LETTER TO THE EDITOR

Relative Risk of Prolonged Operative Times From Inconsistent Surgical Teams

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Xiao et al. studied associations between heterogeneous teams of a surgeon, an operating room nurse, and a surgical technologist and several outcomes, including "prolonged operative time (in the longest quartile)" [1]. "Inconsistent teams were associated with" greater odds of "prolonged operative time [1.52, 95 % confidence interval (CI) 1.20–1.91]."

From the authors' Fig. 3, when "both the circulating nurse and surgical technologist … were among the three most frequent working with the surgeon," the "operative time (was) in the longest quartile" for 21 % of cases. In contrast, when both rarely worked with the surgeon, 29 % of cases were in the longest quartile. From the Discussion, "there was a 52 % increase in occurrences of prolonged operative time." However, the relative risk would be approximately 1.38 = 29 %/21 %. The 1.52 is the odds ratio, not the relative risk. Is this interpretation correct?

The relative risk is needed for evaluating managerial importance and designing future studies. The odds ratio is a biased estimator for relative risk when incidences are not small (e.g., >10.0 %) [2]. What is the estimate for the adjusted relative risk and its confidence interval [3, 4]?

From the Introduction, it is stated that there is "higher likelihood of prolonged operative time." Knowing the likelihood ratio would indeed be helpful for evaluating the quantitative contribution of teams to the problem of prolonged operative times. To perform the arithmetic, Fig. 3 provides the incidences for consistent versus ad hoc teams. From Fig. 1, 39 % of teams were consistent. The percentage of teams that were ad hoc, as needed to calculate the likelihood ratio, seems unclear. What was the likelihood ratio?

References

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