

What Research Reveals About Taming Tinnitus From Home

By Jennifer Gans, PsyD

Mindfulness for Tinnitus Management

Mindfulness is a discipline to be cultivated throughout a person's life. It involves a willful shifting of one's attention or a systematic building of awareness to bring one's attention to where the mind is at any given time. Thoughts, body sensations, and emotions are seen as mental events not to be analyzed or manipulated but rather to simply be noticed as fleeting events in the mind's field of awareness. These mental events then recede from awareness, and the mind is brought back to the present moment. Other mind-body interventions such as relaxation techniques have the goal of bringing about a state of relaxation. Mindfulness practice, in contrast to CBT and relaxation training, posits a non-striving stance toward a particular outcome: it simply allows whatever is in one's field of awareness to be witnessed without judgment.

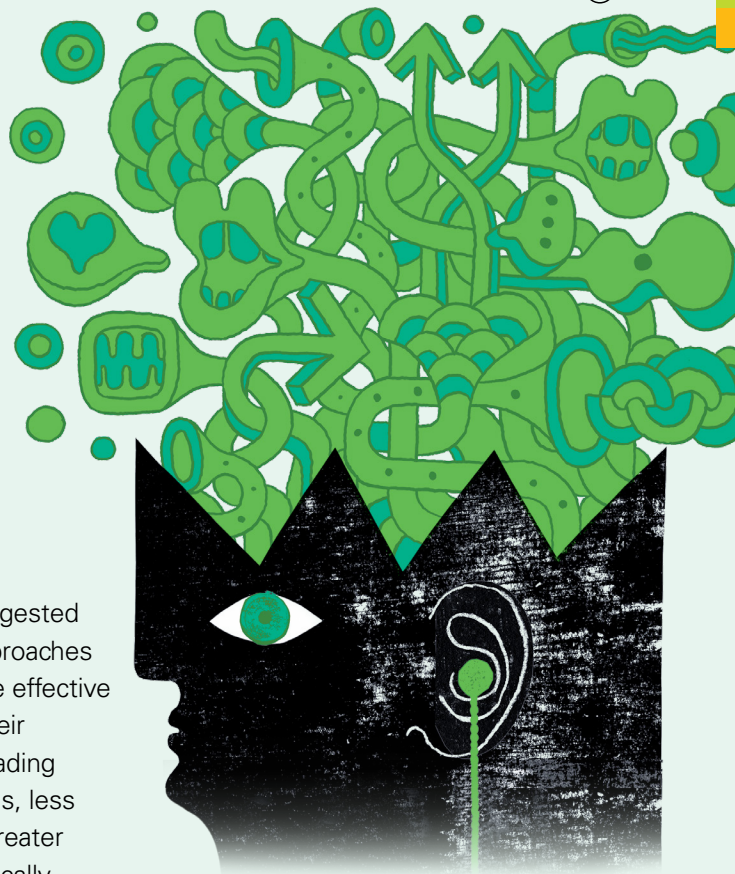
Recent research has suggested that mindfulness-based approaches to living with tinnitus can be effective in helping people modify their perception of the sound, leading to reduced effects of tinnitus, less emotional struggle, and a greater sense of well-being. Specifically, Mindfulness Based Tinnitus Stress Reduction (MBTSR), an eight-week skill-building program developed and researched by the author at the University of California, San Francisco (UCSF), teaches participants how to develop more healthful and adaptive ways of relating to the unpleasant sensation of tinnitus. MBTSR includes in-depth tinnitus education and mindfulness skill building. Each week's class integrates elements of deep breathing, gentle yoga, relaxation, and meditation to help people develop new, more effective ways to relate to the experience of tinnitus and stress in their daily lives.

A pilot study published in a peer-reviewed journal in 2014 suggested that MBTSR was a viable treatment for those with bothersome tinnitus.¹

In the study, participants reported a reduction in tinnitus impact, depression, and anxiety while improving social functioning and overall mental health. Furthermore, results after one year showed a further decline in tinnitus distress.² Based on those findings, an online version of the eight-week course (*i*-MBTSR) was developed, enabling access to anyone in the world with an internet connection.

Taming Tinnitus from the Comfort of Home

In 2020, at the beginning of the first shelter-in-place order in the United States and elsewhere in the world, it became apparent that using an online platform for tinnitus care had the potential to reduce pressure on existing healthcare systems while providing meaningful tinnitus care from the privacy of one's home.



Conflict-of-interest notice to readers: The online program featured in this article was developed by the author and can be accessed for a fee. The author therefore stands to benefit financially if *Tinnitus Today* readers decide to purchase access to the program.

Artwork Credit: Melinda Beck

Between March 25 and June 9, 2020, the online eight-week *i*MBTSR course, accessed at MindfulTinnitusRelief.com, was offered around the world at no charge to anyone struggling with tinnitus and hyperacusis. The course consists of eight weekly tinnitus lessons, guided meditation videos, audio recordings, and automated emails that subscribers complete at their own pace (minimum length eight weeks). Concurrently, a research study in coordination with Idaho State University was designed to learn from this group about the effectiveness of the course. The study also aimed to identify three factors: (1) who is an ideal candidate for an online mindfulness-based tinnitus treatment program; (2) what characteristics individuals have who are likely to complete the course; and (3) whether observable gains were maintained after the course was completed.

Covid-19 Pandemic Participants

For assessment, the 561 people enrolled voluntarily in the *i*MBTSR course and were asked to complete two assessment measures, the Tinnitus Functional Index (TFI) and Perceived Stress Scale (PSS) at the beginning, midcourse, at course completion, and finally, at six months post course completion. One hundred and one subjects completed the pre- and mid-assessment measures, and 45 completed the assessments at pre-, mid-, and post-assessment time points. The six-month follow-up measure was completed by 60 individuals.

Participants' TFI and PSS scores showed improvement by mid-course with even further reduction in tinnitus distress and perceived stress for those who completed the post-assessment measures. Improvements were maintained six months after course completion, indicating enduring symptom reduction.

Who Is an Ideal Candidate for Online Programs?

One question that often arises both for hearing healthcare providers and for individuals seeking tinnitus relief is which management tool is most effective and for whom. Differences in subject characteristics such as age, gender, tinnitus duration, tinnitus intrusiveness, perceived stress, emotional distress, and sleep disturbance were considered in the Idaho State University study when investigating who would most likely benefit from the online *i*MBTSR treatment.

Results indicated no easily identifiable differences between groups. Variables such as age, gender, perceived stress, and tinnitus impact did not seem to differentiate those who chose to participate in the course. This tentatively leads us to believe that tinnitus patients with diverse backgrounds and characteristics may benefit equally from this program, making a referral to the course an option for a range of tinnitus patients with internet access.

The group was unique in that participants were a sample observed during the Covid-19 pandemic, were self-referred to the program,


and were not a clinical sample (information on mental health status or audiologic factors beyond self-report was not gathered). They were also able to access the course for free. A further question arises: Is this course more effective for individuals who have a meditation practice prior to entry? Future research may wish to see whether a post-pandemic sample responds differently to the course, whether having a meditation practice prior to entry affects outcome, and whether a clinical sample of participants who were evaluated and referred by an audiologist or other healthcare provider makes a difference in outcomes.

High dropout rates can be a characteristic of treatment studies using the internet, especially for courses that are free. For this study, course completion rates were based on completion of the post-assessment measure. However, the completion of forms was not mandatory and it is likely that additional participants completed the course content but failed to complete assessments. Therefore, the post-assessment completion rate is likely not an accurate gauge of participant engagement and the true drop-out rate is difficult to determine from this study. Future studies may wish to track participant progress closely by monitoring participation and gathering information on actual time spent on course modules. While high dropout rates can be common for online programs, this should be contrasted with the accessibility and cost effectiveness of internet courses such as *i*MBTSR.

In Conclusion

Based on our findings, the MindfulTinnitusRelief.com eight-week online course appeared to be an effective tool for a Covid-19 pandemic group of people impacted by tinnitus. The combination of written content and activities for relieving tinnitus anxiety and fear, accurate education on what tinnitus is and is not, and stress reduction elements of a mindful meditation practice likely all served to open the door to the tinnitus healing process.

It was clear from this study that there is interest worldwide in accessible and inexpensive tinnitus interventions. Translation into other languages would increase access. Using an online platform to gain easy access to evidence-based tinnitus

treatment from the privacy of one's home reduces the pressures on existing healthcare systems, which was particularly helpful during the Covid-19 pandemic period. These promising findings warrant further investigation into the acceptability, feasibility, efficacy, and effectiveness of the online MindfulTinnitusRelief.com course and others like it in reducing tinnitus distress and tinnitus-associated comorbidities using a randomized controlled trial. 



Jennifer Gans, PsyD, is a clinical psychologist specializing in the psychological impact of deafness and hearing on well-being. In her private practice in

San Francisco, Dr. Gans treats clients with tinnitus and other hearing-related difficulties. She completed research at the University of California, San Francisco (UCSF) in the Department of Otolaryngology's Audiology Clinic on Mindfulness-Based Tinnitus Stress Reduction (MBTSR). She is the founder of MindfulTinnitusRelief.com, a self-administered eight-week online skill-building course for learning how to shift tinnitus from "bothersome" to "non-bothersome." She presents globally to audiologists, otolaryngologists, and hearing-health providers on how to integrate and give support to tinnitus patient counseling.

- 1 Gans, JJ, O'Sullivan P, Bircheff V. (2014) Mindfulness Based Tinnitus Stress Reduction Pilot Study. *Mindfulness* 5:322-333.
- 2 Gans JJ, Cole M, Greenberg, B. (2015) Sustained Benefit of Mindfulness-Based Tinnitus Stress Reduction (MBTSR) in Adults with Chronic Tinnitus: A Pilot Study. *Mindfulness* 6:1232-1234.

The End of Roaring Motorcycles?

For many, Harley-Davidson motorcycles evoke images of bikers being heard long before they're seen in the rearview mirror of a passenger car. The noise, resulting from illegally modified exhaust systems, are a bane for many and a badge of honor for riders who love the thunderous roar. Will the trend toward electric vehicles mean that loud hogs will eventually give way to silent rides? Harley-Davidson seems

to think so, with the release of its LiveWire e-hog.

According to *Bloomberg*, 35 percent of the motorcycle market in 2020 was battery-powered two-wheeled machines, though most of that share was from sales of e-bicycles and scooters. Harley-Davidson is banking on its electric motorcycle as a "halo product" – an advanced model that generates sales from less expensive machines. And in an increasingly

crowded field of quiet two-wheeled machines, Harley is emerging as a leader thanks to rave reviews of LiveWire. The company has created a separate division to pursue further electric vehicle development, which is part of an effort to lure first-time buyers interested in a more tranquil, comfortable ride. For those who value quiet and preserving one's hearing, it's a welcome trend.

