

# Experts denounce clinical trials of unscientific, 'alternative' medicines

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Experts writing in the Cell Press journal *Trends in Molecular Medicine* on August 20th call for an end to clinical trials of "highly implausible treatments" such as homeopathy and reiki. Over the last two decades, such complementary and alternative medicine (CAM) treatments have been embraced in medical academia despite budget constraints and the fact that they rest on dubious science, they say.

The writers, David Gorski of Wayne State University School of Medicine and Steven Novella of Yale University, argue that, in these cases, the medical establishment is essentially testing whether magic works. Gorski and Novella are both editors for [Science-Based Medicine](#), an organization and blog dedicated to exploring the complicated relationship between science and medicine.

"We hope this will be the first of many opportunities to discuss in the peer-reviewed literature the perils and pitfalls of doing clinical trials on treatment modalities that have already been refuted by basic science," said Gorski. "The two key examples in the article, homeopathy and reiki, are about as close to impossible from basic science considerations alone as you can imagine. Homeopathy involves diluting substances away to nothing and beyond, while reiki is in essence faith healing that substitutes Eastern mysticism for Christian beliefs, as can be demonstrated by substituting the word 'god' for the 'universal source' that reiki masters claim to be able to tap into to channel their 'healing energy' into patients."

"Studying highly implausible treatments is a losing proposition," Novella added. "Such studies are unlikely to demonstrate benefit, and proponents are unlikely to stop using the treatment when the study is negative. Such research only serves to lend legitimacy to otherwise dubious practices."

What is needed, say Gorski and Novella, is science-based medicine rather than evidence-based medicine. Biologically plausible treatments should advance to [randomized clinical trials](#) only when there is sufficient preclinical evidence to justify the effort, time, and expense, as well as the use of human subjects.

"Somehow this idea has sprung up that to be a 'holistic' doctor you have to embrace pseudoscience like homeopathy, reiki, traditional Chinese medicine, and the like, but that's a false dichotomy," Gorski said. "If the medical system is currently too impersonal and patients are rushed through office visits because a doctor has to see more and more patients to cover his salary and expenses, then the answer is to find a way to fix those problems, not to embrace quackery. 'Integrating' pseudoscience with science-based medicine isn't going to make science-based medicine better. One of our bloggers, Mark Crislip, has a fantastic saying for this: 'If you mix cow pie with [apple pie](#), it does not make the cow pie taste better; it makes the apple pie worse.' With CAM or 'integrative [medicine](#),' that's exactly what we're doing, and these [clinical trials](#) of magic are just more examples of it."

Gorski and Novella call on patients to exercise their critical thinking skills when it comes to evaluating the evidence for or against any kind of treatment, whether it is deemed "alternative" or not. "Critical thinking will help patients learn to recognize when a course of treatment is not supported by data or to tell when a health claim from any practitioner is just too good to be true," Gorski said.

**More information:** *Trends in Molecular Medicine*, Gorski et al.:

"Clinical trials of "integrative" medicine: Testing whether magic works?."

Provided by Cell Press

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