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# **Eating Disorders Review**

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#### **Scott Crow, MD, Editor-in-Chief**

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## **More Highlights of the 2020 iaedp Virtual Symposium**

### ***Music Therapy: A Panacea for Eating Disorders Patients***

With their keynote presentation at the 2020 iaedp Virtual Symposium, “The Brain Comes Alive with the Sound of Music: Innovative Treatments for Eating Disorders Clients through Music Therapy,” Drs. Ralph Carson and Annie H. Heiderscheit outlined the direct and powerful effects music and music therapy can have in treatment of patients with EDs.

#### **The Healing Power of Music**

Dr. Carson, Senior Clinical and Research Advisor at the Eating Recovery Center, and longtime iaedp Board member, told audience members that the use of music as healing therapy has a long history, going back at least to biblical times, when David played his harp for King Saul. During World War I and II, when professional entertainers and volunteers entertained wounded soldiers with music, nurses and clinicians noticed that hospitalized soldiers who had been exposed to music were able to leave the hospital more quickly.

Dr. Carson explained the neurologic framework and the power of sound and music in human therapy and in nature, where soothing sounds affect songbirds, and reduce the fight or flight instinct. He explained that music can reduce anxiety and build a therapeutic bond with clients. Listening to relaxing low-tempo sounds reduces blood pressure and produces oxytocin. Opposite to the effect of cortisol, oxytocin reduces anxiety.

Therapy with music—particularly low-tempo music—can help reduce anxiety in the clinical setting and helps build a therapeutic bond, so that clients become more engaged in therapy, he said. The effect of music on the heart can be seen in a series of studies by Dr. Carrol Mclaughlin and colleagues (*Evidence based Complementary and Alternative Medicine*. 2013; article 428731) that showed patients needed less anesthesia and had lower levels of atrial fibrillation, suggesting that oxytocin relaxed the heart.

Playing music at bedtime can be very helpful for slowing the heart rate, Dr. Carson said. Background music can enable clients to fall asleep more quickly and to sleep longer, facilitating healing and neurogeneration. The music that is most calming to people is music they associate with times when their life was good, and/or music was experienced as calming and soothing. The most effective approach integrates music into regular bedtime routines, he added. Classical music, in particular soothing melodies that progress from low to higher notes, is the best form for reducing anxiety, he said.

The therapeutic impact of movement to music involves a complex cortisol process that weds emotions and a reward system, Dr. Carson noted. The way we respond depends on the social context. When movement is synchronized to a steady beat, humans and songbirds automatically feel that beat. Not all humans can get into the beat, he added, but for those who do, musical synchronization has many benefits. Some of these include helping children with speech impairments; synchronization can also help

boost the immune system.

Taking up a new musical instrument can be helpful for slowing aging and for preventing the onset of certain degenerative processes, Dr. Carson explained. For example, playing the drums stimulates alpha waves that help balance the brain and enable an individual to be more creative and to have a heightened sense of spirituality as well. Learning to play a musical instrument also has a direct and beneficial effect on the aging brain. In the brain, the hippocampus produces stem cells that migrate, and may slow cognitive decline (*Transl Neurodegener.* 2017; 6: 2; *Geriatr Gerontol Int.* 2014; 14:440).

### **Music and COVID-19**

Dr. Carson told the audience that use of music might be very helpful as part of COVID-19 therapy. For example, inflammation is one of the most serious problems in COVID-19. Music reduces inflammation by keeping cortisol levels and the respiratory rate lower, improving breathing, and reducing pain—all goals in COVID-19 therapy.

### **Music and EDs**

How does music come into play for treating people with eating disorders? Dr. Carson noted that music soothes emotional disorders, quells vomiting, and reduces pain and traumatic brain injury. Music reduces pain in conditions such as fibromyalgia, osteoarthritis, and in postoperative pain. Cognitive behavioral therapy and music therapy can help reduce cognitive distortions. As a result, patients have an increased ability to eat healthier meals, and can learn to self-limit. Other benefits are increased quality of life, improved social skills, and increased motivation to recover and to challenge self-defeating body disorders. Self-determination is also improved, according to Dr. Carson. Music can also become a helpful diversion during chemotherapy, he said. In heart disease it is soothing and relaxes the arteries; however, it does not necessarily reduce heart disease.

Singing is another beneficial part of music therapy. Singing reduces depression, improves camaraderie, as is seen with karaoke, and reduces blood pressure and heart rate.

Our thoughts can override the effort to relax, he said. If a patient has distracting thoughts, music can counteract this. By focusing on music, breathing or imagery, it is possible to pull the focus away from such distracting thoughts and allow the body to relax.

Finally, Dr. Carson, who is also an expert in exercise physiology, noted that music could be very helpful to athletes trying to get through a workout. By itself, working out decreases anxiety and enables the athlete to feel less pain as it releases endorphins. Music boosts physical endurance and is helpful for people in all activities (*Int Rev Sport Exerc Psychol.* 2012 Mar; 5: 44).

### **An NIH Award to Explore the Potential of Sound**

Growing interest in the brain and the effects of music is reflected in a recent educational project. Dr. Carson noted that the National Institutes of Health awarded \$20 million in 2019

([www.nih.gov/research-training/medical-research-initiatives/sound-health](http://www.nih.gov/research-training/medical-research-initiatives/sound-health)) to be used over the next 5 years to support the Sound Health Initiative, a program to explore the potential of music to treat a wide range of conditions resulting from neurological and other disorders. Sound Health Initiative research aims to advance the understanding of music's mechanism of action in the brain and how this knowledge can be applied more broadly to treat symptoms of disorders such as Parkinson's disease, stroke, and chronic pain. The research will also explore the effect of music on the developing brains of children.

## The Body as a Symphony

Dr. Heiderscheit, Director of Music Therapy and Associate Professor of Music at Augsburg University, Minneapolis, MN, described how music is "a very holistic process connecting every part of our body."

She told the virtual audience that the four main methods used in music therapy are: (1) receptive, listening to music; (2) recreational, playing music and singing a favorite song; (3) recreating, where music is created with science and (4) creating, improvising music in the moment.

The body is a symphony of rhythms, she said. During sleep, our normal heartbeat is 60 to 80 beats per minute, and during the deeper sleep cycle this falls to 40 to 60 beats. Breath is the life force, the essence of who are, she said. For example, during periods of anxiety our breath becomes shallow and rapid, and when we feel overwhelmed, moves into hyperventilation. The vagus nerve responds to the breath, sending a signal cueing the body that we are going into a fight or flight mode. Our breath is the barometer.

Music of 60 to 80 beats per minute is best for relaxation, she said. A patient should also choose music he or she likes. It is a challenge, as our thoughts can easily override the system.

## Help During the Pandemic

Music has useful applications during the pandemic, she said. Music is a great tool for quieting the mind and relaxing the body. The listener can lean back in a chair, close his or her eyes, and listen to sounds of ocean waves or Native American flute music. With string instruments, the tension mimics the muscles: the higher the pitch, the lower the tone, and muscles mirror this. With sleep, a variety of types of music can produce delta rhythm, designed to help the client move into a very deep sleep cycle.

Dr. Heiderscheit also noted that songs can be helpful for many therapeutic needs. Does a song express unsaid thoughts or things a patient might want to hear? Dr. Heiderscheit said, "We might use a song to serve as a springboard for a therapeutic issue." Songs can help clients express or disclose something when they cannot find the words. Songs enable us to explore and reflect upon our lives. A song can act as an autobiography, of different moments, experiences, and can be a bridge to help the client and therapist explore these experiences. She provided a good example with a song, "This Is Me," from the Broadway musical *The Greatest Showman*. The story behind the musical about PT Barnum had to do with abuse. A client might bring in a song as a way to express or disclose something that is difficult or impossible to address directly with the group or therapist.

A song can also enable the client to hear and discover new self-understandings. Songs can connect with us and can change our affect; lifting our mood or shifting it down, she added. Mostly it is a way to explore relationships and to communicate energy and movement. As a demonstration, Dr. Heiderscheit invited audience members to notice what happens to the body when one is listening to a song like "YMCA." The rhythm of the song gets the body moving, and is an activating agent, a motivation for movement and action. She also pointed to the many other benefits of singing, such as building lung capacity and a bringing a sense of empowerment. Singing may let us feel this sense of empowerment, using our own instrument, connection, and community. This is very applicable right now, in the era of COVID-19, she said.

One of the final pieces in music therapy is song writing. She gave an example where a group of her ED patients chose to transform a song from The Dixie Chicks (recently renamed The Chicks), "Goodbye Earl" that details an abusive relationship. This song, chosen by the group and rewritten, provided the group with a way to safely explore their feelings and experiences. Similar to an eating disorder, which is toxic and destructive, the group could explore the ugly feelings and experiences they had encountered and to find a place to put them. The song they produced and recorded led to an "artifact" that the group could retain. The song the women developed was titled, "Goodbye ED."



## The Authors

### Ralph Carson, LD, RD, PhD

Dr. Ralph Carson is a clinical nutritionist and exercise physiologist with nearly 40 years of experience in the treatment of addictions, obesity, and eating disorders. Prior to joining Eating Recovery Center, Dr. Carson was the Executive Director of FitRx in Brentwood, TN. He was also a clinical consultant to Pine Grove Behavioral Health & Addiction Treatment Center, Hattiesburg, MS. He has been a faculty member of the University of Alabama at Huntsville for over 20 years, is a nutritional advisor to numerous university athletic departments, including the University of Tennessee National Basketball Champion Lady Volunteers, and speaks regularly to professional and lay audiences alike. Dr. Carson is the author of *Harnessing the Healing Power of Fruit* and *The Brain Fix: What's the Matter with Your Gray Matter: Improve Your Memory, Moods, and Mind*. Additionally, Dr. Carson is an active board member of the International Association of Eating Disorder Professionals (iaedp) and the Binge Eating Disorder Association (BEDA).



### Annie Heiderscheit, PhD, MT-BC, LMFT

Dr. Heiderscheit has been a board-certified music therapist for 28 years. She is currently Director of Music Therapy and Associate Professor of Music at Augsburg University, Minneapolis, MN. She is a licensed marriage and family therapist, and has advanced training in music psychotherapy and the Bonny Method of Guided Imagery Music. She has worked with clients with eating disorders for 17 years, and has published numerous case studies and four books, including *Creative Arts Therapies and Clients with Eating Disorders*. She maintains a clinical practice at the University of Minnesota Children's Hospital, as well as a music therapy private practice. Dr. Heiderscheidt consults and teaches within major healthcare organizations on the benefits of using music as an integrative modality in patient care. She is a fellow of the Association of Music and Imagery.

## From Across the Desk

### **COVID Deaths Pass Another Milestone**

It is a challenging time for everyone, as worldwide deaths from COVID surpass the 1 million mark. In the US, deaths include more than 1700 deaths among US healthcare workers. Certainly, those with eating disorders are also strongly affected.

A surge in people seeking help in the ongoing pandemic reflects the fact that eating disorders thrive in isolation. As a small pilot study reported (see "The Impact of the Pandemic on Eating Disorders Patients" elsewhere in this issue), most patients were concerned about the risk of COVID-19 infection for themselves or their family, the possible negative impact on their school or work, and whether they could continue to get the treatment they needed. More than a third had increased impairment from ED symptoms, and a small group said the stress made it harder to stop grazing behavior and emotional eating. And, when asked about reaching out to others, a group with AN were ambivalent about communicating with the help of social media and video calls.

For those treating patients with eating disorders, several steps seemed helpful for reducing their own continuing stress, such as structuring their day and developing a connected and healthy lifestyle.

A brighter note is that the race to develop a safe and effective vaccine is proceeding at an extraordinary

rate. Several promising products are now in Stage 3 trials. It now appears that effective vaccines will be developed in a fraction of the time needed to develop them in the past. This is greatly encouraging. The use of mitigation strategies remains critical, however, especially as fall and winter approach in the northern hemisphere. The rapid rollout of effective vaccines will be another major healthcare achievement, one that will likely require much or most of 2021 to achieve.

—MKS

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## Update: ED Patients and the Costs of the Pandemic

A recent survey of 1000 people with eating disorders in the US (n=511) and the Netherlands (n=510) has provided an early view of the impact of the COVID-19 pandemic on persons with eating disorders. The abstract was published in *medRxiv*, a leading source for rapid dissemination of research results during the COVID-19 pandemic.

Those with AN, who made up 62% of US participants and 69% of those in the Netherlands, reported higher levels of restriction and were fearful about finding foods that fit their meal plans. In the study, headed by Dr. Jet D. Termorshuizen, binge-eating episodes and urges to binge-eat both increased among those with BN and BED. Importantly, patients also reported positive effects of the pandemic, including greater connection with family members, more time for self-care, and increasing motivation to recover.

The surge in people seeking help in the ongoing coronavirus pandemic reflects the fact that eating disorders thrive in isolation. The National Eating Disorders Association (NEDA) has reported a 78% increase in the number of calls to their organization, and online chats, compared to the year before. And, even before the pandemic struck, in the year from 2018 to 2019, researchers reported nearly 54,000 emergency department visits due to eating disorders, at a cost of \$29 million. During the same time, 10,200 deaths were directly related to eating disorders.

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## Emerging Adulthood: A Time When Treatment is Less Available

### ***Patients 16 to 24 face barriers to treatment.***

The period between adolescence and adulthood, termed emerging adulthood (EA) or extended adolescence, deserves a closer look, according to Dr. Rachel Potterton and her colleagues. The researchers hope to find an explanation for the fact that during EA treatment for eating disorders is less available and effective than during adolescence (*Front Psychol.* 2020; 10:3062).

Development of autonomy and identity are more intense during EA, according to the authors. At this time of life, older teens have fewer restrictions, such as parental rules and legally restricted access to substances, along with few of the responsibilities of adulthood. They also have fewer obligations to others and many paths open to them; for example, patients in this age range often change residences, occupations, and even relationships.

At the same time, unseen changes in the brain are occurring. The brain is structurally and functionally developing in distinctly different ways than during adolescence (*The Oxford Handbook of Emerging Adulthood*, 2015, Oxford University Press, NY, 126-141). During the EA period, the prefrontal cortex and its development take center stage. The prefrontal cortex is associated with a number of executive functions, including working memory, planning, and self-monitoring. Connectors between the prefrontal cortex and subcortical structures such as the striatum continue to develop into the 20s and plateau

between the ages of 23 and 26.

Dr. Potterton and colleagues used a systematic scoping review method to examine research into this transitional time. (Scoping reviews include evaluating sources beyond the well-known databases of PschInfo, PubMed, and Embase to include meeting abstracts and unpublished dissertations, for example.) Thirty-six studies were selected for the final study. These studies allowed the researchers to evaluate the path of eating disorders from adolescence to emerging adulthood, the impact of EDs during this time and, importantly, the etiology of EDs during emerging adulthood, including psychological, social, genetic, and biological factors. They also evaluated the availability of treatment of EDs during this period.

### **Treatment varied by age range**

One of the most important findings was that treatment for eating disorders was different between teens and those in the transitional stage. That is, patients in the EA stage present to ED services later than do adolescents, due to stigma, lack of resources, and lack of familial support. The studies showed that many clinicians had identified the importance of helping patients in the transition stage to access services, and they stressed the importance of support from the family and the role of autonomy. This was not unique to EDs, they reported, but a hallmark of patients in this age range.

### **The FREED program**

One helpful program that has sought to help in this area uses the FREED (First Episode and Rapid Early Intervention for Eating Disorder) model. Over time, those treated under this model showed significant improvement in their eating disorder symptoms and comorbid depression and anxiety. In one study, AN patients had improved BMIs compared to patients receiving treatment as usual (*Early Interv Psychiatr.* 2018; 12:250). Key aspects of the FREED model, according to the authors, include rapid access to care, flexible involvement of caregivers, and a focus on identity development and management of the transitions patients are undergoing (<https://freedfromed.co.uk/>).

About a fourth of persons in this age range had engaged in unhealthy weight-control behaviors and up to 1 in 10 may engage in binge-eating. Between 11% and 20% have a probable EDs (Paper presented by Pivarunas and Shomaker, 2017, at the Psychosomatic Medicine meeting, Seville, Spain; *Child Abuse Neg.* 2017; 68:55). The researchers reported that the trajectories into an eating disorder are diverse. Those who had ED symptoms during the transitional period were not necessarily those who had ED symptoms during adolescence (*Dev Psychol.* 2016; 52:475).

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## **Changing Attitudes about Exposure Therapy**

### ***A study targeted therapists' resistance to use this therapy.***

Exposure therapy is a key aspect of cognitive behavioral therapy (CBT), a modality inherent to eating disorders treatment (especially partial hospital, residential, and inpatient care), yet it is not universally accepted. In exposure therapy, a patient is gradually exposed to triggers to individual fears, such as fear of eating, fear of specific foods, and cues to binge eating, for example.

Two researchers recently tested the impact of teaching clinicians about using exposure therapy among patients with eating disorders, to see if this could change negative attitudes about this therapy (*Int J Eat Disord.* 2020; 53:107). In a sense, this non-randomized, controlled study also exposed a group of clinicians to the practice of exposure therapy.

Drs. Charlotte Wright and Glenn Waller of the University of Sheffield, Sheffield, UK, designed a study in which 47 clinicians had 90 minutes of teaching on exposure therapy within CBT. A control group of 42



clinicians also had 90 minutes of teaching CBT for patients with eating disorders. Both groups completed the *Therapist Beliefs about Exposure Scale* (TBES) and the *Intolerance of Uncertainty Scale* (IUS) at the beginning of the study. The researchers also measured the frequency of use of exposure techniques at the beginning and end of the study. Both groups of participants were closely matched in age and in time working with eating disorders patients.

### **Education about the technique improved attitudes towards it.**

The two researchers found that simple education about the use of exposure-based models within CBT had a positive effect upon participants' beliefs about adding exposure therapy. An earlier study by Deacon et al. (*J Anxiety Disord.* 2013; 27:772) found that negative beliefs about exposure therapy were associated with therapists' demographic characteristics, negative reactions to a series of exposure therapy case vignettes, and the cautious delivery of exposure therapy in the treatment of a hypothetical client with obsessive-compulsive disorder.

The results of this study show that attitudes to exposure can be changed. More broadly, the results suggest that brief, targeted training can help to encourage the use of specific beneficial therapeutic approaches.

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## **The Impact of the Pandemic on Eating Disorders Patients**

### ***Patients share many of the negative side effects of isolation.***

As mandated quarantine due to the COVID-19 virus continues, a picture of the effects of isolation and confinement is emerging. As noted in these pages before, these effects include increased depression and anxiety. Less is known, however, about the effects of confinement among persons with eating disorders. Further risk factors may contribute to the likelihood of developing an ED, such as increased time spent using social media and the toxic influences of the objectification of the thin ideal on the Internet. Isolation and loneliness are common consequences of AN, and may be exaggerated by the imposed quarantine.

Problems with emotional regulation can trigger ED symptoms (binge-eating episodes and consequent purging behaviors), while a consequence of increased external control may be reduced food intake. Another risk factor involves treatment: In the context of COVID-19, and in many healthcare settings, only urgent visits and inpatient treatment for severe ED cases are provided. When possible, online treatments, rather than face-to-face visits have been recommended.

### **A pilot study provides some answers**

A small pilot study has provided new information about ED patients confined to home during the COVID-19 pandemic (*Eur Eat Disord Rev.* 2020; 28:239). Dr. Fernando Fernández-Aranda and colleagues at the Eating Disorders Unit, University Hospital of Bellvitgel, Barcelona, Spain, used a telephone survey to monitor the first two weeks of confinement among 32 ED patients (13 with AN, 10 with BN, 5 with Other Specified Feeding and Eating Disorder (*OSFED*) and 4 with BED). The mean age of participants was 29.2 years (range: 16 to 49 years of age), and most were female (90.6%).

### **Increased uncertainties**

Most of the patients expressed worries about increased uncertainties in their lives, such as the risk of COVID-19 infection of themselves or their family and loved ones, the possible negative impact on their school or work, and their continuing treatment. Almost 38% (12 of 32) reported increased impairment

from their ED symptoms, and 6.2% (18 of 32) reported additional symptoms of anxiety. Four patients noted that stress made it very difficult for them to control their “grazing” behavior and emotional eating.

### **Connecting with others while in isolation**

How did patients handle communication with others while isolated at home? Investigators found that patients with AN were ambivalent about using social media and video calls. One negative aspect of using video calls for AN patients was the patients' increased body awareness, which prompted self-criticism they perceived as harmful to their recovery. Some patients modified what was visible through their social media accounts and were far more comfortable with positive and recovery-based peer-support accounts. Others, however, believed it was safer to avoid forms of communication that could potentially trigger harmful reactions.

### **The effects on caregivers**

Caregivers demonstrated a strong awareness around the issues of isolation and increased communication challenges for their loved ones with AN, as well as for themselves. However, they were resourceful in learning and sharing ideas. A need for routines and structure was highlighted as crucial for patients as a way to cope with change and for preventing boredom, which often led to increased preoccupations with their EDs. Carers described their increased role in the support and management of their loved one's recovery during the pandemic. They shared creative ideas such as designing meal plans at home and helping patients undertake therapeutic activities, such as constructing restaurant challenges at home. Strategies for staying at home and self-isolating resulted in an increased burden for carers and changed family dynamics. Balancing the needs of the family member with an ED (for stability) with flexibility to adjust to the needs of the entire family, particularly children, was seen as crucial and challenging for parents. They expressed the difficulty of balancing multiple caregiving needs and work adjustment, confusion, and the risk of suicide.

### **Stress among healthcare professionals**

Two words become important for professionals treating ED patients during the pandemic: self care. This means disconnecting from work when possible and taking care of themselves even while they are taking care of their patients (Hong Kong Counselling & Development Centre, Hong Kong Baptist University; Brooks et al., 2020). The severity of these symptoms increased with the duration of the quarantine and can persist over many years (Brooks et al., 2020). Healthcare professionals have concerns about becoming infected with the virus themselves, causing their hospital units to be understaffed and/or infecting their loved ones (Brooks et al., 2020).

Several studies have suggested practices that can help reduce such stress: (1) good communication with colleagues, (2) team supervision, (3) expressed appreciation from clients and superiors and society, and (4) awareness that they are doing something meaningful (Binder et al., 2020). Above all, structuring the day and developing a connected and healthy lifestyle will do much to reduce the continuing stress that professionals face each day.

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## **Military Deployments and Disordered Eating**

### ***Teens' disordered eating depended upon parental stress and the number of deployments.***

Having a parent leave on a military assignment is an overlooked source of stress for adolescents with disordered eating, according to the results of a recent study. About half of service members deployed have children, and the service member's assignment may last from 90 days to longer than a year. As a result, parental deployments are associated with increased stress in the family, greater use of mental health services, increased suicidal ideation, and symptoms of depression (*Clin Psychol Rev.* 2016;



43:17). Risk of obesity, disordered eating, and loss of control eating can be up to three times greater among teenage military dependents than among civilians of the same age (*Int J Eat Dis.* 2015; 48:790).

## **The effect of multiple deployments**

Dr. M.K. Higgins Neyland, of the Uniformed Services University of the Health Sciences, Bethesda, MD, and her colleagues explored stress and disordered eating among a group of teenage military dependents. The authors used baseline data from two prior studies, a pilot trial that included only adolescent military dependents, and an effectiveness trial (both registered in *www. Clinical Trials.gov*) that included boys and girls self-identified as military dependents (*Int J Eat Disord.* 2020; 53:201). In both trials, the adolescents were eligible if they were between 12 and 18 years of age at the start of the study, and if they had BMIs  $\geq$  the 85th percentile. The authors used the *Eating Disorder Examination* (EDE) interview to evaluate the presence of *DSM-5* binge-eating disorder and loss of control eating disorder episodes among the teens during the three months before the trial began.

Parents/guardians/caregivers reported on the family's deployment history during the teens' life. The total number of deployments was calculated by summing deployments among all caregivers. The authors measured parental distress with the 12-question parental subscale of the *Parent Stress Index, Short Form*. Some of the items included in the parental distress questionnaire included statements such as "I feel trapped by my responsibilities as a parent" or "I feel alone and without friends."

The final study group included 126 teens (59.5% girls) 12 to 18 years of age. Eighty-seven teens had parents who were deployed on military assignments during their lifetime. The average number of deployments during this time was 3, and female teens were more likely than male teens to have had a parent deployed at least once. When there was a high level of parental stress, the number of deployments was directly related to greater weight and shape concerns among adolescent dependents.

The authors concluded that the *combination* of greater frequency of military deployments and higher parental distress was associated with higher distress in military dependents. Thus, when teens responded with disordered eating, it was directly tied to how stressed their parents were rather than to the number of deployments or parental stress alone. The authors noted that factors other than stress could come into play, including the quality of the parents' marriage, socioeconomic status, and the number of people in the household, military rank, the military assignment, the parents' eating behaviors, and weight. The length of the military assignment also came into play, as did the age of the child during the deployments.

Future studies with longitudinal designs could help clarify the impact of deployment on disordered eating. The results could also lead to prevention or interventions to help reduce family stress before, during, and after a parent is deployed on a military assignment.

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## **Does Taste Play a Part in EDs?**

### ***Few studies have explored this question.***

Researchers at the University of Pennsylvania and the NIH used a systematic review to explore the possibility that changes in taste may have something to do with initiating and maintaining eating disorders (*Biol Res Nurs.* 2020; 22:82). The authors believe it is the first systematic study of its kind among patients with AN, BN, and BED, compared to healthy controls.

The search yielded 2820 studies, and 49 studies met the inclusion criteria. The studies included only female patients, and varied from 15 participants to 243. Ages ranged from 14.8 years to 42 years. These studies evaluated psychological and neuroimaging studies, and the tastes measured ranged from sweet, bitter, salty, and savoriness. Thirty-three studies measured additional responses to other stimuli, such as

fat and sour tastes.

One study used the *Eating Hedonics Questionnaire* (*Int J Eat Dis.* 1999; 26:165) to compare hedonics between patients with BED and those with BN. Those with diagnoses of BED reported greater enjoyment of the smell, taste, and texture of foods, while binge eating was similar among BED patients and those with BN. Another study compared participants with AN and BN using the Sensory Responsiveness Questionnaire, or SRQ, a self-report measure. Researchers using the SRQ found that patients with AN had higher sensory responsiveness scores than did patients with BN (*Int J Eat Disord.* 2016;49:59). Patients with AN also had significantly higher scores on the SRQ than did controls (indicating that those with AN had significantly greater cognitive distortion).

### **A few tendencies were reported**

The authors noted that even though the study results were inconsistent, they could detect general trends in taste. Of the 9 studies that evaluated taste preferences, 3 studies reported that patients with BN had greater preference for sweetness than did controls. Other studies showed that patients with either AN or BN had greater aversion to fat compared to controls.

Another area explored among patients with AN was hunger versus satiation. Drinking chocolate milk while hungry compared to drinking it when fully satiated produced significantly greater activity in the right amygdala and the left temporal gyrus among AN patients than among healthy controls (*J Psychiatr Res.* 2011; 45:395). The authors reported that their study yielded mixed results due to the heterogeneity of samples and methods. Thus, they could draw no firm conclusions about whether eating disorders affect taste perception or how perception might affect eating disorders.

### **Factors that might affect taste perception**

The authors did note several factors that could affect taste perception in individuals with eating disorders. For example, patients' taste perceptions were unchanged after weight restoration, which called into question the proposal that body mass index plays a role in taste perception (*Proc Nutr Soc.* 2011;70:135). The authors also found that despite the fact that individuals with BN have a greater preference for sweetness than do control groups, this might actually be due to several factors such as variances in human biology or cognitive processing for perceived stimuli. And, even though some studies revealed shared characteristics across eating disorders, such as strong aversion toward fat, these characteristics may be due to social stigma against fatty foods or to pathophysiology in ED populations.

The authors concluded that much more research is needed into the biological factors that might affect the sense of taste, such as genetics. They also pointed out the need for a "gold standard" method to measure taste perception among people with eating disorders.

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## **BOOK REVIEW**

**Sick Enough. A Guide to the Medical Complications of Eating Disorders.** By Jennifer L. Gaudiani, MD, CEDS, FAED. New York, NY: Routledge, 276 pp, paperback, \$38.34.

In her superb new book, *Sick Enough*, Dr. Jennifer Gaudiani deftly combines the personal, political, and practical aspects of the medical treatment of eating disorders. She begins by telling us about her background. The oldest of three sisters, she was in medical school when her middle sister developed bulimia nervosa. Her sister suffered for many years (she has now recovered) and Dr. Gaudiani felt "scared and powerless" when her sister was in her illness. Her sister's courage during her recovery journey, said Dr. Gaudiani, "inspired me to get into this field and take back power so that others might be helped." Dr. Gaudiani has since become one of the world's leading specialists in this disorder and reminds

us that "illness in a family can bring surprising gifts and awaken opportunities to see the world in a new way." She encourages family members to advocate for their loved one with the knowledge in this book because so many medical providers "simply haven't had sufficient experience with eating disorders."

The book is divided into five major sections. The first section goes into all of the medical consequences of starvation caused by AN, avoidant/restrictive food intake disorder (ARFID), or other eating disorders. Dr. Gaudiani does a great job in making complex medical concepts understandable. For example, at the beginning of the chapter on starvation, we are introduced to the concept of the "cave person brain." This is the part of our brain that responds to starvation - food shortages would have been common for our hunter-gatherer ancestors. The genes that best conserved energy during these periods have survived over time. One successful set of genes lowers sex hormones in times of famine (trying to make babies can be a losing strategy during times of insufficient energy). Another set pushes us to become more anxious and vigilant (making us more likely to find dinner and less likely to become another predator's dinner). A third winning set lowers metabolism to save energy in ways similar to those of our mammalian relatives. Consider the bear: "All winter, while bears mostly sleep, their metabolic rate falls 75 percent. Their heart rate drops to 10-20 beats a minute, and they breathe once every 45 seconds." Dr. Gaudiani reminds her patients that "...humans are not bears and shouldn't ever go into metabolic hibernation. Also, when bears hibernate, they *sleep all winter*. They don't, while fasting, work a full-time job, get a 4.0, raise children, connect with friends, keep up on social media or go to the gym. They sleep."

The next section describes the different types of purging and the medical consequences that they cause. Medical signs, symptoms, diagnostic tests, and treatments are discussed for vomiting and laxative and diuretic abuse. As in other sections of the book, there are illuminating case studies that show tremendous respect for the humans involved in these strugglesâ€œpeople are never reduced to just a collection of organ systems.

The third section, "Patients in Larger Bodies," focuses on patients with BED in larger bodies as well as discussing implications for any individual in a larger body. Dr. Gaudiani brings much-needed attention to social justice issues as well as the negative consequences of size stigma. Patients, families, and many in the medical professions will benefit from this necessary correction to long-standing prejudicial attitudes and practices.

The fourth section, "The Unmeasurables," deals with serious medical problems that can co-occur with eating disorders but are difficult to definitively diagnose. Separate chapters deal with irritable bowel syndrome (IBS) and postural orthostatic tachycardia syndrome (POTS).

The last section discusses numerous specific populations, such as patients with diabetes mellitus, orthorexia, and ARFID. There are also chapters covering elite athletes, male patients, gender and sexual minorities, and women's sexual and reproductive health, as well as chapters covering older patients and those with co-morbid substance abuse.

Dr. Gaudiani weaves the concept of 'values' throughout the book: "I invite each of my patients to share with me what really matters to them, what elements of their lives are most important, and what traits make them fundamentally themselves." This search for values shares much with the development of ethics in classical philosophy - a study of how to live one's life. The classical virtues, such as the need for courage, practical wisdom and justice are much in evidence in this book. The final chapter: "Caring for the Patient Who Declines Treatment" shows the use of another classical virtue - the need for temperance or moderation. In discussing certain patients with severe and enduring AN, Dr. Gaudiani says: "These are people whose suffering is so immense due to their eating disorder and psychiatric comorbidities, without relief from standard and even experimental treatments, that it is clearly inhumane to require them to suffer further. they deserve to have a voice in electing less aggressive care should they desire." What

makes this book so compelling and helpful is Dr. Gaudiani's combination of deep medical knowledge and a fundamental respect for each person's individuality and values.

-Russell Marx, MD

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## Questions and Answers

### ***Counteracting Shame and Stigma from Social Media***

**Q.** A patient recently complained about all the comments she sees on social media that might be viewed as “weight shaming.” That is, she began noticing all the attention given to the possibility of weight gain and a shaming of those who might experience weight increases during self-quarantining during the current pandemic. Are there any ways to help patients arm themselves against these comments—that is, beyond merely advising them to turn off their phones or computers? (*E. F.*, Des Moines, IA)

**A.** Those with eating disorders are certainly under duress in this pandemic. As one example, the COLLATE project in Australia was designed to identify changes in eating and exercise behavior in a sample of Australian individuals with eating disorders during the COVID-19 outbreak (*Int J Eat Disord.* 2020;8:1). This study included 5469 participants, 180 of whom self-reported a history of an ED. Among the ED population, increased restricting, binge-eating, purging, and exercise behaviors were reported (less exercise was reported during the pandemic). Self-reported binge-eating and purging behaviors increased by 35.5% and 18.9%, respectively; 64.5% of respondents reported increased restricting. The authors suggest that even in the early stages of the pandemic, such as 3 weeks after the announcement of the viral outbreak by the World Health Organization, people with EDs were already reporting changes in their eating and exercise patterns. This may have been due to the availability of specific foods, or increased stress, anxiety, and depression because of mandated social distancing.

Several groups have recently addressed social media aspects of this very problem. Turning off a computer or smartphone may not seem viable for most young adults (and for many, due to work or other obligations, may be impossible), educating them about this unfortunate trend toward stigma and shaming might be more helpful. The Australian government is actually working on a plan to increase help-seeking among the estimated 16% of the Australian population who have a *DSM* eating disorder (*Sydney Morning Herald.* 2018; 209:5014). The Australians are recommending that a Mandatory Code of Conduct be developed that would guide media toward more neutral medical programming, which could depict real people from varied backgrounds with real experiences of having an eating disorder (*J Eat Disord.* 2020; 8:11). This may then help educate writers and media producers about how some types of media coverage can perpetuate shame and stigma among program viewers.

Meanwhile, what can patients do to counteract the flow of shaming and stigmatizing information? An article by Dr. Rebecca L. Pearl from the University of Pennsylvania addresses the “quarantine-15” social media posts that have popped up lately. Dr. Pearl and co-workers identified more than 15,000 Instagram and Twitter posts that may be contributing to shaming. Many of these posts showed blatant weight-shaming before and after quarantine, using memes that show people in the “after” screen with extra weight, ill-fitting, unflattering clothing, and eating excessive amounts of food. These images portray common stereotypes claiming that people with obesity are lazy slobs with a lack of self-control. They also imply that having a higher body weight is an intolerable problem, one to be avoided at all costs.

Dr. Pearl’s group suggests several steps to try to counteract the potential harm of these online posts. First, they suggest “flooding the zone” with more positive health messages that encourage good self-care and self-compassion. In addition, clinicians can talk with patients about the bad effects of such stigmatizing messages and can continue to support patients in their health goals. When patients do

report weight gain, clinicians can “communicate acceptance, without judgment, and validate the stressors that we are all facing at this time, while simultaneously helping patients continue to do their best to maintain their health and well-being,” according to Dr. Pearl.

-SC

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## Coming in the next issue

### **The Art and Science of Evaluating Your Clinical Practice**

**By John L. Levitt, PhD, FAED, S-CEDS, FIAEDP**

A rich guided tour through available tests and therapeutic options, including Rapid Assessment Instruments. One question: How can clinicians evaluate good clinical care and how to incorporate it, and how can they share that knowledge with others?

### **PLUS New and Positive Pandemic Reactions in Eating Disorder Treatment**

**By Sandra Wartski, PsyD, CEDS**

In a surprising reaction to the challenges of the pandemic, the author has found that some clients have been able to use this time to approach their recovery in new and positive ways.

### **PLUS**

- Early results from the COLLATE project
- Eating Disorders in Pregnant and Breast-Feeding Mothers
- Restrictive eating emerges as the best predictor of suicidal ideation in adolescents and young adults with low-weight eating disorders
- And much more...

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