

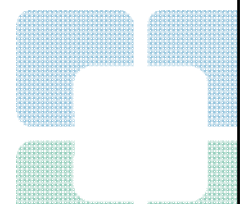
Non-Pharmacological Approaches to Treating Post Stroke Depression

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Disclosures

- I have no disclosures related to this presentation.



Objectives

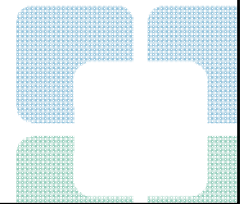
- Identify one possible etiological pathway in development of Post Stroke Depression (PSD)
- Identify risks associated with PSD
- Identify non-pharmacological treatments for PSD
- Gain a basic understanding of a variety of non-pharmacological treatments for PSD
- Identify risks and limits to various treatments for PSD

Post Stroke Depression (PSD)

- Affects approx. 1/3 stroke survivors
 - Frequency is highest in the first year
- Consistent adverse effect on outcomes
 - Increased risk for suboptimal recovery and recurrent vascular events
 - Worse quality of life
 - Increased mortality
 - Higher rates of healthcare use after stroke
 - Longer inpatient LOS and higher outpatient and inpatient use in the 12 months after stroke.

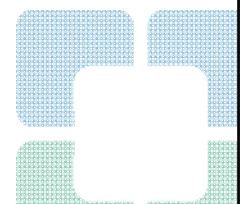
Downstream Consequences

- Reduced participation in rehab
- Maladaptive thoughts
- Increased physical and cognitive impairment
- Significant predictor of ability to return to work in young adults



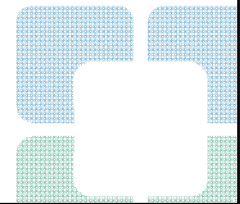
Differential Dx (DSM-5)

- Major depressive disorder:
 - 5 or more symptoms nearly every day for 2+ weeks:
 - One symptom must be: 1) Depressed mood or 2) loss of interest
 - Depressed mood most of the day
 - Markedly diminished interest or anhedonia
 - Significant weight loss (unintentional)
 - Insomnia (typical) or hypersomnia (atypical)
 - Psychomotor agitation or slowing
 - Fatigue
 - Feelings of worthlessness or excessive / inappropriate guilt
 - Diminished ability to think, concentrate, make decisions
 - Recurrent thoughts of death or suicidal ideation
- Depressive disorder due to another medical condition:
 - Prominent and persistent period of depressed mood or markedly diminished interest or pleasure in all, or almost all, activities
 - With depressive features, major depression-like episode, mixed
 - Onset can be acute or weeks to months after CVA



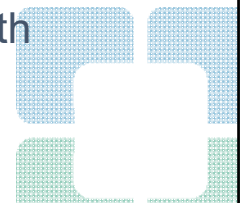
Differential Dx (cont.)

- Adjustment disorder
 - Number and quality of depressive symptoms will be less
- Post stroke apathy syndrome
 - Will not have mood component
- Post stroke emotional lability (pseudobulbar affect)
 - Can be mistaken for delirium, bipolar disorder
 - Will not have associated happiness or sadness
- Hypoactive delirium, dementia



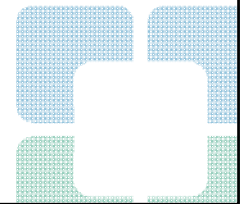
Issues in Diagnosis

- Can be overly diagnosed because of somatic symptoms caused by stroke
 - Psychomotor retardation
 - Disturbances in
 - Appetite
 - Sleep
 - Sexual interest
- Can be under diagnosed, especially in those with cognitive impairment



Etiology

- Psychological reaction to life-threatening illness
- Physiological consequences of stroke
 - Lesion location
 - Neurotransmitters
 - Inflammatory cytokine



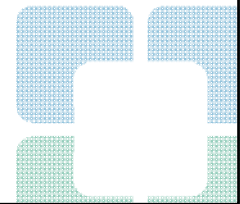
Etiology

- Lesion location
 - Frontal, subcortical, basal ganglia
 - Left hemisphere, proximity to frontal pole
 - Hospitalized and <28 days post stroke: left hemisphere
 - Community samples and after 1-4 months post stroke: right hemisphere
 - Silent infarcts have also been linked to depression



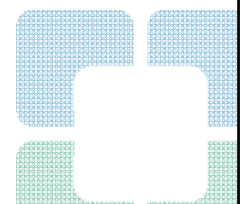
Etiology

- Neurotransmitters
 - Ischemia-induced enzyme inhibition leads to decreased monoamine synthesis
 - Metabolite of serotonin is low in CSF of patients with PSD



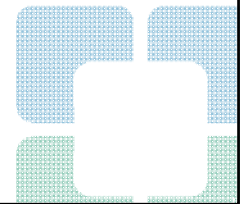
Etiology

- Inflammatory cytokines
 - Stroke induces inflammatory response
 - Inflammatory cytokines alter serotonin function



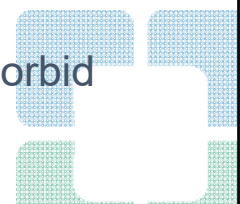
The Good News

- Approaches to treating PSD have significant overlap with treatment for other forms of depressive disorders
 - Medications
 - Psychotherapy
 - Combined approach
 - “other”



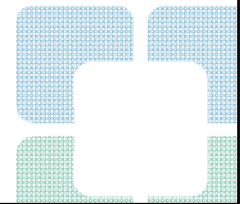
Psychotherapy

- Literature has limited support for the use of psychotherapy as monotherapy in treatment of PSD
- Reasonable to consider as a first line treatment for depressive d/o post stroke, especially considering body of evidence demonstrating efficacy in primary depressive disorder
- Can also use as adjunctive therapy
- Often helpful to address peripheral and/or premorbid issues that contribute to post stroke difficulties



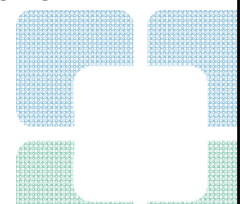
Psychological Therapy

- Cognitive Behavioral Therapy
- Problem Solving Therapy
- Supportive Therapy
- Motivational Interviewing



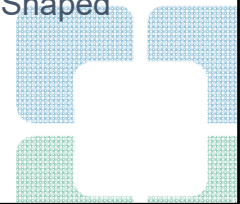
Cognitive Behavioral Therapy (CBT)

- Negative thoughts and beliefs are corrected and depressive symptoms will be improved
- Increases pleasant and enjoyable events to improve mood
- “What you think and do affects the way you feel”



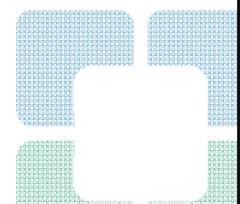
Appreciating Levels of Thought

- **Conscious thoughts**
 - Rational thoughts and choices that are made with full awareness
- **Automatic thoughts**
 - Flow rapidly so that you may not be fully aware of them and therefore unable to check them for accuracy. May not be logical or reality based
- **Schemas**
 - Core beliefs and personal rules for processing information. Shaped by life experience



ABCDE model of CBT

- **Activating Event**
 - What happened?
 - What's stressing me out?
- **Belief**
 - What is my negative self talk?
 - Distorted/irrational thinking style
- **Consequence**
 - What am I feeling?
 - What is my behavior as a result
- **Dispute-Counter thought**
 - What realistic and grounding statement could I use instead?
 - Alternative ways of thinking that is reality based
- **Emotional Consequence**
 - How do I feel now?
 - How have my thoughts changed?



CBT-Cognitive Distortions

- Filtering
- Polarized Thinking
- Overgeneralization
- Jumping to Conclusions
- Catastrophizing
- Personalization
- Control Fallacies
- Fallacy of Fairness
- Blaming
- “Shoulds”
- Emotional Reasoning
- Fallacy of Change
- Global Labeling
- Always Being Right
- Heaven’s Reward Fallacy

Behavioral Activation Therapy for Depression After Stroke (BEADS)

- Specifically developed individualized CBT like approach for PSD
- Active monitoring
- Activity scheduling
- Graded task assignments
- 10-15 sessions over 4 months

Problem Solving Therapy (PST)

- Reduces mental disability
- Mainly efficacious in elderly patients
- Effect continues after treatment ends
- Has been shown to reduce mortality associated with PSD in comparison to escitalopram

Problem Solving Therapy for PSD

- 4 step approach
 - Define problem and goal
 - Generate multiple solutions
 - Select a solution
 - Implement and evaluate
- Improvements in task-oriented coping
- Improvements HRQoL recovery and avoidant coping

Supportive Therapy

- Patient centered psychotherapy
- Support is based on patients problems
 - Patients address problems without direct input from therapists
 - No therapeutic strategy other than active listening and offering support
- Not as efficacious as PST in treating mental disability in elderly

Motivational Interviewing (MI)

- Person-centered, provider guided method for enhancing *intrinsic motivation* to change by exploring and resolving ambivalence
- Direct persuasion is not effective
- Readiness to change is not a trait, rather it fluctuates within the interpersonal interaction
- Therapy is more like a partnership

Motivational Interviewing

- Has been shown to lead to an improvement in mood 3 months after stroke
- Can help patients make healthier lifestyle changes/reduce risk factors associated with stroke
 - Smoking
 - Diet
 - Exercise
- Develop/improve confidence and provide impetus to change

Eye Movement Desensitization and Reprocessing

- EMDR for short
- Uses, among other techniques, alternating bilateral stimulation (BLS; e.g., eye movement, auditory, tactile) while patients internally attend to memories, emotions, cognitions, images, and bodily sensations.

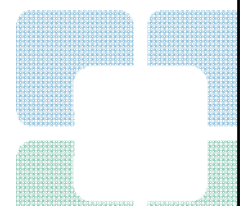
EMDR

- Originally used for the treatment of post-traumatic stress disorder (PTSD)
 - Combat Trauma
 - Sexual Trauma
 - Medical Trauma
- Has been used in “normal” individuals for stress reduction



EMDR-8 phase approach

- History taking
- Client preparation
- Assessment
- Desensitization
- Installing
- Body scan
- Closure
- Reevaluation



EMDR for PSD with Aphasia

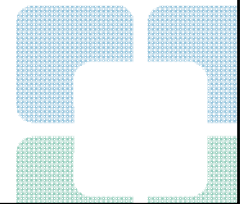
- Blind to therapist (B2T) protocol was developed for those unwilling/ unable to describe memories during EMDR due to control, shame/embarrassment, cultural reasons, or language barriers.
- EMDR has been shown to be effective for depression in those with comorbid aphasia.
 - Limited by case studies/series

Verbal/Linguistic Approaches

- Literature Therapy
 - Expressive therapy that serves as tool to identify emotional status of patient and then treat
- Poetry Therapy
 - Correlates emotional sentiments to feelings in poetry and use metaphor to improve self-awareness
- Story Therapy
 - Patients create story line that they wish to live, which can help change depressive sx's to a more positive experience in the story

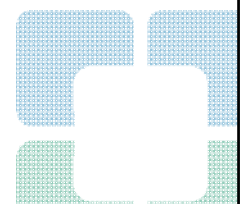
Non-Verbal Approaches

- Music Therapy
 - Can exert influence on blood pressure, heart rate and respiration
 - Listening to music can generate emotions as well as motor movements, increasing change in cortical plasticity and plastic adaption
 - 64% of stroke patients in music therapy showed improvements in mood
- Art Therapy
 - Free self-expression through painting, drawing or other medium
 - About the process, NOT the product
 - Has been shown to help with depressive sx's
 - Loss of appetite
 - Sleep disorders
 - Lack of confidence
 - Over eating



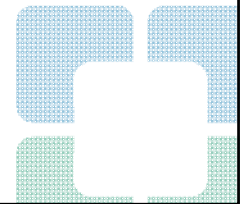
Physiotherapies

- Exercise
 - Increases dopamine and brain derived neurotropic factor and subsequently mood
 - Improve functional performance and quality of life, which reduces CV risk and improves adherence to rehab



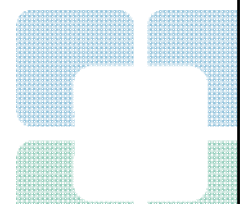
Physiotherapies

- Weight management
 - Reduces depression in “normal” population as well as in PSD
 - Can motivate overweight to reduce weight by up to 5% and improve health outcomes
 - Diet
 - Sleep
 - Physical activity



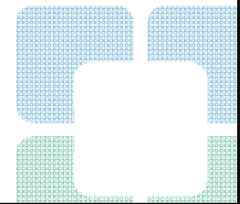
Physiotherapies

- Virtual Reality (VR)
 - Shown to be effective at improving physical function in survivors of stroke
 - Stand up and go
 - 30 sec sit to stand
 - Timed 30ft (10m) walk
 - 6 min walk test



Physiotherapies

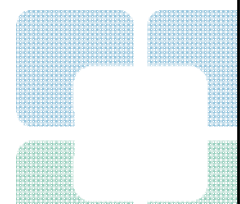
- Yoga
 - Extends health and well-being and awareness about oneself
 - Daily practice improves
 - Plasticity
 - Muscle strength
 - Aerobic capacity and vital capacity
 - Reduces melancholic sx's



“Non-Invasive” Brain Stimulation

- Repetitive Transcranial Magnetic Stimulation (rTMS)
- Transcranial Direct Current Stimulation (tDCS)
- Have been shown to be effective, especially for treatment resistant PSD
- Electroconvulsive Therapy (ECT)
 - Has been shown to be successful in PSD, especially when patient is resistant to other treatments

*represent more substantial increase in risk as compared to other techniques mentioned



Summarizing

- It can be difficult to differentiate PSD from other diagnosis that have depressive features
- Survivors of stroke are likely to have a multitude of concerns
 - Adjustment to illness
 - Premorbid issues
 - Family/social concerns
 - Work/financial concerns
 - And...
- While the literature may not support the effectiveness of psychotherapy for treating PSD specifically, Psychotherapy is demonstrated to be effective for depressive d/o, adjustment, etc., and most stroke survivors and family experience these concerns
- A multidisciplinary approach to working with stroke survivors and family/support system is likely to have most long lasting effects and lead to most comprehensive recovery process

Thank you

- Questions

—references available on request



Every life deserves world class care.