

Study Hints At Benefit from Antioxidant Supplementation in Persons with Tinnitus

Research has reported higher plasma levels of oxidative stress markers and lower antioxidant activity in tinnitus folks compared with non-tinnitus individuals.

January 5, 2020 By [Mike Barr](#)

[Since I originally posted this I have become more convinced that mineral levels, especially magnesium levels, are more important than vitamin levels, certainly more important than antioxidant vitamins. Testing for magnesium levels is tricky, as the body does a good job of maintaining blood levels within a pretty tight range. You can measure magnesium levels within red blood cells, so-called “RBC magnesium,” but the most faithful measurements today are a cheek swab and/or what is called ionized magnesium levels. My long time physician now retired reports that supplementation with magnesium [threonate](#) (along with weekly acupuncture sessions) helped his tinnitus quite a bit, but did not eliminate it entirely. I don’t know that he or his physician measured his levels pre- and post-treatment. A patient in the school clinic trekked all the way from Staten Island to get more of [Liu Wei Di Huang Tang](#), the textbook TCM formula for tinnitus. He reported fantastic results, but alas an N of 1. And thus the trial-ing and error-ing continues...]

Tinnitus is the perception of sound in the absence of an external stimuli. This condition affects approximately 10% to 15% of the population; its cause is unknown and the underlying mechanisms are not understood. Oxidative stress (yes, I know, often blamed for everything from debilitating fluoroquinolone reactions to acid rain!) is thought to possibly be involved in tinnitus. And since there are pretty much zero effective treatments for it (although one friend is reporting success with-- surprise-- weekly acupuncture sessions, and I would try two herbal formulas-- Tian Ma Gou Teng and Er Long Zuo Ci, the latter just a tweak of Liu Wei Di Huang, mostly in the addition of [magnetite](#), which oddly enough may act as a very gentle chelating agent-- just to rule them out), antioxidant supplementation has been studied as potential supportive options.

I’m mostly embarrassed by the circular, superstitious and just generally ridiculous exercises that pass for thinking in Chinese medicine (and acupuncture “differential diagnoses” for that matter), but if you’re high or brain impaired or just desperate you might have a look at this [rather extensive review](#) of the topic (from 2018) by my (sigh) accrediting body, the NCCAOM.

According to a [new study published last week](#) in Nutrients, researchers investigated the effects of

antioxidant supplementation in patients with tinnitus. Oxidative stress can lead to cellular changes in hair cells, apoptosis, cochlear degeneration, and changes in supporting auditory and neurological structures. Previous research has shown that higher plasma levels of oxidative stress markers and lower antioxidant activity have been documented in tinnitus patients compared with healthy individuals.

This was a randomized, double-blind, placebo-controlled clinical trial including seventy patients ranging from 25 to 75 years of age over a 12-week period. The patients were randomly divided into two groups, an antioxidant supplementation group or placebo. The antioxidant group consumed one multivitamin and mineral complex along with alpha-lipoic acid (300 mg twice daily on an empty stomach). Clinical and laboratory assessment included serum total antioxidant capacity, oxidized LDL, superoxide dismutase, tinnitus loudness and frequency, and minimum masking level. In addition, scores in Tinnitus Handicap Inventory questionnaire, Tinnitus Functional Index, and Visual Analogue Scale were completed at baseline and at the end of the study.

After the 12-week treatment period, measures of tinnitus loudness, minimum masking level, Tinnitus Handicap Inventory, and Visual Analogue Scale significantly decreased from baseline only in the antioxidant supplementation group. There were significant improvements in hearing thresholds across all frequencies, with the overall changes being significantly different at the frequencies of 250 Hz, 2000 Hz, 4000 Hz, 10,000 Hz, and 12,000 Hz. Improvements in frequencies between 250 Hz and 8000 Hz are clinically significant, as these are the frequencies used for speech recognition and in which tinnitus patients could benefit for better understanding speech and language.

There were also insignificant changes in serum TAC, SOD, and oxLDL levels. This study demonstrates that supplementation with a multivitamin and antioxidants may help reduce the discomfort and intensity of tinnitus. [Lipoic acid](#) has been well researched to show neuroprotective properties and B vitamins play an essential role in cell metabolism as well as healthy nerve function.

Of course, since I'm of a [Bloomberg](#) mindset mostly (minus the trusting in "god" part)-- "show me the data"-- I would do nutritional testing first to see what might be low/high. But it will set you back a cool two or three hundred dollars.

<https://www.gdx.net/core/sample-reports/nutreval-fmv-3000-sr.pdf>

Nutrients essential to optimal myelin integrity and function (basically, the insulation for your nerve fibers) include B1, B9 (aka folate), B12, omega 3 fatty acids and iodine-- so you might want to cover those bases as well. Folate and B12, of course, need to be methylated into their active forms in order to be used by the body and brain, so also consider that.

I'm mostly adverse to pill popping, even vitamins or other supplements. Food sources of lipoic acid include spinach, broccoli (especially broccoli sprouts-- and you can [sprout your own](#)), tomatoes, peas and Brussels sprouts while you'll get most of your B vitamins (other than [B12](#); here you kind of have to head for clams or liver-- or Brewer's (now sometimes called "nutritional") yeast) from dark leafy greens along with legumes, seeds and-- sorry, vegans- meat, eggs and dairy. Terry

Wahls (MD) has a fantastic food plan for this. Even though she is growing a bit more uncomfortably mercenary, her Citizen Scientist personal story remains hugely inspirational.

If this is the first you've heard of her, she's the Iowa MD-- married to a woman-- who had her Come to me, Jesus moment when she realized even the most advanced and sophisticated Western medicine was going to consign her to life in a wheelchair, unrelenting pain, dementia and progressive neurological decline if she didn't take her health into her own hands. She discovered the [IFM](#), began to do her own research online (rage against "[Dr. Google](#)" all you like), changed her diet (in a nutshell, Daily: greens, cruciferous, berries; Monthly: organ meat, seaweeds), put her MS into remission, and now lectures and coaches the world over. Find out more her [here](#) or search for her TedX (not her best) or other YouTube appearances.

Ref: [Petridou A, Zagora E, et al. The Effect of Antioxidant Supplementation in Patients with Tinnitus and Normal Hearing or Hearing Loss: A Randomized, Double-Blind, Placebo Controlled Trial. 12 December 2019. Nutrients, 11\(12\), 3007.](#)

About Mike: Michael Barr, DAOM, IFMCP(c) did his acupuncture and Chinese herbal medicine training in Los Angeles and New York and now practices in NY and NJ. More recently he has become involved with the [Institute for Functional Medicine](#). Reach out to him at his new telemedicine platform, [Root Resolution Health](#) or for an invitation to his discounted herbal medicine and nutritional supplements [dispensary](#). You might also read more (mostly about acupuncture visits) at his NCCAOM listing [here](#).

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