Support for brain health, cognitive aging, and acquired brain injury

Title: What is Cognitive Rehabilitation and what it should be?

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By definition, cognitive rehabilitation therapy (CRT) refers to a set of techniques or interventions that are utilized to enhance thinking ability (i.e. cognition). It is usually utilized for any condition that affects thinking ability due to neurological insult and brain dysfunction. Such conditions can include acquired brain injury (e.g. brain tumors, traumatic brain injury, stroke, chemotherapy), diseases that affect cognitive functioning (e.g. mild cognitive impairment, early stages of dementia, multiple sclerosis, Parkinson's disease), and other disorders such as schizophrenia (Wykes, Huddy, Cellard, McGurk, & Czobor, 2011), psychological conditions such as depression (Semkovska, O'Lonargain, Lambe, & McLoughlin, 2012) and Alcohol Use Disorder (Bates, Buckman, & Nguyen, 2013), to name just a few.

The methods of CRT usually include

1) Process training consisting of cognitive exercises to train fundamental cognitive functions such as attention
2) Strategy training to compensate for cognitive and functional limitations
3) Education regarding cognitive function to support people in managing the behavioural and emotional consequences to an acquired brain injury
4) Adjustment Counselling

Its goal lies in improving a client's functioning to optimal levels and promoting successful and independent functioning in everyday life.

Despite these widely available generic descriptions of CRT, the specific requirements for clients utilizing cognitive rehabilitation services will depend on their specific difficulties that impede their independent functioning. As such, the simple utilization of these four methods in order to provide CRT to a client will not necessarily bring the desired effect of improved functioning in everyday life. Rather many factors need to be considered when creating a targeted plan for a specific client, not the least is building an alliance with the client.

Importantly, for CRT to be successful, it requires the active involvement of the individual and, where possible, the family (Wilson, 1992). Thus, the client has to do the actual work in this scenario while the therapist(s) provides the guidance throughout the rehabilitative process. If therapy remains unsuccessful, many

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factors can be responsible for treatment failure beyond a client's level of engagement. In other words, client engagement, though essential, is not sufficient to guarantee treatment success. To ensure success, the difference between a client's impairment and disability need to be linked in therapy.

According to the World Health Organization (see for example Wilson, 1997), ***impairment*** refers to the actual damage of the structure (in our frame work, damage to the brain structure) while ***disability*** refers to the behavioural problems that a client may experience in real life due to these impairments. Cognitive Rehabilitation therefore will be most successful and durable when the conceptual intercept between these two (i.e. impairment and disability) is consistently implemented during therapy. The reason for the latter statement lies in the fact that for a client, in most circumstances, it is the behavioural consequence of the impairment (i.e. cognitive deficit) that creates the everyday life difficulties (e.g. emotional, practical). Whereas assessment of the cognitive deficits and its emotional consequences is required because it allows for identification of specific impairments and thereby for development of a targeted treatment plan, the actual treatment phase needs to be informed by this conceptual intercept between impairment and disability.

Thus, while it is important for the therapist to understand how such deficits (e.g. memory difficulty, slowed thinking) translate into behavioural difficulties, it is vital for successful treatment to utilize this conceptual intercept when engaging in actual treatment. As a result, during cognitive remediation treatment (i.e. cognitive exercises), cognitive strategy training needs to be translated into everyday life strategies by the client. However, because the client more than likely does not possess the capacity to think about these issues during cognitive retraining and, also, more than likely does not possess the necessary knowledge of how cognition translates into behaviour (as such knowledge is according to my clinical observation not part of society's general knowledge), this process needs to be facilitated by the therapist. In other words, the therapist needs to educate as well as guide the client on a) how to develop cognitive strategies during cognitive exercises and also b) how to translate these so developed cognitive strategies into everyday life tasks. Oftentimes, raising awareness by teaching the client to ask him/ herself questions like "How does this work" and "how can I become more effective/ efficient at this" during cognitive exercises plus "Can I translate this strategy into my everyday life tasks" can help clients to become more independent in this process. Through this process, a therapist can enable a client to become more independent in developing successful strategies, and also support improvements in self-confidence, self-esteem, and thereby quality of life. It should be noted that in this framework, process training, strategy training, education, and adjustment counselling are

utilized in an integrated fashion to always address the client's immediate needs while moving the rehabilitative process forward. As such, the framework that is employed here is a holistic approach to cognitive rehabilitation.

Of course, the question whether or not to utilize process training in combination with strategy training or whether behavioural strategies should be the sole focus of cognitive rehabilitation treatment must be answered and revisited throughout treatment. In-depth knowledge of the severity of the injury and cognitive impairment(s) and understanding of theoretical models is necessary to guide the therapist. For example, a client whose ability to lay down new memories has been compromised due to destruction of the "memory center" would arguably not benefit from process training to re-activate associated neural networks.

In closing, where cognitive rehabilitation is indicated, it is often stated that initial neuropsychological assessment should be completed to allow for targeted rehabilitation. However, to support clients in reaching their goals of optimal functioning, an understanding of how to integrate interventions effectively and with the client's needs in mind should be the Gold Standard as well. At present, unfortunately, it is this integrated knowledge base that seems to be still seriously lacking. Development of governmental guidelines and educational programs specifically geared towards creating cognitive rehabilitation therapists would be one of the solutions to this problem.

References

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