



EDITORIAL

Digital Interventions in Mental Health

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Mental disorders cause a wide array of challenges for individuals and societies. A review of the epidemiology of mental illnesses reveals that a large number of the population across different age groups need mental health services. According to the World Health Organization (1), depression affects approximately 5.7% of adults worldwide. Similar prevalence rates are observed for anxiety disorders, ADHD, and other mental conditions. As a result, a significant percentage of the population requires mental health support. However, access to mental health professionals is limited to a small fraction of these individuals in developing countries, and the situation in the developed world is not much better (2).



Psychotherapy and counseling are among the most important mental health interventions. In general, psychotherapy refers to a range of professional services provided by trained specialists to help clients reduce symptoms of mental disorders, improve communication and problem-solving skills, and better manage their emotions, behavior, and thoughts. Sometimes, psychotherapy also serves as professional support for psychologically healthy individuals, helping them adapt more effectively to their environment, pursue growth and self-actualization, enhance their quality of life, and achieve a state of mental well-being (3, 4). Regardless of the different types of psychotherapy, it has traditionally been conducted face-to-face.

In a face-to-face setting, the therapist and the client meet in the same room at the same time to discuss the client's concerns. Face-to-face psychotherapy offers several

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advantages, which is why many clients and therapists prefer it. It involves a multisensory interaction in which individuals simultaneously process information through multiple channels. Clients hear the therapist's voice, observe facial expressions, perceive body language, and may even register subtle cues such as scent. This in-person setting enables richer communication, as nonverbal signals, including posture, gestures, facial expressions, and tone of voice, can be interpreted more accurately. Clients can also flexibly direct their attention to different aspects of the interaction, which enhances their sense of agency and engagement in the therapeutic process. Despite these advantages, individuals with mental health disorders often face significant barriers to accessing face-to-face psychotherapy. In many parts of the world, in-person therapy is costly, and inadequate insurance coverage further limits accessibility. Moreover, mental health professionals are typically concentrated in large urban areas, leaving rural and remote regions underserved. As a result, individuals in these areas often face delays in receiving care due to transportation challenges and the difficulty of scheduling appointments that require travel. Another barrier to face-to-face services is the fear of social stigma. Many individuals remain concerned about being judged for seeking mental health care. To avoid this stigma, some may delay or avoid in-person services altogether, preferring instead to cope with their difficulties on their own (5, 6, 7, 8).

In recent years, technological advancements have created new modalities for delivering mental health services, including psychotherapy. The COVID-19 pandemic made the use of remote mental health care nearly unavoidable, particularly during lockdowns and periods of social distancing. Even after the pandemic subsided, interest in remote services continued to grow, driven by their cost-effectiveness, flexibility, and accessibility (9).

Digital mental health services can be broadly defined as interventions that use digital technologies to prevent, screen, assess, treat, monitor, and promote mental health. These technologies may include internet-based platforms, mobile applications, virtual reality, text messaging, wearable devices, artificial intelligence-driven tools, and telemedicine platforms. Digital mental health services can be categorized in various ways. One common classification distinguishes between synchronous and asynchronous interventions. In synchronous services, such as telephone-based or videoconference psychotherapy, mental health professionals and clients communicate in real time, with sessions typically guided and structured by the therapist. Numerous studies have shown that the quality of communication in synchronous modalities is satisfactory, particularly in the context of psychotherapy. A growing body of research has supported the effectiveness of these approaches. The therapeutic alliance in non-face-to-face treatments is often not significantly different from that established in traditional in-person therapy. Moreover, the effect sizes of these interventions, particularly when delivered within a cognitive behavioral therapy (CBT) framework, are generally comparable to those reported for face-to-face treatment (8,10).

Unlike synchronous formats, asynchronous interventions do not require the client and provider to be online simultaneously. Services are typically delivered through internet-based guided self-help, smartphone apps, or AI-powered tools, with minimal direct involvement from a therapist. Their low cost, wide accessibility, and flexibility, especially in terms of time and place, have made them a popular alternative to in-person psychotherapy. Younger individuals, those with higher levels of education, and people who have previously received face-to-face psychotherapy tend to be more receptive to



these approaches. Although robust evidence for the high effectiveness of such interventions remains limited, a growing body of research supports their efficacy. For instance, studies indicate that AI-based tools can play a role in reducing anxiety and depression. However, for severe mental health conditions, such as acute suicidality, researchers caution that AI cannot replace in-person care. Asynchronous methods undoubtedly offer a major opportunity to reduce the burden on mental health systems and can greatly increase the reach and inclusivity of mental health services (11, 12, 13).

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