

**Title:** Evaluation of factors that predict the success rate of trial of labor after the cesarean section

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**Reviewer's report:**

The objective of this article is to identify and measure the influence of factors that affect vaginal delivery after cesarean section and to establish a model to predict the success rate of a trial of labor after cesarean section (TOLAC).

The authors use data from a retrospective study in one hospital.

They build a model using multiple regression analysis.

- The authors convincingly present the rationale of studying the determinants of TOLAC.

TOLAC appears to be an important phenomenon to study to contribute to the decrease of CS rates, which is a public health issue. This topic is not new but may be part of a solution.

- The methodology is clearly stated. One point could be further detailed, regarding the absence of contraindication to vaginal trial among the inclusion criteria. What criteria does this include? In particular, do these criteria include the fetal lie that is one of the 6 criteria from Robson classification as are the duration of gestation weeks, the number of fetuses and the history of cesarean section also taken into account in the list of inclusion criteria?

- The authors show the univariate logistic analysis of factors that predict successful TOLAC. Among them, the authors keep pregnancy BMI (for which  $p = 0.017$ ) in the multivariate analysis but they do not keep the time interval from previous CS for which the  $p$  value is lower (0,014). This is in contradiction with the rule specified in the methodology according to which they would keep factors with  $p < 0.05$ . Can they document this choice ?

- In the multivariate logistic model, the authors do not introduce gravidity that has  $p < 0.05$ . Could the authors explain this choice?

Gravidity could be introduced along with parity provided the authors take into account potential multicollinearity between those two variables and remedy to potential problems.

- In the multivariate logistic regression model, parity and past vaginal delivery history are both introduced. These two factors are linked one with each other. The authors should solve this problem, which can be made by combining those two determinants together.

- The English needs revision.