



Executive Function Rehabilitation

PROF. ANA PAULA A. DE PEREIRA, PHD.

GRADUATE PROGRAM IN PSYCHOLOGY

UNIVERSIDADE FEDERAL DO PARANÁ, BRAZIL

Outline

- Definitions
- Models
- Principles
- Rehabilitation Strategies

Definition of Executive Function

- “ Abilities to establish goals, to formulate new and useful ways of achieving them, and then follow and adapt this plan of action, when competing demands and changing circumstances occur, frequently over an extended period of time.”
- Ability to regulate and control one’s emotions and behavior.

(Burgess & Alderman, 2004)

Definition: Neuropsychological Rehabilitation

- Systematic set of therapeutic activities that focus on the client's functionality and that are based on the evaluation and understanding of their deficits and potentials.
- Main objective: to promote social inclusion through interventions that improve routine despite remaining neurocognitive deficits.

(Cicerone, et al. 2011)

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Models of Executive Functions

- Luria's Self-Regulation (Luria, 1966)
- Shallice's Supervisory System (Shallice, 1981)
- Goal Neglect (Duncan, 1986)

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Basic Principles in Rehabilitation

- Every person has value and needs to be respected.
- The right to choose.
- Individual process
- Multidisciplinary approach
- Quality of life

Holistic Principles in Rehabilitation

- Cognition cannot be isolated.
- Adopt an integrated and multidimensional approach.
- Apply up-to-date knowledge in the fields of Cognitive Psychology and Neurosciences.
- Form partnerships with clients and their families.

Holistic Principles in Rehabilitation

- Executive dysfunction is broad and no one single treatment approach is sufficient to deal with all the problems.
- No single model will cover all the cognitive, emotional and behavioral deficits.
- In the practice of neuropsychological rehabilitation we do not target a single hypothetical construct.

(Wilson & Evans, 2008)

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Initial Rehabilitation Strategies

- Promote responsibility for change.
- Identify barriers.
- Plan considering setbacks.
- Enlist the help and involvement of significant others.

Executive Dysfunction

- Initiation Problems – apathy, isolation
- Modulation Problems – perseveration or impulsivity, time management
- Monitoring Problems – task incomplete, goal not achieved,

Combining different Types of Strategies

Environmental Control

Task Organization

Goal setting and planning

Emotions and Behavior Management

Environmental Control

- Organization (labeling, color clues, etc).
- Distractions and overstimulation.
- Environmental barriers and accessibility.
- Use of equipment and technologies.

Task Organization- Structured Routines

- Identify frequent activities.
- Breakdown each activity in smaller steps
- Repetition and training
- Instructions should be available in diferente modalities.
- Simplify structure.
- After learning each step, combine them.

Task Organization

- Alerts and messages.
- Management of sleep problems
- Fatigue concerns
- Cue cards
- Sel-Instruction

Goal Setting and Planning

- Set the main goal
- Identify possible solutions
- Weigh up pros and cons
- Choose a solution and plan steps
- Try the plan
- Monitor and evaluate

Decision Making Strategies (card example)



Emotions and Behavior Management

- Understanding problems
- Recognizing Early Signs of emotions
- Using calming Strategies
- Feedbacks
- Behavioral Experiments (to help clients with negative/maladaptive beliefs)

Creating the Strategies Workbook

- Memory issues.
- Resource for new situations.
- Folder format so it can be changed and adapted.
- Client feels like author – implicated with strategies.
- Family and significant others can have access to strategies so it can facilitate their participation.

References

Anderson, V., Jacobs, R., Anderson, P. J. (2008). *Executive functions and the frontal lobes: A lifespan perspective*. New York: Psychology Press.

Burgess, P. W., & Alderman, N. (2004). Executive Dysfunction. In L. H. Goldstein & J. E. McNeil (Eds.), *Clinical neuropsychology: A practical guide to assessment and management for clinicians* (pp.185-210). Chichester, UK: Wiley.

Champion, A. J. (2006). *Neuropsychological Rehabilitation: A resource for group-based education and intervention*. England: John Wiley & Sons.

Cicerone, K. D. et al. (2011). Evidence-based cognitive rehabilitation: Updated review of the literature from 2003 through 2008. *Archives of Physical Medicine and Rehabilitation*, 92 (4), 519-530.

Duncan, J. (1986). Disorganization of behavior after frontal lobe damage. *Cognitive Neuropsychology*, 3(3), 271-290.

Luria, A. R. (1966). *Higher cortical functions in man*. New York: Basic Books.

Meltzer, L. (2007). *Executive function in education: From theory to practice*. New York: Guilford.

Wilson, B. A., Gracey, F., Evans, J. J., & Bateman, A. (2009). *Neuropsychological Rehabilitation: Theory, models, therapy and outcome*. Cambridge, UK: Cambridge University.

Winson, R., Wilson, B. A., & Bateman, A. (2017). *The brain injury workbook*. New York: Guilford.