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Author's Response

Sir,

1. While it was not determined without a doubt which metabolic phase each participant was in prior to test collection, efforts were made to increase the likelihood that participants were in the elimination phase. Each drinker was dosed to a level (depending on which part of the study) and then observed for a period of 15 min prior to the determination of the baseline and collection of subsequent data. The fact that this was not clearly defined in the original study was an oversight. Of the included data in the study, there was only one subject during one set of tests who did not return to the baseline level determined prior to the rinse of the alcohol solution. This subject provided four additional sets of data during the second portion of the study and returned to baseline in the remainder of the data. The remaining subjects (a total of 25 sets of data) all returned to the original baseline determined prior the administration of mouth alcohol. Extensive research on the topic of time to reach peak has also been documented; much of the research indicating that it is likely that subjects will be post peak 15 min after drinking. In the interest of space, one example will be given: Ganert and Bowthorpe (1) found that under realistic drinking conditions, subjects reached peak 12 min after the end of drinking. While it is certainly possible for subjects to fall outside the ranges or averages given in studies, this research combined with the fact that all but one set of data returned to the original baseline demonstrates that subjects in the Sterling study were most likely in the elimination phase.
2. As all subjects in the study were given the same treatment, there was no need for a randomization of the treatments given.
3. As a routine part of any controlled drinking study, subjects were tested for breath alcohol concentration prior to being admitted to the study. Any subjects who were alcohol positive would not be admitted to the study. The main purpose of this testing is to ensure that subjects are being observed during all phases of alcohol metabolism. Without this control, researchers would have difficulty evaluating the data. The fact that this was not explicitly stated in the original study was an oversight.

4/5. In order for subjects to be included in the study, they could not be naïve with respect to alcohol. This was to try to reduce the possibility of making drinkers sick during the dosing phase. Conversely, subjects were not allowed to be known alcoholics. Both of these exclusion criteria were also an attempt to maintain ethical treatment of the subjects during the study.

6. Subjects were recontacted and questioned about oral health: presence of bridges, plates, dentures, or any extensive dental work. All reported that they do not currently, nor at the time of study, have any of the conditions mentioned in the response by Okorocha. Subjects did report having routine dental work such as fillings for cavities or crowns. The presence or absence of these abnormalities was not used as a screen for inclusion in the study for a number of reasons. First, the study hoped to test a representative sample of the population by not controlling these variables. Also multiple studies, some of them mentioned by name in the original paper, have demonstrated that the presence of these abnormalities does not affect a breath test.

7/8. Neither the time the solution was held in the mouth nor the amount the solution the mouth was rinsed with was controlled. It is believed that this better represents realistic mouth alcohol situations because the amount of alcohol remaining in the mouth or cast up from the stomach is not a constant in actual evidential breath testing. It is also not likely that in a real-world situation, drinkers are holding a mouthful of alcohol for any length of time.

9. The method of contamination was specified in the study. Each subject rinsed their mouth with an alcohol solution (50% vodka, 50% water) after a baseline was determined but prior to the collection of data.
10. The author did not intend to suggest that multiple regurgitation events were likely. However, the question of multiple regurgitations often comes up in court as a possible scenario so it could not be ignored completely.
11. The purpose of the study is to evaluate the dissipation of mouth alcohol. The source of this ethanol is irrelevant in determining how long it takes to evaporate or absorb into the system.

Okorocha mentions several times in his letter to the editor that each point he makes deems the entire paper "forensically unreliable." To judge an entire work worthless because of oversights or data that were not reported is a mistake. Any article that is published must be evaluated as a whole and with respect to the rest of the field. Possible bias of the author should also be considered when evaluating the literature. Opinions should be based on the totality of the field and by weighing differing opinions.

It should also be noted that while the author of the article clearly stated her possible bias (working in a crime lab), Okorocha did not state his possible bias. He has previously worked as a defense attorney for DUI cases in both Orange and LA counties. He also currently works as a defense expert in DUI cases. To my knowledge, he has no experience working in a laboratory conducting experiments or analytical testing of samples.

Reference

1. Ganert PM, Bowthorpe WD. Evaluation of breath alcohol profiles following a period of social drinking. Can Soc Forensic Sci J 2000;33:137.

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