FACT SHEET

FOR MENTAL HEALTH CLINICIANS AND COMMUNITY PROFESSIONALS

COGNITIVE COMPENSATION AND COGNITIVE REMEDIATION

Cognitive compensation and cognitive remediation are the two main evidence-based approaches to address cognitive impairment in mental ill-health.

Compensatory approaches focus on circumventing cognitive issues, while remediation approaches focus on restoring cognitive skills via repetitive practice. Importantly, while these are different approaches, there is some overlap between these two interventions as both can sometimes use internalised cognitive strategies, such as repetition or visual imagery.

This fact sheet will help you to understand what cognitive compensation and cognitive remediation are, how they are used in practice, and barriers and recommendations for their use.

COGNITIVE COMPENSATION AND COGNITIVE REMEDIATION

You will likely be using cognitive compensation strategies in your everyday practice with young people, as they offer the most immediate and achievable treatment options to address cognitive difficulties and promote functional recovery. For more information, see **Orygen's Clinical practice point : Supporting cognition in youth mental health**.

	COGNITIVE COMPENSATION	COGNITIVE REMEDIATION (CR)
What does it target?	Functioning	Cognition (with the goal of improving functioning)
What is it?	The focus is not on improving cognition, but on improving daily functioning. It uses aids and strategies to target functioning directly, thereby minimising the impact of cognitive impairment.[1] Can be incorporated into treatment by the treating clinician. Techniques include internal self-management strategies, external strategies/environmental modification and errorless learning.[1]	A behavioural training intervention targeting cognitive deficit (e.g. attention, memory, executive function, social cognition, or metacognition), using scientific principles of learning, with the ultimate goal of improving functional outcomes.[2] It may involve computer training or internal self-management strategies.
Analogy	Like wearing glasses in order to see better.	Like getting laser eye surgery in order to see better.
Example	Writing a shopping list in order to remember items, using a diary to keep track of appointments, getting reminders from another person.	Repetitively training memory skills (e.g. learning a new sequence of words) using an online computer program or using a simple association strategy to improve memory (e.g. remembering that Dr Chris has Curly hair).
Best used with...	Any young person presenting with cognitive difficulties that is willing to use new strategies or make changes to their environment.	• Young people who can commit to two –three hours of training per week over at least 10–12 weeks. • Young people with access to therapeutic support and resources, who can incorporate these strategies into care. • Young people already using compensatory strategies.
Barriers	Knowledge and confidence of clinicians to apply within their regular treatment plans. Requires time and effort to use consistently. May require the young person to self-initiate strategy use (e.g. implementing a new calendar system). May be less engaging compared to some computerised cognitive remediation packages.	• Requires a specialist therapist to apply. • Access to a specialist may be difficult. • Requires considerable time and financial commitment from the young person and practitioner. • May be tiring for young people.

How is it used?	A treatment plan, either developed in standard therapeutic care or following recommendations from a neuropsychologist or trained clinician. This might involve: • adapting the environment (e.g. limiting distractions); • adapting the task (e.g. taking breaks); • prioritising the person's wellbeing (e.g. adequate sleep); and • using self-management strategies.	Following assessment, a treatment plan is developed with a neuropsychologist or trained clinician. It uses the concept that the brain is 'neuroplastic' (i.e. can change in response to the environment) and involves repeated tasks or strategies, training the brain to adapt over time. It may require the young person to engage in a computerised training program.
Clinical implications & recommendations	• Associated with robust, durable improvements in functioning in people with psychotic illnesses.[1] • Can easily be incorporated into regular therapeutic support. • Must be adapted to the individual needs of the young person, where interventions are collaboratively discussed, trialled and evaluated in the therapeutic relationship. • There is increasing evidence that early functional recovery predicts long term functional recovery.[3]	• Robust evidence for effectiveness in improving cognitive outcomes in psychosis,[4] although less consistent in young people. • Conducting CR in other psychiatric disorders is a relatively recent occurrence, and not enough studies have been amassed yet.[5] • Effectiveness is enhanced when provided in a context that provides support and opportunity for extending to everyday functioning (i.e. alongside psychosocial treatments).[1,2,4,6] • Not readily available in clinical services. • Needs to be balanced against expectation management – there is evidence suggesting it can reduce self-esteem if cognitive gains aren't perceived.[7]

REFERENCES

1. Allott K, van-der-el K, Bryce S, Parrish E, McGurk S, Hetrick S, et al. Compensatory interventions for cognitive impairments in psychosis: a systematic review and meta-analysis. Schizophrenia Bulletin. 2020; sbz134.
2. Cognitive Remediation Experts Working Group. 2010
3. Santesteban-Echarri O, Paino M, Rice S, González-Blanch C, McGorry P, Gleeson J, et al. Predictors of functional recovery in first-episode psychosis: A systematic review and meta-analysis of longitudinal studies. Clinical Psychology Review. 2017;58:59-75.
4. Wykes T, Huddy V, Cellard C, et a. A meta-analysis of cognitive remediation for schizophrenia: methodology and effect sizes. American Journal of Psychiatry. 2011;168(5):472-485.
5. Kim E, Bahk Y, Oh H, Lee W, Lee J, Choi K. Current Status of Cognitive Remediation for Psychiatric Disorders: A Review. Frontiers in Psychiatry. 2018;9:461.
6. Revell E, Neill J, Harte M, Khan Z, Drake R. A systematic review and meta-analysis of cognitive remediation in early schizophrenia. Schizophrenia Research. 2015;168 (1-2):213-222.
7. Rose D, Wykes T, Farrier D, Doran A, Sporle T, Bogner D. What do clients think of cognitive remediation therapy?: a consumer-led investigation of satisfaction and side-effects. American Journal of Psychiatric Rehabilitation. 2008;11(2):181-204.

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