

CAESAREAN SECTION RATE, INDICATION, COMPLICATIONS, AND OUTCOME IN BASRAH CITY

Zina Ali Abdulhadi¹, Ali Falih Al-Assadi²

1. MBChB, Basra Maternity and Child Hospital
2. C.A.B.O.G, F.I.C.M.S, Consultant Obstetrician and Gynaecologist, College of Medicine / University of Basrah.

Received: 26.07.2025

Accepted: 25.12.2025

Abstract

Background: Caesarean section was first used to save the lives of both the mother and the babies, but the rising number of Caesarean deliveries has raised worries.

Aim of the study: To estimate the rate, indication, complications, and outcome of the Caesarean sections.

Patients and Method: A retrospective cross-sectional study was conducted in the Department of Obstetrics and Gynaecology at Basra Maternity and Child Hospital /Basra Governorate / Iraq, during the period from the 1st of October 2023 to the 1st of July 2024. All pregnant women who underwent Caesarean section during the study period were included in the current study.

Results: The number of women who were delivered by Caesarean section was 3990, with a rate of 42.45%. In 1477 (43.7%) patients, the Caesarean section was the first Caesarean section, 1107 (27.7%) had a previous Caesarean section, while 1139 (28.6%) had two or more previous Caesarean sections. The more frequent indications in the first Caesarean section versus repeated Caesarean section were failure to progress in labour (28.3% versus 24.11, P-value=0.036), fetal distress (28.2% versus 26.4%, P-value=0.310), and fetal malpresentation (29.4% versus 27.73%, P-value=0.337. The complications in the first Caesarean section versus repeated Caesarean were extension of the lower segment (0.26% versus 0.63%, P-value=0.073), intraoperative bleeding (0.22% versus 0.40, P-value=0.301), and bladder injury (0% versus 0.05%, P-value=0.289). The percentages of postoperative complications were higher in those with repeated Caesarean sections compared to those with a first Caesarean section, but the difference was not statistically significant.

Conclusion: The rate of Caesarean section was 42.45% of the total deliveries; 43.7% of these patients had the first Caesarean section. The main indication of a Caesarean section was failure to progress. The main intraoperative complications include an extension of the lower segment and intraoperative bleeding, while the postoperative complications include postpartum haemorrhage and paralytic ileus.

Keywords: Caesarean Section, Complications, Indication, Outcome, Rate, Basrah

Corresponding author:

Zina Ali Abdulhadi

✉ Email: zinaaliabdulhadi1987@gmail.com

Introduction

Caesarean section (CS) is the most common surgical procedure in women during childbearing age⁽¹⁾. The CS was first used to save the lives of both the mother and the babies, but the rising number of CS has raised worries⁽²⁾. The causes are complex and not always tenable: changes in

maternal traits and professional practice methods, increased pressure for malpractice, and economic, organizational, and social factors are implicated⁽³⁾. The CS rate is defined as the number of cesarean deliveries divided by the total number of live births and represented as a percentage⁽¹⁾. According to the International Health Care Community Report, the World Health Organization

recommended that the rate of CS should be between 10% and 15%⁽⁴⁾. The global CS rates have significantly increased from around 7% in 1990 to 21% in 2023 surpassing the ideal acceptable rate⁽⁵⁾. Most countries in the Middle East have a CS rate of less than 15%; Egypt and Sudan had the highest rates (26% and 20%, respectively)⁽⁶⁾. In Iraq, compared to the rate of normal vaginal deliveries, the rate of CS has been rising recently; in 2009, the rate of CS in the public sector was 24.5% and it rose to 25.6% in 2010, the rate of CS was extremely high in the private sector, 75.8% in 2009 and 79.5% in 2010⁽⁷⁾. The choice to perform a CS is generally based on the mother and fetal conditions and the best possible ways to protect their lives⁽⁸⁾. The indications are classified into four groups based on the timing of the CS at the time of the decision to perform it; this classification includes emergency, urgent, scheduled, and elective CS⁽⁹⁾. A CS can be a necessary and life-saving procedure, but if it is done when there is no medical need, it can put women and babies at risk of health problems in the short and long term. So, the increased number of CS compared to vaginal deliveries entails additional stress and costs on mothers and children, both financially and in terms of health⁽¹⁰⁾. Any surgical operation has risks of complications⁽¹¹⁾. Like other surgical operations, the CS has short and long-term risks, these risks may have an impact on the physiological and reproductive health of the mother and fetus⁽¹²⁾. Over the last 50 years, the CS approach has matured and particularly stabilized. Despite developments in facilities, CSs are still associated with complications⁽¹³⁾.

Aim of the study: To estimate the rate, indication, complications, and outcome of the CS.

Patients and Method

A prospective cross-sectional study was conducted in the Department of Obstetrics and Gynaecology at Basra Maternity and Child Hospital /Basra Governorate / Iraq during the period from the 1st of October 2023 to the 1st of July 2024. All pregnant women who underwent CS in general word during the study period were included in the current study after obtaining their verbal consent to participate in the study and they were followed up during their hospital stay. In addition, the total number of deliveries during the period of the study was recorded to calculate the incidence of CS. The required data was collected from the medical records of the patients. These data included age, education, residency, parity, number of previous CS, indication of CS, and intraoperative and postoperative maternal (within 48 postoperative hours) and fetal complications. The percentage of first CS was calculated by the following equation (Number of first CS/total number of CS)*100.

Statistical analysis: The data were collected and analyzed using Microsoft Excel software and Statistical Package for the Social Sciences, version 26. The categorical data was presented as frequencies and percentages. The chi-square test was employed to assess the statistical significance between the two groups. A P-value below 0.05 was deemed statistically significant.

Results

As shown in figure 1, a total of 9399 women were enrolled in the current study. The number of women who were delivered by CS was 3990 with a rate of 42.45% as shown in figure 1.

In 1477 out of 3990 patients who delivered by CS (43.7%), the CS was the first CS, 1107 (27.7%) had previous one CS, while 1139 (28.6%) had previous two or more CS as shown in figure 2.

Figure 2: Percentages of patients with first CS, previous one CS, and previous two or more CS

Table 1 shows that the highest percentages in the second group were from the age group 18-29 years followed by the group ≥ 30 years.

Table 2 shows the indications of CS. The more frequent indications in both groups were failure to progress in labour, fetal distress, and fetal malpresentation. Failure to progress and cephalopelvic disproportion were significantly more frequent in patients with the first CS compared to those with the previous one CS. Other indications were less frequent and there were no statistically significant differences in their frequency in both groups.

*The indications of CS in patients with repeated CS (previous two or more) were previous CS [N=1139 (28.6%)].

Furthermore, CS were classified into emergency or elective CS. Accordingly, the rate of emergency CS was 63.1%, as shown in figure 3

Table 3 shows the percentage of intraoperative complications which were higher among cases with repeated CS compared to those with first CS. The complications were extension of the lower segment,

intraoperative bleeding, and bladder injury. But the differences between the two groups were statistically not significant.

Table 4 shows the percentages of postoperative complications (within 48 hours) they were higher in those with repeated CS compared to those with first CS but the difference was not statistically different.

Table 5 shows the frequency of the type of neonatal complications which were higher in patients with first CS compared to those with repeated CS. The differences were statistically not significant.

Discussion

Although CS is a life-saving procedure, it has many complications that may have an impact on the physiological and reproductive health of the mother and fetus. Any surgical operation has risks of complications^(12, 14, 15). This study was one among others that tried to assess the rate, indications, intraoperative complications, and postoperative complications. The main finding of the current study was that the rate of CS was 42.45%. In comparison to other studies in Iraq, the rates of CS were 25.3% in Basrah Governorate⁽¹⁶⁾, 22.88% in Misan Governorate according to Saba et al.⁽¹⁷⁾, 28.8% in Mosul City according to Noor et al.⁽¹⁸⁾, 35.77% in Kurdistan Region according to Ahmed et al.⁽¹⁹⁾, 47.1% in Baghdad according to Ansam et al.⁽²⁰⁾. Finally, according to a Cluster Survey 2011 and 2018, the rate of CS was 49.5%⁽²¹⁾. According to Ana et al. study (2021), the available data (2010-2018) from 154 countries covering 94.5% of world live births revealed that 21.1% of women gave birth by CS worldwide with an average ranging from 5% to 42.8%⁽²²⁾. In comparison to the current study, the rate of CS was

61.55% in Egypt according to the study that was done there by Karim et al (2023)⁽²³⁾. In the Kingdom of Saudi Arabia, the reported overall rate of CS was 13.6% (range; 7.1–16.3%) for emergency CS and 7.8% (range; 4.5–12.5%) for elective CS⁽²⁴⁾. In Iran, according to the study that was done there by Maryam et al. (2019-2021), the rate of CS was 51.6%⁽²⁵⁾. The overall prevalence of CS in Nigeria was 17.6% according to a meta-analysis study that was done there by Itohan et al. and included 43 studies⁽²⁶⁾. The overall CS rate was 57.55% between 2018 to 2023 in Turkey as revealed by Mustafa et al⁽²⁷⁾. In the United Kingdom, the rate of CS rose from 14.5% in 1995 to 30.9% in 2015⁽²⁸⁾. In the United States of America, the rate of CS remained stable at slightly >32% over the past 10 years⁽²⁹⁾. The variation in the rate of CS might be related to the differences in the studies' design and available resources, and differences in the indications between different populations. Out of the total CS in the current study, more than half of the patients had either first or previous one CS (onsitituted 1477 (43.7%) patients) or previous one CS (consitituted 1107 (27.7%) patients). In comparison, another study that was done in Egypt by Karim et al (2023) revealed that 27.60% of the total CS were first CS⁽²³⁾. In Turkey, the first CS rate was 28.83%⁽²⁷⁾. More than half of the patients had an age of 18-29 years, and the proportion of patients with 18-29 years was higher among patients with first CS than those with repeated CS, while the proportion of patients with age of ≥ 30 years was lower among patients with first CS than those with repeated CS. The same was reported by Karim et al in Egypt⁽²³⁾, and Masoumeh et al. in Iran⁽³⁰⁾. This can be explained by the fact that this is the fertile age. In the current study, a higher proportion of patients had primary school education and were living in urban areas and this is could be because of the hoepital location but these characteristics were not

significantly associated with the number of CS (First or repeated CS). The same results were obtained in another study that was done by Anastazia et al. who concluded an insignificant difference between patients with first and repeated CS regarding the educational level⁽³¹⁾. In contrast, in another study that was done in Iran by Mahnaz et al., the lowest proportion of patients had primary school compared to those with college or higher education⁽³²⁾. The parity was not significantly associated with the number of CS (First or repeated CS). This is agreed with the results of another study that was done by Neha et al. in India which did not reveal a difference between first and repeated CS regarding para⁽³³⁾, and partially agreed with Anastazia et al. who concluded that the proportions of patients with para 2, 3, and 4+ were significantly higher among patients with first CS compared to those with repeated CS⁽³¹⁾. In our study, failure to progress in labour was the commonest indication in both groups followed by fetal distress. Fetal distress was the main indication for CS (30.49%) in another study that was done by Soukayna et al in Morocco⁽³⁴⁾. In comparison, another study that was done in Egypt by Karim et al revealed that the main indications for first CS were cephalopelvic disproportion or failure to progress (35.5%), fetal distress (23.9%), and malpresentation (19.6%), while previous CS was the indication in about two-thirds of the CS⁽²³⁾. In Nigeria, according to the study that was done by Itohan et al, the commonest indications for a CS were previous CS (3.5–33.5%) and pregnancy-related hypertensive disorders (5.5–30.0)⁽²⁶⁾. In Sweden, most CS were carried out because of prolonged labour with a rate of 55.6% while the second most common indication was imminent fetal asphyxia with a rate of 25.7%⁽³⁵⁾. The current study revealed that failure to progress and cephalopelvic disproportion were significantly higher among patients with first CS compared to patients with first

or previous one CS. Other indications included fetal distress, malpresentation, hypertensive disorders of pregnancy, postdate, cord prolapse, and patient wishes. In comparison with another study that was done in India, the main indication for first CS was fetal distress (142.6%) and malpresentation (26.4%)⁽³⁶⁾, while the main indications for repeated CS in another study that was done in Bangladesh were fetal distress (15.68%), followed by breach presentation (11.7%) and premature rupture of membrane (10.7%)⁽³⁷⁾. In another study that was done in India, malpresentation was the main cause of first CS (34.3%), followed by fetal distress (8.2%)⁽³⁸⁾. In the current study, the intraoperative complications include extension of the lower segment (0.26% in patients with first CS and 0.63% in patients with previous one CS), intraoperative bleeding (0.22% in patients with first CS and 0.40% in patients with previous one CS), and bladder injury (0% in patients with first CS and 0.05% in patients with previous one CS) while postoperative complications include postpartum haemorrhage (0.26% in patients with first CS and 0.51% in patients with previous one CS) and paralytic ileus (0.04% in patients with first CS and 0.05% in patients with previous one CS). All these complications were not significantly associated with the number of CS (First or repeated CS). This is agreed with the results of another study that was done by Aljoharah et al. in the Kingdom of Saudi Arabia who concluded that 93.4% of patients with first CS had complications and 93.1 of patients with repeated CS had complications, these complications included haemorrhage (2.1%), wound extension (2.1%), uterine atony (1.2%), and urinary tract injury (0.7%) and were not significantly different⁽³⁹⁾. In contrast, Aparajita et al. reported that perioperative complications increase with each subsequent repeat CS, the haemorrhage happened in 7.9% of patients with previous one CS, 19.1% of patients with previous two

CS, and 50% of patients with previous three CS, extension of incision happened in 5.4% of patients with previous one CS, 6.6% of patients with previous two CS, and 50% of patients with previous three CS, bladder injury happened in 0.3% of patients with previous one CS, 1.6% of patients with previous two CS, and 0% of patients with previous three CS, bladder injury⁽⁴⁰⁾. The variation in the incidence of complications might be related to the difference in the records of that complications in the patients case sheets as our study was retrospective. The fetal complications (Apgar score <7 at five minutes, asphyxia, and NICU admission) were not significantly associated with the number of CS (First or repeated CS). The same results were obtained in another study that was done by Aljoharah et al. in the Kingdom of Saudi Arabia⁽³⁹⁾, and Anastazia et al in Tanzania⁽³¹⁾.

Conclusion

The rate of CS was 42.45% of the total deliveries, 43.7% of these patients had the first CS. The indications of CS were failure to progress, fetal distress, malpresentation, cephalopelvic disproportion, hypertensive disorders of pregnancy, postdate, cord prolapse, and patient wishes. The proportions of patients who had CS due to failure to progress and cephalopelvic disproportion were significantly higher among those with first CS. The intraoperative complications include an extension of the lower segment, intraoperative bleeding, and bladder injury, the postoperative complications include postpartum haemorrhage and paralytic ileus. The fetal complications included Apgar score <7 at five minutes, asphyxia, and NICU admission. The occurrence of complications was affected by the number of CS that the patients had.

References

1. Mashamba T. Caesarean Section. Current Topics in Caesarean Section; BoD–Books on Demand: Norderstedt, Germany. 2021.
2. Alkalash SH, El Kelany OA, Zayed MI. Cesarean sections rate and maternal knowledge and attitude towards the mode of delivery in Egypt. *Menoufia Medical Journal*. 2021;34(2):528.
3. Kayembe AT, Kapuku SM. Caesarean section: epidemiology and indications at General Provincial Hospital of Kananga. *Pan Afr Med J*. 2022;42:317.
4. Aljohani AA, Al-Jifree HM, Jamjoom RH, Albalawi RS, Alosaimi AM. Common Complications of Cesarean Section During the Year 2017 in King Abdulaziz Medical City, Jeddah, Saudi Arabia. *Cureus*. 2021;13(1):12840.
5. Angolile CM, Max BL, Mushemba J, Mashauri HL. Global increased cesarean section rates and public health implications: A call to action. *Health Sci Rep*. 2023;6(5):1274.
6. Abdelazim I, Alanwar A, Shikanova S, Kanshaiym S, Farghali M, Mohamed M, *et al*. Complications associated with higher order compared to lower order cesarean sections. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2020;33(14):2395-402.
7. Abd Al Karim M, Hadi WM, Abed MT, Ameen WA, Obaid HM. Indications and Common Complications of Caesarean Section: An Overview Study. *Eurasian Medical Research Periodical*. 2021;3:40-4.
8. Mylonas I, Friese K. Indications for and Risks of Elective Cesarean Section. *Dtsch Arztebl Int*. 2015;112(29-30):489-95.
9. Edmonds K, Lees C, Bourne T. *Dewhurst's Textbook of Obstetrics & Gynaecology*. 9th: Wiley; 2018.
10. Laurita Longo V, Odjidja EN, Beia TK, Neri M, Kielmann K, Gittardi I, *et al*. "An unnecessary cut?" multilevel health systems analysis of drivers of caesarean sections rates in Italy: a systematic review. *BMC Pregnancy and Childbirth*. 2020;20(1):770.
11. Bahadur A, Mundhra R, Kashibhatla J, Chawla L, Ajmani M, Sharma S, *et al*. Intraoperative and Postoperative Complications in Gynaecological Surgery: A Retrospective Analysis. *Cureus*. 2021;13(5):14885.
12. Tefera M, Assefa N, Mengistie B, Abrham A, Teji K, Worku T. Elective cesarean section on term pregnancies has a high risk for neonatal respiratory morbidity in developed countries: a systematic review and meta-analysis. *Frontiers in pediatrics*. 2020;8:286.
13. Antoine C, Young BK. Cesarean section one hundred years 1920–2020: the Good, the Bad and the Ugly. *Journal of Perinatal Medicine*. 2021;49(1):5-16.
14. Bahadur A, Mundhra R, Kashibhatla J, Chawla L, Ajmani M, Sharma S, *et al*. Intraoperative and Postoperative Complications in Gynaecological Surgery: A Retrospective Analysis. *Cureus*. 2021;13(5):e14885.
15. Mascarello KC, Horta BL, Silveira MF. Maternal complications and cesarean section without indication: systematic review and meta-analysis. *Revista de saude publica*. 2017;51.
16. Shabila N. Trends and changes in cesarean delivery rates in Iraq: findings from the multiple indicator cluster surveys, 2011-2018. *The journal of maternal-fetal & neonatal medicine: the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians*. 2021;35:1-6.
17. Alheshimi SJ, Majeed AH, Abdulla KN, Rassme HA, Fadhil NK, Fawzi HA. The prevalence of cesarean section in Misan province and it's indicating factors. *Executive Editor*. 2019;10(3):412.

18. Al-Sanjary NN, Abdulrazzaq Zubair O, Al-Wazzan RM. Prevalence of Caesarean Sections in Mosul City Hospitals: A Cross-Sectional Study. *Annals of the College of Medicine, Mosul*. 2021;42(2):126-32.
19. Ahmed HM, Namir A. Rate and indications of cesarean section in the Maternity Teaching Hospital in Erbil City, Kurdistan region, Iraq. *Zanco Journal of Medical Sciences (Zanco J Med Sci)*. 2018;22(2):148-54.
20. Muhei AH, Jamil NF. The Rate and Pattern of Cesarean Section in Al-Yarmouk Teaching Hospital/Baghdad. *Iraqi Journal of Community Medicine*. 2018;31(4).
21. Shabila NP. Trends and changes in cesarean delivery rates in Iraq: findings from the multiple indicator cluster surveys, 2011–2018. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2022;35(25):6272-7.
22. Betran AP, Ye J, Moller AB, Souza JP, Zhang J. Trends and projections of caesarean section rates: global and regional estimates. *BMJ Glob Health*. 2021;6(6).
23. Hasan K. Incidence of Primary Cesarean Sections among the Pregnant Women whom admitted to the Teaching Hospitals at Zagazig city. *Zagazig University Medical Journal*. 2023;29(2.1):266-72.
24. Wahabi H, Fayed A, Elmorshedy H, Esmail SA, Amer YS, Saeed E, *et al*. Prediction of Emergency Cesarean Section Using Detectable Maternal and Fetal Characteristics Among Saudi Women. *International Journal of Women's Health*. 2023:1283-93.
25. Pourshirazi M, Heidarzadeh M, Taheri M, Esmaily H, Babaey F, Talkhi N, *et al*. Cesarean delivery in Iran: a population-based analysis using the Robson classification system. *BMC Pregnancy and Childbirth*. 2022;22(1):185.
26. Osayande I, Ogunyemi O, Gwacham-Anisiobi U, Olaniran A, Yaya S, Banke-Thomas A. Prevalence, indications, and complications of caesarean section in health facilities across Nigeria: a systematic review and meta-analysis. *Reproductive Health*. 2023;20(1):81.
27. Ulgu M, Birinci S, Altun Ensari T, Gözükara M. Cesarean section rates in Turkey 2018-2023: Overview of national data by using Robson ten group classification system. *Journal of Turkish Society of Obstetric and Gynecology*. 2023;20:191-8.
28. Roy S, Montgomery Irvine L. Cesarean section rate and postnatal bed occupancy: a retrospective study replacing assumptions with evidence. *BMC Health Services Research*. 2018;18(1):760.
29. Montoya-Williams D, Lemas DJ, Spiryda L, Patel K, Neu J, Carson TL. What Are Optimal Cesarean Section Rates in the U.S. and How Do We Get There? A Review of Evidence-Based Recommendations and Interventions. *J Womens Health (Larchmt)*. 2017;26(12):1285-91.
30. Sarbaz M, Mousavi Baigi SF, Manouchehri Monazah F, Dayani N, Kimiafar K. The trend of normal vaginal delivery and cesarean sections before and after implementing the health system transformation plan based on ICD-10 in the northeast of Iran: A cross-sectional study. *Health Science Reports*. 2023;6(3):e1131.
31. Damiana DJ, Obure J, Maro EW, Ngao AJ. High Rates of Repeated Cesarean Section Deliveries and its Associated Maternal and Foetal Complications at A Tertiary Hospital in Northern Tanzania. *EA Health Research Journal*. 2024;8(1):74-9.
32. Zarshenas M, Zhao Y, Binns CW, Scott JA. Incidence and determinants of caesarean section in Shiraz, Iran. *International Journal of Environmental Research and Public Health*. 2020;17(16):5632.
33. Kuntal N, Gupta S, Kumar V, Nimawat A. To study indications for primary caesarean section in primigravida and multigravida. *International Journal of Clinical Obstetrics and Gynaecology*. 2019;3:155-8.

34. Benzouina S, Boubkraoui ME-m, Mrabet M, Chahid N, Kharbach A, Elhassani A, *et al.* Fetal outcome in emergency versus elective cesarean sections at Souissi Maternity Hospital, Rabat, Morocco. *Pan African Medical Journal.* 2016;23(1).
35. da Silva Charvalho P, Hansson Bittár M, Vladic Stjernholm Y. Indications for increase in caesarean delivery. *Reproductive Health.* 2019;16(1):72.
36. Samal R, Pallavee P, Ghose S. Clinical study of primary caesarean section in multiparous women in a tertiary care hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2016:1506-9.
37. Ghani A, Ila IJ, Ferdouse JA, Sultana N, Sultana J. Repeat caesarean sections: complications and outcomes. *Journal of Shaheed Suhrawardy Medical College.* 2018;10(2):74-9.
38. Jain M, Patel A. A cross sectional study of rate, indications and complications of primary caesarean section. *Int J Reprod Contracept Obstet Gynecol.* 2016;5(6):1814-9.
39. Aljohani AA, Al-Jifree HM, Jamjoom RH, Albalawi RS, Alosaimi AM. Common Complications of Cesarean Section During the Year 2017 in King Abdulaziz Medical City, Jeddah, Saudi Arabia. *Cureus.* 2021;13(1):e12840.
40. Mishra A, Gawade S, Chaudhari S. Perioperative complications with recurrent caesarean section. *Med Pulse Int J Gynaecol.* 2020;13(2):53-8.

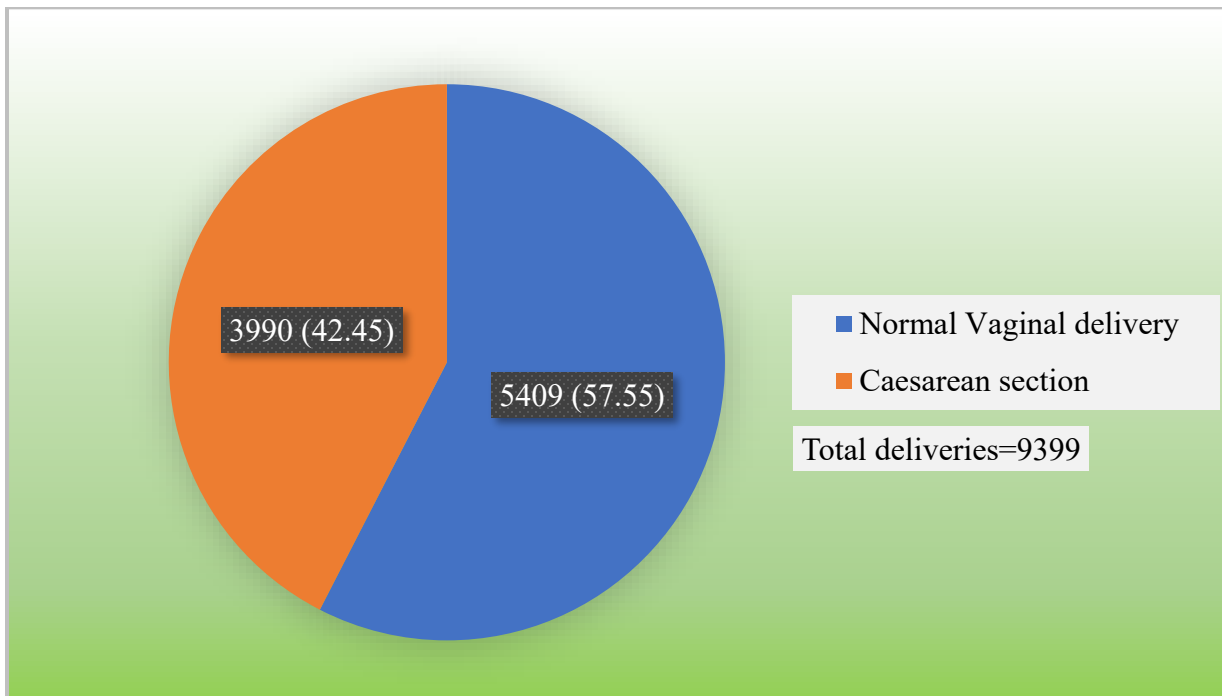


Figure 1: Distribution of the patients according to the mode of delivery

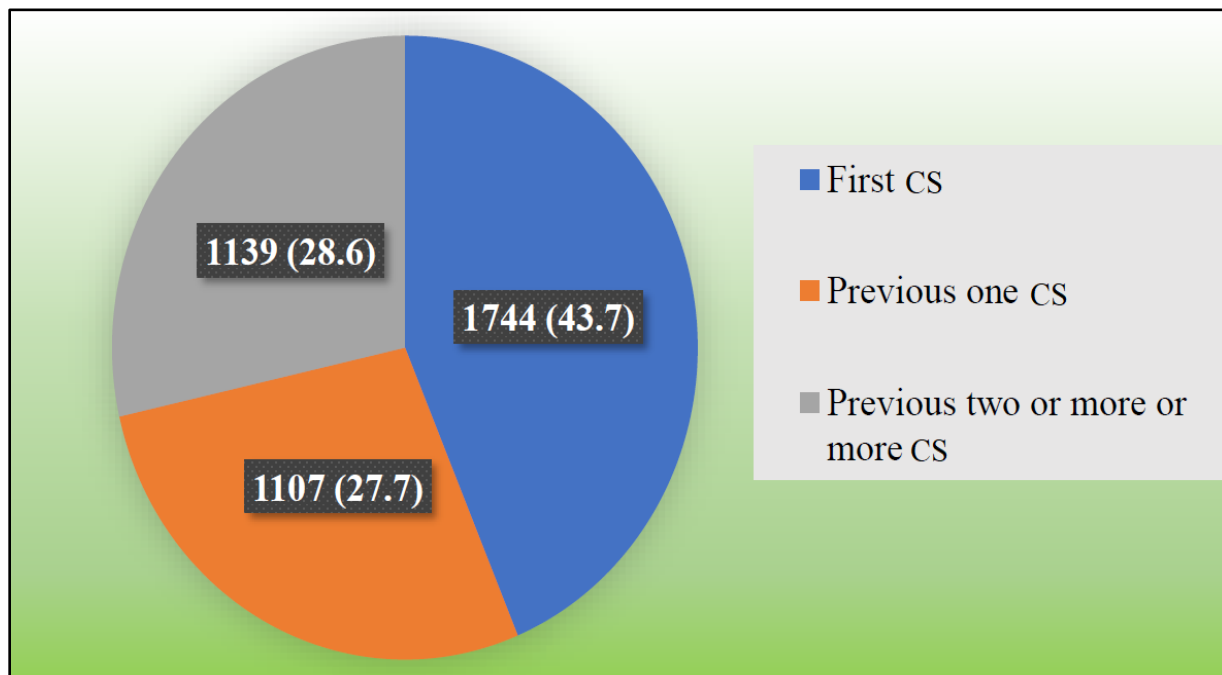


Figure2:

Table 1: Demographic characteristics of the patients (N=3990).

Characteristics		First CS (N=1744) N (%)	Repeated CS (N=2246) N (%)	P-value
Age	<18 years	28 (1.6)	63 (2.8)	<0.001
	18-29 years	1314 (75.3)	1361 (60.1)	
	≥30 years	402 (23.1)	822 (36.1)	
Education	Illiterate	241 (13.8)	211 (9.4)	0.086
	Primary school	592 (34.0)	834 (37.1)	
	Secondary school	458 (26.2)	688 (30.6)	
	College or higher	453 (26.0)	513 (22.9)	
Residency	Urban	1225 (70.2)	1610 (71.7)	0.319
	Rural	519 (29.8)	636 (28.3)	
Para	1	989 (56.7)	1298 (57.8)	0.600
	2-5	661 (37.9)	841 (37.4)	
	>5	94 (5.3)	107 (4.8)	

Table 2: Indications of CS among patients with first CS and patients with previous one CS

Indications	First CS (N=1744) N (%)	Previous one CS (N=1107) N (%)	P-value
Failure to progress	637 (28.3)	267 (24.11)	0.036
Fetal distress	634 (28.2)	293 (26.46)	0.310
Malpresentation	661 (29.4)	307 (27.73)	0.337
Cephalopelvic disproportion	317 (14.1)	109 (9.84)	<0.001
Hypertensive disorders of pregnancy	97 (4.3)	45 (4.06)	0.755
Postdate	94 (4.1)	32 (2.89)	0.069
Cord prolapse	56 (2.4)	18 (1.62)	0.156
Patient wishes	23 (1.02)	12 (1.08)	0.877

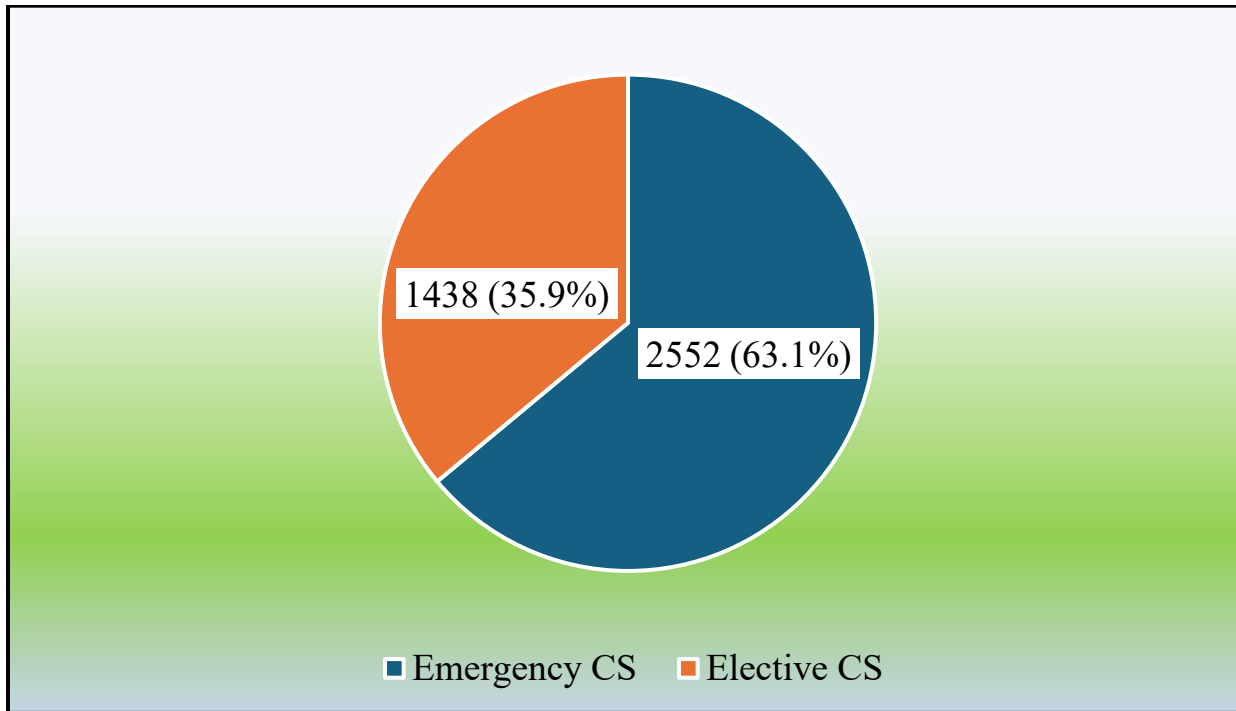


Figure 3: Rate of emergency CS

Table 3: Intraoperative complications of the patients (N=3990)

Intraoperative complications	First CS (N=1744) N (%)	Repeated CS (N=2246) N (%)	P-value
Extension of the lower segment	6 (0.26)	11 (0.63)	0.073
Intraoperative bleeding (primary postpartum haemorrhage)	5 (0.22)	17 (0.40)	0.301
Bladder injury	0 (0.0)	1 (0.05)	0.289
Total	11 (0.63)	29 (1.18)	

Table 4: Postoperative complications of the patients (N=3990)

Postoperative complications	First CS (N=1774) N (%)	Repeated CS (N=2446) N (%)	P-value
Postpartum haemorrhage (secondary postpartum haemorrhage)	6 (0.26)	9 (0.51)	0.196
Paralytic ileus	1 (0.04)	1 (0.05)	0.881
Total	7 (0.39)	10 (0.4)	

Table 5: Distribution of the patients according to the neonatal complications (N=3990)

Neonatal complications	First CS (N=1744) N (%)	Repeated CS (N=2446) N (%)	P-value
Apgar score <7 at five minutes	6 (0.34)	9 (0.40)	0.758
Asphyxia	4 (0.22)	3 (0.13)	0.492
NICU admission	9 (0.51)	7 (0.31)	0.319
Total	19 (1.09)	19 (0.77)	