Risk-adjusted Cesarean Section Rates for the Assessment of Physician Performance in Taiwan: A Population-Based Study

林恆慶;湯澡薰
Tang CH;Wang HI;Hsu CS;Su HW;Lin HC

Abstract

BACKGROUND: Over the past decade, about one-third of all births nationwide in Taiwan were delivered by cesarean section (CS). Previous studies in the US and Europe have documented the need for risk adjustment for fairer comparisons among providers. In this study, we set out to determine the impact that adjustment for patient-specific risk factors has on CS among different physicians in Taiwan. METHODS: There were 172,511 live births which occurred in either hospitals or obstetrics/gynecology clinics between 1 January and 31 December 2003, and for whom birth certificate data could be linked with National Health Insurance (NHI) claims data, available as the sample for this study. Physicians were divided into four equivalent groups based upon the quartile distribution of their crude (actual) CS rates. Stepwise logistic regressions were conducted to develop a predictive model and to determine the expected (risk-adjusted) CS rate and 95% confidence interval (CI) for each physician. The actual rates were then compared with the expected CS rates to see the proportion of physicians whose actual rates were below, within, or above the predicted CI in each quartile. RESULTS: The proportion of physicians whose CS rates were above the predicted CI increased as the quartile moved to the higher level. However, more than half of the physicians whose actual rates were higher than the predicted CI were not in the highest quartile. Conversely, there were some physicians (40 of 258 physicians) in the highest quartile who were actually providing obstetric care that was appropriate to the risk. When a stricter standard was applied to the assessment of physician performance by excluding physicians in quartile 4 for predicting CS rates, as many as 60% of physicians were found to have higher CS rates than the predicted CI, and indeed, the CS rates of no physicians in either quartile 3 or quartile 4 were below the predicted CI. CONCLUSION: Overall, our study found that the comparison of unadjusted CS rates might not provide a valid reflection of the quality of obstetric care delivered by physicians, and may ultimately lead to biased judgments by purchasers. Our study has also shown that when we changed the standard of quality assessment, the evaluation results also changed.