

## A mini review of P values from *Hong Kong Medical Journal*

*To the Editor*—We recently reviewed all P values extracted from all original articles in Volume 12 (2006) of *Hong Kong Medical Journal* (HKMJ). Three hundred and sixty-seven P values were extracted from 30 papers with statistical analysis. Of these, 18 (4.9%) were zero, 11 (3.0%) were stated as “P=NS”, 57 (15.5%) presented with insufficient precision (ie no exact P value when  $P > 0.001$ , eg  $P < 0.05$ ,  $P > 0.05$ ) and one (0.3%) was probably printing error (as  $P = 0.001$ ).

Reporting P value as  $P > 0.05$  or  $P = \text{NS}$  is not acceptable because interpreting P values should be flexible. Fisher<sup>1</sup> suggested that P values around 0.05 might lead to neither belief nor disbelief in the null hypothesis but to a decision to replicate the experiment. It is also theoretically impossible to have  $P = 0$ .

The current version of information for authors of the HKMJ stated that “the statistical guidelines of the International Committee of Medical Journal Editors (ICMJE) should be followed”. However, ICMJE<sup>2</sup> only vaguely mandated the authors to “describe

statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results”. Statistical guidelines for contributors to medical journals by Altman et al<sup>3</sup> stated that the exact P value should be presented unless the P value was less than 0.0001. Nonetheless, the generally accepted practice is to report exact P value when the P value is larger than 0.001.<sup>4</sup>

We would suggest HKMJ to adopt a set of clearer statistical guidelines and encourage the contributors to report and interpret confidence intervals instead of relying solely on P value.<sup>5</sup>

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### References

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