

## Author's reply

Sir,

I thank the authors for their comments on my letter and for raising an interesting debate about the appropriate use of statistics for the testing of data related to pain scores especially the visual analog scale (VAS).

In an article by Akhavanakbari *et al.*,<sup>[1]</sup> the abstract mentions the use of repeated-measures analysis of variance (ANOVA), whereas the methods section in the manuscript mentions the use of the ANOVA. It is unclear which of these two tests was actually applied. Pain scores (using the VAS) have been charted at various time-points: 6, 12, 24, 36, and 48 h following the intervention [Table 1 of the original publication] along with a “*P*” value but there is no mention in the methods section about whether the “*P*” refers to a within-group change with time or a between-group comparison. In fact, this sentence in the results section “At the end of the study, the differences in VAS score and rate of drug consumption was statistically significant between patients in three groups” suggests that the analysis represents a between-group comparison rather than a within-group comparison and for this, repeated-measures ANOVA would not be appropriate.

The subject of whether VAS scores should be analyzed using parametric or nonparametric has been a matter of debate among statisticians. Kersten *et al.*<sup>[2]</sup> has suggested that it is inappropriate to use anything other than nonparametric analysis for this type of data; others like Price<sup>[3]</sup> and Harms-

Ringdahl<sup>[4]</sup> have opposed this view. However, there seems to be no dispute that data distribution and sample size have to be taken into account when choosing statistical methods.<sup>[4]</sup> In this context and with a small sample size (60 patients), I feel it would have been more suitable for the authors to have checked the normality of data before adopting a parametric test.

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