How Cognitive Burden Affects Communication

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Cognitive Concerns

• Not just about primary cognitive disorders like Dementia, Alzheimer’s disease and Mild Cognitive Impairment

• People with acute medical issues (heart attack, pneumonia) or chronic problems (COPD, sleep apnea, Parkinson’s disease) may have cognitive problems

• Cognitive issues are present in many mental disorders and may affect functioning and communication
So what do we mean by cognition?

Neuropsychologists divide cognition into several domains:

• Executive Function
• Memory
• Attention and Concentration
• Information Processing
• Visuospatial Perception
• Language
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Focus on these.
Executive Function

• Refers to abilities to reason, plan, solve problems, multi-task and evaluate results of actions and decisions.
• Brain structures: Prefrontal cortex, i.e., Frontal lobe
• Signs and Symptoms of Executive Dysfunction:
  – Difficulty grasping the main idea or key point of something told to them or written down
  – Difficulty weighing benefits/risk of one choice versus another
  – General difficulty making decisions
  – Difficulty holding onto a several-step mental process
  – Trouble initiating lists, making new goals
  – Poor flexibility in changing plans as needed
Executive Function: top-down control

- Thoughts
- Emotions
- Behavior

Executive dysfunction

• This is the “biggie” in mental disorders
  – Depression
  – Anxiety
  – Psychotic disorders, e.g., schizophrenia
  – Bipolar disorder
  – Post-traumatic stress disorder
  – Chronic alcohol use disorders
  – Traumatic brain injury

• The executive dysfunction may persist despite improvements in other psychiatric symptoms
People with mental disorders and executive dysfunction have trouble:

- Comprehending complex verbal or written communications
- Weighing one choice against another
- Making a choice
- Generating a list
Executive dysfunction and healthcare communication and decision-making

• Capacity for communicating and making decisions about healthcare may be divided into four dimensions:
  – **Understanding**: comprehend nature as well as risks and benefits of treatment and alternatives
  – **Appreciation**: apply the relevant information to one’s self and own situation (insight).
  – **Reasoning**: ability to engage in consequential and comparative reasoning and to manipulate information rationally.
  – **Expression of a Choice**: clear and consistent decision

• Each dimension can be affected by executive dysfunction

Memory

• Refers to ability to take in new information, hold on to information, and recall information when a situation requires it.

• Brain structures: Hippocampus is key but other structures in the temporal and frontal lobes are important, too.

• Signs and Symptoms of Memory Problems
  – Difficulty learning and retaining new information: Hard to hold on to even brief instructions or explanations. Difficulty remembering what was said at the beginning of a conversation.
  – Difficulty storing new information: Information is not retained long enough to be permanently stored.
  – Difficulty retrieving stored information: Hard to recall the main point of a conversation, even if it was just raised. May forget important things learned from experience, causing mistakes to be repeated.
Mental disorders and memory

• Older adults may have early dementia with memory problems that may be “masked” by presence of psychiatric illness
  – Depression
  – Anxiety

• People with traumatic brain injury may have new memory problems
Memory and healthcare communication and decision-making

• Of the four dimensions of capacity for communicating and making decisions about healthcare, memory problems may affect:
  
  – **Understanding**: comprehend nature as well as risks and benefits of treatment and alternatives. Learning and storing new information will affect overall understanding
  
  – **Expression of a Choice**: clear and consistent decision. Poor memory may lead to inconsistent expression of choices
Attention and concentration

• Refers to ability to stay awake and alert, maintain focus, and holding onto a train of thought.
• Brain structures: Posterior parietal lobe, frontal lobe
• Signs and symptoms of attention/concentration problems
  – Difficulty staying alert: Not enough mental energy to fully engage with people or things in the environment.
  – Difficulty focusing your attention: Easily distracted by noises and other things going on around you. Distractions may also be internal, e.g., thoughts, memories, feelings, or worries.
  – Losing your Train of Thought: May be able to focus, but you may lose your train of thought or experience a break in concentration if distracted. People may appear unable to “get to the point” or may tend to ramble.
Mental disorders and problems with attention/concentration

• Present in several psychiatric conditions:
  – Depression: trouble focusing on one thing
  – Mania: trouble bouncing from topic to topic or item to item because of easy distractibility
  – Psychosis, e.g., schizophrenia: internal distractions
  – Anxiety disorders and PTSD – trouble concentrating due to preoccupations
  – ADD/ADHD and Traumatic Brain Injury
Attention/concentration and health-care communication and decision-making

• Of the four dimensions of capacity for communicating and making decisions about healthcare, impairment in attention or concentration may affect:
  – **Understanding**: comprehend nature as well as risks and benefits of treatment and alternatives. Poor attention leads to inability to learn and thus understanding new information.
  – **Reasoning**: ability to engage in consequential and comparative reasoning and to manipulate information rationally. People with attentional problems may get off track easily and be unable to use reasoning to respond to information provided to them.
  – **Expression of a Choice**: clear and consistent decision. A tendency to ramble may impair expression of a clear choice.
Information processing

• Refers to ability to take in environmental stimulation through the five senses, interpret it, and respond to it.

• Brain structure – all about connections! Cortical-subcortical-cortical

• Signs and symptoms of slowed information processing
  – Slowed thinking speed and response times: It takes longer to understand new information and make sense of what is going on in a situation. People may take long pauses before responding with words or actions
  – Absorb only fragments of information: People may miss some of the information presented because of slower processing speed
  – Social inappropriateness: Difficulty interpreting and making sense of social cues and body language of others
Mental disorders and problems with slow informational processing

• Of the four dimensions of capacity for communicating and making decisions about healthcare, slowed information processing may affect:
  – **Understanding**: comprehend nature as well as risks and benefits of treatment and alternatives. People with slow information processing may miss key information and not fully understand what is being presented to them
  – **Reasoning**: ability to engage in consequential and comparative reasoning and to manipulate information rationally. People with slow information processing may lack the full picture and be unable to provide a coherent rationale for decisions
Examples

• Poor understanding. Depressed person can parrot back words on a consent form without really demonstrating any effort they understand and put in their own words.

• Poor appreciation. A manic patient may understand what bipolar disorder is and how treatment can help but may have no insight that the process applies to them.
Examples

• Impaired reasoning. A patient with schizophrenia may articulate a decision to refuse antipsychotic medication, not because of concern about metabolic side effects, but out of a delusional schema that she is being poisoned

• Impaired ability to express a choice. A person with severe anxiety and depression may be so overwhelmed that they cannot make a decision and express a choice
Improving cognition to improve healthcare communication and decision-making

• Treat underlying condition, e.g., depression, anxiety, psychosis
  – May be a “Catch 22” since the underlying discussion may be about their treatment
• Cognitive remediation/cognitive training may help improve executive function and memory
• Neurostimulation, e.g., repetitive Transcranial Magnetic Stimulation (rTMS)

Best MW and Bowie CR. A review of cognitive remediation approaches for schizophrenia: from top-down to bottom-up, brain training to psychotherapy. Expert Rev Neurother. 2017;17:713-72

Thanks for your attention!