Cognitive Rehabilitation

1/5/2023

Stroke support group meeting

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Who am I and what do I do?
Speech Therapy – speech, voice, swallowing, cognition

What are we going to talk about?
What is Cognition?
Evaluation and treatment
Challenges
Discussion
What is cognition?
Cognitive domains and assessment
The mental processes that take place in the brain, including thinking, attention, language, learning, memory and perception. They are a raft of different, interacting skills which together allow us to function as healthy adults.

"Memory and thinking"
Attention
Visual perceptual functions
Memory
Problem solving
Reasoning
Thought organization
Executive functioning
Brain problems, including tumors, strokes, closed-head injuries, infections, exposure to neurotoxins (i.e., substances that are toxic to the brain), genetic factors, and disease.

The specific type of cognitive disorder someone develops depends on the part of the brain that is affected.

MCI: Mild Cognitive Impairment

Dementia
Awareness & Acceptance

Ability to observe and assess cognitive process
Emotional impact
Attention

Sustained "Can you watch TV, read a book? Newspaper?"
Selective "Can you read a book with the TV on?"
Alternate "Can you do leg exercise while answering questions?"

Auditory attention
Visual attention

"Do you see what I see? Do you hear what I hear?"
https://www.youtube.com/watch?v=vJG698U2Mvo
Stroop effect test

a Measure of working memory and attention
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Memory

Working memory
Short term memory
Long term memory

Explicit memory (knowing what)- facts, knowledge, events
Implicit memory (knowing how)- motor skills, habits

Sensory memory
Prospective memory
Personal facts – orientation, family info, personal history
Following commands/instructions
Immediate recall/repetition- forward then reverse
Delayed recall-words, story etc.

"What did I just say?"  "What did you ask?"
Visual perceptual functions

- Visual acuity - sharpness of the eyesight
- Oculomotor control - ability to move the eyes
- Visual fields - area the eyes can see at any one time

- Attention
- Scanning
- Recognition
Examples from CLQT (cognitive linguistic quick test), MMSE, MoCA, SLUMS

Assessment task examples
Thought organization

Categorization
Sequencing
Sorting

ex. "Name as many animals as you can"
"How do you make a PB sandwich?"
Safety awareness
Cause-effect
Compare/contrast
ADL Verbal problem solving
Math language problem solving
Deductive thinking
Executive functioning

Management (control) of cognitive process
Planning
Organizing
Prioritizing
Shifting
Memorizing
Checking

Adaptable thinking, planning, self-monitoring, self-control, working memory, time management, and organization.
Executive Functioning Skills

Planning
Organization
Self-Control
Task Initiation
Time Management
Metacognition
Working Memory
Attention
Flexibility
Perseverance
Examples from CLQT (cognitive linguistic quick test), MMSE, MoCA, SLUMS

Assessment task examples
Clock drawing test

"Draw a clock that says 10 minutes to 11."
Clock drawing samples
Treatment

Cognitive retraining techniques: therapeutic activities & home exercises
What does cognitive treatment do?

Neuroplasticity: The ability of neural networks in the brain to change through growth and reorganization.

"Rewiring your brain"
Attention, Visual perceptual, & memory

- Repetition (Numbers, words, story etc.)
- Puzzles
- Scanning
- Arithmetic
- Reading
Exercise examples
Problem solving thought organization, & reasoning

Verbal problem solving: Safety in ambulation/transfer, medication management etc.

Math Language problem solving: time, money, measurement etc.
Problem solving, thought organization, & reasoning

Sorting
Categorizing
Sequencing
Compare/contrast

Functional tasks!
(medication, paying bills, cooking, safe transfer, shopping list, equipment/cell phone/remote use)
Recall tasks at different levels
Visual/auditory
Compensatory strategies
  Association, repetition, verbalization, visualization, mnemonic, writing, drawing
External Memory aid: memory book, calendar, cell phone, reminders, alarms etc.

Functional memory tasks! Recalling medication, safety precautions etc.
Spaced retrieval training

Used for naming, recall of tasks (follow through), or sequencing step of tasks

https://www.youtube.com/watch?v=FiLzX1r8RVI
Therapy software

https://www.youtube.com/watch?v=ExT-vU2PtmE
Challenges
"Awareness and Acceptance"

= The golden key

Why?
- Impacts motivation
- Promote active participation
- Set realistic goals
- Accepts compensation
"This is so elementary!"

"It's like back in school!"

"My memory is fine! I can remember things from 50 years ago!"

"What is your current cognitive level? (as compared to before your hospitalization)"

Ex: Pt "90%" cg "50%" vs Pt "50%" cg "90%"
Challenges in cognitive rehabilitation

- Anxiety, Depression
- Medication and Drugs
- Sleep
- Home Exercises
- Caregiver involvement
Keys to success

Awareness/acceptance
Motivation
Baseline
Caregiver support/environment
Realistic/achievable goals
Multi-disciplinary approach
Celebrate success
Discussion

Opinions, Ideas, Suggestions, and more
Let's try again.....

https://www.youtube.com/watch?v=IGQmdoK_ZfY
References

Cognitive Rehabilitation therapy- practical interventions & Personalized planning
Vyne education (2017)


The invisible Gorilla experiment by Christopher Chabris and Daniel Simons  http://www.theinvisiblegorilla.com/videos.html