Policy Research Journal
ISSN (E): 3006-7030 ISSN (P) : 3006-7022 Volume 3, Issue 4, 2025

COMPARING THE SEVERITY LEVELS OF DEPRESSION BETWEEN MEN AND WOMEN ACROSS DIFFERENT AGE GROUPS IN THERAP-EASE MOBILE APPLICATION

Zia Ur Rehman Zulfiqar[1], Farzana Ashraf[*2], Warda Ashraf[3], Rabia Rehman[4]

[1,2,3,4]: *Department of Humanities, COMSATS University Islamabad, Lahore Campus*

[*2]farzana.ashraf@cuilahore.edu.pk

DOI: https://doi.org/10.5281/zenodo.15280745

Keywords
Depression, mental health stigma, mHealth, TherapEase, mindfulness.

Article History
Received on 16 March 2025
Accepted on 16 April 2025
Published on 25 April 2025

Corresponding Author: * Farzana Ashraf

Abstract
Mobile applications that facilitate psychological treatment and mindfulness techniques bridge the gap between therapists and patients. However, it is essential to develop culturally appropriate platforms. A mobile phone application, TherapEase, was developed to help users access professional mental health services from the comfort of their own homes. TherapEase app features mindfulness techniques and also an integrated mental health assessment tool to help users assess their current symptoms of depression. Data from 170 users, comprising 93 men and 77 women, across various age ranges, were collected over two weeks. The 18-24 age group has emerged as the most vulnerable for both genders. Women exhibit unique vulnerabilities, with isolated cases of extremely severe combinations in the below-18 age range (0.6%), a trend not observed in men. The highest severity of depression occurs more frequently in men (7.1%) compared to women (5.2%). Both genders show significant mental health distress, with women displaying slightly broader severity across age groups. This research underscores the urgent need for targeted interventions, especially for women around the 18-year age range, offering hope for improved mental health outcomes. Despite noticeable differences in severity levels of depression between men and women, it is noteworthy that a major portion of high severities lie in the 18-24 age range, which highlights the struggles of youth in Pakistan. Institutes should facilitate students by providing them with the necessary help and guidance to help minimize the prevailing mental health issues.

INTRODUCTION
For the last decade, several mobile applications targeting mental health have been developed and made available to consumers (Bakker et al., 2016). Smartphones offer numerous advantages, including high computational power, portability, and faster and more efficient access to information managed by Mobile Applications (Donker et al., 2013). Stigma, low literacy, and a shortage of licensed professionals plague Pakistani mental health care. These barriers deprive millions of essential services and resources, particularly in rural areas. Most scalable digital mental health interventions are culturally and linguistically unsuitable for non-Western contexts. The success of digital psychotherapy has paved the way for future developments in collaboration between psychological principles and information technology.

The increasing number of smartphones in healthcare has given rise to a new field, mHealth. mHealth utilizes mobile technologies to support or enhance psychological and mental health interventions,

including smartphones, tablets, Personal Digital Assistants, and wearable devices (Ben-Zeev et al., 2014; Clough & Casey, 2015b; Alyami et al., 2017).

In a clinical setting, mHealth may enhance conventional face-to-face treatment, increasing patient involvement during therapy sessions while adhering strictly to therapeutic principles. Furthermore, it helps optimize clinician time and resources, improving treatment outcomes and decreasing relapse risks (Clough & Casey, 2015b). Several studies have demonstrated the success of mental health apps, particularly those utilizing cognitive behavioral therapy (CBT) (Rathbone et al., 2017; Linardon et al., 2019).

It has been underpinning therapies for anxiety and depression, encouraging positive mental health through social media platforms such as Twitter and Facebook (Hollis et al., 2018). However, since the beginning of 2020 and the outbreak of the COVID-19 pandemic, this field has garnered considerable attention (Ben-Zeev, 2020). Additionally, the latest study on mental health by the Productivity Commission in Australia recommends increased investment in digital resources (Productivity Commission, 2020).

Telemedicine has played a significant role during this period, and tele-counseling is fast gaining ground worldwide (Ben-Zeev, 2020). The international enforcement of social distancing measures and movement restrictions to fight virus transmission has greatly reduced access to face-to-face psychological care. In turn, demands for mental healthcare have risen dramatically due to loneliness resulting from social isolation caused by epidemic consequences as well as economic damage, which may affect people's lives forever if not controlled soon enough. This has led to an escape from online mental health provision for all ages by applying new service models.

The role of technology in enhancing mental health is not a new concept. Care for mental health is often delivered through websites and mobile apps. Wearables are used to determine physical well-being and health. Moreover, video and live chatting methods have recently been used for mental health consultations. There is growing evidence that supports the effectiveness of internet-delivered interventions (Andersson et al., 2019; Fu et al., 2020), smartphone applications (Linardon & Fuller-Tyszkiewicz, 2020), video conferencing for mental health consultations (Thomas et al., 2021), and social peer support networks (Bailey et al., 2020) on mental health.

Over the past decade, web-based services enhancing mental health have increased significantly across Australia, including Mental Health Online, Mind Spot, and This Way Up. Additionally, the volume of crisis support services on Lifeline has increased, while e-headspace and Reach Out have expanded their online support services for young people. The use of technology relative to mental health issues has come out as a game-changer. These include mobile apps, teletherapy, self-help, and other formats aimed at easing anxiety, depression, stress, and many other conditions. A meta-analysis completed by Linardon et al., (2020) confirms that once-off electronic techniques help reduce signs of most mental disorders, and the outcome is almost of the same standard as the face-to-face one. Such results will help demonstrate the role of these devices in providing and enhancing mental health services.

Australia boasts a rich history of financed and operational internet-delivered cognitive behavioral therapy (CBT) programs, based on solid evidence, which are highly effective. Such schemes comprise MindSpot, Mood Gym, eCouch, and Mental Health Online. The research conducted by Newby et al. (2021) reveals the various iCBT programs available in Australia, specifically two platforms: THIS WAY UP and MindSpot. THESE WAY UP is a comprehensive online program offering various courses and resources for mental health. At the same time, MindSpot is a free service that provides online assessment and treatment for adults with anxiety and depression. Additionally, an article offers practitioners guidance on integrating iCBT programs into daily practice. They address issues such as the pros and cons of iCBT for clients, myths surrounding it, and clinical considerations.

Mindfulness-based therapies have garnered particular attention from psychotherapists due to the abundant scientific evidence of their effectiveness in treating various clinical conditions (Sarlon et al., 2024). A study indicates that Dual Advantage Depressive Disorder (MDD) can be effectively treated with Mindfulness-Based Cognitive Therapy (MBCT) for individuals who are just starting depressive episodes.

This very action of intervention reduced the depression status in people who already had a present depressive episode and prevented future relapses (Kuyken et al., 2016).

Despite a growing body of evidence supporting therapeutic interventions, a gap persists between the extent of available supportive evidence within the empirical literature and the actual use and prevailing demand for mental health services in the global market. In earlier years, consumers faced factors described by advocates as barriers to digital mental health, which were cited as effective in increasing passiveness among consumers and training therapists on how to integrate technology into their practice. There is significant evidence that more focus should be given to this issue about gaps and need for accessibility as different demographic factors influence how certain segments interact or perceive technology making them online with barriers to horizontal building equality among themselves especially poor segments of society or segments of society with serious mental disorders (Hollis et al., 2018).

Since 2020, the surge in digital mental health services has highlighted the limitations of traditional service delivery systems (Spanakis et al., 2021). This underscores the need to evolve and implement effective and equitable digital mental health service delivery systems that bridge the technological gap in society. As digital mental health services gain prominence in healthcare delivery, important questions arise: "How can we best integrate digital services with face-to-face ones to extend the reach of mental health care?" "What are the key factors for success for online clinicians?" and "How can we ensure that users are actively involved in designing digital interventions for mental health that seamlessly integrate into their daily lives?"

Smartphone interventions, also termed mHealth or MHapps, are perfect for helping users to self-manage their mental health conditions. These can encompass content aimed at achieving goals, promoting self-reflection, or delivering educational tasks (Bakker et al., 2016). Staiger and Liknaitzky (2021) suggest the Chronos method. This time-based approach focuses on the frequency and duration of behaviors as an alternative to the traditional 'count goals' approach in behavioral intervention toward addiction treatment. The user narrates how the Chronos concept was incorporated into the Replace It app, demonstrating how smartphone capabilities precisely aid people in setting their goals and receiving reminders.

In a country like Pakistan, which has a low awareness of mental health concepts and where negative societal attitudes are present, localized versions of mental health-related concepts and tools can provide the change needed. Rizvi et al. (2021) suggest that a greater uptake of mental health care can be achieved through mobile or digital platforms, provided local languages, such as Urdu, Pashto, or Punjabi, are incorporated into the interventions. However, even though apps such as Taskeen and Sehat Kahani have initiated this effort within Pakistan, they currently focus on expanding access through education and telemedicine, but lack the resources to expand beyond that. According to Husain et al. (2017), the notion that Pakistan is unique is valid, given that the concept of utilizing modern-day resources for mental health therapy has become a global phenomenon.

One crucial barrier to the Internet's proliferation in mental health is the absence of locally relevant Internet-tailored therapeutic interventions (Naeem et al., 2009). As the literature highlights, future research is needed to examine the function, efficiency, and efficacy of available technology within the Pakistani context (Azeem et al., 2013).

Present Study

The present study was designed to develop a culturally relevant app to assess the depression, anxiety, and stress in common Pakistani adults. However, the current study reported findings only from the depression assessment.

Methods

Participants

A sample of 170 users of the TherapEase mobile application, comprising 93 men and 77 women, attempted the Depression, Anxiety, and Stress Scale-21 DASS-21) questionnaire (Lovibond & Lovibond, 1995), which is integrated into the TherapEase mobile application. For the present study, only responses to the depression items were calculated. The users comprised individuals of all age ranges above 12 years old. Users had the option to complete the questionnaire in either Urdu or English.

Instruments

The present study utilized users who provided information through an active Android mobile phone, the TherapEase mobile application, and a functioning Wi-Fi system connected to the phone.

English Version of Depression, Anxiety, Stress Scale-21 (Lovibond & Lovibond, 1995): The English version of the DASS-21 is the original form of the instrument, which has been extensively validated for use in various settings, including both clinical and non-clinical populations. Scores for each scale are summed and then multiplied by two to obtain the final score, adjusting for the reduced number of items compared to the original 42-item version.

Urdu Version of DASS-21 (Aslam & Kamran, 2017): The Urdu version of DASS-21 was developed through a rigorous translation and back-translation process, ensuring the instrument is linguistically and culturally appropriate for the Pakistani context. Research studies have confirmed that the Urdu version exhibits high internal consistency and reliability, comparable to the English version. Sample items included for depression "میں اپنی زندگی کے بارے میں مایوس ہو رہا ہوں" (I feel hopeless about my life).

Procedure

The DASS-21 scale, in English and Urdu, was incorporated into the TherapEase mobile application. The results of the DASS-21 were used to suggest therapy to the user based on their severity level. Users were contacted via social media, inviting them to download the TherapEase mobile application and attempt the DASS-21 questionnaire. The results from the DASS-21 questionnaire would automatically prompt the applicant to seek professional mental health services from the list of therapists shown in the application.

Results

The DASS-21 module of the TherapEase application offers an interactive and user-centric psychological self-assessment customized to specific requirements. At the start of the test, participants are prompted to select a preferred language, such as English or Urdu, thereby enhancing accessibility and inclusivity. This option allows users to engage with the evaluation in their preferred language.

The evaluation comprises organized statements that measure emotional and psychological conditions related to stress, anxiety, and depression. Respondents choose from four alternatives: "Never=0," "Sometimes=1," "Often=2," or "Almost Always=3." The interface is designed to be straightforward and uncluttered, with progress indicators that enhance user engagement and foster a sense of accomplishment. This deliberate arrangement guarantees that users maintain concentration, facilitating a more precise mental health assessment.

Upon finishing the exam, a comprehensive results screen analyzes the responses, offering insights into the user's psychological condition. Results comprise a tailored narrative encapsulating degrees of depression, anxiety, and stress. Upon detecting increased depressive symptoms, the software proactively suggests actionable measures, including daily exercise and arranging therapy appointments with in-app professionals. This method highlights TherapEase's commitment to directing users to resources that promote emotional well-being.

Figure 1: Language selection in TherapEase

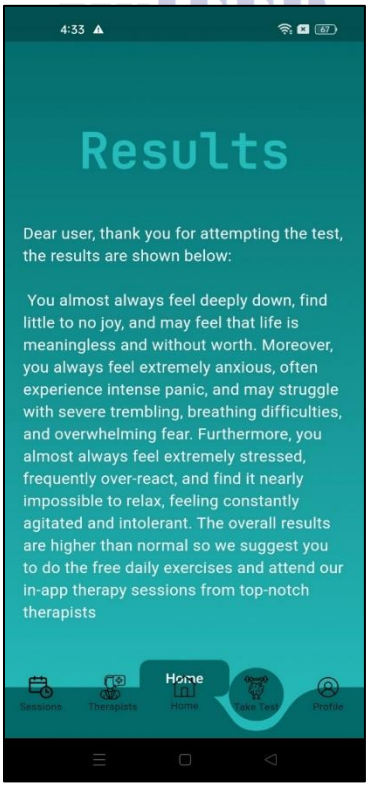

Figure 2: Sample DASS-21 statements TherapEase, pg 1

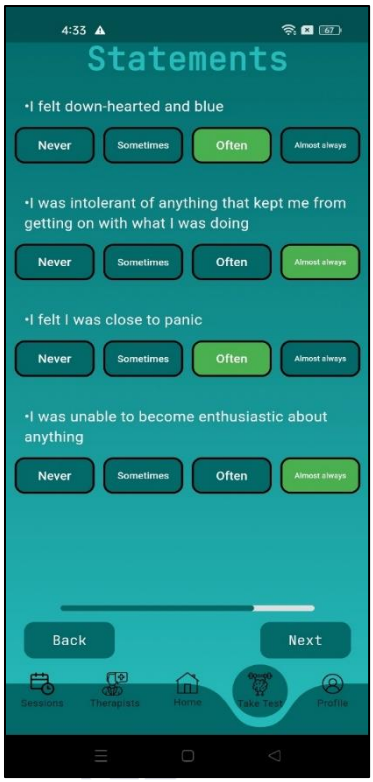

Figure 3: Result statement after submitting responses

TherapEase incorporates the DASS-21 tool, providing a proven self-assessment technique that enables users to identify when necessary therapies are required. This feature enhances a holistic and supportive mental health treatment framework. The following tables display the trends in severity levels of the DASS-21, as reported by 170 users who used the TherapEase app over two weeks. An analysis of responses from 170 participants (93 men and 77 women) examined depression. Severity was classified into five levels: normal, mild, moderate, severe, and extremely severe. This summary focuses on high-severity cases (severe and extremely severe) and compares the outcomes of men and women.

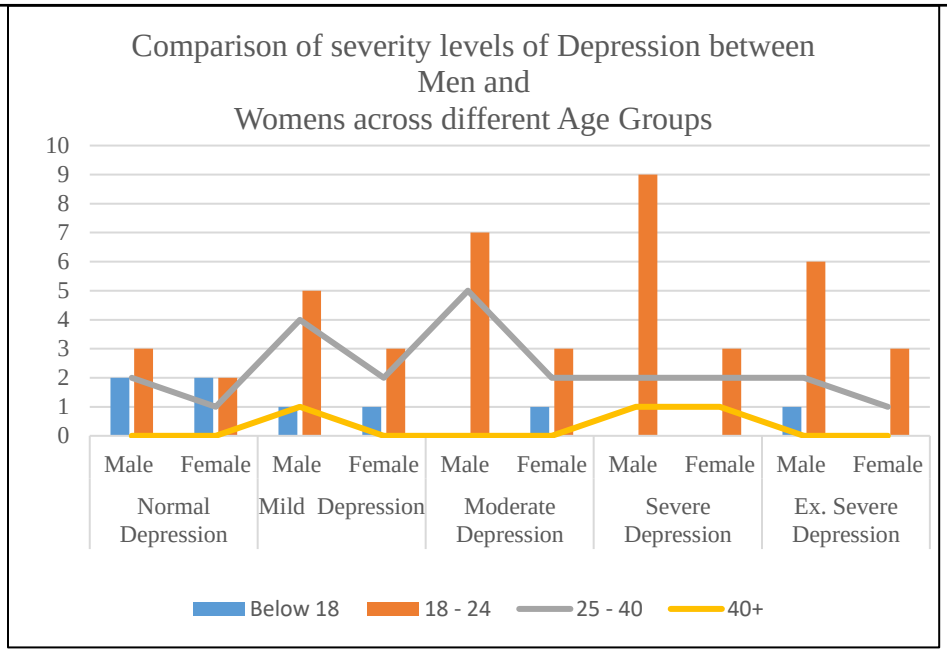

Figure 3Comparison of the severity levels of Depression between Men and Women across different Age Groups

Key Findings

The most severe cases, where depression symptoms were classified as extremely severe, were predominantly found in the 18-24 age group for both men and women. In men, twelve cases (7.1%) of extremely severe combinations were recorded in the 18-24 age group. Whereas, in women, seven cases (5.2%), all of which occurred in the 18-24 age group, with an additional isolated case (0.6%) in the below-18 age group. Additionally, the younger participants, particularly those aged 18-24, are at the highest risk for severe mental health concerns. Men with depression exhibited more cases of extremely severe depression, particularly in the 18-24 age range (7.1% men vs. 5.2% women). Women showed a broader distribution of cases across the severe and extremely severe categories, including the Below-18 age group.

Discussion

This study aims to compare the findings obtained from the current investigation with existing literature on both global and national platforms, thereby providing an academic contribution to its field. The section presents the findings from the analysis and outlines the way forward for the study and its implications for the general public. The landscape of mental health in Pakistan is prepared to address the barriers within the context of far-reaching isolation, monopolized structure, and poor resources. As studies show, Pakistan lacks the basic ability that extends beyond resources (Farooq et al., 2021).

Age and Gender Differences in Depression

The current study findings demonstrated an omnipresent prevalence of depressive symptoms in women aged between 18 and 24 years, which is partially consistent with some findings exploring the comorbidity of depressive symptoms with specific learning disabilities (Ashraf & Najam, 2017) and anxiety (Ashraf & Najam, 2015).

Application of TherapEase in Pakistan

TherapEase is an application designed to provide a platform for mental health professionals to manage their services efficiently. This research is particularly relevant as it can be used to implement the findings and recommendations, such as targeted interventions for specific age groups and genders. It is worth noting that resources are rising globally; however, this trend has not been observed in Pakistan. To exacerbate the problem, in-country resources that are socio-economically and linguistically relevant to the local population are almost nonexistent.

Integrating an Urdu language component into TherapEase is a notable innovation that reflects an

understanding of the local community's needs. Urdu, as the national language, facilitates accessibility for individuals who may lack proficiency in English. This facilitates the link between technology and mental health accessibility for non-English speakers. Khan et al.'s (2021) conclusions, which emphasize the importance of linguistic inclusiveness in mental health therapies, support this assertion.

Furthermore, the DASS-21 instrument within the application is crucial as it provides an appropriate and validated method for evaluating depression. This study's findings suggest that user interaction with the DASS-21 tool effectively facilitates self-assessment procedures. This aligns with worldwide study findings that underscore the efficacy of self-assessment tools in enhancing mental health literacy (Linardon et al., 2020).

Furthermore, the application's ability to provide personalized intervention plans based on the evaluation results aligns with the stepped-care model proposed by Bower et al. (2021). This approach promotes therapy of various intensities. User-centered design and cultural adaptability. The capability to adapt to other cultures is an essential attribute of TherapEase. Applications for mental health developed in Western contexts often overlook cultural nuances, which can impact their acceptance in non-Western nations (Kazdin et al., 2021).

TherapEase surmounts the cultural and linguistic barriers that often obstruct accessibility to mental health care in Pakistan by incorporating culturally relevant components. An example of this functionality is the option to select between English and Urdu as a means of communication. This culturally adaptable design coincides with the research of Patel et al. (2021), which posits that to enhance the efficacy of mental health technologies, they must be tailored to the sociocultural context of the target audience.

In the Pakistani context, Rizvi et al. (2021) found that women had a higher rate of non-utilization of mental health services than men. Inherent barriers lead to this point. By deploying simple and discreet digital solutions, TherapEase can aid women seeking help without judgment. In Pakistan, mental health issues are rarely talked about, and when they are, they are highly stigmatized. As a result, people are reluctant to seek appropriate and qualified care. According to Chaudhry et al. (2022), combining community-engaged learning and new technology can effectively increase literacy regarding mental health issues.

TherapEase and similar applications can spark mental health discourse while encouraging help-seeking behaviors through social campaigns and teaching modules. This aligns with a separate article by Patel et al. (2021), which suggests that this approach is not contrary to the World Health Organization's resolutions, which emphasize the importance of utilizing digital technologies to combat stigma and promote mental health awareness. Expanding the teacher's aids with online facilities, TherapEase supplies therapy teachers with resources like a slot management system and linked payment services. These tools help optimize the practice and increase overall performance.

With the presentation of these insights, TherapEase is not only a tool for users facing challenges associated with mental health, but also aids in planning public health for the users. The active engagement with the instrument also depicts the Pakistani populace's increasing trend of self-assistive approaches. This indicates a positive approach concerning seeking help, a critical development in a culture where seeking help with mental health disorders is often frowned upon. This represents a change towards more engagement.

Nonetheless, it is important to consider that the app's recommendation approaches would be effective only if there is continuity of the intervention and a standard regarding the intervention process. There appears to be a consensus that Ali et al. (2020) reached, which is that the effectiveness of such tools in managing mental health conditions relies on their use within a more comprehensive framework of mental health support services. It has been suggested by Torous et al. (2021) that TherapEase should evolve beyond its current orthodoxy and, in the future, incorporate AI-based predictive models into its framework to enhance the optimal recommended interventions further.

Formulating a holistic framework for digital mental health in Pakistan, TherapEase's growth trend further underscores the importance of digital mental healthcare services in Pakistan, where more than half of healthcare institutions are overwhelmed, and social embarrassment discourages some people from seeking help.

Limitations and Recommendations:

Recommendations for future development to enhance the effectiveness of TherapEase: The suggested adjustments include offline capabilities, which can be integrated to address accessibility issues in areas with unreliable internet. A wider audience may be appealed to if regional dialects such as Sindhi, Pashto, and Punjabi are included. Adding Artificial Intelligence Chatbots to provide instant help for unsatisfied customers, creating interface features for AI-guided sessions in the future, augmenting data Security, and utilizing end-to-end encryption and secure data storage will ensure the security of user information and build trust. By enhancing community engagement, functions that allow users to describe their cases or participate in peer-support groups can help create a sense of belonging and lessen feelings of loneliness. Lastly, it can be concluded that TherapEase is quite an innovation in digital mental health in Pakistan. The app addresses many unmet needs regarding mental health service use and insight, utilizing design features that are culturally appropriate and evidence-based therapeutic approaches. This research suggests that incorporating technological components and cultural adaptation is essential when designing and developing mental health care tools.

REFERENCES

Ashraf, F., & Najam, N. (2015). Comorbidity of Anxiety Disorder and Major Depression among Girls with Learning Disabilities. Pakistan Journal of Medical Research. 54(4), 109-112.

Ashraf, F., & Najam, N. (2017). Co-Morbidity of Specific Learning Disabilities and Depressive Symptoms in a Non-Clinical Sample of Adolescents. Journal of Postgraduate Medical Institute. 31(2). 105-109.

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. Higher Education Studies, 10(3), 16–25.

Alyami, M., Giri, B., Alyami, H., & Sundram, F. (2017). Social Anxiety Apps: A Systematic Review and Assessment of App Descriptors Across Mobile Store Platforms. Evidence-Based Mental Health, 20(3), 65–70. https://doi.org/10.1136/eb-2017-102664

Andersson, G., Olsson, E., Ringsgård, E., Sandgren, T., Viklund, I., Andersson, C., Hesselman, Y., ... & Bohman, B. (2021). Individually tailored Internet-delivered cognitive-behavioral therapy for survivors of intimate partner violence: A randomized controlled pilot trial. Internet Interventions, 26, 100453. https://doi.org/10.1016/j.invent.2021.100453

Aslam, N., & Kamran, M. (2017). Translation, validation and effectiveness of Depression, Anxiety and Stress Scale (DASS-21) in assessing the psychological distress among flood affected individuals. Pakistan Journal of Medical Research, 56(2), 66–69.

Azeem, M. W., Dogar, I. A., Shah, S., Cheema, M. A., Asmat, A., Akbar, M., & Haider, I. I. (2013). Anxiety and depression among parents of children with intellectual disability in Pakistan. Journal of the Canadian Academy of Child and Adolescent Psychiatry, 22(4), 290–295.

Bailey, E., Alvarez-Jimenez, M., Robinson, J., D'Alfonso, S., Nedeljkovic, M., Davey, C. G., Bendall, S., ... & Rice, S. M. (2020). An Enhanced Social Networking Intervention for Young People with Active Suicidal Ideation: Safety, Feasibility, and Acceptability Outcomes. International Journal of Environmental Research and Public Health, 17(7), 2435. https://doi.org/10.3390/ijerph17072435

Bakker, D., Kazantzis, N., Rickwood, D., & Rickard, N. (2016). Mental Health Smartphone Apps: Review and Evidence-Based Recommendations for Future Developments. JMIR Mental Health, 3(1), e7. https://doi.org/10.2196/mental.4984

Ben-Zeev, D. (2020). The Digital Mental Health Genie Is Out of the Bottle. Psychiatric Services, 71(12), 1212–1213. https://doi.org/10.1176/appi.ps.202000306

Ben-Zeev, D., Schueller, S. M., Begale, M., Duffecy, J., Kane, J. M., & Mohr, D. C. (2014). Strategies for mHealth Research: Lessons from 3 Mobile Intervention Studies. Administration and Policy in Mental Health and Mental Health Services Research, 42(2), 157–167. https://doi.org/10.1007/s10488-014-0556-2

Bower, K. L., Arnold, E., & Jeffries, P. R. (2021). The role of debriefing in simulation-based learning. Simulation in Healthcare, 16(1), 1–7.

Chaudhry, A., et al. (2022). Community-based interventions for mental health literacy in Pakistan. Asian Journal of Psychiatry, 73, 103080.

Clough, B. A., & Casey, L. M. (2015b). The Smart Therapist: A Look to the Future of Smartphones and mHealth Technologies in Psychotherapy. Professional Psychology Research and Practice, 46(3), 147–153. https://doi.org/10.1037/pro0000011

Donker, T., Petrie, K., Proudfoot, J., Clarke, J., Birch, M., & Christensen, H. (2013). Smartphones for Smarter Delivery of Mental Health Programs: A Systematic Review. Journal of Medical Internet Research, 15(11), e247. https://doi.org/10.2196/jmir.2791

Farooq, A., Richman, C. M., Swain, S. M., Shahid, R. A., Vigna, S. R., & Liddle, R. A. (2021). The role of phosphate in alcohol-induced experimental pancreatitis. Gastroenterology, 161(3), 982–995.e2.

Fu, W., Wang, C., Zou, L., Guo, Y., Lu, Z., Yan, S., & Mao, J. (2021). Psychological health, sleep quality, and coping styles to stress facing the COVID-19 in Wuhan, China. Translational Psychiatry, 11(1), 225.

Hollis, C., Sampson, S., Simons, L., Davies, E. B., Churchill, R., Betton, V., Butler, D., ... & Tomlin, A. (2018). Identifying research priorities for digital technology in mental health care: results of the James Lind Alliance Priority Setting Partnership. The Lancet Psychiatry, 5(10), 845–854. https://doi.org/10.1016/s2215-0366(18)30296-7

Husain, M. I., Chaudhry, I. B., Khoso, A. B., & Husain, M. O. (2017). Minocycline as an adjunct for treatment-resistant depressive symptoms: A double-blind, randomized, placebo-controlled trial. Journal of Psychopharmacology, 31(9), 1166–1175.

Kazdin, A. E. (2021). Research design in clinical psychology (5th ed.). Cambridge University Press.

Khan, M., Adil, S. F., Alkhathlan, H. Z., Tahir, M. N., Saif, S., Khan, M., & Khan, S. T. (2021). COVID-19: A global challenge with old history, epidemiology and progress so far. Molecules, 26(1), 39.

Kuyken, W., Warren, F. C., Taylor, R. S., Whalley, B., Crane, C., Bondolfi, G., Hayes, R., ... & Dalgleish, T. (2016). Efficacy of Mindfulness-Based Cognitive Therapy in Prevention of Depressive Relapse. JAMA Psychiatry, 73(6), 565. https://doi.org/10.1001/jamapsychiatry.2016.0076

Linardon, J., Cuijpers, P., Carlbring, P., Messer, M., & Fuller-Tyszkiewicz, M. (2019). The efficacy of app-supported smartphone interventions for mental health problems: A meta-analysis of randomized controlled trials. World Psychiatry, 18(3), 325–336. https://doi.org/10.1002/wps.20673

Linardon, J., & Fuller-Tyszkiewicz, M. (2020). Attrition and adherence in smartphone-delivered interventions for mental health problems: A systematic and meta-analytic review. Journal of Consulting and Clinical Psychology, 88(1), 1–13. https://doi.org/10.1037/ccp0000459

Lovibond, S. H., & Lovibond, P. F. (1995). Depression Anxiety Stress Scales (DASS-21, DASS-42) [Database record]. APA PsycTests. https://doi.org/10.1037/t01004-000

Naeem, F., Ayub, M., Gobbi, M., & Kingdon, D. (2009). University students' views about compatibility of cognitive behaviour therapy techniques with their cultural background: A qualitative study. Behavioural and Cognitive Psychotherapy, 37(2), 193–197.

Newby, J., Mason, E., Kladnistki, N., Murphy, M., Millard, M., Haskelberg, H., Allen, A., & Mahoney, A. (2021). Integrating internet CBT into clinical practice: a practical guide for clinicians. Clinical Psychologist, 25(2), 164–178. https://doi.org/10.1080/13284207.2020.1843968

Patel, V., et al. (2021). Tailoring mental health technology to sociocultural contexts: Evidence from South Asia. Global Mental Health, 8(1), 12-19.

Productivity Commission. (2020). Mental health (Report No. 95). https://www.pc.gov.au/inquiries/completed/mental-health/report/mental-health.pdfNational Library of Australia+10

Rathbone, A. L., Clarry, L., & Prescott, J. (2017). Assessing the Efficacy of Mobile Health Apps Using the Basic Principles of Cognitive Behavioral Therapy: Systematic Review. Journal of Medical Internet Research, 19(11), e399. https://doi.org/10.2196/jmir.8598

Rizvi, N., et al. (2021). Barriers to mental health care access for women in South Asia. BMC Women's Health, 21(1), 45.

Sarlon, J., Schneider, E., Brühl, A. B., Ulrich, S., Liwinski, T., Doll, J. P., Muehlauser, M., & Lang, U. E. (2024). Adjunctive use of mindfulness-based mobile application in depression: randomized controlled study. European Archives of Psychiatry and Clinical Neuroscience. https://doi.org/10.1007/s00406-024-01884-y

Spanakis, P., Heron, P., Walker, L., Crosland, S., Wadman, R., Newbronner, E., Johnston, G., Gilbody, S., & Peckham, E. (2021). Use of the Internet and Digital Devices Among People with Severe Mental Ill Health During the COVID-19 Pandemic Restrictions. Frontiers in Psychiatry, 12. https://doi.org/10.3389/fpsyt.2021.732735

Staiger, P. K., & Liknaitzky, P. (2021). An alternative goal-setting technique for addictive behaviour interventions: The Chronos approach. Clinical Psychologist, 25(3), 292–302.

Thomas, M. F., Binder, A., & Matthes, J. (2023). The psychological influence of dating app matches: The more matches the merrier? New Media & Society, 26(12), 6995–7019.

Torous, J., et al. (2021). Digital mental health and global pandemic: Challenges and opportunities. Journal of Medical Internet Research, 23(6), e23458