

Publications by levels of evidence and its methodological quality appraisal

Digital health companies (No. of studies)	Publications by levels of evidence*	Findings for depression (Level I and II)
Lyra Health (3)	<u>Level II</u> Schneider, R. A., Grasso, J. R., Chen, S. Y., Chen, C., Reilly, E. D., & Kocher, B. (2020). Beyond the Lab: Empirically Supported Treatments in the Real World. <i>Frontiers in Psychology</i> , 1969.	Significant differences pre / post (within-group)
	Lungu, A., Jun, J. J., Azarmanesh, O., Leykin, Y., Connie, E., & Chen, J. (2020). Blended care-cognitive behavioral therapy for depression and anxiety in real-world settings: pragmatic retrospective study. <i>Journal of Medical Internet Research</i> , 22(7), e18723.	Significant differences pre / post (within-group)
	Lungu, A., Boone, M. S., Chen, S. Y., Chen, C. E., & Walser, R. D. (2021). Effectiveness of a cognitive behavioral coaching program delivered via video in real world settings. <i>Telemedicine and e-Health</i> , 27(1), 47-54.	Significant differences pre / post (within-group)
Ginger (3)	<u>Level I</u> Hantsoo, L., Criniti, S., Khan, A., Moseley, M., Kincler, N., Faherty, L. J., ... & Bennett, I. M. (2018). A mobile application for monitoring and management of depressed mood in a vulnerable pregnant population. <i>Psychiatric Services</i> , 69(1), 104-107.	No significant difference between groups

	<u>Level II</u> Kunkle, S., Yip, M., Watson, E., & Hunt, J. (2020). Evaluation of an On-Demand Mental Health System for Depression Symptoms: Retrospective Observational Study. Journal of Medical Internet Research, 22(6), e17902.	Significant differences pre / post (within-group)
	<u>Level III</u> Bauer, A. M., Iles-Shih, M., Ghomi, R. H., Rue, T., Grover, T., Kincler, N., ... & Katon, W. J. (2018). Acceptability of mHealth augmentation of Collaborative Care: A mixed methods pilot study. General hospital psychiatry, 51, 22-29.	-
Quartet	n/a	
Vida Health (2)	<u>Level II</u> Venkatesan, A., Rahimi, L., Kaur, M., & Mosunic, C. (2020). Digital cognitive behavior therapy intervention for depression and anxiety: retrospective study. JMIR Mental Health, 7(8), e21304.	Significant differences pre / post (within-group)
	<u>Level III</u> Cairo, J., Williams, L., Bray, L., Goetzke, K., & Perez, A. C. (2020). Evaluation of a mobile health intervention to improve wellness outcomes for breast cancer survivors. Journal of Patient-Centered Research and Reviews, 7(4), 313.	-
Modern Health	n/a	
MindStrong	n/a	

Happify (6)	<u>Level I</u> Parks, A. C., Williams, A. L., Tugade, M. M., Hokes, K. E., Honomichl, R. D., & Zilca, R. D. (2018). Testing a scalable web and smartphone-based intervention to improve depression, anxiety, and resilience: A randomized controlled trial. <i>International Journal of Wellbeing</i>, 8(2).	No significant difference between groups
	<u>Level II</u> Sanders, C. A., Schueller, S. M., Parks, A. C., & Howell, R. T. (2019). Understanding long-term trajectories in web-based happiness interventions: Secondary analysis from two web-based randomized trials. <i>Journal of medical Internet research</i>, 21(6), e13253.	Significant differences pre / post (within-group)
	Williams, A. L., Parks, A. C., Cormier, G., Stafford, J., & Whillans, A. (2018). Improving resilience among employees high in depression, anxiety, and workplace distress. <i>Int J Manag Res</i>, 9(1-2), 4-22.	Significant differences pre / post (within-group)
	<u>Level III</u> Boucher, E. M., McNaughton, E. C., Harake, N., Stafford, J. L., & Parks, A. C. (2021). The impact of a digital intervention (Happify) on loneliness during COVID-19: Qualitative focus group. <i>JMIR mental health</i>, 8(2), e26617.	-
	Parks, A. C., Williams, A. L., Kackloudis, G. M., Stafford, J. L., Boucher, E. M., & Honomichl, R. D. (2020). The effects of a digital well-being intervention on patients with chronic conditions: observational study. <i>Journal of Medical Internet Research</i>, 22(1), e16211.	-

	Carpenter, J., Crutchley, P., Zilca, R. D., Schwartz, H. A., Smith, L. K., Cobb, A. M., & Parks, A. C. (2016). Seeing the “big” picture: big data methods for exploring relationships between usage, language, and outcome in internet intervention data. Journal of medical Internet research, 18(8), e5725.	-
Woebot (2)	<u>Level I</u> Fitzpatrick, K. K., Darcy, A., & Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): a randomized controlled trial. JMIR mental health, 4(2), e7785.	No significant difference between groups
	<u>Level III</u> Darcy, A., Daniels, J., Salinger, D., Wicks, P., & Robinson, A. (2021). Evidence of human-level bonds established with a digital conversational agent: cross-sectional, retrospective observational study. JMIR Formative Research, 5(5), e27868.	-
Orexo /Deprexis (16)	<u>Level I</u> Nolte, S., Busija, L., Berger, T., Meyer, B., Moritz, S., Rose, M., ... & Klein, J. P. (2021). Do sociodemographic variables moderate effects of an internet intervention for mild to moderate depressive symptoms? An exploratory analysis of a randomised controlled trial (EVIDENT) including 1013 participants. BMJ open, 11(1), e041389.	Moderate-to-large effect size
	Fischer, A., Schröder, J., Vettorazzi, E., Wolf, O. T., Pöttgen, J., Lau, S., ... & Gold, S. M. (2015). An online programme to reduce depression in patients with multiple sclerosis: a randomised controlled trial. The Lancet Psychiatry, 2(3), 217-223.	Moderate-to-large effect size

	Zwerenz, R., Becker, J., Knickenberg, R. J., Siepmann, M., Hagen, K., & Beutel, M. E. (2017). Online self-help as an add-on to inpatient psychotherapy: efficacy of a new blended treatment approach. <i>Psychotherapy and psychosomatics</i> , 86(6), 341-350.	Moderate-to-large effect size
	Berger, T., Krieger, T., Sude, K., Meyer, B., & Maercker, A. (2018). Evaluating an e-mental health program (“deprexis”) as adjunctive treatment tool in psychotherapy for depression: Results of a pragmatic randomized controlled trial. <i>Journal of affective disorders</i> , 227, 455-462.	Moderate-to-large effect size
	Beevers, C. G., Pearson, R., Hoffman, J. S., Foulser, A. A., Shumake, J., & Meyer, B. (2017). Effectiveness of an internet intervention (Deprexis) for depression in a united states adult sample: A parallel-group pragmatic randomized controlled trial. <i>Journal of consulting and clinical psychology</i> , 85(4), 367.	Moderate-to-large effect size
	Klein, J. P., Berger, T., Schröder, J., Späth, C., Meyer, B., Caspar, F., ... & Hohagen, F. (2016). Effects of a psychological internet intervention in the treatment of mild to moderate depressive symptoms: results of the EVIDENT study, a randomized controlled trial. <i>Psychotherapy and psychosomatics</i> , 85(4), 218-228.	Moderate-to-large effect size
	Meyer, B., Bierbrodt, J., Schröder, J., Berger, T., Beevers, C. G., Weiss, M., ... & Klein, J. P. (2015). Effects of an Internet intervention (Deprexis) on severe depression symptoms: randomized controlled trial. <i>Internet Interventions</i> , 2(1), 48-59.	Moderate-to-large effect size
	Moritz, S., Schilling, L., Hauschildt, M., Schröder, J., & Treszl, A. (2012). A randomized controlled trial of internet-based therapy in depression. <i>Behaviour research and therapy</i> , 50(7-8), 513-521.	Moderate-to-large effect size

	Berger, T., Hämmerli, K., Gubser, N., Andersson, G., & Caspar, F. (2011). Internet-based treatment of depression: a randomized controlled trial comparing guided with unguided self-help. Cognitive behaviour therapy, 40(4), 251-266.	Moderate-to-large effect size
	Meyer, B., Berger, T., Caspar, F., Beevers, C., Andersson, G., & Weiss, M. (2009). Effectiveness of a novel integrative online treatment for depression (Deprexis): randomized controlled trial. Journal of medical Internet research, 11(2), e1151.	Moderate-to-large effect size
	Bücker, L., Bierbrodt, J., Hand, I., Wittekind, C., & Moritz, S. (2018). Effects of a depression-focused internet intervention in slot machine gamblers: a randomized controlled trial. PloS one, 13(6), e0198859.	No significant difference between groups
	Schröder, J., Brückner, K., Fischer, A., Lindenau, M., Köther, U., Vettorazzi, E., & Moritz, S. (2014). Efficacy of a psychological online intervention for depression in people with epilepsy: a randomized controlled trial. Epilepsia, 55(12), 2069-2076.	No significant difference between groups
	<u>Level II</u> Klein, J. P., Barthel, B., Berger, T., & Moritz, S. (2020). Feasibility, effectiveness and safety of the self-management intervention deprexis in routine medical care: results of an uncontrolled observational study. Internet interventions, 22, 100341.	Significant differences pre / post (within-group)
	Schneider, B. C., Schröder, J., Berger, T., Hohagen, F., Meyer, B., Späth, C., ... & Klein, J. P. (2018). Bridging the “digital divide”: A comparison of use and effectiveness of an online intervention for depression between Baby Boomers and Millennials. Journal of affective disorders, 236, 243-251.	Significant differences pre / post (within-group)

	<u>Level III</u> Fuhr, K., Schröder, J., Berger, T., Moritz, S., Meyer, B., Lutz, W., ... & Klein, J. P. (2018). The association between adherence and outcome in an Internet intervention for depression. Journal of affective disorders, 229, 443-449.	-
	Gräfe, V., Moritz, S., & Greiner, W. (2020). Health economic evaluation of an internet intervention for depression (deprexis), a randomized controlled trial. Health economics review, 10(1), 1-11.	-
Unmind (1)	<u>Level III</u> Economides, M., Bolton, H., Male, R., & Cavanagh, K. (2022). Feasibility and Preliminary Efficacy of Web-Based and Mobile Interventions for Common Mental Health Problems in Working Adults: Multi-Arm Randomized Pilot Trial. JMIR Formative Research, 6(3), e34032.	-
Meru Health (9)	<u>Level I</u> Raevuori, A., Vahlberg, T., Korhonen, T., Hilgert, O., Aittakumpu-Hyden, R., & Forman-Hoffman, V. (2021). A therapist-guided smartphone app for major depression in young adults: a randomized clinical trial. Journal of Affective Disorders, 286, 228-238.	No significant difference between groups
	<u>Level II</u> Gould, C. E., Carlson, C., Alfaro, A. J., Chick, C. F., Bruce, M. L., & Forman-Hoffman, V. L. (2021). Changes in Quality of Life and Loneliness Among Middle-Aged and Older Adults Participating in Therapist-Guided Digital Mental Health Intervention. Frontiers in public health, 9.	Significant differences pre / post (within-group)

	Forman-Hoffman, V. L., Nelson, B. W., Ranta, K., Nazander, A., Hilgert, O., & de Quevedo, J. (2021). Significant reduction in depressive symptoms among patients with moderately-severe to severe depressive symptoms after participation in a therapist-supported, evidence-based mobile health program delivered via a smartphone app. <i>Internet intervention</i> , 25, 100408.	Significant differences pre / post (within-group)
	Raevuori, A., Hofman-Roddman, V., Goldin, P., Gillung, E., Connolly, S., Dillon, E., ... & Huang, F. (2020). Smartphone-delivered, therapist-supported digital health intervention for physicians with burnout. <i>Journal of Medical Practice Management</i> .	No significant differences pre / post (within-group)
	Economides, M., Lehrer, P., Ranta, K., Nazander, A., Hilgert, O., Raevuori, A., ... & Forman-Hoffman, V. L. (2020). Feasibility and efficacy of the addition of heart rate variability biofeedback to a remote digital health intervention for depression. <i>Applied psychophysiology and biofeedback</i> , 45(2), 75-86.	Significant differences pre / post (within-group)
	Economides, M., Ranta, K., Nazander, A., Hilgert, O., Goldin, P. R., Raevuori, A., & Forman-Hoffman, V. (2019). Long-term outcomes of a therapist-supported, smartphone-based intervention for elevated symptoms of depression and anxiety: quasiexperimental, pre-postintervention study. <i>JMIR mHealth and uHealth</i> , 7(8), e14284.	Significant differences pre / post (within-group)
	<u>Level III</u> Hornstein, S., Forman-Hoffman, V., Nazander, A., Ranta, K., & Hilbert, K. (2021). Predicting therapy outcome in a digital mental health intervention for depression and anxiety: A machine learning approach. <i>Digital Health</i>, 7, 20552076211060659.	-

	Gould, C. E., Carlson, C., Ma, F., Forman-Hoffman, V., Ranta, K., & Kuhn, E. (2021). Effects of Mobile App–Based Intervention for Depression in Middle-Aged and Older Adults: Mixed Methods Feasibility Study. <i>JMIR formative research</i> , 5(6), e25808.	-
	Goldin, P. R., Lindholm, R., Ranta, K., Hilgert, O., Helteenvuori, T., & Raevuori, A. (2019). Feasibility of a therapist-supported, mobile phone–delivered online intervention for depression: longitudinal observational study. <i>JMIR formative research</i> , 3(1), e11509.	-
Koa Health / Mindset	n/a	
NeuroFlow (3)	<u>Level III</u> Puhly, C. E., Litke, S. G., Silverstein, M. J., Kiely, J. R., Pardes, A., McGeoch, E., & Daly, B. P. (2021). Counselor and student perceptions of an mHealth technology platform used in a school counseling setting. <i>Psychology in the Schools</i> , 58(7), 1284-1298.	-
	Pardes, A., Lynch, W., Miclette, M., McGeoch, E., & Daly, B. P. (2022). Use of a Mobile Health (mHealth) Platform for Remote Assessment of Suicidal Ideation, Depression, and Anxiety: A Longitudinal Retrospective Study. <i>Innovations in Digital Health, Diagnostics, and Biomarkers</i> , 2(2022), 8-15.	-
	Lynch, W., Platt, M. L., & Pardes, A. (2021). Development of a Severity Score and Comparison With Validated Measures for Depression and Anxiety: Validation Study. <i>JMIR formative research</i> , 5(11), e30313.	-
Brightside Health	n/a	

Spring Health	n/a	
Valera Health (1)	<u>Level II</u> Carleton, K. E., Patel, U. B., Stein, D., Mou, D., Mallow, A., & Blackmore, M. A. (2020). Enhancing the scalability of the collaborative care model for depression using mobile technology. Translational Behavioral Medicine, 10(3), 573-579.	No significant differences pre / post (within-group)
Silver Cloud Health (Space from depression, spece from depression & anxiety) (17)	<u>Level I</u> Richards, D., Enrique, A., Eilert, N., Franklin, M., Palacios, J., Duffy, D., ... & Timulak, L. (2020). A pragmatic randomized waitlist-controlled effectiveness and cost-effectiveness trial of digital interventions for depression and anxiety. NPJ digital medicine, 3(1), 1-10.	Moderate-to-large effect size
	Salamanca-Sanabria, A., Richards, D., Timulak, L., Connell, S., Perilla, M. M., Parra-Villa, Y., & Castro-Camacho, L. (2020). A culturally adapted cognitive behavioral internet-delivered intervention for depressive symptoms: randomized controlled trial. JMIR Mental Health, 7(1), e13392.	Moderate-to-large effect size
	Richards, D., Timulak, L., O'Brien, E., Hayes, C., Vigano, N., Sharry, J., & Doherty, G. (2015). A randomized controlled trial of an internet-delivered treatment: its potential as a low-intensity community intervention for adults with symptoms of depression. Behaviour research and therapy, 75, 20-31.	Moderate-to-large effect size
	<u>Level II</u>	Significant differences pre /

	Wogan, R., Enrique, A., Adegoke, A., Earley, C., Sollesse, S., Gale, S., ... & Richards, D. (2021). Internet-delivered CBT intervention (Space for Sleep) for insomnia in a routine care setting: Results from an open pilot study. <i>Internet interventions</i> , 26, 100443.	post (within-group)
	Duffy, D., Enrique, A., Connell, S., Connolly, C., & Richards, D. (2020). Internet-delivered cognitive behavior therapy as a prequel to face-to-face therapy for depression and anxiety: a naturalistic observation. <i>Frontiers in psychiatry</i> , 902.	Significant differences pre / post (within-group)
	Pescatello, M. S., Pedersen, T. R., & Baldwin, S. A. (2021). Treatment engagement and effectiveness of an internet-delivered cognitive behavioral therapy program at a university counseling center. <i>Psychotherapy Research</i> , 31(5), 656-667.	Significant differences pre / post (within-group)
	Enrique, A., Burke, J., Richards, D., & Timulak, L. (2019). Quality of life outcomes in internet-delivered (space from depression) treatment for depression. <i>Applied Research in Quality of Life</i> , 14(5), 1301-1313.	Significant differences pre / post (within-group)
	Palacios, J. E., Richards, D., Palmer, R., Coudray, C., Hofmann, S. G., Palmieri, P. A., & Frazier, P. (2018). Supported internet-delivered cognitive behavioral therapy programs for depression, anxiety, and stress in university students: open, non-randomised trial of acceptability, effectiveness, and satisfaction. <i>JMIR mental health</i> , 5(4), e11467	Significant differences pre / post (within-group)

	Richards, D., Duffy, D., Burke, J., Anderson, M., Connell, S., & Timulak, L. (2018). Supported internet-delivered cognitive behavior treatment for adults with severe depressive symptoms: a secondary analysis. JMIR Mental Health, 5(4), e10204.	Significant differences pre / post (within-group)
	Sharry, J., Davidson, R., McLoughlin, O., & Doherty, G. (2013). A service-based evaluation of a therapist-supported online cognitive behavioral therapy program for depression. Journal of Medical Internet Research, 15(6), e2248.	Significant differences pre / post (within-group)
	Roig, A. E., Mooney, O., Salamanca-Sanabria, A., Lee, C. T., Farrell, S., & Richards, D. (2020). Assessing the Efficacy and Acceptability of a Web-Based Intervention for Resilience Among College Students: Pilot Randomized Controlled Trial. JMIR formative research, 4(11), e20167.	No significant differences pre / post (within-group)
	<u>Level III</u> Chien, I., Enrique, A., Palacios, J., Regan, T., Keegan, D., Carter, D., ... & Belgrave, D. (2020). A machine learning approach to understanding patterns of engagement with internet-delivered mental health interventions. JAMA network open, 3(7), e2010791-e2010791.	-
	Enrique, A., Palacios, J. E., Ryan, H., & Richards, D. (2019). Exploring the relationship between usage and outcomes of an internet-based intervention for individuals with depressive symptoms: secondary analysis of data from a randomized controlled trial. Journal of medical Internet research, 21(8), e12775.	-

	Perera-Delcourt, R. P., & Sharkey, G. (2019). Patient experience of supported computerized CBT in an inner-city IAPT service: a qualitative study. <i>The Cognitive Behaviour Therapist</i> , 12.	-
	Richards, D., Dowling, M., O'Brien, E., Viganó, N., & Timulak, L. (2018). Significant events in an Internet-delivered (Space from Depression) intervention for depression. <i>Counselling and Psychotherapy Research</i> , 18(1), 35-48.	-
	Earley, C., Joyce, C., McElvaney, J., Richards, D., & Timulak, L. (2017). Preventing depression: qualitatively examining the benefits of depression-focused iCBT for participants who do not meet clinical thresholds. <i>Internet interventions</i> , 9, 82.	-
	Richards, D., Murphy, T., Viganó, N., Timulak, L., Doherty, G., Sharry, J., & Hayes, C. (2016). Acceptability, satisfaction and perceived efficacy of “Space from Depression” an internet-delivered treatment for depression. <i>Internet Interventions</i> , 5, 12-22.	-
Learn to Live	n/a	
Mindler	n/a	
Wysa (2)	<u>Level II</u> Inkster, B., Sarda, S., & Subramanian, V. (2018). An empathy-driven, conversational artificial intelligence agent (Wysa) for digital mental well-being: real-world data evaluation mixed-methods study. <i>JMIR mHealth and uHealth</i> , 6(11), e12106.	Significant differences pre / post (within-group)

	<u>Level III</u> Leo, A. J., Schuelke, M. J., Hunt, D. M., Metzler, J. P., Miller, J. P., Areán, P. A., ... & Cheng, A. L. (2022). A digital mental health intervention in an orthopedic setting for patients with symptoms of depression and/or anxiety: feasibility prospective cohort study. JMIR Formative Research, 6(2), e34889.	-
Kintsugi Hello	n/a	
HelloBetter (13)	<u>Level I</u> Ebert, D. D., Nobis, S., Lehr, D., Baumeister, H., Riper, H., Auerbach, R. P., ... & Berking, M. (2017). The 6-month effectiveness of Internet-based guided self-help for depression in adults with Type 1 and 2 diabetes mellitus. Diabetic Medicine, 34(1), 99-107.	Moderate-to-large effect size
	Nobis, S., Lehr, D., Ebert, D. D., Baumeister, H., Snoek, F., Riper, H., & Berking, M. (2015). Efficacy of a web-based intervention with mobile phone support in treating depressive symptoms in adults with type 1 and type 2 diabetes: a randomized controlled trial. Diabetes Care, 38(5), 776-783.	Moderate-to-large effect size
	Ebert, D. D., Buntrock, C., Lehr, D., Smit, F., Riper, H., Baumeister, H., ... & Berking, M. (2018). Effectiveness of web-and mobile-based treatment of subthreshold depression with adherence-focused guidance: a single-blind randomized controlled trial. Behavior Therapy, 49(1), 71-83.	Moderate-to-large effect size

	Buntrock, C., Ebert, D. D., Lehr, D., Smit, F., Riper, H., Berking, M., & Cuijpers, P. (2016). Effect of a web-based guided self-help intervention for prevention of major depression in adults with subthreshold depression: a randomized clinical trial. <i>Jama</i> , 315(17), 1854-1863.	Small effect size
	Buntrock, C., Ebert, D., Lehr, D., Riper, H., Smit, F., Cuijpers, P., & Berking, M. (2015). Effectiveness of a web-based cognitive behavioural intervention for subthreshold depression: pragmatic randomised controlled trial. <i>Psychotherapy and Psychosomatics</i> , 84(6), 348-358.	Small effect size
	Reins, J. A., Boß, L., Lehr, D., Berking, M., & Ebert, D. D. (2019). The more I got, the less I need? Efficacy of Internet-based guided self-help compared to online psychoeducation for major depressive disorder. <i>Journal of affective disorders</i> , 246, 695-705.	Moderate-to-large effect size
	<u>Level III</u> Topooco, N., Riper, H., Araya, R., Berking, M., Brunn, M., Chevreur, K., ... & behalf of the E-COMPARED, O. (2017). Attitudes towards digital treatment for depression: a European stakeholder survey. <i>Internet interventions</i> , 8, 1-9.	-
	Baumeister, H., Nowoczin, L., Lin, J., Seifferth, H., Seufert, J., Laubner, K., & Ebert, D. D. (2014). Impact of an acceptance facilitating intervention on diabetes patients' acceptance of Internet-based interventions for depression: a randomized controlled trial. <i>Diabetes research and clinical practice</i> , 105(1), 30-39.	-
	Nobis, S., Ebert, D. D., Lehr, D., Smit, F., Buntrock, C., Berking, M., ... & Riper, H. (2018). Web-based intervention for depressive symptoms in adults with types 1 and 2 diabetes mellitus: a health economic evaluation. <i>The British Journal of Psychiatry</i> , 212(4), 199-206.	-

	Zarski, A. C., Berking, M., Reis, D., Lehr, D., Buntrock, C., Schwarzer, R., & Ebert, D. D. (2018). Turning good intentions into actions by using the health action process approach to predict adherence to internet-based depression prevention: secondary analysis of a randomized controlled trial. <i>Journal of medical Internet research</i> , 20(1), e8814.	-
	Titzler, I., Saruhanjan, K., Berking, M., Riper, H., & Ebert, D. D. (2018). Barriers and facilitators for the implementation of blended psychotherapy for depression: A qualitative pilot study of therapists' perspective. <i>Internet interventions</i> , 12, 150-164.	-
	Ebert, D. D., Berking, M., Cuijpers, P., Lehr, D., Pörtner, M., & Baumeister, H. (2015). Increasing the acceptance of internet-based mental health interventions in primary care patients with depressive symptoms. A randomized controlled trial. <i>Journal of affective disorders</i> , 176, 9-17.	-
	Buntrock, C., Berking, M., Smit, F., Lehr, D., Nobis, S., Riper, H., ... & Ebert, D. (2017). Preventing depression in adults with subthreshold depression: health-economic evaluation alongside a pragmatic randomized controlled trial of a web-based intervention. <i>Journal of medical Internet research</i> , 19(1), e6587.	-
Shine	n/a	
My Online Therapy	n/a	
myStrength 4)	<u>Level I</u> Hirsch, A., Luellen, J., Holder, J. M., Steinberg, G., Dubiel, T., Blazejowskyj, A., & Schladweiler, K. (2017). Managing depressive symptoms in the workplace using a web-	No significant difference between groups

	based self-care tool: a pilot randomized controlled trial. JMIR Research Protocols, 6(4), e7203.	
	<u>Level II</u> Schladweiler, K., Hirsch, A., Jones, E., & Snow, L. (2017). Real-world outcomes associated with a digital self-care behavioral health platform. Ann Clin Res Trials (2), 1.	Significant differences pre / post (within-group)
	<u>Level III</u> Ahmedani, B. K., Belville-Robertson, T., Hirsch, A., & Jurayj, A. (2016). An online mental health and wellness intervention supplementing standard care of depression and anxiety. Archives of psychiatric nursing, 30(6), 666-670. Abhulimen, S., & Hirsch, A. (2018). Quantifying the economic impact of a digital self-care behavioral health platform on Missouri Medicaid expenditures. Journal of Medical Economics, 21(11), 1084-1090.	-
InnerHour	n/a	
wayForward	n/a	
Mindula	n/a	

Youper (1)	<u>Level III</u> Mehta, A., Niles, A. N., Vargas, J. H., Marafon, T., Couto, D. D., & Gross, J. J. (2021). Acceptability and Effectiveness of Artificial Intelligence Therapy for Anxiety and Depression (Youper): Longitudinal	-
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* Level I includes RCTs, level II includes quasi-experimental studies, level III includes studies not related to the intervention's effectiveness but to other aspects such as feasibility, user satisfaction, engagement, or cost-effectiveness.

Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs Methodological quality criteria		Responses			
		YES	NO	Can't tell	Comments
Screening questions (for all types)	S1 [Are there clear research questions?]				
	S2. [Do the collected data allow to address the research questions?]				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trial	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative nonrandomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				

	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Hong, Q.N., et al., *Mixed methods appraisal tool (MMAT)*, version 2018. Registration of copyright, 2018. **1148552**(10).

Appraisal of the methodological quality of the publications

[illegible]

	1	Moritz, (2012)	Yes	Yes						No	Yes	Yes	Ca n't tell	Ca n't tell																40		
	1	Berger (2011)	Yes	Yes						Yes	Yes	Yes	Ca n't tell	Ca n't tell																60		
	1	Meyer (2009)	Yes	Yes						Yes	Yes	Yes	Ca n't tell	Ca n't tell																60		
	1	Bücker (2018)	Yes	Yes						No	No	Yes	Ca n't tell	Ca n't tell																20		
	1	Schröder (2014)	Yes	Yes						Yes	Yes	Yes	Yes	Ca n't tell																80		
	2	Klein. (2020)	Yes	Yes											Yes	Yes	Yes	No	Yes											80		
	2	Schneider (2018)	Yes	Yes											Yes	Yes	No	No	Yes											60		
	3	Fuhr (2018)	Yes	Yes											Yes	Yes	No	No	Yes											60		
	3	Gräfe (2020)																Ca n't tell	Ca nt' tell											60		
Un min d	3	Economides (2022).	Yes	Yes											Yes	Yes	Yes	No	Yes											80		
Mer u He alth		Raevuori (2021).											Ca n't tell																	60		
	1		Yes	Yes						Yes	Yes	Yes	No																			
	2	Gould. (2021).	Yes	Yes											No	Yes	Yes	No	Yes											60		
	2	Forman-Hoffman (2021).	Yes	Yes											No	Yes	Yes	Yes	Yes											80		
	2	Raevuori (2020).	Yes	Yes											Yes	No	No	No	Yes											40		
	2	Economides (2020).	Yes	Yes											No	Yes	Yes	Yes	Yes											80		
	2	Economides (2019)													can 't tell		can 't tell	can 't tell												40		
	2		yes	yes												yes			yes													
	3	Hornstein (2021)	Yes	Yes												Ca n't tell														80		
	3	Gould (2021).	Yes	Yes											Yes		Yes	Yes	Yes								Yes	Yes	Yes	Yes	100	
3	Goldin (2019)	Yes	Yes																										60			
Ne uro Flo w	3	Puhy. (2021).	Yes	Yes											No	Yes	Yes	No	Yes								No	No	No	Yes	Yes	40
	3	Pardes. (2022).													Ca n't tell		can 't tell														60	
	3		Yes	Yes											Ca n't tell	Yes		Yes	Yes	Yes											80	
	3	Lynch (2021).	Yes	Yes												Ca n't tell	Yes	Yes	Yes	Yes												
Val era He alth		Carleton. (2020).													Ca n't tell																80	
	2		Yes	Yes												No	No	No	Yes													
Silv er Clo ud He alth	1	Richards (2020)	Yes	Yes						Yes	Ca n't tell	Yes	No	Ca n't tell																40		
	1	Salamanca-Sanabria. (2020)	Yes	Yes						Yes	Yes	No	Ca n't tell	Yes																80		
	1	Richards (2015)	Yes	Yes						Yes	Yes	Yes	Yes	Yes																100		
	2	Wogan (2021)	Yes	Yes												Yes	Yes	Yes	No	No										60		
	2	Duffy (2020)	Yes	Yes																						Yes	Yes	Yes	Yes	No		

	2	Pescatello (2021).	Yes	Yes											No	Yes	No	No	Yes											40
	2	Enrique (2019)	Yes	Yes											Ca n't tell	Yes	Yes	Ca n't tell	Ca n't tell											40
	2	Palacios (2018)	Yes	Yes																					Yes	Yes	Yes	Yes	Yes	100
	2	Richards (2018).	Yes	Yes											No	Yes	Yes	No	Yes											60
	2	Sharry (2013)..	Yes	Yes											Yes	Yes	No	No	Yes											60
	3	Roig (2020)	Yes	Yes											No	Yes	Yes	No	Yes											60
	3	Chien (2020)	Yes	Yes											Ca n't tell	Yes	Yes	No	Yes											60
	3	Enrique (2019)	Yes	Yes											No	Yes	Yes	No	Yes											60
	3	Perera-Delcourt (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes																				100
	3	Richards (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes																				100
Wy sa	3	Earley (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes																				100
	3	Richards (2016)	Yes	Yes																					Yes	Yes	Yes	Yes	Yes	100
	2	Inkster (2018)	Yes	Yes																					Yes	Yes	Yes	Yes	Yes	100
Hell oB ette r	3	Leo (2022)	Yes	Yes											Yes	Yes	Yes	No	Yes											80
	1	Ebert (2017)	Yes	Yes						Yes	Ca n't tell	Yes	Yes	Ca n't tell																60
	1	Nobis (2015)	Yes	Yes						Yes	Ca n't tell	Yes	Ca n't tell	Ca n't tell																40
	1	Ebert (2018)	Yes	Yes						Yes	Yes	Yes	Yes	Ca n't tell																80
	1	Buntrock (2016).	Yes	Yes						Yes	Ca n't tell	Yes	Yes	Yes																80
	1	Buntrock, (2015).	Yes	Yes						Yes	Yes	Yes	Ca n't tell	Yes																80
	2	Reins (2019)	Yes	Yes											Yes	Yes	Yes	Yes	Yes											100
	3	Topooco (2017).	Yes	Yes																Yes	Yes	Yes	No	Yes						80
	3	Baumeister (2014)	Yes	Yes											Yes	Yes	Yes	No	Yes											80
	3	Nobis (2018)	Yes	Yes											No	Ca n't tell	Yes	Ca n't tell	Yes											40
	3	Zarski (2018).	Yes	Yes																Yes	Yes	Yes	Yes	Yes						100
	3	Titzler (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes																					100
my Str eng th	3	Ebert (2015).	Yes	Yes											No	Yes	Yes	Ca n't tell	Yes											40
	3	Buntrock (2017)	Yes	Yes											Yes	Yes	Yes	Yes	Yes											100
	1	Hirsch (2017)	Yes	Yes						Yes	No	No	Ca n't tell	Ca n't tell																40
	2	Schladweiler (2017)	Yes	Yes											No	Yes	Yes	No	Yes											20
	3	Ahmedani (2016)	Yes	Yes											Ca n't tell	Yes 20	No	No	Ca n't tell											20
	3	Abhulimenn (2018)	Yes	Yes																Yes	Yes	No	Yes	No						60

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