ALABAMA ACADEMY OF NEUROLOGY

AAN 2022 Poster Presentation

Abstract 22-01

Title: The Migraine Disability Assessment (MIDAS) as an Indicator of Resilience in Patients with Headaches

Presenting Author: Avneet Hans, PGY-1, University of Alabama Birmingham Medical Center

Additional Authors: Cynthia M. Stonnington, MD, Department of Psychiatry and Psychology, Mayo Clinic, Scottsdale, Arizona; Nan Zhang, MS, Department of Quantitative Health Sciences, Mayo Clinic, Scottsdale, Arizona; Richard Butterfield, MA, Department of Quantitative Health Sciences, Mayo Clinic, Scottsdale, Arizona; Deborah I. Friedman, MD, MPH, Departments of Neurology and Ophthlamology, University of Texas Southwestern Medical Center, Dallas, Texas

Introduction/Background: Resilience is associated with quality of life and functioning among patients with chronic conditions. We investigated whether resilience strongly mitigates headache related disability as measured by the Migraine Disability Assessment (MIDAS). MIDAS is a clinical tool to measure disability in migraine patients. MIDAS-predicted disability does not always correlate with actual functional disability, with some high-scoring patients remaining high functioning, and some low-scoring patients having poor functional outcomes. In these non-correlated cases, the MIDAS could potentially indicate resilience in addition to disability. Our objectives were to examine cross-sectional correlations of headache disability with measures of resilience, anxiety, and depression; and to determine if resilience modified the association between headache severity/frequency and disability.

Methods: We prospectively recruited 160 patients with primary headache disorders seen in a tertiary Headache Medicine program between 02/20/2018 and 08/02/2019. Each participant completed the MIDAS, Conner Davidson Resilience Scale (CDRS-25), Patient Health Questionnaire-9 (PHQ-9), General Anxiety Disorder-7 (GAD-7) and Well-Being Index (WHO-5). Inclusion criteria included an ICD-10 headache diagnosis, English-speaking, and intact cognition status. Exclusion criteria excluded patients who did not experience pain as a part of their headache disorder.

Results: CDRS-25 score was negatively correlated with total MIDAS ($p=.00091$), GAD-7 ($p<.0001$) and PHQ-9 scores ($p<.0001$). Well-being inversely correlated with disability ($p<.0001$). Increases in anxiety and depression increased the odds of disability. A one-point increase in the CDRS-25 score decreased the odds of being severely disabled by 4% (OR = 0.96, $p=0.001$). However, CDRS-25 score did not significantly moderate the association between headache days and disability.

Discussion and Conclusion: Traits associated with resilience decreased the odds of severe disability from headaches, whereas anxiety, depression, and headache frequency were strongly associated with higher disability from headache. While resilience did not significantly interact with average pain severity, higher resilience scores correlated with a decreased severe disability (defined as a MIDAS score greater than 21). Resilience training could be further studied as an adjunct headache therapy.

References:

1. Stovner LJ, Hagen K, Jensen R, Katsarava Z, Lipton R, Scher A, Steiner T, Zwart JA . The Global burden of headache: a documentation of headache prevalence and disability worldwide. Cephalalgia. 2007;27:193-210.

2. GBD 2016 Headache Collaborators. Global, regional, and national burden of migraine and tension-type headache, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. Lancet Neurol. 2018;11:954-976.

3. Martelletti P, Schwedt TJ, Lanteri-Minet M, Quintana R, Carboni V, Diener H-C, Ruiz de la Torre E, Craven A, Rasmussen AV, Evans S, Laflamme AK, Fink E, Walsh D, Dumas P, Vo P. My Migraine Voice survey: a global study of disease burden among individuals with migraine for whom preventive treatments have failed. J Headache Pain. 2018;19:115.

4. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). Depress Anxiety. 2003;18:76-82.

5. Stonnington CM, Kothari DJ, Davis MC. Understanding and promoting resiliency in patients with chronic headache. Curr Neurol Neurosci Rep. 2016;16:6.

6. Kalapurakkel S, Carpino EA, Lebel A, Simons LE. "Pain Can't Stop Me": Examining pain self-efficacy and acceptance as resilience processes among youth with chronic headache. J Pediatr Psychol. 2015;40:926-33.

7. Lipton R B, Seng EK, Chu MK, Reed ML, Fanning KM, Adams AM, Buse DC. The effect of psychiatric comorbidities on headache-related disability in migraine: Results from the Chronic Migraine Epidemiology and Outcomes (CaMEO) study. Headache. 2020; 60:1683-96.

8. Nakazawa K, Noda T, Ichikura K, Okamoto T, Takahashi Y, Yamamura Y, Nakagome K. Resilience and depression/anxiety symptoms in multiple sclerosis and neuromyelitis optica spectrum disorder. Mult Scler Relat Disord. 2018; 25:309-15.

9. Shin YC, Kim SM, Kim H, Min KJ, Yoo SK, Kim EJ, Jeon SW. Resilience as a protective factor for depressive mood and anxiety among Korean employees. J Korean Med Sci. 2019;34:e188.

10. Alschuler KN, Kratz AL, Ehde DM. Resilience and vulnerability in individuals with chronic pain and physical disability. Rehabil Psychol. 2016;61:7-18.

11. Matsuzawa Y, Lee YSC, Fraser F, Langenbahn A, Shallcross A, Powers A, Lipton R, Simon N, and Minen M. Barriers to behavioral treatment adherence for headache: An examination of attitudes, beliefs, and psychiatric factors. Headache. 2019;59:19-31.

12. Stewart WF, Lipton RB, Dowson AJ, Sawyer J. Development and testing of the Migraine Disability Assessment (MIDAS) Questionnaire to assess headache-related disability. Neurology. 2001;56:S20-8.

13. Swinson RP. The GAD-7 scale was accurate for diagnosing generalised anxiety disorder. Evid Based Med. 2006;11: 184.

14. Löwe B, Decker O, Müller A, Brähler E, Schellberg D, Herzog W, Herzberg PY. Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. Med Care. 2008; 46:266-74.

15. Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O'Neal LL, McLeod L, Delacqua G, Delacqua F, Kirby J, Duda SN and REDCap Consortium. The REDCap consortium: Building an international community of software platform partners. J Biomed Inform. 2019; 95:103208.

16. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)--a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009; 42: 377-81.

17. Battalio SL, Silverman AM, Ehde DM, Amtmann D, Edwards KA, Jensen MP. Resilience and function in adults with physical disabilities: An observational study. Arch Phys Med Rehabil. 2017; 98:1158-64.

18. McCracken LM, Zhao-O'Brien J. General psychological acceptance and chronic pain: There is more to accept than the pain itself. Eur J Pain. 2010;14:170-75.

19. Kemper KJ, Heyer G, Pakalnis A, Binkley PF. What factors contribute to headache-related disability in teens? Pediatr Neurol. 2016; 56: 48-54.

20. Lamond A J, Depp CA, Allison M, Langer R, Reichstadt J, Moore DJ, Golshan S, Ganiats TG, Jeste DV. Measurement and predictors of resilience among community-dwelling older women. J Psychiatr Res. 2008; 43:148-54.

21. Senders A, Bourdette D, Hanes D, Yadav V, Shinto L. Perceived stress in multiple sclerosis: the potential role of mindfulness in health and well-being. J Evid Based Complementary Altern Med. 2014;19:104-11.

22. Kreutzer, JS, Marwitz JH, Sima AP, Bergquist TF, Johnson-Greene D, Felix ER, Whiteneck GG, Dreer LE. Resilience following traumatic brain injury: A traumatic brain injury model systems study. Arch Phys Med Rehabil. 2016;97:708-13.

23. Hanks RA, Rapport LJ, Waldron Perrine B, Millis SR. Correlates of resilience in the first 5 years after traumatic brain injury. Rehabil Psychol. 2016;61:269-76.

24. Foote HW, Hamer JD, Roland MM, Landy SR, Smitherman TA. Psychological flexibility in migraine: A study of pain acceptance and values-based action. Cephalalgia. 2016;36:317-24.

25. Day MA, Thorn BE, Rubin NJ. Mindfulness-based cognitive therapy for the treatment of headache pain: A mixed-methods analysis comparing treatment responders and treatment non-responders. Complement Ther Med. 2014;22:278-85.

26. Day MA, Thorn BE and Rubin NJ. Mindfulness-based cognitive therapy for the treatment

of headache pain: A mixed-methods analysis comparing treatment responders and treatment non-responders. Complement Ther Med. 2014; 22:278-285.

27. Gonzalez A, Shim M, Mahaffey B, Vranceanu A-M, Reffi A, Park ER. The Relaxation Response Resiliency Program (3RP) in patients with headache and musculoskeletal pain: A retrospective analysis of clinical data. Pain Manag Nurs. 2019; 20:70-74.