

ADDRESSING THE RISING RATES OF CESAREAN DELIVERY IN ALEXANDRIA, EGYPT

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Introduction

Cesarean section (CS) rates have increased worldwide , often exceeding levels considered medically justifiable. While CS can be a lifesaving procedure in certain situations, its overuse, especially in low-risk pregnancies, has become a growing subject. In Egypt, the trend is particularly concerning, with rates rising above 50% in many governorates. This rise is driven by a combination of medical decisions, patient preferences, and healthcare factors. To better understand and manage this pattern, the World Health Organization recommends using the Robson Ten Group Classification System (TGCS). This system offers a standardized way to classify all deliveries, making it easier to audit and compare CS practices both within and across institutions. By applying the TGCS, healthcare providers can more reliably recognize which groups account most for the rising CS rates and develop directed approaches to reduce medically unindicated procedures.

Aim of the work

The aim of this study was to evaluate cesarean section rates in Alexandria, Egypt, using the Robson Ten Group Classification System, and to identify the main clinical indications and contributing factors for CS.

Patient and methods

This prospective cross-sectional study included women aged 17 to 45 years who underwent cesarean delivery at Al-Shatby Maternity University Hospital and Al-Muhafza Maternity Hospital in Alexandria, Egypt, from September 2024 to February 2025. Data collected included maternal demographics, obstetric history, pregnancy complications, cesarean section indications. Cesarean sections were classified according to the Robson Ten Group Classification System.

Results

Table (1): Distribution of the Robson criteria among our study sample (n: 4517).

Variable	N (%)
Robson Group	-
Group 1	393 (8.7%)
Group 2	687 (15.21%)
Group 3	122 (2.7%)
Group 4	226 (5%)
Group 5	2779 (61.52%)
Group 6	96 (2.13%)
Group 7	55 (1.22%)
Group 8	109 (2.41%)
Group 9	11 (0.24%)
Group 10	39 (0.86%)

Among the study population (n = 4517), Robson Group 5 represented the largest proportion of cesarean sections, with a percentage of 61.52% of all cases. This group includes women with a previous cesarean and a singleton, cephalic-term pregnancy. Group 2 (15.21%) and Group 1 (8.7%) followed in frequency, while all other groups represented less than 6% each. The data highlights the dominant contribution of repeat cesarean deliveries (Group 5) to the overall CS rate in this study population.

Table (2): Main Indications for Cesarean Section among the Study Population (Awad’s classification for CS)

Term	Specification	Overall N (%)
Group A: Previous CS		2779
A1	Previous 1 CS	1505 (54.16%)
A2	More than 1 previous CS	1274 (45.84%)
Group B: Primary CS		1738
B1: Fetal distress	- CTG abnormalities (n: 230; 67.1%) - Meconium or caput (n: 113; 32.9%)	343 (19.73)
B2: Failure of progress	- Arrest of cervical dilatation/Arrest of descent (n: 249; 84.69%) - Uterine inertia (n: 45; 15.31%)	294 (16.91%)
B3: Malpresentation	- Cephalic (n: 13; 11.05%) - Non-cephalic breech (n: 96; 81.35%) - Transverse or oblique (n: 9; 7.6%)	118 (6.8%)
B4: Multiple pregnancy	- Preterm multiple pregnancy (n: 45; 2.45%) - Term multiple pregnancy (n: 61; 57.55%)	106 (6.1%)
B5: Elective CS	- Maternal request (n: 582; 70.72%) - No clear indication (n: 241; 29.28%)	823 (47.35%)
B6: Obstetric emergencies	- APH/placental abruption (n: 29; 53.71%) - Others (cord prolapse) (n: 25; 46.29%)	54 (3.1%)

To further understand the causes of rising cesarean section (CS) rates, this study introduced Awad’s Classification, a modified system that it's a modified system that more accurately reflects the region's clinical practice. Group A included women with previous cesarean deliveries, subdivided into A1: one previous CS and A2: two or more previous CS. Group B (B1–B6) studied nulliparous women and grouped primary CS indications. The findings revealed that the largest proportion of primary CS procedures were done without clear medical indication, suggesting a trend of elective CS decisions in low risk cases. Awad’s Classification offers a practical classification system to audit cesarean indications and target unnecessary procedures.

Conclusion

This study demonstrates the markedly high CS rate within the study population, with Robson Group 5 representing most of the cases (repeat CS). The findings bring into focus the fact that previous CS is the strongest driver of overall CS rates. Among nulliparous women, many Cesarean deliveries had no clear medical indications, revealing a trend of early or Medico legal driven decision making. In response, Awad’s Classification was introduced as a modified analytical tool that better corresponds to local clinical patterns. It divides CS cases into Previous CS and CS among nulliparous groups and further classifies primary CS cases among nulliparas. This system offers a clearer comprehension of existing CS practices and provides a practical basis for focused audit, policy planning, and intervention strategies aimed at reducing unindicated CS, particularly in low-risk women. It stresses the urgent need to promote safe vaginal birth and re-evaluate clinical decision-making in cesarean delivery