Comparison of Elective Cesarean Section and Vaginal Delivery Outcomes: A Study of 100 Patients at Saraswathi Institute of Medical Sciences

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Abstract

Background: This study compares maternal and neonatal outcomes of elective cesarean sections (C-sections) and vaginal deliveries among 100 patients at Saraswathi Institute of Medical Sciences, Hapur. Of the participants, 40 underwent elective C-sections, and 60 had vaginal deliveries. The study highlights differences in recovery times, complication rates, and neonatal health, emphasizing the need for individualized decision-making in choosing the mode of delivery.

Aims and Objectives: The aim of this study is to compare the maternal and neonatal outcomes of elective cesarean sections and vaginal deliveries to determine the advantages and risks associated with each delivery method. 1. To evaluate maternal outcomes, including complication rates, recovery times, and satisfaction levels, for both elective cesarean sections and vaginal deliveries. 2. To assess neonatal outcomes, such as Apgar scores, respiratory complications, and birth injuries, associated with each mode of delivery. 3. To identify factors influencing maternal satisfaction with the chosen delivery method. 4. To provide evidence-based recommendations for selecting the most appropriate mode of delivery for different clinical scenarios

Methodology: Study Design: Prospective observational study conducted from March 2024 to November 2024. Population: 100 pregnant women admitted for delivery at Saraswathi Institute of Medical Sciences.

Results: 1. Elective C-section (n = 40): Higher rates of surgical complications (10% surgical site infections, 5% postoperative hemorrhage). Longer recovery time (average 4 days hospital stay, 6-8 weeks full recovery). 2. Vaginal Delivery (n = 60): Higher incidence of perineal trauma (25%) and postpartum hemorrhage (8%). Quicker recovery time (average 2 days hospital stay, 2-4 weeks full recovery).

Neonatal Outcomes: 1. Elective C-section: 95% of neonates had Apgar scores ≥7 at 1 minute; 10% experienced transient tachypnea of the newborn (TTN). 2. Vaginal Delivery: 92% of neonates had Apgar scores ≥7 at 1 minute; 5% had minor birth injuries (e.g., bruising).

Maternal Satisfaction: 1. Elective C-section: 80% satisfaction due to avoidance of labor pain; 20% dissatisfaction from prolonged recovery. 2. Vaginal Delivery: 85% satisfaction due to quicker recovery; 15% dissatisfaction due to labor pain or trauma.

Conclusion: This study concludes that both elective C-sections and vaginal deliveries have distinct advantages and risks. The choice of delivery mode should be tailored to each patient, taking into account medical indications, maternal preferences, and potential outcomes. Vaginal delivery remains the preferred method for low-risk pregnancies, while elective C-sections are valuable in specific situations.

Keywords: Elective Cesarean Section, Vaginal Delivery, Maternal Outcomes, Neonatal Outcomes, Apgar Score

Introduction

Globally, the rates of elective cesarean sections have risen significantly, often driven by maternal preference, perceived safety, or convenience. This shift has sparked debates about the advantages and risks associated with elective C-sections compared to vaginal deliveries.

At Saraswathi Institute of Medical Sciences, where diverse obstetric cases are managed, understanding the outcomes of these delivery modes is crucial for optimizing care.
This study aims to compare maternal and neonatal outcomes between elective C-sections and vaginal deliveries, providing evidence-based insights for clinical practice and patient counselling.

Methodology
Groups
Elective C-section group (n = 40)
Vaginal delivery group (n = 60)
Inclusion Criteria: Full-term singleton pregnancies with no major obstetric complications.
Exclusion Criteria: Emergency C-sections and high-risk pregnancies with severe complications.
Data Collection: Maternal and neonatal outcomes were recorded, including complication rates, recovery times, Apgar scores, and maternal satisfaction.
Statistical Analysis: Descriptive statistics and chi-square tests were used for comparison.

Results
1. Maternal Outcomes
Complications
a. Elective C-section (n = 40)
Surgical site infection: 10%
Postoperative haemorrhage: 5%
No maternal deaths.
b. Vaginal Delivery (n = 60)
Perineal tears: 25%
Postpartum hemorrhage: 8%
No maternal deaths.

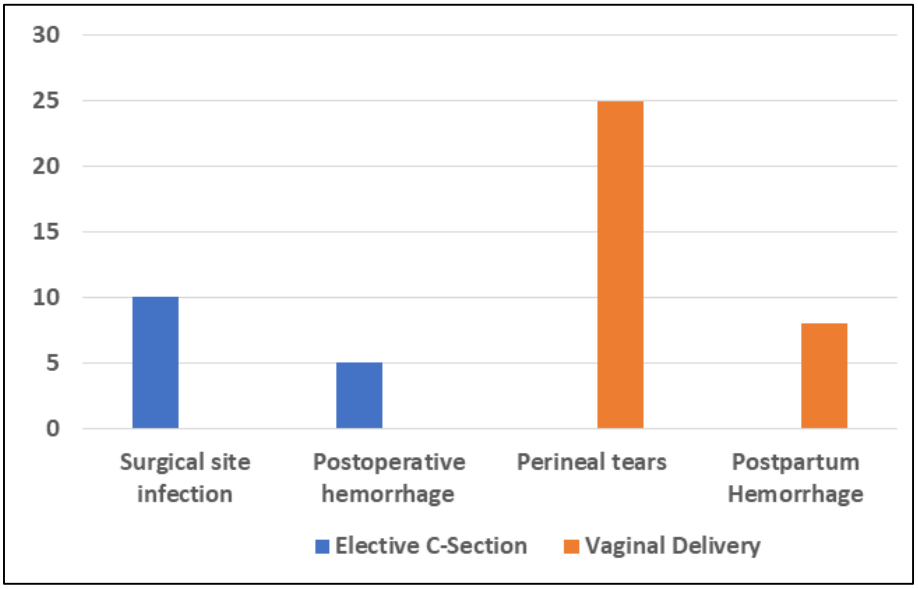

Fig 4: Maternal Outcomes

Recovery Time
a. Elective C-section
Average hospital stay: 4 days.
Full recovery time: 6-8 weeks.

b. Vaginal Delivery
Average hospital stay: 2 days.
Full recovery time: 2-4 weeks.

Table 1: Recovery Time

	Elective C-section	Vaginal Delivery
Average hospital stay	4 days	2 days
Full recovery time	6-8 weeks	2-4 weeks

2. Neonatal Outcomes
a) Elective C-section (n = 40)
Apgar score ≥7 at 1 minute: 95%.
Transient tachypnea of the newborn: 10%.

b) Vaginal Delivery (n = 60)
Apgar score ≥7 at 1 minute: 92%.
Birth trauma (e.g., bruising or lacerations): 5%.

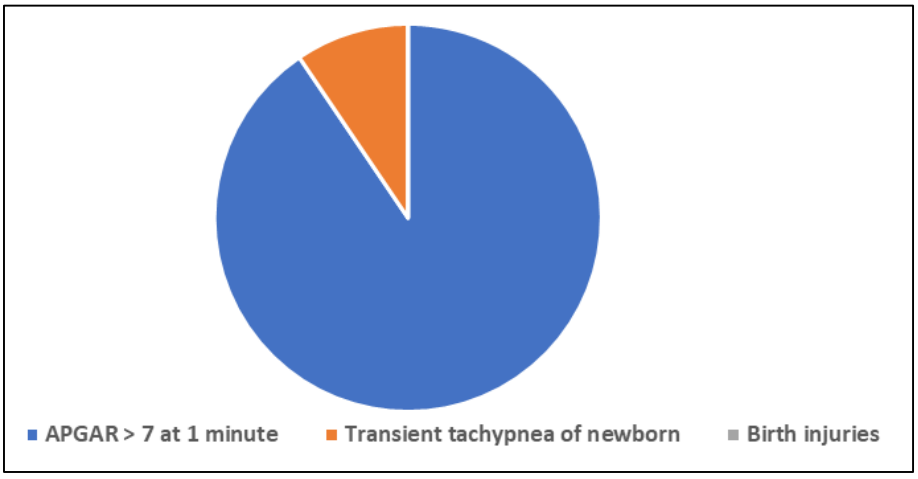

Fig 2: Elective C-section Neonatal Outcomes

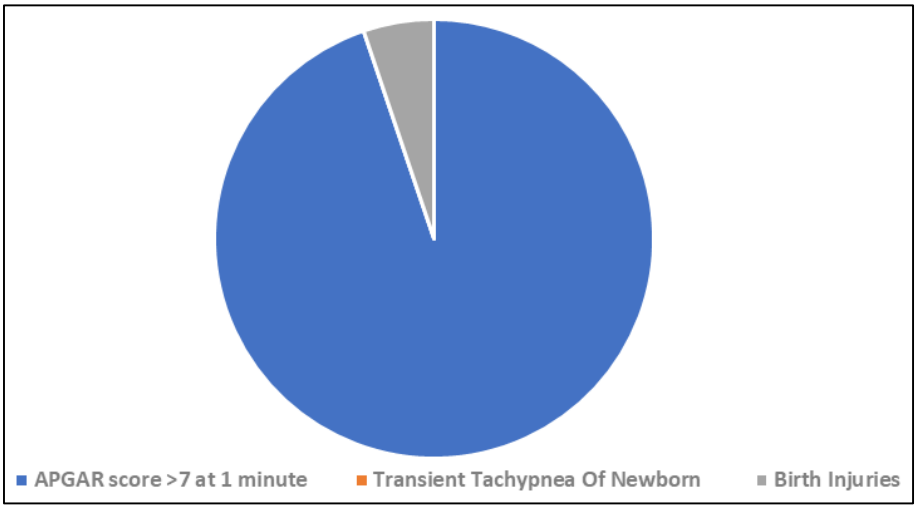

Fig 3: Vaginal Delivery Neonatal Outcomes

3. Maternal Satisfaction

a. Elective C-sections

80% reported satisfaction due to avoidance of labor pain.
20% expressed dissatisfaction due to delayed mobility and prolonged recovery.

b. Vaginal Delivery

85% expressed satisfaction due to quicker recovery.
15% reported dissatisfaction due to labor pain or perineal trauma.

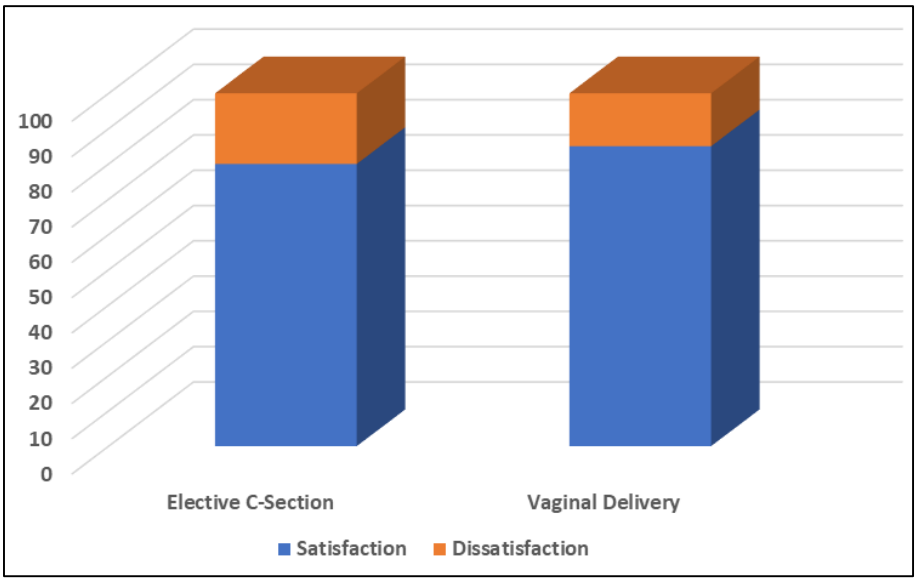

Fig 3: Maternal Satisfaction

Discussion

The study revealed significant differences in maternal and neonatal outcomes between elective C-sections and vaginal deliveries. C-sections were associated with fewer perineal injuries and higher neonatal Apgar scores but required longer recovery times and had a slightly higher risk of surgical complications. Vaginal deliveries showed quicker recovery and higher maternal satisfaction rates but were associated with a higher incidence of perineal trauma.

The findings underscore the need for personalized counseling to help mothers make informed decisions about their mode of delivery. At Saraswathi Institute of Medical Sciences, the growing trend of elective C-sections mirrors global patterns, highlighting the need for evidence-based guidelines.

Conclusion

The findings of this study underscore the need for a balanced approach to selecting the mode of delivery. Elective cesarean sections offer a controlled delivery environment, reducing risks of labor-related complications for both the mother and the neonate. However, the surgical nature of the procedure introduces its own set of risks, including increased recovery times, higher costs, and greater resource utilization. Vaginal delivery, while presenting challenges such as perineal trauma and labor pain, remains the preferred mode for its natural recovery process, lower rates of postoperative complications, and better outcomes in low-risk pregnancies.

This study highlights the importance of shared decision-making, where clinicians provide comprehensive counseling to expectant mothers, ensuring that the mode of delivery is tailored to their medical needs, preferences, and psychosocial circumstances. Educational interventions addressing misconceptions about vaginal delivery and cesarean sections can empower women to make informed choices.

Policy implications of these findings include the need to develop hospital guidelines that clearly define the indications for elective cesarean sections to prevent unnecessary procedures. Additionally, strengthening prenatal care programs to address maternal fears and anxieties about labor can promote vaginal deliveries where appropriate.

In conclusion, both delivery modes have their merits, and the ultimate choice should prioritize maternal and neonatal well-being. By fostering a patient-centered approach and adhering to evidence-based guidelines, healthcare providers can ensure the best possible outcomes for mothers and their newborns.

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