Comparing Postcesarean Infectious Complication Rates Using Two Different Skin Preparations

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1. Prework: Discuss how you prepare the skin for cesarean birth and the rationale behind that method. Review the rates of postcesarean puerperal infection (endometritis, sepsis, and cellulitis) at your institution over the last 5–10 years.

2. Describe the study design. What are its strengths and limitations?

3. The large number of patients studied seems to be a strength of this study design. How many patients would need to be included for the sample size to be considered a strength—1,000 patients? More or fewer? Explain your answer.

4. The retrospective design, in which infection rates were compared before and after an implemented change, seems to be a limitation of this study design. Why is this a limitation? How could you design the study to remove this limitation?

5. The authors found that the change in skin preparation method resulted in significantly fewer postcesarean delivery infectious complications. What is the rate of these complications at your hospital? How do your rates compare to those found in this study?

6. The authors identified the primary outcome through use of the International Classification of Diseases (ICD)-9- Clinical Modification (CM) 670.xx system. Is this an accurate method for identification of these outcomes? Have you compared your ICD-9 codes for these indications with the clinical course of your patients? How well do they match?

7. The primary outcome included endometritis, sepsis, and cellulitis. Does that capture all infectious morbidities of concern for this comparison? If not, what is missing and how could it be captured?

8. What other methods can be implemented to reduce infectious morbidity associated with cesarean deliveries? Did the authors evaluate any of these methods? If not, which set might next be implemented?

9. Preoperative antibiotics before cesarean delivery have been recommended to reduce infectious morbidity. The authors found a higher rate of cefazolin prophylaxis in the postintervention group. How might this affect the results?

10. The change in scrub technique included a 3-minute povidone-iodine scrub; how was this monitored?

11. The authors found a higher rate of obesity (body mass index [BMI] greater than 30) in the postintervention group. How does obesity affect complications, especially infectious complications after cesarean? How might this bias the results, and was this a concern for this study?
12. The authors used Poisson regression to estimate monthly infection rates and to test for differences in infection rates by treatment. Why did they use Poisson regression? How is it performed and when is it indicated? Why not use multivariable regression?

13. The authors also describe using the “incident rate ratio” (Table 2). Why was this calculated and when it is helpful to use?

14. Will the findings from this manuscript alter your practice? What changes, if any, will you make?