A Review of Psychosocial Treatments for Anxiety and Depression in Children and Adults with Intellectual Disabilities

Ruth C. Brown, PhD
Virginia Commonwealth University
Department of Psychiatry

Lina Patel, PsyD
University of Colorado School of Medicine
Department of Psychiatry

Background

People with Down syndrome (DS) are at risk for depression and anxiety, especially as they enter adolescence and adulthood (Tassé et al., 2016). Evidence suggests that these concerns are likely increasing due to the COVID-19 pandemic (Sideropoulos et al., 2022; Villani et al., 2020). The need for mental health care has recently been identified as a priority and a service gap for families within DS Clinics (King et al., 2022).

Unfortunately, there are no evidence-based psychosocial treatments that have been tested specifically for use with individuals with DS. This informational poster aims to bridge this gap by summarizing the evidence for psychosocial treatments among those with intellectual disabilities (ID) likely to be promising for addressing depression and anxiety in people with DS.

Methods

We conducted a narrative review of intervention studies testing individual or group psychosocial treatments for symptoms of depression, anxiety, or traumatic stress (including studies addressing co-occurring depression and anxiety) among individuals with ID (in the English language)—excluding single case studies and reviews.

Results/Discussion

Cognitive Behavioral Therapy (CBT) interventions have been frequently used to treat depression, anxiety, and traumatic stress in people with mild to moderate ID. Trauma-Focused CBT and Eye Movement and Desensitization and Reprocessing Therapy (EMDR) has been successfully used to treat traumatic stress in people with ID. One study, focused on people with DS, found exercise therapy to reduce depression symptoms.

Most studies report improvement in symptoms from pre- to post-intervention and maintenance at follow-up. Effect sizes were often medium to large.

Adaptations to treatments included:

- the inclusion of a caregiver or support worker in treatment sessions to facilitate participation and generalization of skills between sessions.
- Addition of visual supports
- Repetition of materials
- Simplified language

Self-report measures were often used as the primary outcome and corroborated by informant and/or qualitative reports. The Glasgow Depression Scales and Glasgow Anxiety Scales were the most frequently used assessments. Studies reviewed suggest that these measures are sensitive to intervention.

Limitations

The extant treatment literature for children and adults with ID is minimal. Sample sizes were small, and analyses were often underpowered. Many studies were described as feasibility or pilot studies. Follow-up large-scale trials are critically needed. Few studies used clinical diagnosis for inclusion. Many studies reported modifying the treatment approach to make it more accessible to people with ID, but details of modifications were limited.

Study	Cohort Size	Target (e.g., anxiety, depression, trauma)	Intervention Type	Simplified Language	Repetition/ Practice of Content	Visual Supports	Caregiver Involvement	Individual Format	Group Format	Session Length (mins)	Session Count (# of sessions)	Outcome	Primary Outcome Measures Used
Chaplin et al. (2017).	18 adults with mild to moderate ID	Depression	CBT, guided self-help	-	-	-	✓	✓	-	-	-	Reduction in symptoms based on visual analysis of ABAB design.	Glasgow Depression Scale (self); Glasgow Anxiety Scale (self)
Cooney et al. (2017).	52 adults with mild to moderate ID	Anxiety and Depression	CBT (computer assisted)			✓		✓			7	Moderate (post-treatment) to large (3-month follow-up) effect sizes for anxiety, but not depression, compared to TAU	Glasgow Depression Scale (self); Glasgow Anxiety Scale (self)
Hartley et al. (2015).	24 adults with mild ID	Depression	CBT	✓	-	-	✓	-	✓	1.5 hours	10	Statistically significant improvement in depression and problem behaviors. No change in social skills.	PAS-ADD; Self-Report Depression Questionnaire (self); Glasgow Depression Scale (caregiver); Scales of Independent Behavior-Revised Problem Behavior Scale; Social Performance Survey Schedule
Hassiotis et al. (2013).	32 adults with mild to moderate ID	Anxiety and Depression	CBT	✓	✓	✓	✓	✓		1 hour	16	No significant differences. Trend towards intervention effects for those with higher depression.	Beck Depression and Anxiety Inventories-Youth (self)
Idusohan-Moizer et al. (2015).	15 adults with borderline, mild, moderate ID	Depression, anxiety, and self-harm	Mindfulness-based CBT	-	-	✓	Open		✓	1.5 hours	10	Significant improvement in depression, anxiety, and self-compassion.	Hospital Anxiety and Depression Scale (self); Compassion Scale (self)
Jahoda et al. (2015).	21 adults with mild to moderate ID	Depression	Behavioral Activation	-	-	✓	✓	✓	-		10 to 12	Large effect size for pre-post and follow-up	Glasgow Depression Scale (self); Intellectual Disabilities Depression Scale (carer)
Jahoda et al. (2017).	161 adults with mild to moderate ID	Depression	Behavioral Activation vs Guided Self-Help	✓	-	-	✓	✓	-	-	10 (BA), 8 (GSH)	Large effect sizes for both groups at post-treatment and 12-month follow-up. No difference between treatment groups.	Glasgow Depression Scale (self)
Karatzias et al. (2019).	29 adults with mild to moderate ID	Post-traumatic stress disorder	EMDR versus Standard Care (SC)	-	-	-	-	✓	-	1 hour	8	60% of EMDR participants were diagnosis free compared to 27% of SC.	PTSD Checklist
Kellett et al. (2015).	14 adults with mild ID	Hoarding	CBT	✓	-	-	✓	✓	-	2 hours	12	Moderate to large effect sizes in reduced clutter. Moderate, but non-significant decrease in self-report anxiety and depression.	Clutter Image Rating Scale; Savings Inventory Revised, Glasgow Depression Scale (self); Glasgow Depression Scale - Carer (informant); Glasgow Anxiety Scale
Lindsay et al. (2015).	12 adults with mild ID	Anxiety or depression	CBT vs waitlist control	-	-	-	✓	✓		1 hour	8-14	Significant and large effect sizes, maintained at 3-6 month follow-up	Brief Symptom Inventory; Glasgow Anxiety Scale; Glasgow Depression Scale
Marwood, H., & Hewitt, O. (2013).	8 adults with mild ID	Anxiety	CBT	-	✓	✓	✓	-	✓	1 hour	6	No statistical analyses. 5 reported a clinically significant change in anxiety. Overall improvements in QoL.	Quality of Life Scale; Glasgow Anxiety Scale; Health of the Nation Outcome scale - Learning Disability
McCabe et al. (2006).	34	depression	CBT	-	✓	-	-	-	✓	2 hours	5	Significant and large effect sizes for improvement in depression, social comparison, and automatic thoughts.	Beck Depression Inventory-II, Automatic Thoughts Questionnaire
McGillivray et al. (2008).	47 adults with mild ID	Depression	CBT	-	✓	-	-	-	✓	2 hours	12	Significant and large effect sizes for improvement in depression, social comparison, and automatic thoughts.	Beck Depression Inventory and Automatic Thought Questionnaire-Revised, Social Adjustment Rating Scale, Social Comparison Scale
Mevissen et al. (2011).	2	PTSD	EMDR	✓	-	✓	✓	✓	-	-	5 -6	observed improvement in behavior, emotions, and adaptive skills	None. Clinical description
Ringenbach et al. (2020).	29 adolescents and adults with DS	Depressive symptoms	Assisted Cycling versus voluntary cycling vs control	-	✓	-	-	-	✓	30 min 3x/week	8 weeks	Active cycling group significantly improved compared to voluntary or no cycling groups in depression and maladaptive behavior.	Children's Depression Inventory, Vineland-2 Caregiver
Roberts, L., & Kwan, S. (2018).	13 adults with mild to moderate ID	Anxiety	CBT	✓		✓	✓	-	✓	1.5 hours	6	Significant improvement in anxiety diagnosis and symptoms	Mini PAS-ADD; Glasgow Anxiety Scale (self and informant)
Stenfert Kroese et al. (2016).	12	PTSD	TF-CBT	-	-	-	✓	-	✓		12	Medium effect size reduction in PTSD symptoms.	Impact of Events Scale - ID (self)
Thom et al. (2022).	6 adults with borderline to moderate ID	Anxiety	CBT	-	✓	✓	✓	-	✓	2 hours	12	No statistical analyses. Mixed results.	Glasgow Anxiety Scale; study-specific interviews

Limitations, Continued

We limited our review to group design studies. Several systemic reviews and meta-analysis have included single-case designs and case reports (Bakken, 2021; Byrne, 2022; Dagnan et al., 2018; Dagnan & Jahoda, 2006; Hagopian & Jennett, 2008; Lang et al., 2010; McNair et al., 2017; Vereenooghe et al., 2018; Vereenooghe & Langdon, 2013). These reviews generally find evidence of the benefit of psychosocial treatments, but low-quality evidence due to small samples and highlight the need for increased methodological rigor.

Research Implications

Studies are needed that are well-powered, include clinical diagnosis, self-report, and informant report. Examination of factors that influence treatment outcome are needed (e.g., baseline severity, cognitive profile, living arrangement, etc.) Although ID is almost universally present in people with DS, it is unclear whether the unique cognitive profile of people with DS would impact treatment. A systematic evaluation of which modifications are most helpful for whom and under what conditions would be beneficial.

Practice Implications

The preponderance of available evidence suggests that cognitive and behavioral interventions for the treatment of depression and/or anxiety are likely to be beneficial to people with DS. Providers may support access to these treatments by developing a referral network or hiring mental health professionals capable of providing these treatments and modifications.

References:

Bakken, T. L. (2021). Psychosocial treatment of major depression in people with intellectual disabilities. Improvements within the last four decades: Points of view. International Journal of Developmental Disabilities, 67(5), 366–370. https://doi.org/10.1080/20473869.2021.1969498
Byrne, G. (2022). A Systematic Review of Treatment Interventions for Individuals With Intellectual Disability and Trauma Symptoms: A Review of the Recent Literature. Trauma, Violence, & Abuse, 23(2), 541–554. https://doi.org/10.1177/1524838020960219
Chaplin, E., Craig, T., McCarthy, J., & Bouras, N. (2017). The SAINT: A guided self-help approach for people with intellectual disabilities. Journal of Mental Health Research in Intellectual Disabilities, 10(3), 237–252. https://doi.org/10.1080/19315864.2017.1284287
Cooney, P., Jackman, C., Coyle, D., & O'Reilly, G. (2017). Computerised cognitive–behavioural therapy for adults with intellectual disability: Randomised controlled trial. The British Journal of Psychiatry, 211(2), 95–102. https://doi.org/10.1192/bjp.bp.117.198630
Dagnan, D., Jackson, I., & Eastlake, L. (2018). A systematic review of cognitive behavioural therapy for anxiety in adults with intellectual disabilities. Journal of Intellectual Disability Research, 62(11), 974–991.
Dagnan, D., & Jahoda, A. (2006). Cognitive-Behavioural Intervention for People with Intellectual Disability and Anxiety Disorders. Journal of Applied Research in Intellectual Disabilities, 19(1), 91–97.
Hagopian, L. P., & Jennett, H. K. (2008). Behavioral Assessment and Treatment of Anxiety in Individuals with Intellectual Disabilities and Autism. Journal of Developmental and Physical Disabilities, 20(5), 467–483.
Hartley, S. L., Esbensen, A. J., Shalev, R., Vincent, L. B., Mihaila, I., & Bussanich, P. (2015). Cognitive Behavioral Therapy for Depressed Adults with Mild Intellectual Disability: A Pilot Study. Journal of Mental Health Research in Intellectual Disabilities, 8(2), 72–97. https://doi.org/10.1080/19315864.2015.1033573
Hassiotis, A., Serfaty, M., Azam, K., Strydom, A., Blizard, R., Romeo, R., Martin, S., & King, M. (2013). Manualised Individual Cognitive Behavioural Therapy for mood disorders in people with mild to moderate intellectual disability: A feasibility randomised controlled trial. Journal of Affective Disorders, 151(1), 186–195. https://doi.org/10.1016/j.jad.2013.05.076
Idusohan-Moizer, H., Sawicka, A., Dendle, J., & Albany, M. (2015). Mindfulness-based cognitive therapy for adults with intellectual disabilities: An evaluation of the effectiveness of mindfulness in reducing symptoms of depression and anxiety. Journal of Intellectual Disability Research: JIDR, 59(2), 93–104. https://doi.org/10.1111/jir.12082
Jahoda, A., Hastings, R., Hatton, C., Cooper, S.-A., Dagnan, D., Zhang, R., McConnachie, A., McMeekin, N., Appleton, K., Jones, R., Scott, K., Fulton, L., Knight, R., Knowles, D., Williams, C., Briggs, A., MacMahon, K., Lynn, H., Smith, I., … Melville, C. (2017). Comparison of behavioural activation with guided self-help for treatment of depression in adults with intellectual disabilities: A randomised controlled trial. The Lancet. Psychiatry, 4(12), 909–919. https://doi.org/10.1016/S2215-0366(17)30426-1
Jahoda, A., Melville, C., Cooper, S.-A., Hastings, R., Briggs, A., Dagnan, D., Hatton, C., McConnachie, A., Williams, C., & Jones, R. S. P. (2015). BEAT-IT: Comparing a behavioural activation treatment for depression in adults with intellectual disabilities with an attention control: Study protocol for a randomised controlled trial. Trials, 16, 595. https://doi.org/10.1186/s13063-015-1103-5
Karatzias, T., Brown, M., Taggart, L., Truesdale, M., Sirisena, C., Walley, R., Mason-Roberts, S., Bradley, A., & Paterson, D. (2019). A mixed-methods, randomized controlled feasibility trial of Eye Movement Desensitization and Reprocessing (EMDR) plus Standard Care (SC) versus SC alone for DSM-5 Posttraumatic Stress Disorder (PTSD) in adults with intellectual disabilities. Journal of Applied Research in Intellectual Disabilities, 32(4), 806–818. https://doi.org/10.1111/jar.12570
Kellett, S., Matuozzo, H., & Kotecha, C. (2015). Effectiveness of cognitive-behaviour therapy for hoarding disorder in people with mild intellectual disabilities. Research in Developmental Disabilities, 47, 385–392. https://doi.org/10.1016/j.ridd.2015.09.021
King, E., Remington, M., & Berger, H. (2022). Family perspectives on gaps in health care for people with Down syndrome. American Journal of Medical Genetics Part A, 188(4), 1160–1169. https://doi.org/10.1002/ajmg.a.62635
Lang, R., Regester, A., Lauderdale, S., Ashbaugh, K., & Haring, A. (2010). Treatment of anxiety in autism spectrum disorders using cognitive behaviour therapy: A systematic review. Developmental Neurorehabilitation, 13(1), 53–63.
Lindsay, W. R., Tinsley, S., Beail, N., Hastings, R. P., Jahoda, A., Taylor, J. L., & Hatton, C. (2015). A preliminary controlled trial of a trans-diagnostic programme for cognitive behaviour therapy with adults with intellectual disability. Journal of Intellectual Disability Research, 59(4), 360–369. https://doi.org/10.1111/jir.12145
Marwood, H., & Hewitt, O. (2013). Evaluating an anxiety group for people with learning disabilities using a mixed methodology. British Journal of Learning Disabilities, 41(2), 150–158. https://doi.org/10.1111/j.1468-3156.2012.00749.x
McCabe, M. P., McGillivray, J. A., & Newton, D. C. (2006). Effectiveness of treatment programmes for depression among adults with mild/moderate intellectual disability. Journal of Intellectual Disability Research, 50(4), 239–247. https://doi.org/10.1111/j.1365-2788.2005.00772.x
McGillivray, J. A., McCabe, M. P., & Kershaw, M. M. (2008). Depression in people with intellectual disability: An evaluation of a staff-administered treatment program. Research in Developmental Disabilities, 29(6), 524–536. https://doi.org/10.1016/j.ridd.2007.09.005
McNair, L., Woodrow, C., & Hare, D. (2017). Dialectical behaviour therapy [DBT] with people with intellectual disabilities: A systematic review and narrative analysis. Journal of Applied Research in Intellectual Disabilities, 30(5), 787–804. https://doi.org/10.1111/jar.12277
Mevissen, L., Lievegoed, R., Seubert, A., & Jongh, A. D. (2011). Do persons with intellectual disability and limited verbal capacities respond to trauma treatment? Journal of Intellectual & Developmental Disability, 36(4), 278–283. https://doi.org/10.3109/13668250.2011.621415
Ringenbach, S. D. R., Holzapfel, S. D., Arnold, N. E., Nam, K., Lopez, C., Chen, C.-C., Buman, M. P., Youngstedt, S. D., Teslevich, J., & Wallace, K. C. (2020). Assisted Cycling Therapy (ACT) Improves Adaptive Behaviors in Adolescents with Down Syndrome. Journal of Developmental and Physical Disabilities, 32(3), 535–552. https://doi.org/10.1007/s10882-019-09706-z
Roberts, L., & Kwan, S. (2018). Putting the C into CBT: Cognitive challenging with adults with mild to moderate intellectual disabilities and anxiety disorders. Clinical Psychology & Psychotherapy, 25(5), 662–671. https://doi.org/10.1002/cpp.2196
Sideropoulos, V., Kye, H., Dukes, D., Samson, A. C., Palikara, O., & Van Herwegen, J. (2022). Anxiety and Worries of Individuals with Down Syndrome During the COVID-19 Pandemic: A Comparative Study in the UK. Journal of Autism and Developmental Disorders. https://doi.org/10.1007/s10803-022-05450-0
Stenfert Kroese, B., Willott, S., Taylor, F., Smith, P., Graham, R., Rutter, T., Stott, A., & Willner, P. (2016). Trauma-focussed cognitive-behaviour therapy for people with mild intellectual disabilities: Outcomes of a pilot study. Advances in Mental Health and Intellectual Disabilities, 10(5), 299–310.
Tassé, M. J., Macho, P. N., Havercamp, S. M., Benson, B. A., Allain, D. C., Manickam, K., & Davis, S. (2016). Psychiatric Conditions Prevalent Among Adults With Down Syndrome. Journal of Policy and Practice in Intellectual Disabilities, 13(2), 173–180. https://doi.org/10.1111/jppi.12156
Thom, R. P., Pineda, J., Nowinski, L., Birtwell, K., Hooker, J. M., McGuire, J. F., & McDougle, C. J. (2022). A Virtually Delivered Adapted Cognitive-Behavioral Therapy Group for Adults With Williams Syndrome and Anxiety. Cognitive and Behavioral Practice. https://doi.org/10.1016/j.cbpra.2022.02.025
Vereenooghe, L., Flynn, S., Hastings, R. P., Adams, D., Chauhan, U., Cooper, S.-A., Gore, N., Hatton, C., Hood, K., Jahoda, A., Langdon, P. E., McNamara, R., Oliver, C., Roy, A., Totsika, V., & Waite, J. (2018). Interventions for mental health problems in children and adults with severe intellectual disabilities: A systematic review. BMJ Open, 8(6), e021911.
Vereenooghe, L., & Langdon, P. E. (2013). Psychological therapies for people with intellectual disabilities: A systematic review and meta-analysis. Research in Developmental Disabilities, 34(11), 4085–4102.
Villani, E. R., Vetrano, D. L., Damiano, C., Paola, A. D., Ulgiati, A. M., Martin, L., Hirdes, J. P., Fratiglioni, L., Bernabei, R., Onder, G., & Carfì, A. (2020). Impact of COVID-19-Related Lockdown on Psychosocial, Cognitive, and Functional Well-Being in Adults With Down Syndrome. Frontiers in Psychiatry, 11. https://doi.org/10.3389/fpsyt.2020.578686