

## Author's response to reviews

**Title:** In Vitro Test of External Qigong

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### REVIEWER #1:

#### Comments 1 and 2:

We have added text to the Methods section that describes in more detail the instructions given to the practitioners. The fact that the practitioners were told their goal was to enhance the growth of the experimental cells is stated explicitly. We also add to the description of the pilot study on page 7 the fact that parallel experiments using a tumor cell killing model did not produce results that justified further analysis in the formal studies.

#### Comment 3:

The question is whether the labels on the boxes un-blinded the experiment. They did not. We clarified this issue by revising the following text in the paragraph on Blinding Procedures: "Thus, the scientist handling the cells knew which cells were inside treatment boxes A and B but did not know what treatments (i.e., Qigong or sham) were delivered. Likewise, the scientist aware of the treatment schedule did not know which cells were being treated at any given time (i.e., which cells were in the boxes)." Also relevant to this question is the fact that the person counting colonies never saw the treatment boxes, only the cell culture plates after being removed from the treatment boxes and fixed.

#### Comment 4:

We believe the clarification for Comment 3 also addresses this comment of how experiments in which sham preceded Qigong were kept blinded.

#### Comment 5:

This is addressed in the revised manuscript by stating in the Blinding Procedure section that the cell cultures were fixed in Beijing prior to being transported back to San Francisco.

#### Comment 6:

Reviewer #1 asked that the raw data be provided as supplementary material. We have provided this in a Table as supplementary material.

#### Comment 7:

We have changed Figure number 1 so that data points do not overlap in response to Reviewer #1's final comment.

### REVIEWER #2

Comment under "1. Question new and well defined?":

The reviewer is concerned that the definition and standard applied to the cell-biology has not been applied to the description of Qigong and Qigong practitioners. The description of the Qigong treatments has been expanded as noted above for Reviewer #1, comments 1 and 2. The description of the Qigong practitioners is made more explicit in the section Overall Study Design of the revised manuscript. Because self-promotional information and claims of a "distinguished lineage" are difficult to verify, we recruited for the formal studies professional Qigong practitioners actively working in clinical departments under the sanction of a public hospital administration.

This same concern is addressed further in our responses to the later comments 2b and the second comment under "Recommendations."

Page 2 para 1:

Reviewer #2 appears to be considering the review article on NIH-funded CAM research (Cardiol. Rev., 2003) outdated in the sense that the examples given in the sentence do not include all of the energy medicine modalities currently studied by NCCAM. The reviewer suggests that it would be more useful to get a statement from NCCAM that is more current and lists all of the energy medicine modalities being studied. We would argue that a published manuscript carries more credibility than a personal communication and is therefore more useful. The primary function of the sentence is to introduce the term "energy medicine." We feel providing an all inclusive list would distract from the transition into the use of the term and also dilute the impact of the fact that the federal government is funding this area of research - at all. To make this meaning more clear in the revised manuscript, we have changed the sentence by deleting all the examples.

Page 2 para 2: Reviewer #2 points out that to say Qigong is the most extensively studied energy medicine modality is vague and misleading. We have changed the sentence to read: "A vast majority of the energy medicine studies published over the past 20 years have been evaluations of Qigong."

Comment 2a:

Reviewer #2 finds the description of the number of practitioners involved to be confusing. We believe the confusion stems from the sentence in Page 6 para 2 "The San Francisco research team traveled there ..." This was not meant to include the San Francisco practitioners. To avoid this confusion, the revised manuscript reads: "Three researchers traveled there ..."

Reviewer #2 also has a question because six of the practitioners in the replication study were new. He asks: "If the some or all of the 6 practitioners in question had training different from the practitioners in the first and second study, would the analysis focusing on this difference yield the same conclusion?" This question is addressed in the original manuscript by a comparison of results from experiments with these six new practitioners with those from experiments with the "repeat" practitioners (ones participating in both formal studies; we did not include the pilot study). This same concern is addressed further in response to the later comment under "Recommendations."

Comment 2b.

The reviewer asked that we provide either a statement explaining the commonality of the Qigong involved, or a statement justifying the pooling of the known or possible differences in the Qigong involved. We chose to provide the latter by revising the text in the section Qigong Practitioners as follows: "One challenge in Qigong research is that there are numerous styles of Qigong practice and few practitioners have identical training. In our experience, practitioners often emphasize how different and unique their own style and ability is compared with that of others. They also emphasize how their ability may vary according to environmental factors, such as weather and stress. Because of such vast variance and the fact that there are no objective measures for the "amount" and "strength" of the Qi each practitioner emits each time (if that is indeed emitted), it is impossible to verifiably identify a group of practitioners who can give identical external Qigong treatment consistently. Since the goal of our study is to assess external Qigong treatment for patients, we

looked for common denominators among the practitioners from a clinical standpoint. These are: 1) they claim that they can emit Qi externally for the purpose of treating physical illnesses, albeit with variations and through different styles, 2) they are professionals of Traditional Chinese Medicine working within a Qigong department or division in a hospital, 3) they have practiced such treatment regularly for at least five years, and 4) they have experience treating cancer patients."

Comment under "Recommendations":

The reviewer recommended modifying and shortening the discussion page 2 para 2 through page 4 discussing Qigong research. We addressed this by deleting 150 words from this section.

The reviewer repeated concerns about possible issues of differences in the form of Qigong practiced among participants in the study. We feel that this is further addressed in the Discussion section, which emphasized that none of the results obtained from any of the practitioners were outside the variability of the model system. There is no justification for looking at differences between practitioners when all of them performed no differently from the sham/sham experiments.