



Long COVID and Mental Health Primary Care Update

February 24th, 2023 Jordan R. Anderson, DO

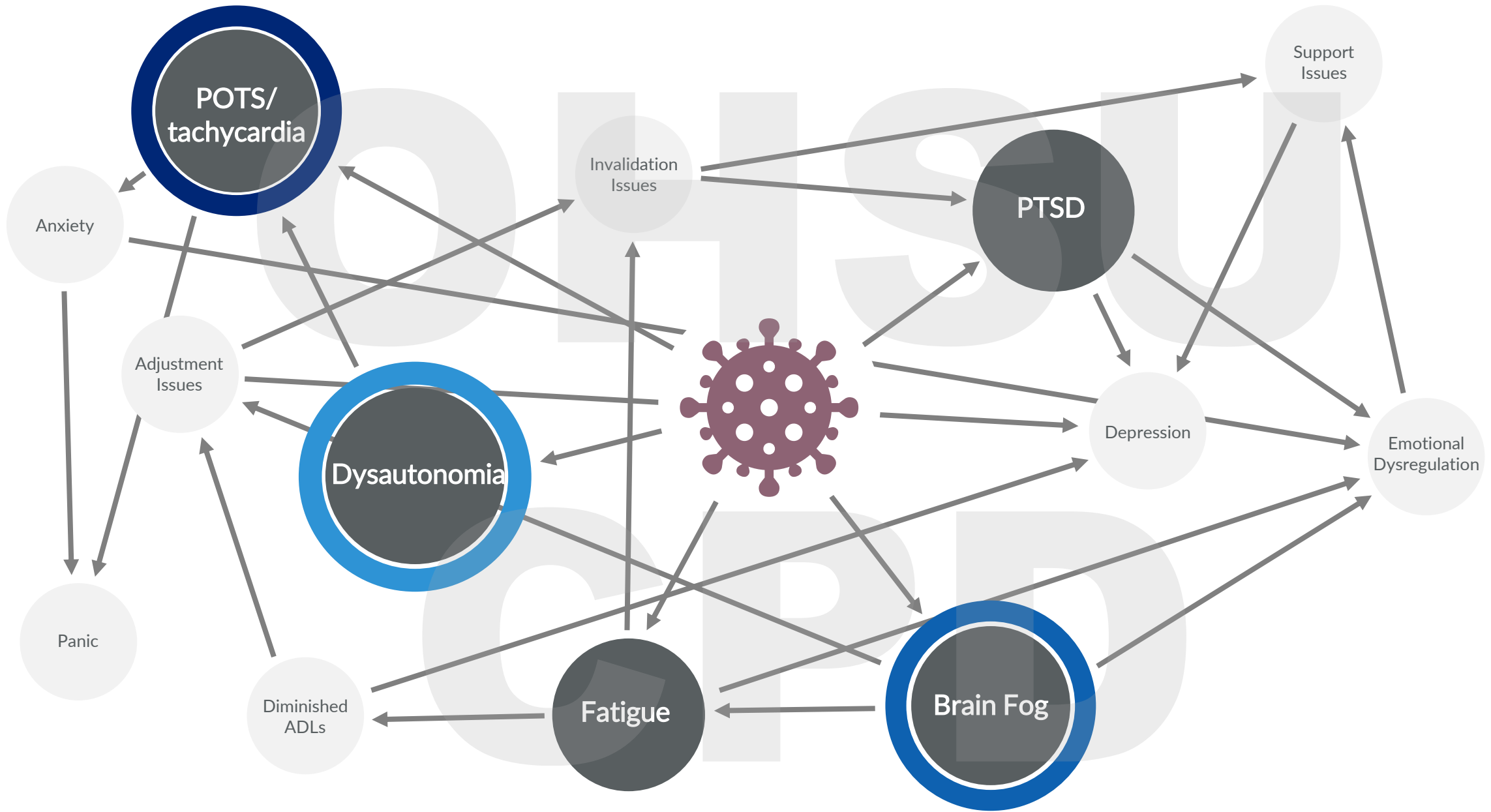
Assistant Professor, Neuropsychiatrist, Dept. Of Psychiatry and Neurology

Disclosures

- Jordan Anderson DO has nothing to disclose

Learning Objectives

- Identify the most common neuropsychiatric presenting symptoms associated with Long COVID
- Discuss therapeutic strategies and treatment options for neuropsychiatric symptoms associated with Long COVID



OHSU LC Neuropsychiatry Clinic

- OHSU's only referral service for MH aspects of Long COVID
- Launched July 2021
- One provider (Dr. Anderson)
- >100 distinct patients seen
- Hybrid consultation / management model
- Mostly virtual, F2F option

Referrals

- Long COVID *plus...*
 - Severe depression, anxiety
 - Panic attacks
 - Post-traumatic Stress Disorder
 - Cognitive dysfunction (aka “Brain fog”)

Referrals

- Long COVID?
 - Diagnosed formerly
 - OHSU Long COVID Hub
 - Community primary care, other specialty clinic (eg Providence)

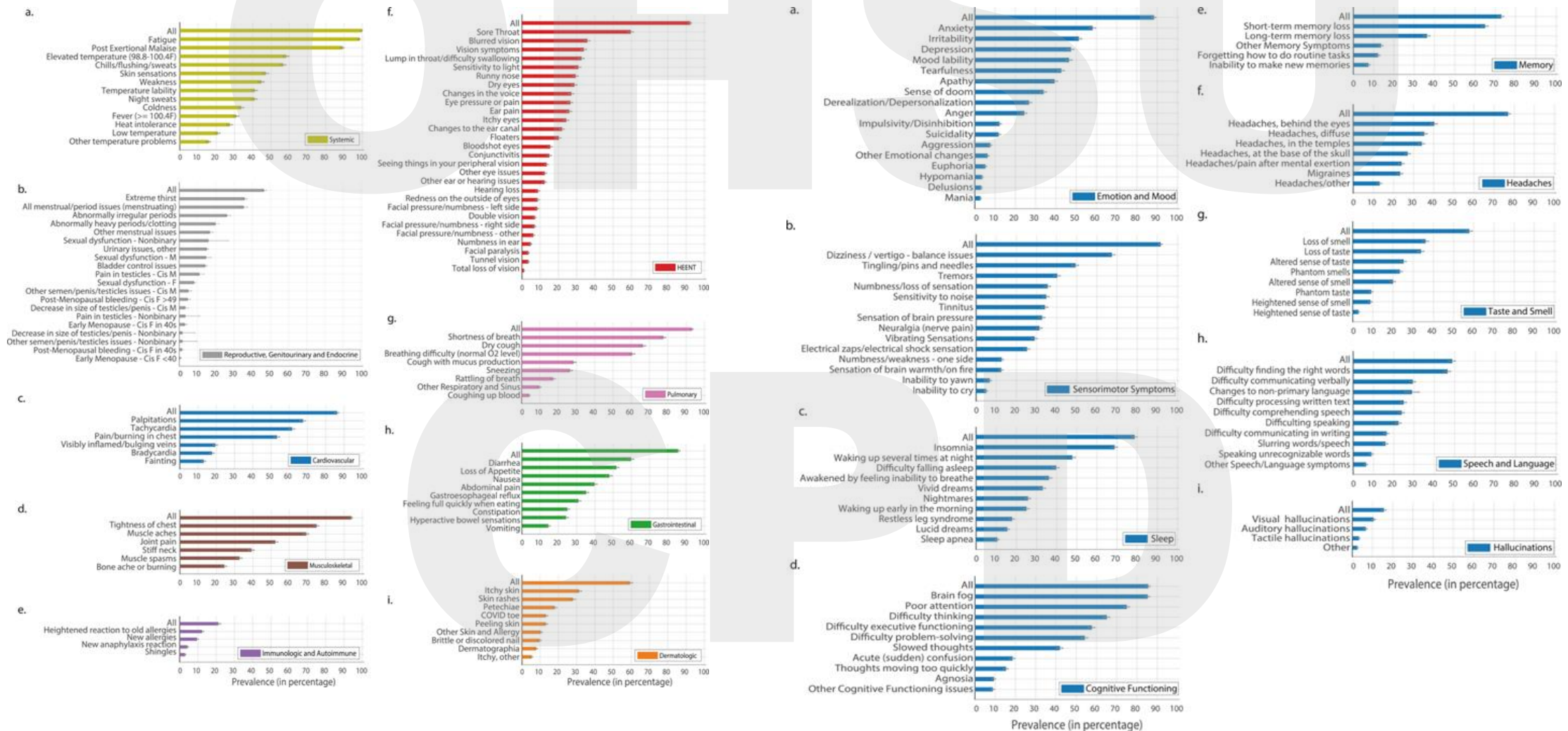
Symptom Patterns



Depression

- Significant, though very much adjustment-related – not always meeting criteria for MDD
- PHQ9 screens frequently in moderate-high range
 - Interpret with caution!

“Characterizing long COVID in an international cohort: 7 months of symptoms and their impact” Davis et al 2021 *EClinicalMedicine*



Symptom Patterns



Depression

- Neurovegetative symptoms or Long COVID?
 - Low energy
 - Poor sleep
 - Poor appetite
 - Can't concentrate
- Trouble enjoying things you usually enjoy?
 - Anhedonia or functional impairment?

PTSD

- Past PTSD sometimes worsened, new PTSD (new trauma, ongoing) developed
 - Hospital admission, ICU, intubation
 - Survivor's guilt
 - LC > helplessness > PTSD trigger

Anxiety



Is it anxiety? Panic? Or POTS?

- Anxiety high, with panic prominent
- Random “adrenaline dumps,” persistent tachycardia after minimal exertion, promoting a sense of unease/anxiety that is long-lasting and pervasive
- Tachycardia often leads to full panic attacks, sometimes **hard to tell apart**
- Panic attacks sometimes occur separately **but then tachycardia persists**
- Panic / dysautonomia spectrum?
- Bidirectional relationship?

PANIC



POTS /
tachycardia



“Panic-dysautonomia spectrum symptoms”

Stumbled upon due to use of **propranolol** as an alternative to benzo for “panic”-like symptoms

- Positive response
- Low dose tolerated best
 - 10mg TID

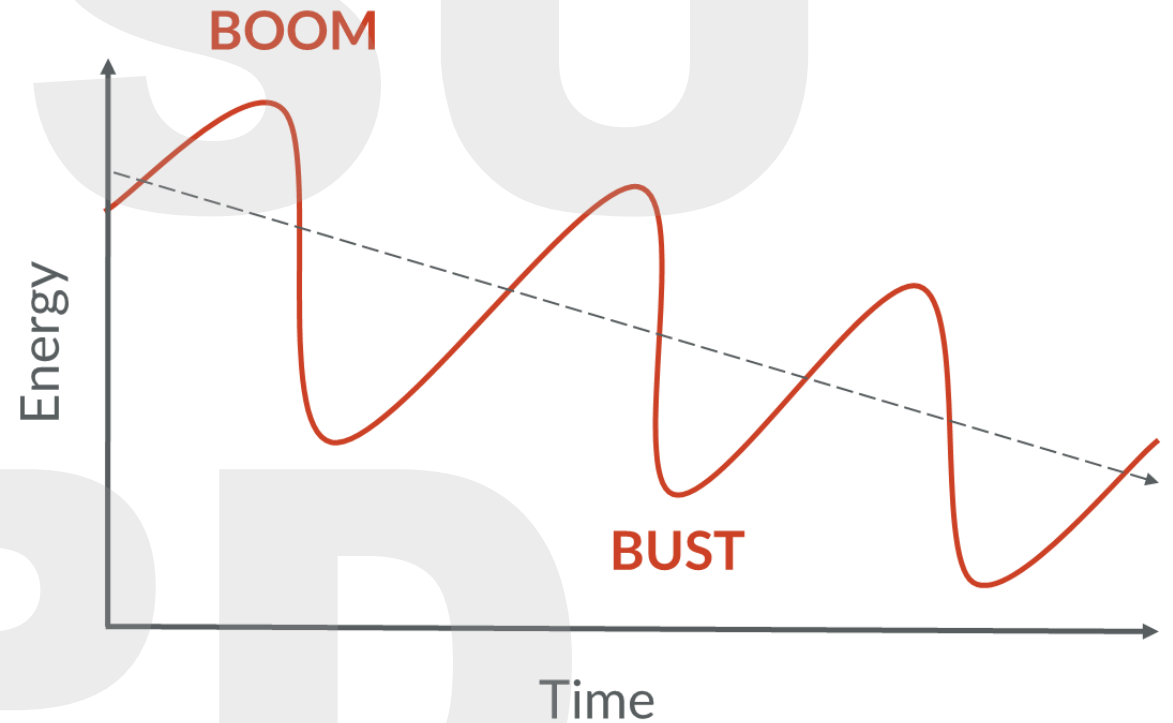


Cognitive Symptoms

- “Brain fog”
 - What patients say (Davis et al 2021 *EClinical Medicine*)
 - Short term memory loss
 - Poor attention
 - Difficulty thinking
 - Difficulty finding the right words
 - What objective scores say (Becker et al 2021 *JAMA Network open*)
 - Impaired memory recall, memory encoding; relative sparing of memory recognition
 - Suggests an **executive pattern**
 - “This pattern is consistent with early reports describing a **dysexecutive syndrome** after COVID-19 and has considerable implications for **occupational, psychological, and functional outcomes**”

Fatigue and Mental Health

- Chronic fatigue / Post-exertional malaise (PEM) very limiting
- Lifestyle changes help prevent PEM, improve long-term recovery
 - Spoon Theory



Spoon Theory



get out of bed



get dressed



bathe



style hair



make & eat a meal



make plans & socialize



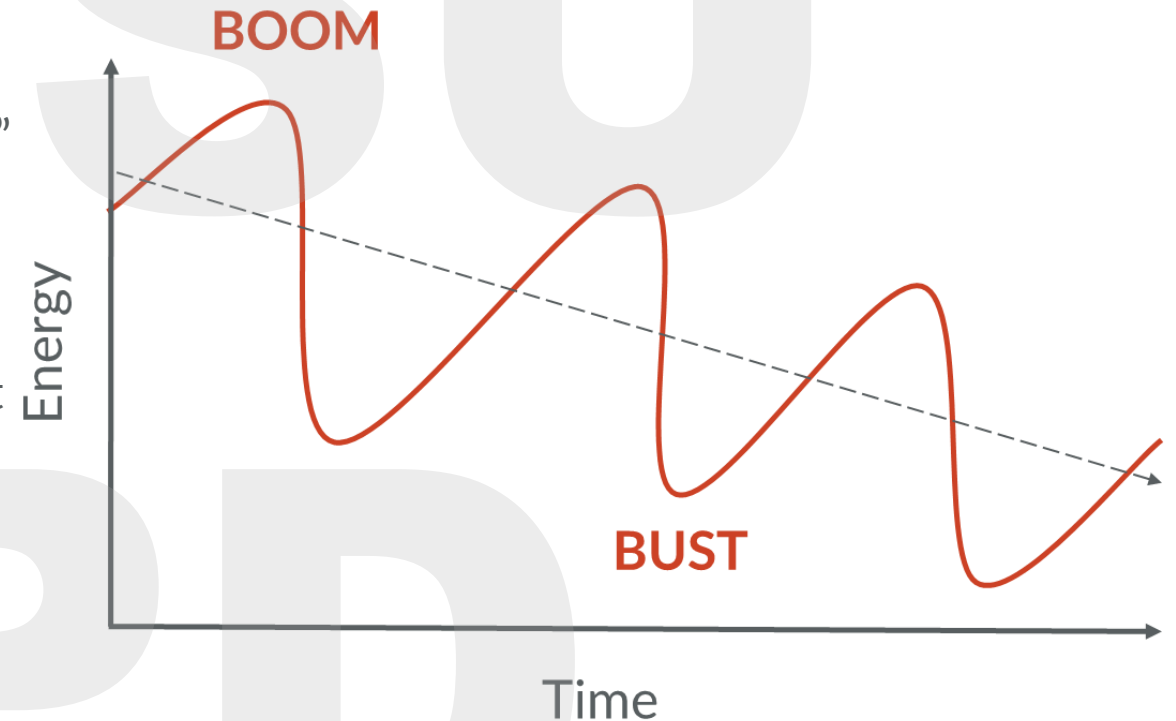
go to work/school



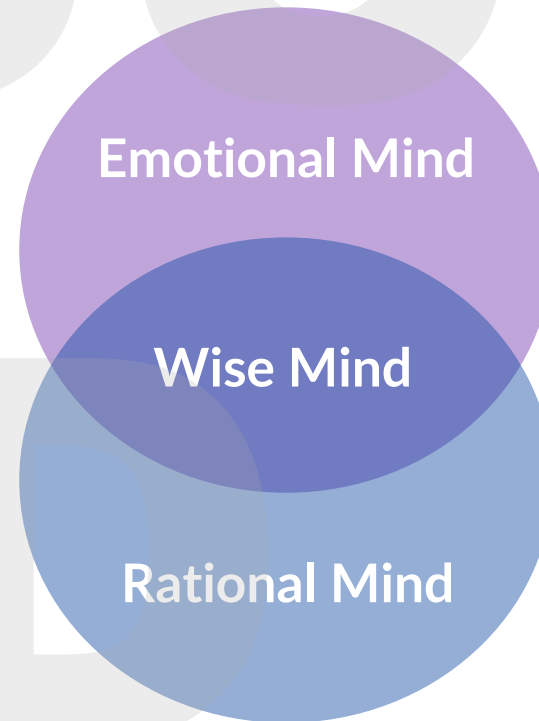
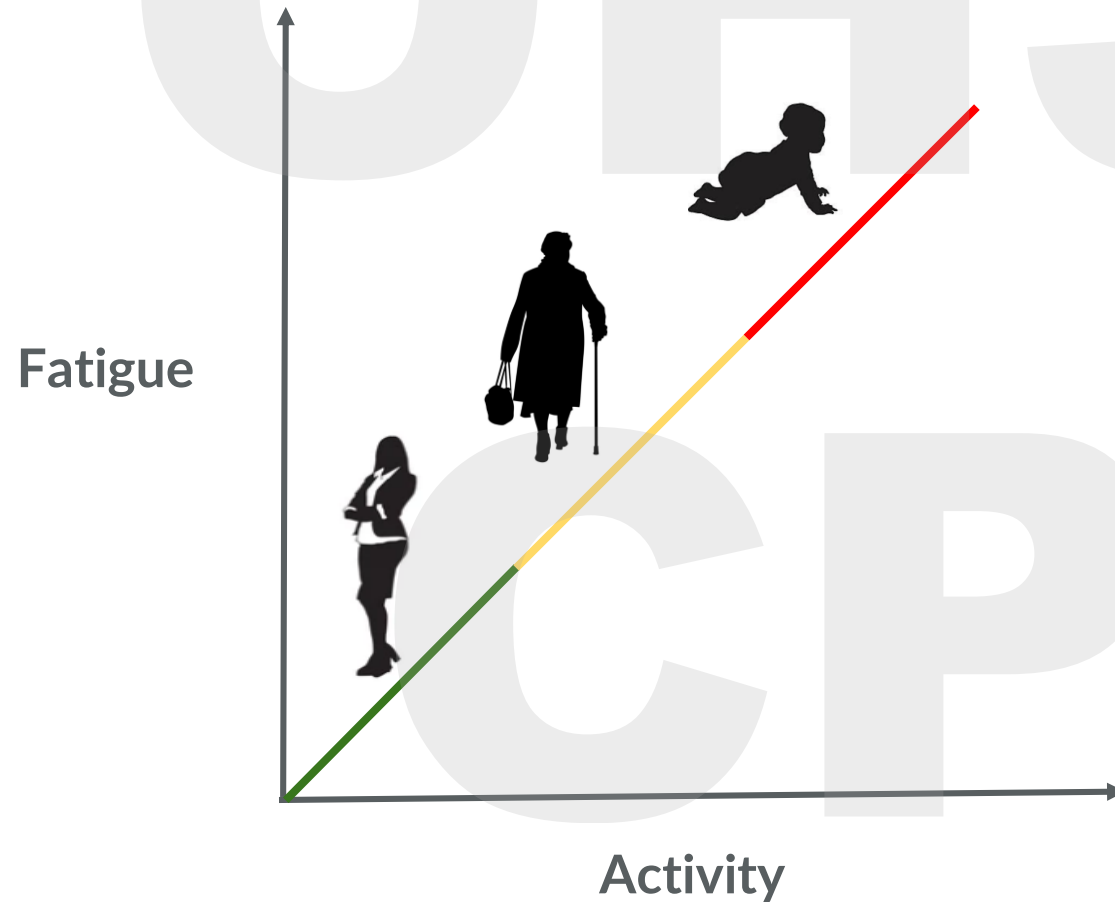
go shopping

Fatigue and Mental Health

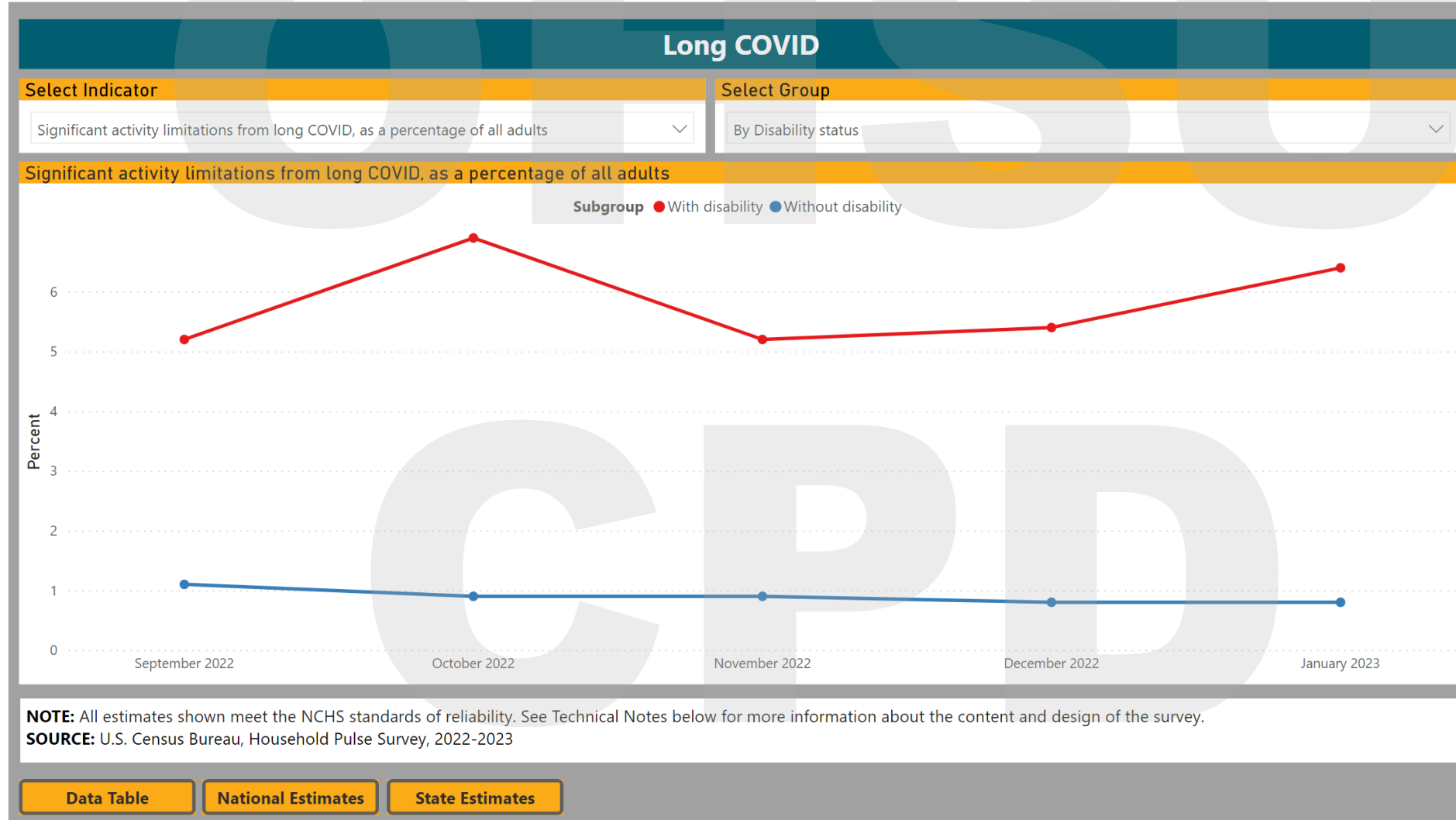
- Energy limitations (physical, cognitive) lead to **emotional dysregulation** when past “threshold”
- Emotional dysregulation:
 - Overly intense emotions (sadness, anger, rage, etc)
 - Inability to manage behavior (crying, can’t calm down, feeling out of control, etc)
 - Impulsive behavior
 - How might this affect one’s function?
Relationship with spouse/kids? Work?
- What can we do about this?



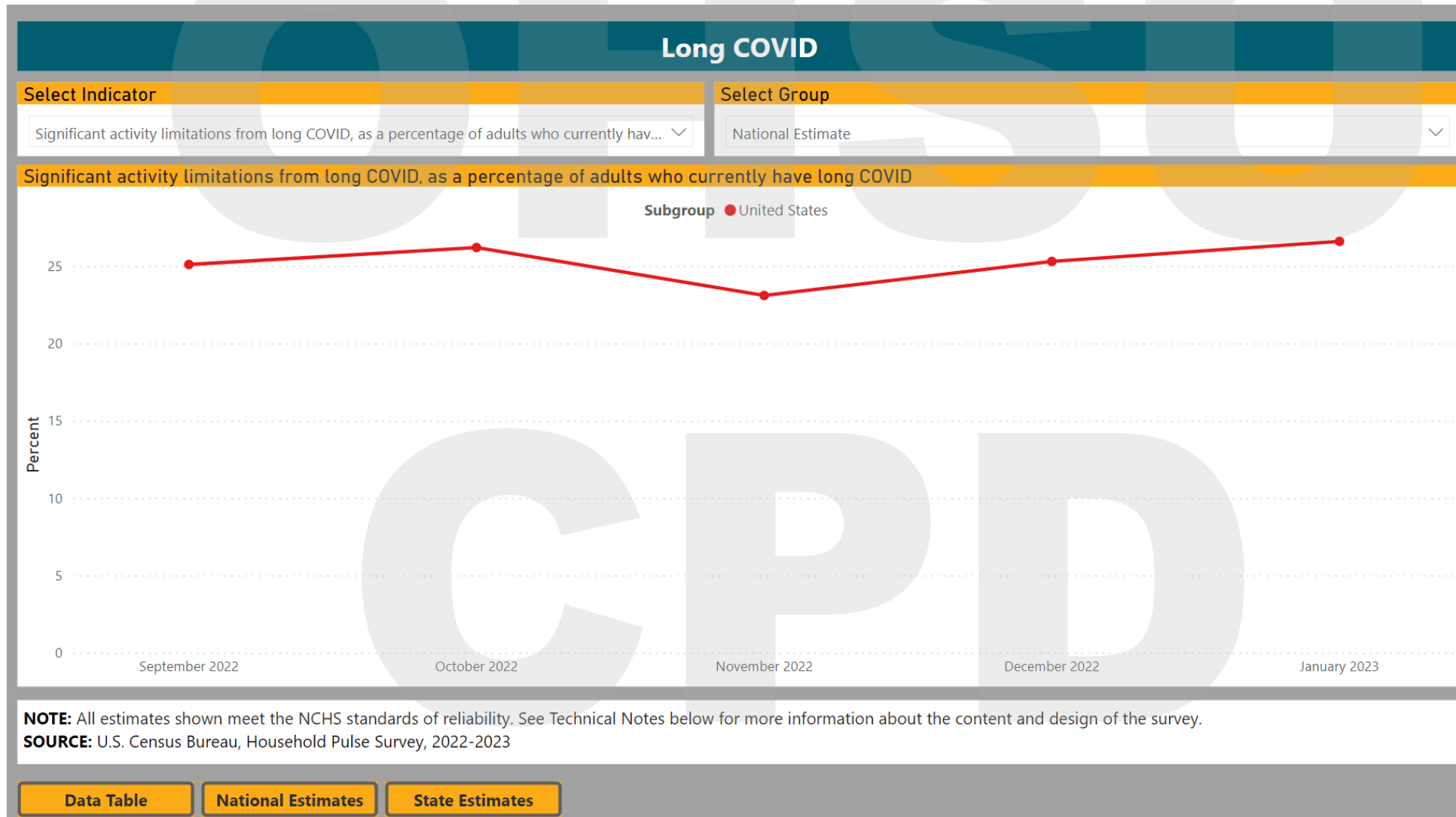
Dialectical Behavior Therapy - WISE MIND



Disability and Long COVID



Disability and Long COVID



Disability and Long COVID

Time Period	Weighted Response Rate	Sample Size
Jan 4 - Jan 16, 2023	6.4%	67,279
Dec 9 - Dec 19, 2022	6.7%	69,373
Nov 2 - Nov 14, 2022	5.6%	60,626
Oct 5 - Oct 17, 2022	3.9%	41,415
Sep 14 - Sep 26, 2022	4.7%	50,258

Psychosocial Factors

Support
issues

Adjustment
issues

Invalidation
issues

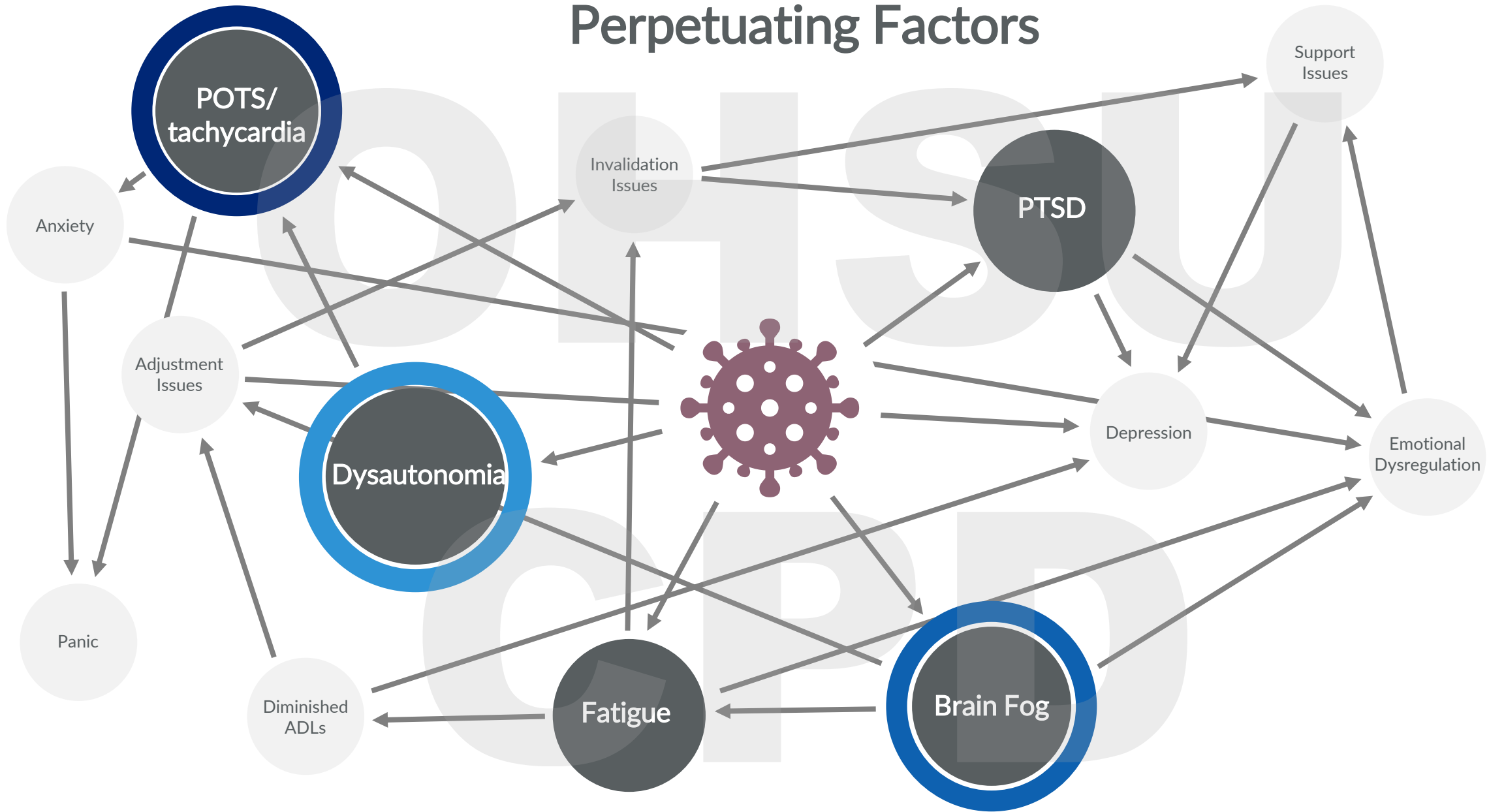
Suicide and Long COVID



Suicide attempts

- One female (no prior attempts)
- One male (no prior attempts)

Perpetuating Factors



It's not all in my head

- What does the science say?
 - Similarities to chemo-treatment-related cognitive impairment
 - Fernandez-Castenada 2022
 - Changes in brain structure on MRI
 - Douaud 2022
 - Focal brain hypometabolism on FDG-PET
 - Sollini et al 2021
 - Guedj et al 2021

Practice Pearls

- Validation
 - Symptoms are real
 - It's not all in your head
 - Connections based on science
- Empathetic listening
- Psychoeducation
 - Energy conservation (spoon theory)
 - Help patients prioritize realistic recovery goals
- Screening for suicide risk
 - Particularly in rural and Latinx communities



Practice Pearls

- Advocate for patients
- Ongoing troubleshooting (symptoms ebb and flow)
- Referral to Support Groups or Group Psychotherapy if available
- PEM and Emotional dysregulation – think DBT
 - WISE MIND



AAPM&R

- Consensus Guidance Statement on Cognitive Aspects of Long COVID
 - <https://www.aapmr.org/members-publications/covid-19/pasc-guidance>
- No formal consensus guidance statements for behavioral health aspects yet – stay tuned for AAPM&R statement later this year

Practice Pearls

- Detailed history taking is critical (eg distinguish between anxiety and dysautonomia)
- Cognitive testing
 - Bedside tests useful to screen major deficits/prompt additional referrals
 - Full neuropsychological testing reserved for complex cases
 - Wait lists long, should not delay treatment (eg referral to cognitive rehab, medication)
 - Cognitive fatigue impacts results

Practice Pearls

- Not all psychotherapy is helpful
 - Breath-based mindfulness exercises difficult
 - Cognitively taxing
 - Intensive Outpatient Programs taxing
- Don't shy away from psychotropic medications, but keep in mind:
 - Some interfere with cognition or worsen fatigue
 - Beta blockers may be preferable for anxiety/panic if dysautonomia suspected
 - SSRIs, SNRIs likely better tolerated at low doses
 - Stimulants for “brain fog”
 - Risk of worsening tachycardia
 - “Feeling good” is short term, risk of inducing post-exertional malaise

Practice Pearls

- When to refer to Psychiatry? Long COVID specialist? Long COVID Neuropsychiatry?
 - Suicidal ideation
 - Multiple failed drug trials
 - Poor diagnostic clarity

Thank You

Jordan R. Anderson D.O.

Assistant Professor of Neurology and Psychiatry

Oregon Health and Science University



References

- Becker, J. H., J. J. Lin, M. Doernberg, K. Stone, A. Navis, J. R. Festa and J. P. Wisnivesky (2021). "Assessment of Cognitive Function in Patients After COVID-19 Infection." JAMA Netw Open **4**(10): e2130645.
- Davis, H. E., G. S. Assaf, L. McCorkell, H. Wei, R. J. Low, Y. Re'em, S. Redfield, J. P. Austin and A. Akrami (2021). "Characterizing long COVID in an international cohort: 7 months of symptoms and their impact." EClinicalMedicine **38**: 101019.
- Douaud, G., S. Lee, F. Alfaro-Almagro, C. Arthofer, C. Wang, P. McCarthy, F. Lange, J. L. R. Andersson, L. Griffanti, E. Duff, S. Jbabdi, B. Taschler, P. Keating, A. M. Winkler, R. Collins, P. M. Matthews, N. Allen, K. L. Miller, T. E. Nichols and S. M. Smith (2022). "SARS-CoV-2 is associated with changes in brain structure in UK Biobank." Nature **604**(7907): 697-707.
- Fernandez-Castaneda, A., P. Lu, A. C. Geraghty, E. Song, M. H. Lee, J. Wood, B. Yalcin, K. R. Taylor, S. Dutton, L. Acosta-Alvarez, L. Ni, D. Contreras-Esquivel, J. R. Gehlhausen, J. Klein, C. Lucas, T. Mao, J. Silva, M. A. Pena-Hernandez, A. Tabachnikova, T. Takahashi, L. Tabacof, J. Tosto-Mancuso, E. Breyman, A. Kontorovich, D. McCarthy, M. Quezado, M. Hefti, D. Perl, R. Folkerth, D. Putrino, A. Nath, A. Iwasaki and M. Monje (2022). "Mild respiratory SARS-CoV-2 infection can cause multi-lineage cellular dysregulation and myelin loss in the brain." bioRxiv.

References

- Guedj, E., J. Y. Campion, P. Dudouet, E. Kaphan, F. Bregeon, H. Tissot-Dupont, S. Guis, F. Barthelemy, P. Habert, M. Ceccaldi, M. Million, D. Raoult, S. Cammilleri and C. Eldin (2021). "(18)F-FDG brain PET hypometabolism in patients with long COVID." Eur J Nucl Med Mol Imaging **48**(9): 2823-2833.
- Paul, B. D., M. D. Lemle, A. L. Komaroff and S. H. Snyder (2021). "Redox imbalance links COVID-19 and myalgic encephalomyelitis/chronic fatigue syndrome." Proc Natl Acad Sci U S A **118**(34).
- Sollini, M., S. Morbelli, M. Ciccarelli, M. Cecconi, A. Aghemo, P. Morelli, S. Chiola, F. Gelardi and A. Chiti (2021). "Long COVID hallmarks on [18F]FDG-PET/CT: a case-control study." Eur J Nucl Med Mol Imaging **48**(10): 3187-3197.