

## The Rising Trend of Cesarean Sections, Are They Justified?

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### ABSTRACT

**Background:** Cesarean sections (CS) rates have been increasing worldwide, although WHO has announced that the ideal CS rate is 15%. In Bahrain, our rate has risen from 22.4% in 2008 to 32.8% in 2018, which is double the recommended rate. This research aims to identify the cause of this rising trend.

**Design and Method:** A cross-sectional compares the lowest CS rate, which was in 2008 (22.4%), and the CS rate in 2018 (32.8%), the highest in a decade. We are using the labor ward register book from our biggest hospital in Bahrain (Salmaniya Medical Complex), collecting info on all women who had CS (3,385 women) during the study period were included. The data collected includes age, nationality, gravidity, parity, gestational age, antenatal and postnatal morbidities, urgency, CS indications. Moreover, neonatal data also collected, including sex, weight, and outcome. All data were analyzed using the latest SPSS edition.

**Results:** CS has increased among non-Bahraini populations from 22.8% to 37.5% and has decreased among Bahraini populations from 77.2% to 62.5%. Among all of the indications of CS, including repeated CS, primary sections, CPD and failure to progress, multiple fetuses, malpresentation, scar rupture, pre-eclampsia, late pregnancy bleeding, and others, there were highly significant differences between 2008 and 2018 in the percentages of mothers with non-reassuring fetal heart rate (NRFHR), which increased from 16.3% to 21.8% (p-value <0.001), and in the percentages of maternal requests, which increased from 10.2% to 15.1% (p-value <0.001), justifying the CS trend. Results showed suspected macrosomia has decreased from 4.7% to 2.1% p-value <0.001 and Fetal Growth Restriction from 1.3% to 0.3% p-value <0.001. Patients who had no antenatal morbidities were the highest in having CS in both years. Elective CS increased from 30.1% to 32.5% in 2008 and 2018, respectively, while emergency CS decreased from 69.9% to 67.5%. Patients who underwent CS and have not had post-partum hemorrhage (PPH) as a complication has increased from 82.6% to 85.6% and NICU admissions from 17.4% to 14.4% in 2008 and 2018, respectively. The number of hysterectomies following PPH in CS was 4 in 2008 and 5 in 2018.

**Conclusion:** The study suggests the increased rate of CS is justified by the significant increase of NRFHR and maternal request. It occurs more in non-Bahraini populations than in Bahrainis.

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