accessible in the future. It is possible that telepsychology and VR may become more useful in assisting therapists in reducing the effects of COVID-19. We advise investing in study, advancement, and instruction.

### **E-mental Health Inroads**

Avatars are being used more often in the growing area of e-mental health treatments as a means of facilitating online communication among clients and therapists and between peers. Avatars are digital representations of people that allow them to communicate and collaborate in artificial settings. The stigma that has long been connected to talking about mental health has been aided by the widespread availability of online resources. The use of tele-therapy to educate individuals about mental health is becoming more common. You can improve your mental health, even if you think you're doing OK, with the aid of internet counselling. 16-May-2022

Online therapy and support groups for kids and teens (CYP) are gaining prevalent. Limited research has been conducted on the processes of change inside complicated tele-psychology platforms, which makes it difficult to create and execute outcome measures.

### **Therapeutic Provision for the Digital generation**

It is widely recognised that more effort should be made to promote the mental health and well-being of children and young people (CYP). "Digital natives" are young people, especially those who have never known life without the internet. Therefore, among nations with significant internet access, young adults are increasingly considered to be the primary demographic using the internet and social media. In addition, studies looking at how this group seeks assistance have shown that the internet is often their first port of contact when dealing with concerns about their mental health and wellbeing. Emotional support (such as social ties and contacts with specialists) and factual support (such as websites that give information about certain concerns) are two types of online assistance.

In particular, the following kinds of websites may fall within this category:

- a) Educative material
- b) Interactive Q&A Sessions on the Web
- c) Discussion Groups on the Internet
- d) Independent therapeutic applications or software
- e) Communicating with experts online (like online therapists)

Providers in the field of mental health must now be able to show the value of their services to the people who pay for them. Scores calculated from individual reports of improvement in symptoms or achievement of set objectives are a common type of this kind of outcome measure. Organisations like the Child Outcomes Research Consortium have developed detailed suggestions and practises for this, among many others. However, implementing these safeguards in digital settings has proved challenging. Some of the challenges have been logistical, such as adapting measures for use on the web and dealing with copyright concerns; others have been more substantive, such as questioning whether the measure is being used in the same manner as it would be in face-to-face interactions. Therefore, it has been hypothesised that people who use the Internet to seek help may have different motivations than those who choose in-person counselling. In fact, research into the dynamics of online therapy partnerships shows that several aspects unique to the web, such the anonymity it provides, are beneficial to the work done. Because of these variations, it might be claimed that it is essential to create assessment tools that more thoroughly account for the complicated environment and make the most of the available technology to guarantee that any tools selected are user pleasant.

### **Isolation Induced Mental Ill-Health**

Stress, worry, and anxiety are all on the rise as a result of the COVID-19 virus epidemic (Pierce et al., 2020); intense emotions and PTSD symptoms are also on the rise (Tingbo, 2020); drug misuse and domestic violence are on the rise (Rehm et al., 2020; Mahase, 2020); and so is violence against others (Pavlov, 2020). Loneliness is a common symptom of social isolation, which may have harmful effects on health and well-being. Several groups believe that COVID-19 will have long-term psychological effects, necessitating enhanced access to mental healthcare long after the virus has been brought under physical control.

Crisis events may amplify the symptoms of preexisting mental health illnesses such as depression, nervousness, bipolar disorder, psychosis, or drug use disorders (CDC, 2020). No one, not even spouses, children, friends, or family members, are permitted to visit the elderly in nursing facilities or assisted living condominiums because of the risk of a COVID-19 epidemic. Hospitalised patients with COVID-19 are also subject to severe isolation measures, with only those medical staff members in hazmat suits and respirator masks being allowed access to the patient's room. Patients with COVID-19 typically pass away without any close relatives present, are buried without a funeral, and the bereaved members of their families are sometimes unable to comfort one another in person. The spread of the virus is being slowed in part because many healthy individuals are deliberately isolating themselves. The spread of COVID-19 is a global emergency. The Centres for Disease Control and Prevention (2020) state that those who suffer from psychological disorders should prioritise keeping up with their therapeutic care throughout this time. The American Psychological Association (APA) supports the use of teletherapy by mental health professionals in order to maintain contact with patients during times of emergency. The American Psychological Association's code of ethics encourages psychologists to be adaptable in times of crisis, stating that "during times of crisis...Psychologists may provide assistance to those in need, even if they do not yet have the necessary training" (Chenneville & Schwartz-Mette, 2020, p. 3). However, many therapists are not yet fully taught how to perform online therapy (Perry et al., 2020).

A majority of therapists (43%) had previously been utilising telehealth in a previous poll (Glueckauf et al., 2018), and most were receptive to the notion and believed it was beneficial. Glueckauf et al. (2018) found that 73% of clinical psychologists found videoconferencing to be an effective technique for treatment, and 51% expressed interest in using telepathy in the future. The present research assessed whether therapists used telepsychology instead of seeing patients face-to-face during the COVID-19 isolation protocol.

### **Networked Immersive Virtual Reality Therapy**

Telepsychology was first practised through landline telephones, but as more advanced communication technology emerged, it expanded to encompass mobile phones and video conferencing. The telecommunications technology available to telepsychologists is improving all the time. The VA's (<https://telehealth.va.gov/>) effective efforts to strengthen the internet infrastructure and the security of online communications have extended the options for discreet interactions with patients regarding sensitive issues. Major tech firms are presently investing billions to bring virtual reality technologies (like video games and Facebook) into people's homes. Networked immersive VR is expected to have the second highest impact in telehealth (Bailenson, 2018). The first survey of its kind, the current survey includes several exploratory inquiries to get a feel for how therapists feel about the prospect of using virtual reality in treatment, and it specifically asks if therapists are currently employing full virtual reality to help treat their mental health therapy patients. It will be interesting to see if therapists begin using VR and, if so, how they rate the pros and cons of absorbed therapy in future polls (e.g., Dilgul et al., 2020). If the current trend continues, networked immersive VR therapy (and virtual reality therapy) may become increasingly commonplace in the near future.

For a limited time beginning in early 2020, therapists at Veteran's hospitals and Medicare clinics will be authorised to charge for telemedicine appointments at the same rate as in-person visits (Pierce et al., 2020). This move is in reaction to Covid-19. Furthermore, "(HIPAA) requirements were modified by the United States department of Health to enable usage of applications like Skype, FaceTime, and Zoom," as stated by Pierce et al. (2020, p. Last but not least, during the COVID-19 epidemic, numerous states relaxed regulations to enable therapists from other states to see individuals living in their states (Pierce et al., 2020).

### **Ethical Dilemma in Tele-psychological Interventions**

Ethical questions arise while dealing with patients face-to-face during COVID-19. During the COVID-19

worldwide health crisis and its subsequent aftermath, counsellors have a moral obligation to continue helping patients, colleagues, and trainees and to do no harm (Principle A), such as avoiding in-person therapy sessions during a virus pandemic. Therapists ought to additionally implement reasonable adjustments in their practises to meet the mental health needs of their clients, as outlined in the APA Ethics code (Chenneville and Schwartz-Mette, 2020). During COVID-19, the APA suggests that mental health practitioners begin (or maintain) the use of telepsychology in their practise.

Chenneville and Schwartz-Mette (2020, p. 8) state that "psychologists are authorised (and, some may say, encouraged) to make appropriate expansions of their practise, even include operating beyond the defined boundaries of their competence" in order to give assistance in times of emergency.

Several counsellors said that their clients were experiencing more challenges than normal because of the epidemic. The high percentage of patients in crisis may have helped to the therapists' higher burnout ratings, and some therapists also mentioned that they were struggling with feelings of isolation, fear, and anxiety as a result of the pandemic.

Chenneville & Schwartz-Mette (2020) argue that mental health professionals should recognise their own causes of stress during the pandemic and take measures to lessen the harmful effect of these stresses on patient treatment. For suggestions, check the advice of the American Psychological Association from 2013. In order to help individuals in need, psychologists should take care of themselves & their colleagues first (Chenneville & Schwartz-Mette, 2020, p. 3). Learning additional psychological strategies (like mindfulness) may help therapists cope with severe global crises in the future and prevent burnout.

#### **Future Directions: Immersive VR Tele-psychology**

In addition to assessing and preventing related to stress psychopathological problems, including depressive disorders such as phobias, social anxiety disorders, generalised anxiety disorder, and post-traumatic stress disorder (Navarro-Haro et al., 2019a,b), virtual reality therapy is also proving useful in treating these conditions. Virtual reality (VR) may assist therapists and patients develop psychological coping mechanisms to better manage the intense stress brought on by the COVID-19 epidemic. Virtual reality (VR) technology has historically been prohibitively costly, technically challenging for most clinical therapists, and not networked. Nonetheless, Virtual Reality systems are rapidly becoming considerably less costly and much simpler to use as a consequence of recent billions dollar investment into immersive virtual reality equipment (mainly for entertainment) by huge computer corporations (Bailenson, 2018).

As defined by Slater et al. (1994), "immersive virtual reality" is achieved when the user feels as if they are really there in the computer-generated environment, rather than only seeing it. Therapists and patients in different locations will soon be able to "meet" and "be there together" in a shared generated by computers world made for sessions of therapy (e.g., Dilgul et al., 2020) despite their physical separation.

New multimodal medical telepsychology therapy treatment techniques, such as networked shared virtual reality technologies, may be investigated in future research.

#### **Accessibility Options for Remote Areas and People having Physical Limitation**

People in less-populated locations now have an option for receiving mental health care, thanks to online counselling. There may be no alternative options for people in remote locations to get mental health care due to a lack of local mental health clinics.

In-person therapy may be beneficial, but it can be a hassle for those in need to have to travel great distances and take time away from their hectic schedule to participate. If you have access to the internet and a therapist who is willing to work with you remotely, online therapy may be a convenient and rapid way to get the help you need. People who are physically unable to leave their homes might benefit from online counselling because of this. Access to mental health treatment might be hampered by the need to travel long distances. It's possible that a therapist's home office isn't equipped to handle individuals with a wide range of physical abilities. Online counselling may be an effective replacement for face-to-face psychotherapy for those who cannot travel for medical or other personal reasons.

Insurance companies in several countries now have to cover internet counselling just as they do in-person

therapy. Online-only therapists handle patients without the need for expensive office space. Therefore, those without health insurance may be able to find low-cost therapy choices with online therapists.

Access to mental health care is facilitated by the internet. Although it's common for people to confide in their loved ones about physical health challenges, they often keep silent about mental health issues, despite their significance. The stigma that has long been connected to talking about mental health has been aided by the widespread availability of online resources. The use of tele-therapy to educate individuals about mental health is becoming more common. You can improve your mental health, even if you think you're doing OK, with the aid of internet counselling. Better mental health is attainable with increased knowledge of preventative practises and resiliency mechanisms.

Although some individuals may benefit greatly from internet therapy, it does have significant drawbacks compared to more conventional forms of treatment.

### Conclusion

It may be challenging for online therapists to successfully react to a crisis situation because of the physical distance between them and the client. It might be difficult or impossible for a therapist to give direct support if the client is having suicide thoughts or has experienced a personal catastrophe. When it comes to persons who need close and personal attention or in-person interaction, e-therapy is not effective.

While certain modes of transmission, such as voice over IP and video conferencing, may shed more light on the issue, they will never replace the depth and complexity of face-to-face communication. Some individuals, particularly younger people who have grown up with digital forms of communication, may feel more at ease receiving therapy in a digital context, while others, therapists and patients alike, may benefit more from treatment that makes use of more direct human interaction.

### Références

1. American Psychological Association (2013). Guidelines for the practice of telepsychology. *Am. Psychol.* 68, 791–800. doi: 10.1037/a0035001
2. Anderson, P. L., Zimand, E., Hodges, L. F., and Rothbaum, B. O. (2005). Cognitive behavioral therapy for public-speaking anxiety using virtual reality for exposure. *Depress Anxiety* 22, 156–158. doi: 10.1002/da.20090
3. Atkeson, A. (2020). What Will Be the Economic Impact of COVID-19 in the US? Rough Estimates of Disease Scenarios. NBER Working Paper Series. 595. Available online at: <http://www.nber.org/papers/w26867>
4. Bailenson, J. N. (2018). *Experience on Demand: What Virtual Reality is, How it Works, and What it Can Do*. New York, NY: W.W. Norton.
5. Boeldt, D., McMahan, E., McFaul, M., and Greenleaf, W. (2019). Using virtual reality exposure therapy to enhance treatment of anxiety disorders: identifying areas of clinical adoption and potential obstacles. *Front. Psychiatry* 10:773. doi: 10.3389/fpsy.2019.00773
6. Callan, J. E., Maheu, M. M., and Bucky, S. F. (2017). “Crisis in the behavioral health classroom: enhancing knowledge, skills, and attitudes in telehealth training,” in *Career Paths in Telemental Health*, eds. M. Maheu, K. Drude, and S. Wright (New York, NY: Springer), 63–80.
7. Carlin, A. S., Hoffman, H. G., and Weghorst, S. (1997). Virtual reality and tactile augmentation in the treatment of spider phobia: a case report. *Behav. Res. Ther.* 35, 153–158. doi: 10.1016/S0005-7967(96)00085-X
8. Caver, K. A., Shearer, E. M., Burks, D. J., Perry, K., De Paul, N. F., McGinn, M. M., et al. (2020). Telemental health training in the Veterans Administration puget sound health care system. *J. Clin. Psychol.* 76, 1108–1124. doi: 10.1002/jclp.22797
9. CDC (2020). *Coping With Stress*. CDC. Available online at: <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>
10. Chenneville, T., and Schwartz-Mette, R. (2020). Ethical considerations for psychologists in the time of COVID-19. *Am. Psychol.* 75, 644–654. doi: 10.1037/amp0000661
11. Galea, S., Merchant, R. M., and Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: the need for prevention and early intervention. *JAMA Intern. Med.* 180, 817–818. doi: 10.1001/jamainternmed.2020.1562

12. García-Palacios, A., Hoffman, H., Carlin, A., Furness, T. A., and Botella, C. (2002). Virtual reality in the treatment of spider phobia: a controlled study. *Behav. Res. Ther.* 40, 983–993. doi: 10.1016/S0005-7967(01)00068-7
13. Glueckauf, R. L., Maheu, M. M., Drude, K. P., Wells, B. A., Wang, Y., Gustafson, D. J., et al. (2018). Survey of psychologists' telebehavioral health practices: technology use, ethical issues, and training needs. *Prof. Psychol. Res. Pract.* 49, 205–219. doi: 10.1037/pro0000188
14. Godleski, L., Darkins, A., and Peters, J. (2012). Outcomes of 98,609 U.S. Department of veterans affairs patients enrolled in telemental health services. 2006–2010. *Psychiatr. Serv.* 63, 383–385. doi: 10.1176/appi.ps.201100206
15. Gomez, J., Hoffman, H. G., Bistricky, S. L., Gonzalez, M., Rosenberg, L., Sampaio, M., et al. (2017). The use of virtual reality facilitates dialectical behavior therapy“ @observing sounds and visuals” mindfulness skills training exercises for a latino patient with severe burns: a case study. *Front. Psychol.* 8:1611. doi: 10.3389/fpsyg.2017.01611
16. Hoffman, H. G. (1998). Virtual reality: a new tool for Interdisciplinary psychology research. *CyberPsychol. Behav.* 1, 195–200 doi: 10.1089/cpb.1998.1.195
17. Hoffman, H. G. (2004). Virtual-reality Therapy. *Sci. Am.* 291, 58–65. doi: 10.1038/scientificamerican0804-58
18. Hoffman, H. G., Doctor, J. N., Patterson, D. R., Carrougner, G. J., and Furness, T. A. III. (2000). Virtual reality as an adjunctive pain control during burn wound care in adolescent patients. *Pain.* 85, 305–309. doi: 10.1016/S0304-3959(99)00275-4
19. Hoffman, H. G., Rodriguez, R. A., Gonzalez, M., Bernardy, M., Peña, R., Beck, W., et al. (2019). Immersive virtual reality as an adjunctive non-opioid analgesic for pre-dominantly latin american children with large severe burn wounds during burn wound cleaning in the intensive care unit: a pilot study. *Front. Hum. Neurosci.* 13:262. doi: 10.3389/fnhum.2019.00262
20. Katz, A. C., Norr, A. M., Buck, B., Fantelli, E., Edwards-Stewart, A., Koenen-Woods, P., et al. (2020). Changes in physiological reactivity in response to the trauma memory during prolonged exposure and virtual reality exposure therapy for posttraumatic stress disorder. *Psychol. Trauma* 12, 756–764. doi: 10.1037/tra0000567
21. Keefe, F. J., Huling, D. A., Coggins, M. J., Keefe, D. F., Zachary Rosenthal, M., Herr, N. R., et al. (2012). Virtual reality for persistent pain: a new direction for behavioral pain management. *Pain* 153, 2163–2166. doi: 10.1016/j.pain.2012.05.030
22. Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., et al. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw. Open* 3:e203976. doi: 10.1001/jamanetworkopen.2020.3976
23. Luken, M., and Sammons, A. (2016). Systematic review of mindfulness practice for reducing job burnout. *Am. J. Occup. Ther.* 70, 7002250020p1–7002250020p10. doi: 10.5014/ajot.2016.016956.
24. McDonald, R. P. (1999). *Test Theory: A Unified Treatment*. Mahwah, NJ: Erlbaum.
25. Navarro-Haro, M. V., Modrego-Alarcón, M., Hoffman, H. G., López-Montoyo, A., Navarro-Gil, M., Montero-Marin, J., et al. (2019b). Evaluation of a mindfulness-based intervention with and without virtual reality dialectical behavior therapy@ mindfulness skills training for the treatment of generalized anxiety disorder in primary care: a pilot study. *Front. Psychol.* 10:55. doi: 10.3389/fpsyg.2019.00055
26. Ningthoujam, R. (2020). COVID 19 can spread through breathing, talking, study estimates. *Curr. Med. Res. Pract.* 10, 132–133. doi: 10.1016/j.cmrp.2020.05.003
27. Perry, K., Gold, S., and Shearer, E. M. (2020). Identifying and addressing mental health providers' perceived barriers to clinical video telehealth utilization. *J. Clin. Psychol.* 76, 1125–1134. doi: 10.1002/jclp.22770
28. Pfefferbaum, B., and North, C. S. (2020). Mental health and the Covid-19 pandemic. *N. Engl. J. Med.* 383, 510–512. doi: 10.1056/NEJMp2008017
29. Pierce, B. S., Perrin, P. B., Tyler, C. M., McKee, G. B., and Watson, J. D. (2020). The COVID19 telepsychology revolution: a national study of pandemic-based changes in U.S. mental health care delivery. *Am. Psychol.* doi: 10.1037/amp0000722. [Epub ahead of print].
30. Prime, H., Wade, M., and Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *Am. Psychol.* 75, 631–643. doi: 10.1037/amp0000660
31. Reger, G. M., Koenen-Woods, P., Zetocha, K., Smolenski, D. J., Holloway, K. M., Rothbaum, B. O., et al. (2016). Randomized controlled trial of prolonged exposure using imaginal exposure vs. virtual reality exposure in active duty soldiers with deployment-related posttraumatic stress disorder (PTSD). *J. Consult.*

- Clin. Psychol. 84, 946–959. doi: 10.1037/ccp0000134
32. Rehm, J., Kilian, C., Ferreira-Borges, C., Jernigan, D., Monteiro, M., Parry, C. D. H., et al. (2020). Alcohol use in times of the COVID 19: implications for monitoring and policy. *Drug Alcohol Rev.* 39, 301–304. doi: 10.1111/dar.13074
  - Rizzo, A., and Bouchard, S. (eds.). (2019). *Virtual Reality for Psychological and Neurocognitive Interventions*. New York, NY: Springer.
  33. Rizzo, A., and Shilling, R. (2017). Clinical virtual reality tools to advance the prevention, assessment, and treatment of PTSD. *Eur. J. Psychotraumatol.* 8:1414560. doi: 10.1080/20008198.2017.1414560
  34. Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., and Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: a narrative review with recommendations. *Psychiatry Res.* 293:113429. doi: 10.1016/j.psychres.2020.113429
  35. Wellenius, G. A., Vispute, S., Espinosa, V., Fabrikant, A., and Tsai, T. C. (2020). *Impacts of State-Level Policies on Social Distancing in the United States Using Aggregated Mobility Data During the COVID-19 Pandemic*. Cambridge, MA: Harvard Global Health Institute.
  36. World Health Organization (2020a). *Modes of Transmission of Virus Causing COVID-19: Implications for IPC Precaution Recommendations*. WHO. Available online at: <https://www.who.int/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>
  37. World Health Organization (2020b). *Mental Health and Psychosocial Considerations During COVID-19 Outbreak*. WHO. Available online at: <https://www.who.int/publications/i/item/WHO-2019-nCoV-MentalHealth-2020.1>