# Psychiatry's stance towards scientifically implausible therapies: are we losing ground?

Around 225 years ago, Franz Mesmer's theories on animal magnetism fell into disrepute when a Royal Commission—headed by then US French ambassador Benjamin Franklin—concluded that claims of cure resulted from suggestion and imagination.[1] In its report of 1784, the Commission described a placebo-controlled experiment done at Franklin's Paris residence, with the cooperation of Mesmer's understudy, Charles D'Eslon. While D'Eslon was occupied magnetising a tree, a blindfolded 12-year-old boy showed striking reactions to four inert trees some distance away. D'Eslon responded that all trees were magnetised and his presence, however distant, increased that natural phenomenon. D'Eslon's ad hoc explanation was rightly rejected by Franklin's Commission based on logic and everyday experience.[1]

Fast forward to present-day efforts to identify empirically supported treatments and the use of randomised controlled trials. This approach can address many important questions when rigorous experimental and control groups are used; most of all, properly executed randomised controlled trials can exclude a host of rival hypotheses regarding patient improvement (eg, regression to the mean). At the same time, critics have voiced concerns for the generalisability of randomised controlled trial outcome data to diverse patient groups and practice settings.[2,3] Here, we focus on a different and largely overlooked inferential limitation when atheoretical judgments of efficacy are based solely on randomised controlled trial treatment outcome data. Consider how patients with a phobia could wear electromagnetic head bands during in-vivo exposure and show greater improvement than no-treatment; whereupon the headband's inventor trademarks "electro-Magnetic Desensitization", and applies for recognition as an empirically supported treatment. The realisation that blind allegiance to randomised controlled trials in the absence of scientific plausibility can lead to nonsensical recommendations has begun to take hold in traditional medicine,[4,5] but is only gradually emerging in psychiatry and psychology.[6,7]

In this context, we consider Emotional Freedom Techniques, an energy-based method promoted as a psychological variant of acupuncture, wherein the process of tapping so-called acupoints allegedly alters energy networks to produce remarkable cures. Far-fetched as this claim might sound, a meta-analysis based on three randomised controlled trials purported to show that tapping was the therapeutically active component of the Emotional Freedom Technique.[8] A fourth randomised controlled trial[9] that had found equivalent effects in participants who tapped Emotional Freedom Technique acupoints, sham points on their arms, or a doll was excluded from the meta-analysis, with authors arguing that placebo controls were fatally flawed because sham points and doll tapping stimulated large intestine 1—an acupuncture point on the fingertip that ostensibly treats mental restlessness. This ad hoc explanation invokes logic curiously similar to D'Eslon's defence of magnetism. Yet, the meta-analysis was published in 2018 by a recognised psychiatric journal.[8] Also in 2018, the National Institute for Health and Care Excellence provided a research recommendation for Emotional Freedom Techniques in the treatment of post-traumatic stress disorder.[10]

One must ask how it has come to pass that large sectors of the scientific community appear more credulous toward scientifically implausible treatments today than they were in 1784. We believe blind allegiance to randomised controlled trial outcome data has produced this result and offer the following recommendations. First, authorities in mental health research and all who read the scientific literature must move beyond randomised controlled trials alone and adopt broader science-based criteria that consider the plausibility—or lack thereof—of therapeutic rationales and proposed change mechanisms. Consistent with Bayesian approaches to evidence evaluation, such criteria consider all scientific evidence that might influence an intervention, not merely outcome evidence. This approach does not imply that treatments with unknown mechanisms of action should be regarded as unscientific, but treatments whose rationales contradict well-established findings do not merit the same evidentiary standing as other interventions. Second, journal reviewers and editors should adopt these recommended criteria and be sceptical of theoretically implausible


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ad hoc hypotheses. Only through such efforts can we forestall a scenario in which a limitless number of trademarked and scientifically implausible therapies vie for recognition and reimbursement in the marketplace. Benjamin Franklin would have demanded no less.

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