

REVIEWER'S REPORT

Manuscript No.: IJAR- 51040

Date: 11/04/2025

Title: A Prospective Cohort Study to Study the Effectiveness of Surgical Bundle in Reducing Surgical Site Infection in Caesarean Deliveries

Recommendation:

- ✓ Accept as it is
 Accept after minor revision.....
 Accept after major revision
 Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality	✓			
Clarity		✓		
Significance		✓		

Reviewer Name: Dr. S. K. Nath

Date: 11/04/2025

Reviewer's Comment for Publication:

The study concludes that the implementation of a surgical bundle can significantly reduce the rates of surgical site infections after cesarean deliveries, with an overall reduction of 53% observed. Despite the positive findings, the context of high-risk patients and the need for innovative interventions for this group remain crucial considerations. The results highlight the importance of adhering to evidence-based surgical measures but also suggest that further research is needed to dissect the individual contributions of each component of the surgical bundle and their applicability across different populations.

Overall, while the study provides valuable insights into infection control during cesarean deliveries, caution should be taken in generalizing its findings beyond the studied population. Future studies should investigate individual bundle components and their effectiveness in diverse clinical settings.

Reviewer's Comment / Report

Strengths:

- Design:** The study is a prospective cohort design, which allows for the collection of data over time and the observation of outcomes directly related to the implementation of the surgical bundle.
- Clear Objective:** The primary aim of evaluating the effectiveness of the surgical bundle in reducing surgical site infections (SSIs) provides a focused and clinically relevant inquiry.
- Statistical Significance:** The study reports a significant decrease in SSIs with the surgical bundle (p-value <0.001), indicating a strong finding that underscores the importance of the intervention.
- Comprehensive Approach:** The use of a multi-faceted surgical bundle, including antibiotic prophylaxis and antiseptic surgical techniques, aligns with evidence-based practices for infection control.
- Sample Size:** With a total of 620 participants (310 in each group), the study has a robust sample size that enhances the reliability of the results.

Weaknesses:

- High-Risk Population:** The study was conducted in a referral hospital with a high-risk patient population, which may limit the generalizability of the findings to lower-risk groups or different healthcare settings.

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2. **Heterogeneity of Studies:** The paper notes significant variability in outcomes compared to other studies, suggesting that the effects of specific components of the surgical bundle may not be universally applicable.
3. **Limited Evaluation of Components:** The study does not individually evaluate each component of the surgical bundle, making it difficult to determine which specific interventions are most effective.
4. **Emergency Procedures:** The focus on emergency cesarean deliveries, known to carry a higher risk of infection, may skew results as these patients may have underlying conditions impacting their risk for SSIs.
5. **Potential for Confounding Factors:** Factors such as varying surgical techniques, patient demographics, and pre-existing health conditions could confound the results.