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Digital Mental Health Support in Higher Education: Effectiveness, Challenges, and Student Perspectives

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Abstract. The rapid growth of higher education and increased students from diverse backgrounds have increased the demand for accessible and sustainable mental health support. Traditional counselling services often fail to meet students' needs due to limited staff, resources, and knowledge of recent global challenges, such as COVID-19. Taking this into account, digital mental health services, including digital mental healthinterventions (DHMI), internet-based cognitive behavioral therapy (iCBT), mobile apps, and artificial intelligence (AI)-driven tools, have become possible substitutes.This essay investigates the effectiveness, challenges, and student perceptions of Digital Mental Health Services by examining real-world case studies and semi-structured interviews with three undergraduates who struggle with depression or anxiety. The interviews indicated that Digital Mental Health Services improve accessibility, reduce stigma, and provide short-term relief for anxiety, depression, and insomnia. However, insufficient human interaction and a lack of support during difficult situations remain barriers. Therefore, it should be viewed as a complementary tool rather than a replacement for traditional counselling to enhance user engagement and maintain ethical standards.

Keywords: Digital Mental Health, Higher Education, iCBT, Student Support, Qualitative Interviews

1. Introduction

In recent years, the mental health of university students has attracted attention globally. Studies have demonstrated that students who attend college have to deal with increasing academic stress, social issues and emotional issues [1]. Traditional face-to-face counselling remains the primary form of support; however, limited staffing, resources and accessibility often prevent universities from meeting the diverse needs of their students. Moreover, the COVID-19 pandemic has intensified these challenges, highlighting the urgent need for more flexible support systems. In this context, digital mental health services have emerged as a promising study area. Existing research has explored their feasibility and potential benefits, such as improving accessibility [2]. However, gaps remain regarding how effectively these services meet the wide range of students' psychological needs and how institutions can implement them ethically and sustainably.

This study focuses on the positive influence, practice and challenges of digital psychological services in higher education. It seeks to address the following questions: How are these services

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defined and applied in universities? To what extent are students' different needs met, and what barriers limit their effectiveness? Semi-structured interviews with undergraduates and analyses of real-world case studies are employed to explore these questions. This study aims to guide the future development of digital mental health support in higher education by identifying best practices and limitations, with the goal of optimizing service models, enhancing student engagement, and ensuring ethical, sustainable implementation.

2. Literature review

Digital mental health services (DMHS) are services that use digital technology to promote health, prevent disease, support recovery, and allow for early intervention [3]. With the development of information technology, tools such as online video communication, mobile apps, and Internet-based interventions (IBI) have been integrated into mental health services. These technologies support the treatment of mental illnesses and generate clinically valuable data for personalised care and resource allocation. Digital means have thus transformed traditional psychological interventions, forming digital mental health interventions to improve accessibility, efficacy, and efficiency.

Compared to traditional psychotherapy,DMHS has several benefits. Digital tools, like apps and chat bots, provide access to therapy 24 hours a day, during periods of in-person therapy or social isolation, they complement this [3]. Some users prefer digital support as an initial step to build confidence before transitioning to traditional treatment, partly due to the anonymity reducing stigma and fear of judgment [3]. Empirical studies support DMHS's effectiveness: Internet-based interventions are as effective as in-person therapy for multiple disorders and promote positive behaviors and prevention [4]. Meta-analyses show mental health apps provide low-intensity, cost-effective, and accessible interventions for those without standard therapy [5].

However, DMHS has limitations. Professionals' lack of digital literacy hinders implementation, as medical students and clinicians generally lack formal digital health training. The engagement of users is often lower in real-world settings, which is attributed to individual characteristics, the perceived value of the setting or setting itself, or personalization, as well as technical or privacy concerns [6, 7]. Ethics and privacy are critical: interventions must rely on high-quality evidence, ensure accurate diagnosis, protect data transparency, and maintain patient trust [8]. Digital tools may also harm vulnerable groups by widening the digital divide or causing psychological stress, but research on these negative effects is limited [8].

3. Methodology: case study

A randomized controlled experiment was conducted for Canadian students (n=102, average age 22 years old, 72% were female, and their online platform [9]. Overcoming Social The effect of Anxiety, which covers the core links of cognitive behavioral therapy, including identification of bad thinking, emotional education, cognitive reconstruction and exposure exercises. It is supplemented by assignment arrangement and automatic email reminders to promote compliance. The results demonstrate that the experimental group's anxiety symptoms on the Social Anxiety Interaction Scale and the Negative Evaluation Fear Scale were significantly reduced, this effect was greater than the average of previous studies of this type. Most students who completed the intervention reported positive experiences, and more than 80% believed that the intervention was good or well remembered, and were willing to recommend it to their peers. However, the study also faced a high attrition rate, and about 40% of participants failed to complete the entire module, which showed that

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ICBT had significant short-acting effects. However, it still could not provide effective evidence in the long run. The problem of compliance in its practical application remains to be solved.

A randomized controlled experiment was conducted in the United States (n=79, average age 20.5 years, 66% of women) to implement networked ACT courses for students with psychological distress, presented through audio and video and interactive homework [10]. The results demonstrated that the intervention group had a significant decrease in overall psychological stress, anxiety, depression, and academic concerns. Still, no detailed differences were observed in terms of hostility and alcohol use [10]. Although more than half of the students completed all the courses, 45% still did not complete the intervention, and many participants expressed dissatisfaction with the course length and repetitive content [11].

The systematic review included 89 studies on digital psychological intervention for college students, among which iCBT is the most common, with the intervention lasting primarily for 8 weeks [12]. The overall results show that general studies have proved that digital intervention can significantly improve depression, anxiety and psychological happiness. Another third showed that some were effective, and only a few experiments had no obvious effect or did not report psychological results. Although most studies have not been systematically evaluated regarding availability and acceptance, most of the results have been maintained positively. However, the studies generally face problems such as high attrition rates and decreased use, and many students only completed the first few modules. In summary, digital psychological intervention effectively improves mental health among college students, but achieving sustainable campus promotion still requires more rigorous empirical research and practical exploration [12].

At the same time, [13] distributed paper volumes in classrooms (630 copies were distributed and 367 copies were collected) to college students' demand for online cognitive behavioral therapy, mental health status and use, and the results showed that a considerable proportion of students reported positive evaluations of digital psychological support programs, and the model could explain about 49% of changes in usage intentions, indicating that the Internet has the potential to cover students who were not touched by traditional services. However, [14], the online questionnaire and follow-up after four weeks (n=389) compared the actual use of different support channels with the actual use. They found that overall, students' intention to provide informal support (parents and family, etc.) had the lowest intention to engage in digital self-occupation. Although the overall interest was limited, digital psychological services were still strongly accessible in specific situations.

Undergraduate and graduate students from four South African universities are the research objects, with 17,838 students, understanding the current status, willingness and attitude of college students in using digital psychological testing or intervention [15]. Research results show that only a small number of students have used such tools, but their willingness to use them is generally high in the future. Around one-third of the participants are willing to attempt to utilize online resources, while around half are prepared to utilize chat bots. However, it's important to note that 12.6% of students are interested in using digital methods instead of direct treatment. The analysis also revealed that when students believe that digital technology can enhance the convenience, security and accessibility of services, they are more likely to utilize it.On the contrary, if online treatment effects are suspected, their willingness to use them is reduced, and undergraduates are more inclined to use chatbots than graduate students. In summary, the study's conclusions show a positive attitude towards digital mental health solutions, and the key to future promotion is to strengthen awareness of their safety and effectiveness

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Based on these studies, people can see that digital psychological services have obvious advantages for college students. For example, online cognitive behavioral therapy (iCBT) and online ACT courses have been proven to alleviate anxiety, depression and overall psychological distress effectively. Many students also reported positive experiences and were willing to recommend them to their peers. In addition, their coverage is more exhaustive, which can help students who usually have difficulty accessing traditional psychological services, and it is more flexible and convenient to use [9,10,12]

However, the issue is also significant: many students do not complete the course (the attrition rate is generally high), which decreases the effectiveness of the course in reality; not enough evidence for long-term effectiveness; some aspects (such as hostility or drinking behavior) have not been improved; and students also complain about the length of the course, repetition, or other issues [9,10,12]. In addition, some studies have found that students are more willing to rely on informal support such as family and friends, and have limited interest in digital psychological services, especially when they doubt online efficacy or safety [14, 15].

4. Interview process and results

4.1. Participant 1 (second year of undergraduate degree, depression)

Participant 1 was diagnosed with depression once they entered the university. Her first exposure to digital mental health services was during a showcase of a health event, and then she obtained relevant links through the Student Center portal. She says she uses digital mental health services relatively frequently, usually every week and sometimes every night. The reason for choosing these services is mainly because they are free and recommended by the school. Through continuous use, she found that digital tools have indeed improved her life to a certain extent, such as helping regulate sleep, reduce chaotic thoughts, and helping her understand her own thinking patterns. However, she also notes the limitations: these services are typically unintelligent, and lack the interaction that occurs in real time in classrooms, this leads to a loss of motivation over time. She thinks that digital services are more effective as a daily response and supplements than in-person guidance. Additionally, she noted that when emotional states worsen, these digital platforms do not provide clear and effective crisis management paths, which makes her feel at a loss when she needs help the most.

4.2. Participant 2 (bachelor’s third year, anxiety and obsessive-compulsive disorder)

Participant 2 sought support due to anxiety and obsessive-compulsive disorder in their third year of college. He initially saw ads for digital mental health apps on social media, but actually started using these services because of their GP recommendations. During the two-month cycle, he used the corresponding digital service almost daily. He said the tools helped to some extent to alleviate their panic symptoms, improve sleep patterns, and reduce compulsive behaviors of repeatedly checking information late at night. However, he also acknowledged that services like chat bots often provide responses that are repetitive, sometimes this will lead to a decrease in comfort after utilization. He thinks that digital services are more similar to a " temporary solution" than in person, which would only address the symptoms of a limited range of problems and have a difficult time addressing the root problems. At the same time, he pointed out that some digital platforms only provide common resource links in crisis management and do not provide adequate instant support in emergencies.

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4.3. Participant 3 (third year of undergraduate, depression)

Participant 3 also suffered from depression. After entering college, she started using digital mental health services due to recommendations from friends. She maintained a relatively stable frequency of use for more than a year (once every two days). She has tried various services, including paid items and free applications, but she prefers to use free services due to cost issues. Unlike the first two participants, she prefers to get support through digital platforms rather than face-to-face because she is not used to communicating with real people. She believes digital services have significantly improved their emotional state, especially regarding sleep disorders. For example, when she reported sleep difficulties in the system, the platform immediately provided interventions such as light music and storytelling, making her feel like she was being responded to promptly. However, as the usage time increased, she also found that digital services were insufficient: in some conversations, the system could not accurately understand her expression, and even output some responses that made her disgusted or anxious, leading to negative experiences.

The three participants' experiences demonstrate that digital health (DMH) has a positive impact on improving sleep, decreasing anxiety and depression, and providing convenient assistance, all of which are in line with the existing research findings [3-5]. Their experience confirms the accessibility and cost-effectiveness of Digital Mental Health Interventions (DMHI), while also reflecting its complementary value as a traditional psychotherapy, providing an alternative option especially when waiting for a long time or unwilling to have face-to-face communication [3].

However, participants' feedback also revealed the limitations of DMHI. First, insufficient interactivity and humanization reduce their motivation to use, which is highly consistent with the "insufficient user engagement" pointed out in the literature [6, 7]. Second, in terms of crisis intervention, all three respondents indicated that digital platforms lacked clear and immediate crisis management paths, echoing the concerns of existing research on ethical and security issues [8]. In addition, the "misunderstanding and inappropriate response" mentioned by participant three also suggests that technology and implementation environment may become negative factors in the use process, causing new anxiety or discomfort [7].

5. Conclusion

This study combines case studies and semi-structured interviews to evaluate the role of digital psychological services in higher education. According to the case study conclusions, digital psychological services have obvious advantages for college students. Including specific examples, iCBT and online courses have proven to be effective in alleviating anxiety, depression and overall psychological distress among college students—primarily through student feedback [9, 10,13,15].

Interviews with three college students further illustrated the benefits of digital services, the students emphasized improvements in sleep, mood regulation and convenience, and it can be seen from the amount of use that digital psychological services have taken up their daily lives, specifically for students who don't like to communicate with others. Overall, these findings indicate that digital psychological services have a significant positive impact on students' mental health [3-5].

However, both approaches show persistent challenges [9, 10,12]. The high attrition rate makes the effect less obvious, and there is insufficient evidence for long-term efficacy. Some students also complain about repetition. Meanwhile, according to students' reports, insufficient personalization, repetitive responses from chatbots, and a lack of human factors for interaction all undermine their motivation to continue [7]. Ethical and security concerns have also emerged, especially in the lack

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of crisis management avenues and privacy risks in data processing [8]. The dual approach highlights the complementary advantages of quantitative and qualitative insights.

The dual approach highlights the complementary advantages of quantitative and qualitative insights. The interview reveals a meticulous student perspective and clarifies the reality behind the challenge of participation. Overall, this research suggests that digital psychological services should not be considered a substitute for traditional counseling, but rather as a versatile and practical supplement. For colleges and universities, the key is to refine service design: enhance personalization, integrate crisis management, use digital psychological counseling as a supplement, and provide in-depth services through traditional and digital methods.

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