DHA
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EVIDENCE FOR USING
MOBILE HEALTH APPLICATIONS
IN BEHAVIORAL HEALTH CARE

Evidence from recent systematic reviews indicates that mHealth apps may be a promising method to support patient self-management of diverse health conditions, ranging from diabetes to depression. Behavioral health care has been a key area for mHealth integration, resulting in more robust evidence for the use of mHealth with these conditions. In addition to patient self-management, evidence also suggests that the use of mHealth apps increases treatment compliance and could potentially reduce health care treatment costs.

Substance Use Disorders

- mHealth apps may support abstinence while trying to reduce tobacco use and recovery from alcohol use disorders following residential treatment. (Meredith, Alessi, & Petry, 2015; Haskins, Lesperance, Gibbons, & Bourdeaux, 2017).

Anxiety Disorders

- mHealth apps can be used to self-monitor symptoms related to generalized anxiety disorder (GAD), panic disorders, and stress (Loo Gee, Griffiths, & Gulliver, 2016).

- mHealth Cognitive-Behavioral Therapy (CBT) based apps may be beneficial to individuals looking to manage anxiety symptoms (Wright, Mishkind, Eells, & Chan, 2019).

Depressive Disorders

- Individuals with mild depression who used a CBT-based mHealth app for self-management of their symptoms reported a significant reduction in depression symptoms compared with those who did not (Wright et al., 2019).

- mHealth app use to address depression symptoms has been correlated with significant improvements (Bush, Armstrong, & Hoyt, 2019).

- mHealth apps may significantly increase one's ability to tolerate negative emotions and self-efficacy as well as reduce negative thoughts about self and psychological distress (Melia et al., 2020).

Post-Traumatic Stress Disorders (PTSD)

- mHealth apps can be used to assess PTSD symptoms using a validated measure called the PTSD Check List (PCL) (Wickersham, Petrides, Williamson, & Leightley, 2019).

- Veterans experiencing high levels of PTSD who used a mHealth app reported significant improvement in their PTSD symptoms (Wickersham et al., 2019).

- After a brief training on the app, using PTSD coach as a self-management tool can help veterans reduce their PTSD symptoms (Gould et al., 2019).

Adherence

- mHealth apps that include a reminder feature for medications or medical appointments have shown to improve patients' compliance with their treatment (Bush et al., 2019; Rathbone et al., 2017).

- Reductions in missed appointments could translate to increased clinic productivity and possible cost-savings (Bush et al., 2019).

- Patients who used mHealth apps with reminder functions improved medication adherence and reduced the number of missed appointments (Rathbone et al., 2017).

Sources Cited

Bush, N. E., Armstrong, C. M., & Hoyt, T. V. (2019). Smartphone apps for psychological health: A brief state of the science review. Psychological Services, 16(2), 188-195. https://doi.org/10.1037/ser0000286

Gould, C. E., Kok, B. C., Ma, V. K., Zapata, A. M. L., Owen, J. E., & Kuhn, E. (2019). Veterans Affairs and the Department of Defense mental health apps: A systematic literature review. Psychological Services, 16(2), 196. https://www.doi.org/10.1037/ser0000289

Haskins, B. L., Lesperance, D., Gibbons, P., & Boudreaux, E. D. (2017). A systematic review of smartphone applications for smoking cessation. Translational Behavioral Medicine, 7(2), 292-299. https://doi.org/10.1007/s13142-017-0492-2

Loo Gee, B., Griffiths, K. M., & Gulliver, A. (2016). Effectiveness of mobile technologies delivering Ecological Momentary Interventions for stress and anxiety: A systematic review. Journal of the American Medical Informatics Association, 23(1), 221-229. https://doi.org/10.1093/jamia/ocv043

Melia, R., Francis, K., Hickey, E., Bogue, J., Duggan, J., O'Sullivan, M., & Young, K. (2020). Mobile health technology interventions for suicide prevention: Systematic review. JMIR mHealth and uHealth, 8(1), e12516. https://www.doi.org/10.2196/12516

Meredith, S. E., Alessi, S. M., & Petry, N. M. (2015). Smartphone applications to reduce alcohol consumption and help patients with alcohol use disorder: A state-of-the-art review. Advanced Health Care Technologies, 1, 47. https://doi.org/10.2147/AHCT.S65791

Rathbone, A. L., & Prescott, J. (2017). The use of mobile apps and SMS messaging as physical and mental health interventions: Systematic review. Journal of Medical Internet Research, 19(8), e295. https://doi.org/10.2196/jmir.7740

Wickersham, A., Petrides, P. M., Williamson, V., & Leightley, D. (2019). Efficacy of mobile application interventions for the treatment of post-traumatic stress disorder: A systematic review. Digital Health, 5, 1-11. https://doi.org/10.1177/2055207619842986

Wright, J. H., Mishkind, M., Eells, T. D., & Chan, S. R. (2019). Computer-assisted cognitive-behavior therapy and mobile apps for depression and anxiety. Current Psychiatry Reports, 21(7), 62. https://doi.org/10.1007/s11920-019-1031-2

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