



## NYC-CBT Autumn 2018 Newsletter

THIS ISSUE:

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### FEATURE ARTICLE:

#### **CBT for Tinnitus Distress**

*Bruce Hubbard, PhD, ABPP*

Most people have heard of tinnitus, the auditory condition commonly known as “ringing in the ears.” Tinnitus affects 15% of people world-wide, including 50 million Americans. What many don’t know is that one in three people with tinnitus develops an emotional condition called tinnitus distress. Tinnitus distress, also known as bothersome tinnitus, is characterized by anxiety, irritability, avoidance, sleep disturbance and impaired concentration. It ranges from mild to disabling and carries a high comorbidity with anxiety, depression and insomnia.

To understand tinnitus distress, it’s important to learn some facts about tinnitus. Tinnitus is a virtual sound, experienced but not real. It is heard as any external sound, but audible only to the person who reports it. To date, researchers don’t know the internal mechanism and there is no treatment for tinnitus. If the sound has been with you for more than six months, it’s likely to be for life.

Having tinnitus, and learning that it will never go away, can be daunting for anyone. Yet, why is it that most people adapt to their tinnitus naturally, while for others, tinnitus opens a Pandora’s box of trouble? Common sense would implicate tinnitus characteristics, like volume, pattern and pitch. The louder the tinnitus, one could argue, the greater the distress. But, surprisingly, studies have shown that tinnitus volume is unrelated to tinnitus distress. This finding has led to the conclusion that psychological factors, rather than tinnitus itself, cause the condition.

Cognitive Behavior Therapy (CBT) is the treatment of choice for tinnitus distress. Numerous well-controlled studies have found that CBT significantly reduces distress, even though tinnitus characteristics remain unchanged. On the strength of these findings, CBT is the only treatment for tinnitus distress recommended by the American Academy of Otolaryngology (ENT doctors). In this article, I provide a brief sketch of CBT for tinnitus, and invite the interested reader to explore the additional resources provided in the final

section.

### *Treatment Protocol*

Early tinnitus treatment models emphasized cognitive restructuring. Later models incorporate acceptance and mindfulness and place greater weight on behavioral activation and exposure. The goal of treatment is not to change tinnitus, a chronic condition, but to change the person's psychological response to tinnitus, specifically, to replace tinnitus resistance with tinnitus acceptance. Acceptance, and the process of gaining it, helps the amygdalae recategorize tinnitus from "threat" to "unimportant sound," grouping it in with the countless other meaningless sounds the brain automatically screens out of awareness through habituation (e.g., ticking clock, humming fridge, crowd noise). Without the capacity to habituate we would be bombarded with meaningless information and unable to concentrate on what's important. For people with chronic tinnitus, habituation, virtual silence for a virtual sound, is a highly desired outcome.

During treatment, CBT skills are employed to reduce acute distress and set the stage for habituation. And the person is guided in redirecting attention to resuming areas of life lost to tinnitus:

#### *Cognitive Restructuring*

Many people with tinnitus distress have internalized misconceptions that drive distress and avoidance (e.g., that certain types of tinnitus are immune to habituation, that stress and dietary factors cause tinnitus, that tinnitus worsens over time). To correct these misconceptions a list of facts is provided, and standard cognitive tools are employed. The endpoint is a new cognitive script to guide recovery.

#### *Mindfulness/Acceptance*

Mindfulness is the core acceptance tool used in CBT for tinnitus. By emphasizing a non-judgmental stance, mindfulness helps bypass the filter of negative thinking, so the person can practice hearing their tinnitus for what it is, just another meaningless sound. Mindfulness also promotes attentional flexibility, which helps reduce hypervigilance. And by facilitating tinnitus exposure, mindfulness helps the person desensitize to the tinnitus signal as well as tinnitus-related emotions.

#### *Therapeutic Background Sound (Stimulus Control)*

Adding deliberate background sound, a form of stimulus control, is the oldest, most intuitive method of tinnitus relief. A carefully selected sonic background can help tinnitus blend in, softening subjective perception, reducing emotional reactivity, and facilitating redirection of attention. Backgrounds that are both blending and soothing work best. Common background sounds include white noise, environmental soundtracks (e.g., ocean waves, rain, crickets), and calming music. Background sound is used only as needed to facilitate emotion regulation and behavioral activation, for example, during periods of concentration and at bedtime.

#### *Behavioral Activation & Graded Exposure*

Avoidance and withdrawal are the core disabling features of tinnitus distress. CBT employs standard exposure and activation strategies to promote reengagement. A hierarchy is generated which balances values-directed priorities and level of distress. Cognitive tools,

mindfulness and background sound are employed to facilitate activation and progression through the steps. The highest cause of tinnitus is noise-induced hearing loss, so people distressed by tinnitus tend to avoid risk of exacerbating their tinnitus by overprotecting their hearing. Proper use of hearing protection (e.g., ear plugs) is reviewed to facilitate a healthy balance between hearing conservation and taking risks necessary to resume a full, valued life (e.g., resume attending rock concerts, but only with the proper level of hearing protection).

## **Resources**

Anyone interested in learning more about CBT for tinnitus can visit Bruce's website: [www.CBTforTinnitus.com](http://www.CBTforTinnitus.com)

Bruce's tinnitus webinar, sponsored by the Anxiety Disorders Association of America (ADAA), is available on YouTube [www.CBTforTinnitus.com/webinar](http://www.CBTforTinnitus.com/webinar)

## **Recommended Readings**

Andersson, G (2002) Psychological aspects of tinnitus and the application of Cognitive-behavioral therapy *Clinical Psychology Review* 22 (2002) 977-990.

Cima, R, Andersson, G, Schmidt, C & Henry, J.A. (2014). Cognitive-Behavioral Treatment of Tinnitus: A Review of the Literature. *J of Amer Acad of Audiology*, 25:29-61.

McKenna, L, Marks, E, Hallsworth, C, Roland, S. (2017). Mindfulness-Based Cognitive Therapy as a Treatment for Chronic Tinnitus: A Randomized Controlled Trial. *Psychotherapy and Psychosomatics* 86:351-361.

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## **PROGRAM PROFILE:**

### **Columbia Center for Eating Disorders**

*Loren Gianini, PhD*

The Columbia Center for Eating Disorders, located at the New York State Psychiatric Institute and part of the Columbia University Medical Center, is an internationally-renowned program conducting research and offering treatment to adolescents and adults with eating disorders, including anorexia nervosa and bulimia nervosa. The Center was founded by B. Timothy Walsh, MD in 1979, who chaired the DSM IV and DSM 5 Eating Disorders work groups, and whose commitment to patient-focused research has led to a decades-long record of improving our knowledge of the behavior in eating disorders, as well as trials of innovative treatments.

Our program is able to offer evidence-based treatments at no cost to patients who are interested in and eligible for our research. We see our patients as vital collaborators in the research process and take every opportunity to impart to them how much we value their contribution to helping us understand these pernicious disorders.

For research participants with eating disorders, our treatment options include outpatient cognitive behavioral therapy (CBT), outpatient Family Based Therapy (FBT) for adolescents with anorexia nervosa, a Day Program on the Children's Day Unit for adolescents with

anorexia nervosa, and a behaviorally-based inpatient program for adolescents and adults (Attia & Walsh, 2009). Because our care is not dependent on health insurance, we are able to offer individuals in our inpatient unit the opportunity to become fully weight-restored and to stay for a “weight maintenance” period of several weeks in which patients begin the process of becoming acclimated to their new, healthy weights. While these treatments are not “experimental,” many of our clinicians are also researchers who look to their clinical experiences with patients to inform the development of their research questions and to ensure that the research questions being asked and tested have significant clinical relevance for actual patients.

One major focus of our work aims to understand why anorexia nervosa is so difficult to treat by examining the links between maladaptive eating behavior and the brain. We are examining neural activation while patients make decisions about what to eat. We are very interested in how brain activity correlates with actual eating behavior, and so much of our work includes laboratory meals wherein we can objectively measure eating behavior (Mayer et al., 2012). This research has identified that individuals with AN are engaging different neural systems than healthy peers when making decisions about food (Foerde, Steinglass, Shohamy, & Walsh, 2015). This has opened new avenues of study in the neurobiology of anorexia nervosa, as well as mechanism-based treatment development. Currently, we are recruiting for several studies examining the neural mechanisms of eating disorders. Joanna Steinglass, MD and cognitive neuroscience colleagues are examining basic mechanisms of attention and decision-making among adolescents and adults with anorexia nervosa and atypical anorexia nervosa. She is also examining how neural activity relates to longer term course of anorexia nervosa. Teens with anorexia nervosa (ages 14-18) and healthy peers participate in an MRI scan, interviews, laboratory meals, and computer tasks. They are enrolled in the study – and eligible for no-cost treatment – for two years.

Results of these initial studies suggest that habits and habit-related learning may have particular salience in the maintenance of anorexia nervosa. To test this idea clinically, we recently piloted a brief behavioral intervention adapting principles of habit-reversal therapy to the treatment of anorexia nervosa, finding that the intervention led to a greater improvement in habit strength (i.e., lower habit strength) and a trend in improved eating behavior in the laboratory relative to a supportive psychotherapy (Steinglass, Glasofer, et al., 2018).

Beyond anorexia nervosa, our group is also exploring factors that contribute to and maintain binge eating behaviors for teens who are normal weight or overweight. Lisa Ranzenhofer, PhD and colleagues are recruiting for a study examining loss of control eating and binge eating in teens. Participants are asked to wear a biosensor for 1 week, which records heart rate, and track their moods, stress, and eating behaviors.

Through these and other research studies we hope to illuminate neurobiological and physiological factors which contribute to the onset, maintenance and course of eating disorders. Our ultimate aim is to use what we learn from these explorations to develop or adapt and test behaviorally-oriented treatment interventions.

## **References**

Attia, E., & Walsh, B. T. (2009). Behavioral management for anorexia nervosa. *New England Journal of Medicine*, 360(5), 500-506.

Foerde, K., Steinglass, J. E., Shohamy, D., & Walsh, B. T. (2015). Neural mechanisms supporting maladaptive food choices in anorexia nervosa. *Nature neuroscience*, 18(11), 1571.

Mayer, L. E., Schebendach, J., Bodell, L. P., Shingleton, R. M., & Walsh, B. T. (2012). Eating behavior in anorexia nervosa: before and after treatment. *International Journal of Eating Disorders*, 45(2), 290-293.

Steinglass, J.E., Glasofer, D.R., Walsh, E., Guzman, G., Peterson, C.B., Walsh, B.T., Attia, E., & Wonderlich, S.A. (2018) Targeting habits in anorexia nervosa: A proof-of-concept randomized trial. *Psychological Medicine*, 1-8. doi:10.1017/S003329171800020X