Author’s response to reviews

**Title:** Effectiveness of cough etiquette maneuvers in disrupting the chain of transmission of infectious respiratory diseases.

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**Author’s response to reviews:** see over

We are submitting the attached further amended manuscript, “Assessment of the effectiveness of non-pharmaceutical interventions in epidemic/pandemic-prone infectious respiratory diseases outbreak”, for publication in BMC Pulmonary Medicine. We have addressed the fourth round of comments, and hope you find the amended article acceptable.

Sincerely,

Jose Gustavo Zayas, MD, MSc
Research Associate

Malcolm King, PhD, FCCP
Professor, Department of Medicine
Biomed Central Editorial Team:

Our team of researchers agreed to respond to BioMed Central Editorial Team regarding this article and to comments made by the Editor:

"I'm puzzled by the authors' response to this latest review. I believe they have responded inappropriately. I agree with the reviewer that there is insufficient comparison in the Discussion with other published research. I recall suggesting that they respond to the reviewer's comments simply by including in their Discussion a brief but thoughtful comparison of their results and methods with the literature suggested by the reviewer, particularly the paper by Milton et al. I think this is a reasonable request and it would be usual for a manuscript to present their results in the context of other published research. If they believe their methodology is superior to other published methodologies then they need to make that argument in the manuscript so that it can then be assessed by other researchers after publication."

The following comment of the Editor: I'm puzzled by the authors' response to this latest review. I believe they have responded inappropriately.

We believe that we have responded in a respectful and appropriate manner to the Editorial Team requests. However, our team has frankly expressed our concern that our study has been unfairly put in a position to make a critical comparison of our study with studies that have used the methods and techniques which are not comparable to those used in our study. It is unusual to force a group of researchers to make a critical comparison of results obtained from human cough with results acquired from cough generated by a machine using crystalloid solution instead of mucus. In simple terms they are not comparable.

Results obtained from basic studies, such as those using simulated cough machines, serve only to guide human studies, as Rubin stated, "if these changes cannot be demonstrated in vitro, it is unlikely that they will be observed in clinical trials." [Rubin BK, van der Schans CP: Outcomes for trials of mucoactive therapy. In: Rubin BK, van der Schans CP, eds. Therapy for Mucus-Clearance Disorders. New York: Marcel Dekker, 2004, 87-103.] Most of the studies suggested by the reviewer and supported by the Editor are basic studies. However, our team has complied with the request of the Editor and the Reviewer to comment about the study of Milton, which has been included in the discussion in the previous revised manuscript.

Regarding the opinion of the Editor: If they believe their methodology is superior to other published methodologies then they need to make that argument in the manuscript so that it can then be assessed by other researchers after publication."

We will never state that we are using a "superior" methodology, but we certainly use terms stated by the International Organization for Standardization (ISO) “the laser diffraction technique has evolved such that it is now a dominant method for determination of droplet size distribution”. (ISO 13320:2009 (E) 2009). (Underline is ours)

We strongly believe that we are using the dominant method to determine not only the size of the droplets expelled during a human cough but also the number of human cough droplets expelled as aerosol. We expressed such statement in our previous study published by BMC (Zayas JG, Dimitry J, Zayas A, O'Brien DW, King M. A new paradigm in respiratory hygiene: increasing the cohesivity of airway secretions to improve cough interaction and reduce aerosol dispersion. BMC Pulmonary Medicine 2005;5:11. (http://www.biomedcentral.com/1471-2466/5/11).
Therefore this study was designed to primarily assess how well recommended CE maneuvers block cough-droplets coming from inside the chest toward the external environment. Hence, the methodology we used was established solely for that purpose: cough-droplets moving from inside the chest toward the external environment.

We reiterate that our study was implemented to close existing gaps in knowledge regarding how successful recommended NPI are in blocking transmission of IRD or in controlling coughs droplets coming from inside the chest to the external environment. Although numerous published articles claim that surgical masks block cough droplets, the critical question is “Do they stop IRD transmission?” Therefore, we conclude that all recommended respiratory hygiene/cough etiquette, including facemasks, allow the transmission of epidemic-prone IRD outbreaks due to the nature, size and number of cough droplets.

Therefore after these considerations very respectfully we ask the BMC Central Editorial Team to make a decision on our manuscript at the earliest possible.