J Psychiatry Psychiatric Disord 2021; 5 (2): 11-17 doi: 10.26502/jppd.2572-519X0128

Research Article

NADA Ear Acupressure for COVID-19 Stress Management

Michelle Olshan-Perlmutter[1*], Kenneth Carter[2]

[1]Atrium Health- Behavioral Health Center, 501 Billingsley Road, Charlotte, NC 28105, United States of America

[2]UNC School of Medicine, 321 S Columbia Street, Chapel Hill, NC 27516, United States of America

[*]**Corresponding Author:** Michelle Olshan-Perlmutter, Atrium Health- Behavioral Health Center, 501 Billingsley Road, Charlotte, NC 28105, United States of America, E-mail: michell.olshanperlmutter@atriumhealth.org

Received: 10 February 2021; **Accepted:** 16 February 2021; **Published:** 03 March 2021

Citation: Michelle Olshan-Perlmutter, Kenneth Carter. NADA Ear Acupressure for COVID-19 Stress Management. Journal of Psychiatry and Psychiatric Disorders 5 (2021): 11-17.

1. Introduction

The world is currently facing the COVID-19 pandemic. It primarily affects the respiratory system. However, COVID-19 also affects the brain and can cause negative mental status changes [1]. Beyond the neurological and cognitive risks, the pandemic is having enormous emotional and social impacts. There are indications that depression and anxiety are now increased beyond pre-pandemic levels [2]. In addition to higher levels of anxiety, studies also report increased stress, frustration, boredom, fear and loneliness. Compelling hypotheses suggest that these negative emotions impair our sense of wellbeing and quality of life [3]. The social distancing, isolation, and quarantine measures are known to decrease COVID 19 transmission but can add to the potential for negative emotional states [3].

2. Description

Substance use may increase the vulnerability to respiratory complications associated with COVID 19 infection [4]. Sadly, social and emotional impacts of the pandemic can favor initiation, continuation and intensification of substance misuse [4]. This is due to the impact of stress exposure and the role it plays in escalating and maintaining craving states. Craving states are marked by anxiety and other negative emotions, systolic blood pressure changes, and behavioral distress responses [5]. The concept of craving describes a persistence of negative emotions accompanied by a dysregulated HPA (hypothalamic-

pituitary-axis) and signs of physiological arousal [5]. Interventions that bring about decreases in stress and that improve HPA regulation of stress response are beneficial in improving relapse outcomes [5].

The Kaiser Family Foundation poll found that as life with the COVID 19 pandemic wears on, a majority of adults (53%) in the United States express pandemic related areas of worry and stress. These include: sleep issues, eating issues, headaches, ability to control temper, increased alcohol or drug use and/or worsening chronic health conditions. The poll also shows that women and younger adults, Black and Hispanic adults are more likely to report mental concerns [6]. A national poll released by the American Psychiatric Association highlights the serious emotional impact of the pandemic on our day-to-day lives [7].

Studies in Denmark [8], China and elsewhere reinforce reports that negative emotional impacts related to COVID-19 are widespread [9-11]. Studies have shown evidence of an increase in depression and anxiety symptoms along with the negative effects on general mental health in front line healthcare workers [12].

The Centers for Disease Control and Prevention, the American Psychological Association and numerous other healthcare organizations are addressing the importance of self-care activities and finding ways to cope with stress related to COVID-19. Recommendations include: take care of your emotional health, take breaks from watching, reading or listening to pandemic news stories, meditate, try to eat healthy, exercise regularly, get plenty of sleep, make time to unwind, connect with others, consider connecting online through social media, or by phone or mail, and connect with your faith-based organizations [13, 14].

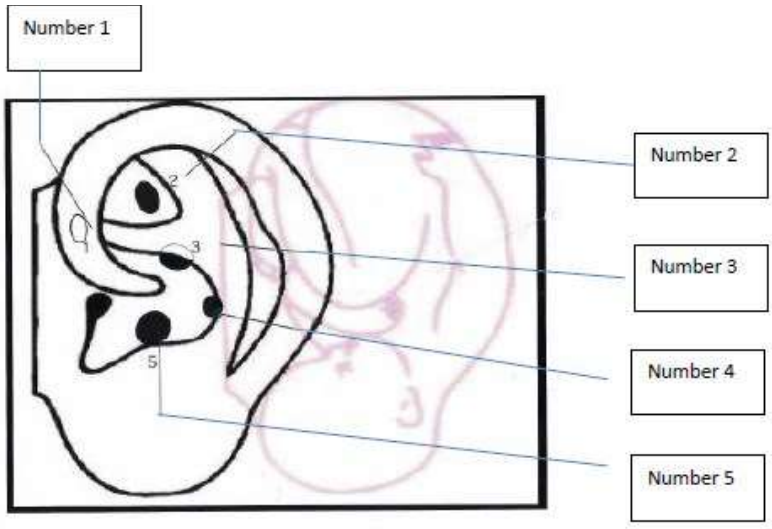

Figure 1: NADA ear and description.

Number 1: Sympathetic; Number 2: Shenmen; Number 3: Kidney; Number 4: Liver; Number 5: Lung.

The ear acupressure seed/magnet protocol of the National Acupuncture Detoxification Association (NADA) is an effective self-care activity. This simple application can aid in managing pandemic-related stress and anxiety. The full NADA protocol includes the use of both ear acupuncture and acupressure. It has long been recognized as an effective adjuvant for substance misuse treatment and harm reduction. The value of NADA protocol as an aid in managing negative emotional states is also well documented [15].

The NADA protocol involves the stimulation of 1 to 5 ear acupoints. The arrangement of acupoints on the ear is similar to the arrangement of neurons in the motor cortex of the brain. The ear is thus a "humunculus" representing the entire body in the microcosm; it is a microsystem that reflects and influences the body's state of health and wellness (16). Topographically the outer auricle can be represented as an inverted fetus [16].

NADA ear acupressure seeds/magnets can be used independent of ear acupuncture needles. The NADA ear acupoints are sympathetic, shenmen, kidney, liver and lung [17]. Sympathetic mitigates disruption in the sympathetic and parasympathetic nervous system and is associated with easing muscle tension. Shenmen regulates excitation and inhibition of the cerebral cortex and is associated with mental clarity. Lung is innervated by the vagus nerve. It is associated with an anti-inflammatory response and with relief of anxiety. Liver helps with liver detoxification and is associated with relief of anger and irritability. Kidney is the strengthening point for cerebellum, hematopoietic response and is associated with relief of depression [18-20].

Researchers have demonstrated the effects of acupoint stimulation on the autonomic nervous system, the release of brain neurotransmitters and hormones, HPA and the limbic system [21]. Acupoint stimulation alters the balance of prefrontal cortex activity resulting in relaxation and decreased anxiety [22]. Use of acupoints has been shown to stimulate neurophysiologic, biochemical, endocrine, emotional and cognitive effects [23, 24]. One theory suggests that acupoint stimulation reduces anxiety by reducing 5 hydroxytryptamine and adrenocorticotropic hormone concentrations in nerves and by adjusting the concentration of neurotransmitters such as serotonin, norepinephrine and dopamine [24].

The NADA ear protocol originated at Lincoln Hospital in the Bronx, New York, and gained prominence in treating substance misuse in the 1970s. Today, it is the most widely used integrative therapy within the context of treatment for substance misuse [25]. NADA ear acupoint stimulation for substance misuse developed through a collaboration of grassroots community efforts [26]. It is used to reduce the cravings and withdrawal symptoms associated with substance misuse [20]. It improves treatment engagement and retention [27]. Currently, the NADA protocol is also used for post-traumatic stress, disaster relief and wellness promotion. It improves a broad range of negative emotions such as depression, anxiety and anger. In addition, it helps improve body aches/headaches, concentration and energy [28]. A phenomenographic analysis of healthcare professionals' perceptions using ear acupuncture as

part of psychiatric and substance misuse care revealed positive effects on a variety of patients' symptoms. In this study, the healthcare professionals mainly utilized the NADA protocol [29]. Improvements were noted in anxiety, insomnia, hyperactivity, depression, emotional irritation and pain [29]. Ear acupuncture was also perceived to reduce symptoms of withdrawal from alcohol, illicit drugs and prescribed medications. The participating healthcare professionals perceived that feelings of inner calmness were induced in most patients [29].

In the past, most NADA research focused on the NADA ear acupuncture (needling) aspect. More recent studies demonstrate the benefits obtained as a result of using ear acupressure alone. One recent study showed that ear acupressure using the shenmen auricular acupoint reduced symptoms of anxiety and burnout in behavioral healthcare providers. In addition, 60% of respondents reported a spectrum of benefits, including feeling less stress, sleeping better and being more mindful [30]. A study of the effects of ear acupressure in cancer patients undergoing bone marrow biopsy and aspiration demonstrated effectiveness in decreasing anxiety and pain severity [31]. Ear acupressure, produced a reduction in the need for sedatives and anti-anxiety medication in post-menopausal women with anxiety [32], and in another study it alleviated anxiety in elderly patients before hip surgery [33].

NADA ear acupressure is a nonverbal treatment that does not require a mental health or substance use diagnosis in order to initiate use or achieve benefit. There is no learning curve required of individuals in order to benefit from this self-care treatment modality. Symptom relief is often immediate. NADA literature has shown there are benefits that can be achieved by just using shenmen acupoint. The authors recommend prioritizing the use of this bilateral single acupoint as well.

NADA ear acupressure using the bilateral Shenmen acupoint involves the application of either a seed or low intensity (800 gauss) magnetic bead. The seed or magnetic bead is applied using hypoallergenic tape to the Shenmen acupoint of each ear. The Shenmen acupoint is located at the lateral wall of the triangular fossa. The seed or magnetic bead can remain in place for up to one week and then should be removed to prevent skin irritation. However, if the seed or magnetic bead falls off at any time it can be replaced. Individuals can replace the seed or magnetic bead as needed to alleviate stress and provide self-care.

The Auricular (ear) Acupuncture Teaching Tool website https://acudetox.com/ear-acupressure-teachingtool/ [34] provides information on the benefits and instructions on how to apply seeds and magnetic beads. The NADA video link https://youtu.be/bDXpZtK6Xc4 [35], demonstrates the ease with which anyone, including children, can learn how to self-apply the shenmen acupoint seed or magnetic bead for self-care. This is a safe treatment option that nurses and other healthcare providers can promote for use with minimal side effects. Though unlikely, potential side effects are local bruising, skin irritation or temporary headache.

3. Conclusion

This treatment option can be made readily available to anyone. The cost for the ear acupressure seed or

magnetic bead is less than 10 cents per treatment. Healthcare professionals are in a unique position of being able to offer this modality to patients, colleagues and friends in order to enhance an individual's sense of self-empowerment and self-control. As such, it is an excellent addition to the existing array of possible self-care tools to address negative emotional states including those that are a consequence of COVID-19 pandemic.

References

1. Ali A, Asadi-Pooya, LeilaSima I. Central nervous system manifestations of COVID-19: A systematic review. Journal of the Neurological Sciences 413 (2020).
2. Xiong J, Lipsitz O, Nasri F, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. Journal of Affective Disorders 277 (2020): 55-64.
3. Serafini G, Parmigiani B, Amerio A, et al. The psychological impact of COVID-19 on the mental health in the general population QJM: An International Journal of Medicine 113 (2020): 531-537.
4. Ornell F, Helena Moura HF, Scherer JK, et al. The COVID-19 pandemic and its impact on substance use: Implications for prevention and treatment. Psychiatry Research 289 (2020): 113096.
5. Sinha R, Fox HC, Hong KA, et al. Enhanced negative emotion and alcohol craving, and altered physiological responses following stress and cue exposure in alcohol dependent individuals. Neuropsychopharmacology 34 (2009): 1198-1208.
6. Kaiser Family Foundations (KFF) Health Tracking Poll – July 2020.https://www.kff.org/coronavirus-covid-19/report/kff-health-tracking-poll-july-2020.
7. American Psychiatric Association. New Poll: COVID-19 Impacting Mental Well-Being. Available at https://www.psychiatry.org/newsroom/news-releases/new-poll-covid-19-impacting-mental-well-being-americans-feeling-anxious-especially-for-loved-ones-older-adults-are-less-anxious (2020).
8. Sønderskov K, Dinesen P, Santini Z, et al. The depressive state of Denmark during the COVID-19 pandemic. Acta Neuropsychiatrica 32 (2020): 226-228.
9. Li S, Wang Y, Xue J, et al. The impact of COVID-19 epidemic declaration on psychological consequences: a study on active Weibo users. International Journal of Environmental. Research and Public Health 17 (2020b): 2032.
10. Bo H.-X, Li W, Yang Y, et al. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. Psychological Medicine (2020): 1-7.
11. Zhang J, Lu H, Zeng H, et al. The differential psychological distress of populations affected by the COVID- 19 pandemic. Brain, Behavior and Immunity 87 (2020): 49-50.
12. Chen Y, Zhou H, Zhou Y. Prevalence of self-reported depression and anxiety among pediatric medical staff members during the

COVID-19 outbreak in Guiyang, China. Psychiatry Research 288 (2020).

13. Coronavirus Disease 2019 (COVID-19) https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html
14. APA COVID-19 Information and Resources. American Psychological Association. https://www.apa.org/topics/covid-19
15. National Acupuncture Detoxification Association. Training resource manual: A handbook for individuals training in the National Acupuncture Detoxification Association's Five-needle Acudetox Protocol (4th ed.). Columbia, MO: Author (2010).
16. Stux G, Pomeranz B. Basics of Acupuncture, 5th ed.; Springer-Verlag: Berlin, Germany (2003).
17. Carter K, Olshan-Perlmutter. NADA Protocol: Integrative Acupuncture in Addictions. Journal of Addictions Nursing 25 (2014): 182-187.
18. Landgren K. Ear Acupuncture: A Practical Guide; Elsevier, Chatswood, Australia (2008): 105-116.
19. Li T, Wang Z, Yang S, et al Transcutaneous electrical stimulation at auricular acupoints inner aged by auricular branch of vagus nerve pairing tone for tinnitus: Study protocol for a randomized controlled clinical trial. Trails 16 (2015).
20. Smith M, Carter K, Landgren K, et al. Addiction Medicine: Science and Practice. In Ear Acupuncture in Addiction Treatment; Johnson, B., Ed; Springer Science & Business Media, LLC: New York, NY, USA (2011).
21. Fang, J., Jin,Z., Wang, Y., Li, ,K., Kong, J., Nixon, E., & Hui, K. K.- S. (2009). The salient characteristics of the central effects of acupuncture needling: limbic-Para limbic-neocortal network modulation. Human Brain Mapping 4 (2009): 1196-1206.
22. Sakatani K, Kitagawa T, Aoyama N, et al. Effects of acupuncture on autonomic nervous system function and prefrontal cortex activity. Advances Experimental Medicine and Biology 662 (2010): 455-460.
23. Huang W, Kutner N, Bliwise DL. Autonomic activation in insomnia: The case for acupuncture. Journal of Clinical Sleep Medicine 7 (2011): 95-101.
24. Brewington V, Smith M, Lipton D. Acupuncture as a detoxification treatment: An analysis of controlled research. Journal of Substance Abuse Treatment 11 (1994): 298-307.
25. Helms J. Acupuncture Energetics: A Clinical Approach for Physicians, 2nd ed. Berkeley: Medical Acupuncture Publishers (1997): 153-154.
26. Voyles C, Carter K, Cooley L. Back to the Future: The National Acupuncture Detoxification Association (NADA) Protocol Persists as an Agent of Social Justice and Community Healing by the People and for the People. Open Access Journal of Complementary and Alternative medicine 2 (2020): 1-3.
27. Substance Abuse and mental health Service Administration. A Treatment Improvement

Protocol (TIP) 45 [DHHS Publication No. (SMA) 06-4131]. Rockville, MD: Substance Abuse and Mental Health Services Administration (2006): 103-104.

28. Carter K, Olshan-Perlmutter M, Norton HJ, et al. NADA Acupuncture Prospective Trial in Patients with Substance Use Disorders and Seven Common Health Symptoms. Medical Acupuncture 23 (2011): 139-135.
29. Landgren K, Sjostrom A, Ekelin M, et al. Ear Acupuncture in Psychiatric Care from the Health Care Professionals' Perspective: A Phenomenographic Analysis. Issues in Mental Health Nursing 40 (2019): 166-175.
30. Olshan-Perlmutter M, Carter K, Marx J. Auricular acupressure reduces anxiety and burnout in behavioral healthcare. Applied Nursing Research 49 (2019): 57-63.
31. Moloud S, Abbas S, Fatemah G, et al. The effects of acupressure on pain, anxiety, and the physiological indexes of patients with cancer undergoing bone marrow biopsy. Complementary Therapies in Clinical Practice 29 (2017): 136-141.
32. Kao C, Chen C, Lin W, et al. Effects of auricular acupressure on peri- and early postmenopausal women with anxiety: A double blinded, randomized and controlled pilot study. Evidenced- based Complementary and Alternative Medicine (2012): 567639.
33. Barker R, Kober A, Hoerauf K, et al. Out of-hospital auricular acupressure in elder patients with hip fracture: A randomized double blinded trial. Academic Emergency Medicine 13 (2008): 19-23.
34. The Ear Acupuncture Teaching Tool website https://acudetox.com/ear-acupressure-teachingtool/.
35. NADA video link The BeadsPassItOn https://youtu.be/bDXpZtK6Xc4.