Assessment and Management of Impaired Self-Awareness in Brain Injury

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OK, let’s take the plunge...
I think self-awareness is probably the most important thing towards being a champion.

Billie Jean King
American Tennis Player
Born 1943

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Objectives

• Understand the effects of impaired self-awareness on clinical outcomes
• Appreciate methods to objectively evaluate impaired self-awareness
• State the most common interventions to treat impaired self-awareness
• Keep expectations for this presentation LOW so that it will seem better than it actually is
Anosognosia

- *a*: without
- *noso*: disease
- *gnosia*: knowledge
- NO awareness of motor, visual, or cognitive impairments in patients with neurological disorders
- Term introduced by Joseph Babinski in 1914 to refer to unawareness of hemiplegia
Anosognosia – Common Examples

- Unawareness of left hemiparesis – left neglect
- Unawareness of cortical blindness – Anton’s Syndrome
- Unawareness of Wernicke’s or fluent aphasia
- Anosognosia generally refers to NO awareness, not partial awareness
Lack of Insight Not Unique to Clinical Populations

My personal awareness deficient pet peeve: Slow drivers in the left hand lane!
Hoarders – “It’s just a little clutter.”
Back to Business: Impaired Self-Awareness (ISA)

- Neurologically based
- Affected by psychological factors
  - Emotional state, pre-injury personality (defensiveness, openness, suspiciousness, need to be in control, etc.)
- Affected by environment
  - Family support/structure, availability of feedback
- Severity exists on a continuum
- Severity may differ across domains of functioning
Common Conditions with ISA

- Traumatic brain injury
- Stroke
- Anoxia
- Brain tumors
- Dementia
- Psychiatric disorders (e.g., bipolar, schizophrenia)
Predictors of Degree of ISA

• Injury severity
• Age
  – Younger age associated with worse ISA
• Emotional distress
  – Less emotional distress associated with greater ISA
• Executive function deficits
• Pre-injury psychological defense mechanisms, personality, and coping style
Characteristics of ISA

• Greater for cognitive and behavioral deficits than physical impairments
• Can range from mild to severe
• ISA can be *modality-specific* and not necessarily global
• Associated with decreased social communication skills
Natural History of ISA

• Accuracy of self-awareness improves as time post-injury increases
• Greater improvement is seen for awareness of cognition and neurobehavioral functioning as compared to physical functioning
• Many persons with moderate and severe injuries remain with some degree of impaired awareness at one and even five years post-injury (predicted by initial injury severity)
  – Particularly with frontal, right hemisphere, and diffuse brain injuries
Cognitive Functions and ISA

• Impaired sustained attention
• Executive dysfunction
• Impaired metacognition
• Impaired ability to decode facial expressions
• Decreased Theory of Mind abilities
  – Ability to discern the motives/emotions of others
Clinical Impact of ISA

• Decreased compliance with treatment
  – Affects motivation and interest in treatment
    • “I don’t really need therapy and besides, Ellen is on.”
  – Affects use of compensatory strategies
    • “I really don’t need that memory book...ah, what’s your name again?”

• Higher life satisfaction and decreased depression – more accurate self-awareness was associated with greater emotional distress and poorer self-esteem
  – “Why should I be depressed? There’s nothing wrong with me!”
Clinical Impact of ISA

• Decreased psychological adjustment based on the perception of others
  – “I think my husband is in deep denial about how his brain injury has affected him.”

• Reduced safety
  – “The therapists think that I shouldn’t be cooking when I’m alone but they don’t know everything.”

• Decreased productive outcomes (return to work, driving safety)
  – “I could walk out of this hospital room and go right back to work.”
Relationship between probability of employability and self-awareness.

Higher scores on vertical axis = higher probability of employability.

Higher scores on horizontal axis = poorer self-awareness

Sherer et al., 2003 – 129 TBI patients at d/c from IP rehabilitation

Figure 1. Simple (adjusted) relationships of PCRS P-C and AQ P-C to rated employability.
Having fun yet???
Dimensions of awareness
(Flashman et al., 2005)

- A lack of knowledge or recognition of a physical, cognitive, or behavioral deficit
- Verbally admitting a deficit but act as if it did not exist
- The absence of emotional concern (indifference) to an acknowledged deficit (anosodiaphoria)
- An acknowledgment of and concern about a deficit accompanied by a belief that the deficit will not adversely affect the person’s functioning
- An acknowledgment of a deficit but the person attributes it to other causes (e.g., “fatigue”)
Dimensions of Awareness

Pyramid Model of Awareness

• Three broad types of awareness have been described (Crossen et al., 1989)
• Intellectual awareness – a basic knowledge of one’s brain injury deficits and their implications
• Emergent awareness – the person’s ability to recognize a problem while it is happening
• Anticipatory awareness - the ability to anticipate that a problem is going to occur as a result of a deficit and then take steps to prevent it
Measuring ISA

• Discrepancy methods
  – Patient self-rating compared to clinician
  – Patient self-rating compared to family
  – Self-rating compared to performance on cognitive tasks

• Observation of patient’s ability to detect and respond to errors
Discrepancy: Self ratings compared to clinician or family

- Person with TBI rates self on scale
- Clinician and/or family rates person with TBI
- Scores are summed for entire scale or subscale and comparison made b/w patient and clinician/family

- Most commonly used awareness scales:
  - Awareness Questionnaire
  - Patient Competency Rating Scale
Awareness Questionnaire
(Sherer et al., 1998)

• 17-items rated on a 5 point scale ranging from “much worse” to “much better” NOW as compared to before the patient’s injury

• Administered to patient and family/significant other for comparison

• Sample items:
  – “How well organized are you now compared to before your injury?”
  – “How good is your coordination now compared to before your injury?”
Patient Competency Rating Scale  
*(PCRS)*  
*(Prigatano et al., 1986)*

- 30-items rated on a 5 point scale ranging from “Can’t do” to “Can do with ease.”
- Administered to patient, family/significant other, and clinicians for comparison
- All asked to rate patient’s current abilities (NOT in comparison to premorbid functioning as with the Awareness Questionnaire)
- Sample items: All begin with stem, “How much of a problem do I have in…”
  - “preparing my own meals?”
  - “remembering my daily schedule?”
Awareness Interventions

- Educational approaches
  - Verbal
  - Videotape
  - Experiential
- Metacognitive strategies
- Psychological and sociocultural
**WARNING: Treatment for awareness deficits**

- Not an easy task...
- Establish a good working alliance with the patient (if he trusts and likes you, he is more likely to believe you)
- Multiple interventions will be necessary – no “magic bullet”
- Team approach critical (therapists, nursing, family et al.)
**Education**

- Educate patient about effects of brain injury on insight and how they impact daily life
  - Provide written material about brain injury effects, if able to process
  - Show brain imaging scans if available and describe those results within neurobehavioral context
  - Use *consistent* language to describe the patient’s impairments and condition
    - This is especially important with cognitive disorders (e.g., impulsive vs. moving too quickly)
    - “hemorrhage” vs. “bleeding in the brain”
Education

• Explain that the injury to the brain makes it hard for the patient to recognize his/her own problems (brain can “play tricks” on you)
  • Help patient recognize that decreased insight is a symptom and effect of brain injury
  • Focus on the 1-2 MOST serious deficits for which the patient has limited insight – write them down in simple language, give the patient a copy, and review them frequently and consistently (during each treatment session with each patient)

• Engage and educate family to reinforce concepts (after all, why should the patient believe you??)
  – Families need to be important allies in treating awareness deficits
Stroke

Intervention (Memory Log)

Impairment (Memory loss)

Disability (Forget to take pills)
Feedback Approaches - Verbal

• A fundamental component of rehabilitation
• Timely, specific, consistent, and respectful
• Most effective in context of therapeutic relationship
• “Sandwich technique”
  – Initial feedback positive
  – Negative feedback
  – More positive feedback
• “Negative” feedback is contrary to what we’re accustomed to giving
  – Reframe the issue for patient: the more patient accepts his/her deficits the better he/she is getting
Feedback Approaches - Videotape

• Video feedback can be an effective tool
• Pause, prompt, praise technique for errors
  – Pause to facilitate self-correction or awareness
  – Non-specific prompt by therapist
  – Specific prompt if necessary
  – Praise patient openness to prompt or his/her acknowledgement of error
Feedback - Experiential

• Self-prediction: Have patient predict future performance on a specific task

• Review with feedback
  – How closely did the patient’s performance match his/her prediction?

• Role reversal in which the therapist performs the task with errors and the patient observes and gives feedback
Metacognitive Strategies

• Thinking about thinking
• Use discrepancy ratings to highlight “thinking errors”
• Emphasize need for patient to not only perform activities but also about how he/she thinks about his/her performance
Psychological and Sociocultural Approaches

• Consider how deficits affect person’s sense of self, adjustment, and independence
  – Goal is to help patient accept a “new self”
• Does patient fear consequences if he/she admits to problems?
• What feedback is patient getting from friends and families?
• Cultural values may impact the patient’s understanding of rehabilitation and disability.
Final analysis...

- Awareness deficits are not well understood and are difficult to treat
- The underlying brain substrates are not well known
- Arguably insight/awareness are some of the most critical issues affecting rehabilitation outcome
- A team approach is critical. EVERYONE has to address these issues with the patient in the same way, consistently
- The process of improving insight is slow and laborious (chipping away at the mountain)
- Use multiple approaches simultaneously
- It’s OK to begin with just having patients “parrot” back their deficits (and implications). This is the beginning of the process to fuller insight.
- Give concrete feedback about improved awareness (“Last week you wouldn’t have been aware of that problem; that shows good progress with your insight.”)
- Help patients understand the “process” of their insight deficit and the methods being used to assist them
- Socially reward improving insight as reflecting improved neurologic functioning
Self-love is a good thing but self-awareness is more important. You need to once in a while go ‘Uh, I’m kind of an asshole.’

— Louis C.K. —


