A POST HOC METHOD TO COMPUTE MULTIPLICITY CORRECTED
CONFIDENCE INTERVALS FOR ODDS RATIOS AND OTHER RELATIVE
EFFECT ESTIMATES

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Abstract: Environmental risk factor studies commonly test multiple null hypotheses. In some
situations it may be appropriate to account for multiplicity using statistical methodology rather than
simply interpreting results with greater caution as the number of comparisons increases. Given the one-
to-one relationship that exists between confidence intervals and hypothesis tests, we derive a post hoc
method based upon the Hochberg step-up procedure to obtain multiplicity corrected confidence intervals
(CI) for odds ratios (OR) and by analogy for other relative effect estimates. In contrast to previously
published methods that explicitly assume knowledge of P values, this method only requires that relative
effect estimates and corresponding CI be known for each comparison to obtain multiplicity corrected CI.

Keywords: Multiplicity correction, Hochberg step-up procedure

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