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# Comments on "Assessment of pain and quality of life in patients undergoing cardiac surgery: a cohort study"

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First, Viana et al.[1] evaluated postoperative pain and quality of life in patients undergoing median sternotomy (via comparisons in a cohort study). However, while comparing outcomes, it is important to present the clinical relevance of the differences found because the p-value shows only a statistical observation related to an alpha error probability[2,3]. Classical statistical significance is still the predominant way to analyze cohort studies, but clinical significance analysis has been slowly incorporated into the analysis of health-related studies. Statistical significance does not assure that the results are clinically relevant. The dichotomy that emerged from hypothesis testing[4], namely, the decision to accept or reject the null hypothesis based on the predetermined levels of probability[5] does not provide any insights into whether the results of the study are important for patients, clinicians, or decision-makers, limiting the value of the tests in the world of evidence-based practice[4,6,7]. It can be solved by adding the effect size to the significant values ($p \leq 0.05$)[8] or the minimal clinically important difference[9] of the instruments: Visual Analog Scale (VAS)[10], Brief Pain Inventory (BPI)[11], and World Health Organization Quality of Life Questionnaire (WHOQOL)[12]. These adjustments facilitate probabilistic reasoning in the clinical applicability of scientific evidence.

Second, the authors used convenience sampling and suggested further studies with larger samples. A convenience sample is one that is drawn from a source that is easily accessible to study. This sample, nonetheless, may not be representative of the population at large; e.g., a convenience sample of students can be drawn from a nearby medical college, but these students may not be representative of all students, such as students in other professional and nonprofessional colleges[13]. According to Andrade[14], the sample size for a study needs to be estimated at the time the study is proposed; too large a sample is unnecessary and unethical, and too small a sample is unscientific and also unethical. The necessary sample size can be calculated using software, based on certain assumptions[15-17]. As such, contributing to the authors and helping later studies with sampling, we designed a sample size a priori using G*Power 3.1.9.7.[18]. Regarding the difference between two dependent means (matched pairs), we used the following parameters: effect size=0.5, $\alpha$=0.05, $\beta$=0.90, non-centrality parameter $\delta$=3.3166248, critical t=2.0166922, and df=43 (n=44). Regarding the difference between two independent means (two groups), we used the following parameters for prior sample calculations: effect size=0.5, $\alpha$=0.05, $\beta$=0.90, allocation ratio N2/N1=1, non-centrality parameter $\delta$=2.9580399, critical t=1.6559704, and df=138 (n=140), with 70 patients per group.

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## AUTHORS' CONTRIBUTIONS

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