

Reply to: “Response to ‘Analysis of spin in the reporting of topical treatments of photoaged skin’”



To the Editor: Like several other studies, we adapted Boutron et al’s¹ methods to evaluate spin in a selection of articles that reported significant findings.^{2,3} Spin tactics alter the interpretation of results through incomplete reporting of data, inaccurate discussion of results, or inappropriate statistical analysis. Although we would not presume to question the intent of Farris et al, both papers included in our analysis employed the above tactics.

We thank Farris and colleagues for noting a typographical error⁴ in the preprint draft of our manuscript—this typo has already been addressed in the final proof; however, the transcriptional error was not relevant to the point exemplified by the quote. The passage⁵ highlights the inappropriate reporting of results as percent changes from baseline—a spin tactic used in both manuscripts^{2,3} that can inaccurately convey a higher magnitude of findings. Their reporting in the absence of raw scores can give the appearance of more effective results.² Because percent improvement at the final time point is unreported, the reader must rely on an unsupported claim—that the “active group was statistically superior.”

Although Farris and colleagues assert visualization techniques were used only to “demonstrate visible changes,” this contradicts both papers.^{2,3} Digital photography and silicone replicas replica techniques are listed under “Efficacy and Safety Assessments,”^{2,3} and, per their methods, “image analysis was applied to each replica.”³ Yet, the results of these analyses are unreported, while significant results are implied with statements like “...demonstrated improvement...that corresponded to the visual changes seen in clinical photographs.”³ Moreover, although “almost all subjects in the active group reported antiaging benefits,”³ the results of the placebo group’s self-assessment are absent, and comparative analysis was not performed. Failure to report these findings might lead the reader to question whether other results were unreported.

Farris et al also state that their statistical analyses were appropriate because they found significant changes in clinically graded parameters; however, their analysis is flawed.^{2,3} Both studies failed to account for baseline variation between groups, and although the authors state “the issue of multiplicity has no practical impact for the interpretation of these studies,” multiplicity can occur from multiple testing of within-group changes at multiple time points.

These issues can be avoided if a repeated measure ANOVA (analysis of variance) approach or type I error adjustment is used when multiple measures are taken in the same units and compared for equality within and between groups multiple times. Finally, we agree that the cosmetic nature of these studies imparts an inherent challenge for standardized, objective assessment of skin quality; however, validated tools do exist that were developed in accordance with Food and Drug Administration requirements.⁶

Although we appreciate the opportunity to address concerns raised by Farris et al,⁴ we would like to emphasize that our study was performed to highlight the need to address the root causes of spin and elevate the quality of research, not to criticize specific authors.

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