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Re: 'A study of factors influencing surgical cesarean delivery times in an academic tertiary center'

We read with interest the article by Gonzales Fiol et al.[1] published online in the journal in January 2018. The authors conducted a retrospective review of caesarean deliveries over a 12-month period to determine caesarean delivery times and identify factors influencing operative time and preference for a particular anaesthetic method. Although the authors examined the influence of several pertinent variables on operative time, we consider that premature conclusions were drawn that were not supported by the data.

Firstly, when undertaking a linear regression analysis, a key assumption is the normal distribution of the residuals (the distance of the predicted value from the measured value). Given the skewed distribution of operative time and the low coefficient of determination (R^2), we suspect the residuals of the data were not normally distributed, thus violating this condition. The authors did not report the assessment of this assumption.

Secondly, as identified by the authors, the variables studied account for a small part (18%) of the variation in caesarean delivery operative time. In presenting a predictive model in the form of the decision tool in Fig. 2, the authors infer clinical utility. However, a coefficient of determination (R^2) of only 0.18 suggests the predictive model is a poor fit and does not predict operative time accurately. Furthermore, the statistical model has not undergone an assessment of its predictive power. The convention when preparing and assessing a predictive statistical model is to undertake an analysis on a split data set.[2,3] Firstly, a "training" subset of data is used to formulate the model and then its performance is validated on a "testing" subset of data. If this had been undertaken, the authors could have demonstrated the model's ability to accurately identify cases of greater than 90 minutes duration, accompanied by the sensitivity and specificity. This would have evidenced the true utility and transferability of this model into clinical practice.

We believe this paper does not validate the predictive model proposed and suggest it is an inadequate tool to influence clinical decisions such as anaesthetic technique.

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Dosing an unintentional intrathecal catheter with programmed intermittent epidural bolus settings may not produce hypotension

Maintenance of epidural analgesia by programmed intermittent epidural boluses (PIEB) delivers identical volumes and doses of epidural medication at scheduled intervals, and demonstrates more extensive epidural spread than continuous infusion.[1] There is limited information on how an unrecognized intrathecal catheter might present during PIEB settings,[2] especially if the catheter was placed as part of a combined spinal-epidu-