LETTER TO THE EDITOR

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The current problem with journal review systems

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As a clinician aspiring to expand clinical knowledge, it is a joy to read well written articles. In contrast, as a reader, it is frustrating to come across a poorly written article in the Journal of the Korean Association of Oral and Maxillofacial Surgeons. Such occurrences cause me to question the review process that allows inferior papers to be published in a journal. The hazards of poorly written articles are two-fold; first, they can mislead readers unaware of valid scientific methods to make harmful clinical decisions. Second, they are irresponsible with regard to patient health and care. Clinical science, like dentistry and medicine, is obviously different from basic science. Its major goal is improvement of human health and conditions, while basic science aims at appeasing human curiosity. Thus, the products of clinical research tend to be connected directly to human life and well-being. Authors of research articles are expected to always keep in mind the real-life impacts of their research.

A recently published article entitled 'Effect of rotation bump on removal torque of orthodontic mini-implants'[1] should be carefully read in the context of its misleading potential. As the research was carried out in a university with good reputation, readers who are unaware of evidence-based dentistry skills may automatically deem the article's methods and conclusion as credible. However, a lack of critical thinking is unscientific[2]; therefore, the research will be examined here, starting with the method. Control and rotation bump (RB) implants were placed, one on each tibia of the same animal (white rabbit). This clearly shows that design of the experiment was paired. Then, the differences in four outcome-dependent variables, maximum insertion torque, maximum removal torque, torque ratio, and removal angular momentum, should have been tested between the control implant and RB implant using a paired t-test not the independent t-test[3]. Of course, this parametric test should have been adopted after the assumption of normal distribution of data was examined. If the normal distribution assumption was not established, a nonparametric test, Wilcoxon's signed rank test for a paired experiment, should have been chosen. Thus, the tables and conclusions in the article are invalid and substantially mislead readers of the article. In addition, the sacrifice of the 16 three-year-old animals was in vain. This leads one to question the actions of the Institutional Review Board and journal reviewers.

The authors seem to be ignorant of one of the unique advantages of experimentation: randomization. As revealed in the article, the mean weight of 16 white rabbits ranged between 3.5 kg and 4.0 kg. This weight range implies the possibility of individual variation in bone quality and density, which could produce variations in the four dependent outcome variables. An experimental design using randomization to diminish any confounding variations in bone quality and density attributed to individual biological differences was carelessly overlooked[4].

In the context of current training curriculum focused on acquisition of clinical skills, it is understandable that clinicians are not thoroughly aware of updated scientifically valid research skills and concepts. However, a lack of essential research abilities does not justify the misleading impact of the resulting research. In addition, the journal's review system to filter flawed manuscripts has not been functioning as intended. This failure of the review system remains the most basic root cause of the continuous emergence of poorly conducted research articles in dental journals.

In short, combined interplay of insufficient research training, an ignorant or careless review board, and an incomplete review system account for the continuous publication of misleading or erroneous articles[5]. Practically, however, the ines-

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capable editorial dilemma of maintaining the difficult balance between quality and quantity of articles does exist. The current problem must be adequately recognized, and effective solutions must be enacted to address each of the contributing issues.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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