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Dr. Rachna Chaudhary
Professor & Head, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Dr. Nancy Yadav
Junior Resident, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Dr. Shakun Singh
Professor, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Dr. Vandana Dhama
Professor, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Dr. Komal Rastogi
Associate Professor, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Corresponding Author:
Dr. Rachna Chaudhary
Professor & Head, Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Analysis of caesarean section through Robson classification system: An emerging concept to audit the increasing caesarean section rate

Dr. Rachna Chaudhary, Dr. Nancy Yadav, Dr. Shakun Singh, Dr. Vandana Dhama and Dr. Komal Rastogi

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Abstract
Background: Caesarean section (CS) is one of the most common surgical interventions worldwide. In the past few decades, the rate of CS surgeries has increased across the whole world. For patients whose spontaneous vaginal delivery (SVD) is contraindicated or not possible, CS is carried out to protect the lives of both foetus and the mother. However, in reality, CS is also being performed without following standard indications or based on vague indications like obstructed labour with intact membranes. Although CSs are known to be life-saving procedures, various risks have been found attached to CS concerning present or future pregnancies.
Aims and Objectives: The aims and objectives of this study are the following: Classifying women undergoing CS as per the Robson criteria, analysing the CS rate using the Robson criteria, determining the groups which contribute the most to CS, identifying commonalities among these groups, and studying the foeto-maternal outcomes in CS patients.
Methods: Prospective observational studies of all CSs conducted at Lala Lajpat Rai Memorial LLRM Medical College, Meerut were classified using RTGCS. The duration of the study period was one year, and all of the patients who delivered via CS at LLRM Medical College during the said period were included in the study.
Results: Out of the total 3,343 deliveries, 2,059 deliveries were by CS. The analysis by applying Robson's classification revealed that approximately 37.9% of the patients belonged to Robson group 5, followed by 25.2% that belonged to Robson group 10 and then Robson groups 1, 2 and 3 followed. Of the various indications of CS, previous LSCS with scar tenderness was the most common indication (30.8%).
Conclusion: Robson classification helps analyse the trend of increasing CS rate and provides an outlook on how to reduce this increasing trend. Good labour monitoring, proper ANC care regarding methods of delivery and encouraging TOLAC and DOULA (birth companion) can help to reduce CS rate.

Keywords: Cesarean section, RTGCS, doula, Robson

Introduction
Every effort should be made to provide caesarean section (CS) to women in need rather than striving to achieve a specific rate (WHO Statement 2015). The CS rate has been rising over the last five decades. It increased from 5% in the 1940s and 1950s to 15% in the 1970s and 1980s. However, during the last two decades, there has been a dramatic rise in the caesarean section rate worldwide which currently exceeds 30% in some regions 1. As advised by WHO guidelines and US healthy initiative 2000, the CS rate should not surpass 15%. However, there was an upward trend in the CS rate as there were no reliable and internationally standardized data enabling global comparison for the indication of caesarean section.
Though it is a common surgical procedure, there are both short-term (hemorrhage, sepsis, blood transfusion and need for laparotomy) and long- term risks (repeat CS, placenta accreta spectrum and uterine rupture) associated with it. The CS rate has been increasing worldwide over the last 50 years and it has exceeded 30% in some regions. India has witnessed an unprecedented increase in the CS rate with a large disparity across the country [1, 4]. The CS rate was found to be three times more common in private health practices.

It has been established that the CS rate is relatively high among educated women who belong to urban areas and whose socio-economic status is relatively high.

According to the Indian Council of Medical Research (ICMR) task force study, the CS rate has increased from 21.8% in 1993-94 to 28.1% in 2015-16. The rates are even higher in the private sector, i.e. up to 40%.

The rising rate of CS is an international public health concern, as CS is linked to an increase in maternal morbidity. Given the present scenario, a decrease in the CS rate is called for while ensuring the safety of both neonates and their mothers. Given this, constant audits of CSs are being undertaken in healthcare settings. For this purpose, the three most commonly used CS audit classifications or frameworks are "primary clinical indications", "the absolute need and degree of urgency of caesarean delivery" and "Robson classification".

WHO maintains that Robson classification helps in optimizing the use of CS, assessing the strategies that help reduce the rate of CS, thereby improving the clinical practice and enhancing the quality of care in different healthcare facilities.

Robson classification is considered to be the first step in reducing CS rates. Regular assessments based on this classification help in introducing specific measures to reduce the CS rate. Regular audits, standardization of CS indications and specific protocols in hospitals will assist in curtailing the CS rate.

A study compared CS rates in healthcare facilities across 21 countries by using the Robson classification system and found that CS rates increased over time between the two WHO surveys in all of the countries studied except Japan [5, 8]. This overall pattern suggests that either the threshold for CS has become lower over time or the use of elective CS has risen or both.

It has been found that if the CS rate is reduced to 15%, there would be cost savings of around USD 2.32 billion.

Materials and Methods

The prospective observational study was performed for a study period of one year (January 2021-December 2022) in all pregnant patients who underwent CS with gestational age exceeding 28 weeks, and these patients were included in the study.

Lala Lajpat Rai Memorial (LLRM) Medical College, Meerut is a tertiary care hospital. It acts as a referring centre for high-risk patients from the city's periphery. The CS rate here during 2021 was 61%.

The descriptive statistics were recorded daily in a Microsoft Excel sheet. The data included were the following: the number of LSCS, the Robson group of LSCS, maternal medical conditions, live births, stillbirths, NICU admissions and post-operative complications. The relative size of each Robson group and the relative contribution of each group to the overall CS rate were calculated. All deliveries were classified as per RTGCS in ten groups with the help of Robson's Implementation Manual released by the WHO. The following flow chart (Figure 1) depicts this classification.

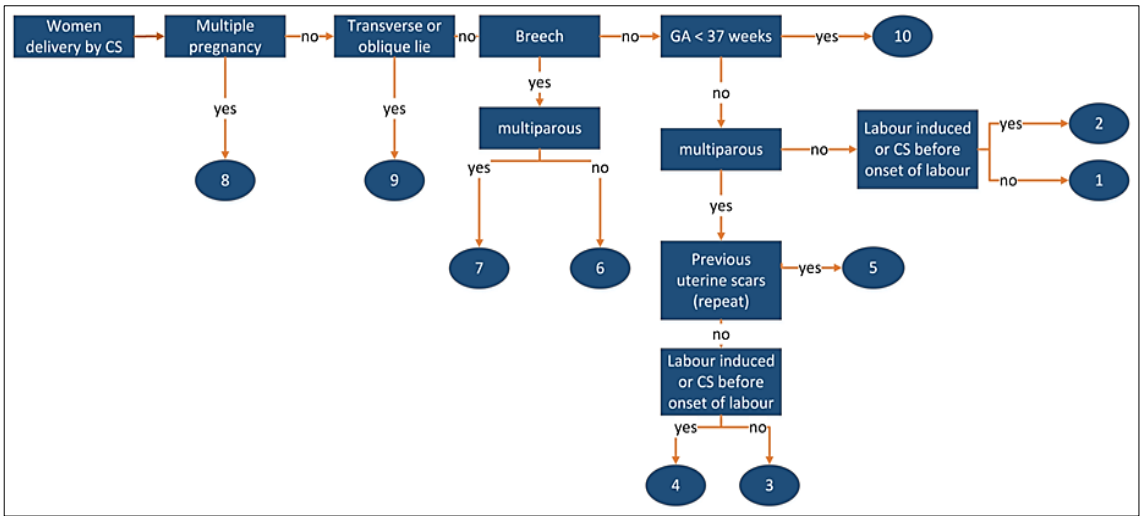

Fig 1: Flowchart depicting the classification of caesarean section deliveries based on Robson criteria.

The variables of classification included the following: Parity, gestational age, presentation, previous CS, the onset of labour and the number of the foetus. The Robson manual tool kit was used as a guide.

Inclusion criteria

Patients delivered by CS during the given period was the sole inclusion criterion.

Exclusion criteria

These were the following: women with gestational age < 28 weeks, term normal/instrumental vaginally delivered patients and those who refused to participate in the study.

Results

Out of the total 3,343 deliveries, 2,059 were by CS. This accounted for almost 61.5%. The study showed that most of these patients (89.84%) were aged between 21-30 years. The cases that were booked were 65.85%. Out of the total deliveries, 52.45% were males, 46.86% were females and 0.82% were stillbirths.

A majority of the patients (37.9%) belonged to the Robson 5 category (previous CS, single, cephalic, > 37 weeks), and 22.1% patients belonged to the Robson 10 category (single, cephalic, < 37 weeks, including previous CS).

The most common indication in all four groups (1-4) was fetal distress. The most common indication of CS in the group was scar tenderness, followed by fetal compromise.

Out of the total 2,059 patients, 29% encountered fetal compromise; of these total of 17.04% had fetal distress. Further, 42.3% patients had previous CS with 30.84% patients having previous CS with scar tenderness. Also, 1.21% patients had cephalo-pelvic disproportion and 4.37% APH, out of which maximum 3.01% had placenta previa. Cases that showed failure to progress were 8.35% with a maximum of 2.62% that had contracted pelvis with labor pain. Besides, 3.59% had failed induction, 5.58% had malpresentation with a maximum of 4.71% showing breech.

Out of the total 2.059 cases, 49.27% patients experienced maternal medical disorders, 30.29% anemia and 17.2% mild anemia. Further, 12.53% cases experienced hypertensive disorders of pregnancy with 6.19% having encountered pre-eclampsia. Also, 6.43% patients endured deranged blood sugar levels, and 5.32% developed gestational diabetes mellitus.

Cases with intra - and post-operative complications were 38.2%. Maximum of 1.8% cases showed postpartum hemorrhage among intra-operative complications. In terms of post-operative complications, 20.74% cases had BT, followed by 8.89% having fever and minimum cases of 0.14% suffering from rectus sheath hematoma.

Out of the total births, 98.73% babies were born alive, 25.45% were pre-term and 1.26% were stillbirths. A total of 65.71% infants weighed 2001-3000 grams. The births having more than 7 APGAR score at 5 min were 96.02% of the total births. Further, 8.36% babies required resuscitation, 10.16% needed NICU admission, 3.69% babies died, 3.4% had jaundice and 96.40% cases were discharged.

An analysis of the indications of CS in the different Robson groups was studied and it showed that previous CS with scar tenderness contributed the highest with regard to the most common indication of CS in multigravida, especially in Robson group 5. The next common indication was fetal compromise which included fetal distress that may be due to absent liquor and cord prolapse. CPD contributed to 1.21% of the cases shifted for CS. Around 3.59% of the patients who were provided with induction for labor ended up with CS. Malpresentations that may occur due to breech, transverse lie or oblique lie contributed to 5.58%. Out of the other indications of CS, maternal request was found to be one of the major reasons behind CS.

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Table 1: This table shows the classification of the patients according to Robson criteria. In all, 34.96% patients belonged to Robson group 5 (Previous CS, single cephalic, ≥37 wks.), followed by 25.27% patients to Robson group 10 (All single cephalic, < 37 wks. (including previous CS)). About 0.5% cases belonged to Robson group 8

S. No.	Robson category	No. of cases (N = 2,059)	Percentage (%)
1.	Nulliparous, single cephalic, ≥ 37 wks., in spontaneous labour	323	15.63
2.	Nulliparous, single cephalic, ≥ 37 wks., induced or CS before labour	163	7.96
3.	Multiparous, single cephalic, ≥ 37 wks., in spontaneous labour (excluding previous CS)	121	5.92
4.	Multiparous, single cephalic, ≥ 37 wks., induced or CS before labour (excluding previous CS)	68	3.35
5.	Previous CS, single cephalic, ≥ 37 wks.	780	37.88
6.	All nulliparous breech	74	3.59
7.	All multiparous breech (including previous CS)	45	2.18
8.	All multiple pregnancies (including previous CS)	10	0.5
9.	All abnormal lies (including previous CS)	18	0.87
10.	All single cephalic, < 37 wks. (including previous CS)	457	22.27
	Total	2,059	100

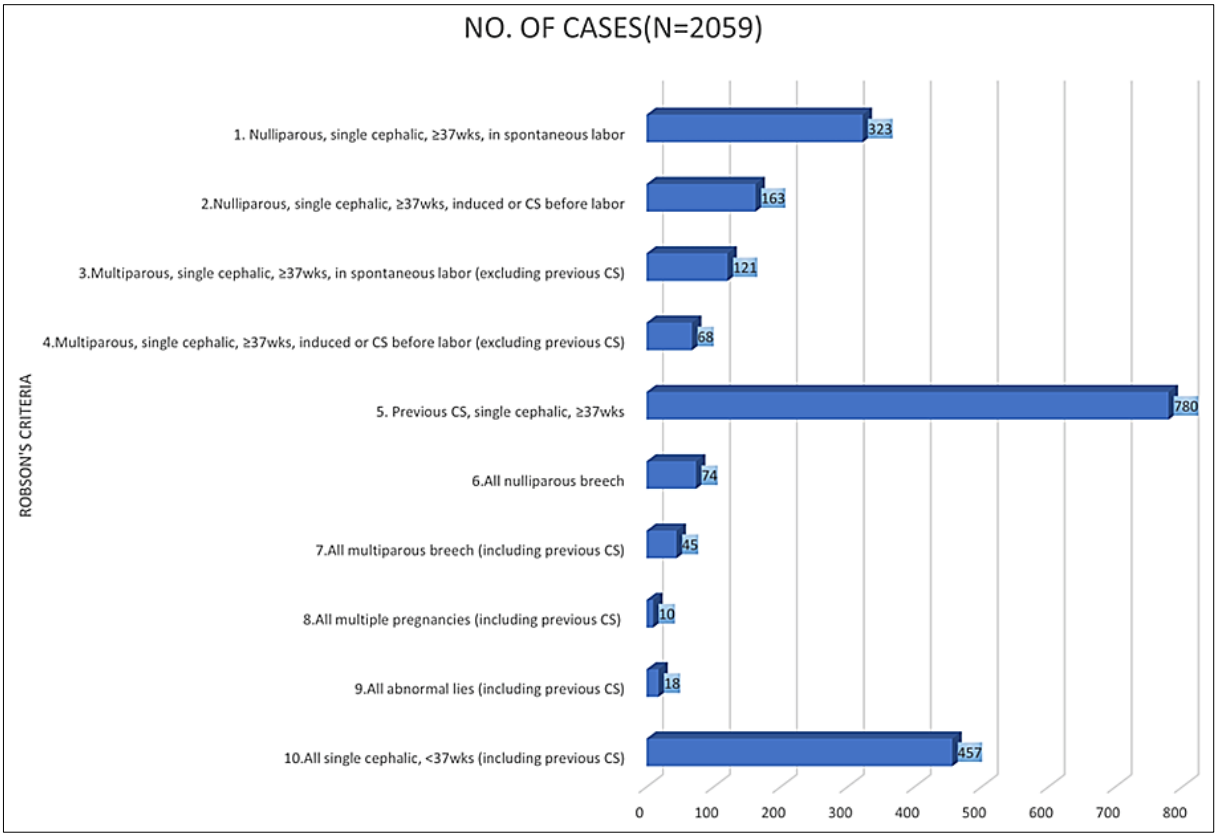

Fig 2: Analysis of CS in a tertiary care hospital

The indications of CS concerning the number of patients and the corresponding percentages have been tabulated in (Table 2).

Table 2: Indications for caesarean section among cases included in the study

Indications for CS	Total no. of Cases (N=2059)	Percentage (%)
Fetal Compromise	597	29.00
Fetal distress	351	17.04
Fetal distress with Meconium stained liquor	232	11.28
Cord prolapsed	14	0.68
Previous CS	880	42.73
Previous 2 CS	204	9.90
Previous 3 CS	12	0.59
Previous CS with scar tenderness	635	30.84
Previous CS with Twins	05	0.24
Previous CS with short Interval of Conception	10	0.48
Previous CS with breech	14	0.68
Cephalo-Pelvic Disproportion	25	1.21
APH	90	4.37
Abruption	28	1.36
Placenta previa	62	3.01
Failure to progress	172	8.35
NPOL	52	2.53
Deep transverse arrest	20	0.97
Obstructed Labour	46	2.23
Contracted Pelvis with Labour Pain	54	2.62
Failed Induction	74	3.59
Malpresentation	115	5.58
Breech	97	4.71
Transverse/Oblique	18	0.87
Others	106	5.17
Scar rupture	20	0.98
Maternal request	16	0.77
Pre-eclampsia with Uncontrolled B.P.	58	2.82
Chorioamnionitis	12	0.60

Table 2. This table shows the indications of CS among cases included in the study. Out of the 2,059 cases, 29% showed fetal compromise, out of which 17.04% had fetal distress. Percentage wise, 42.73% cases had previous CS with

30.84% cases having previous CS with scar tenderness. Further, 1.21% cases had cephalo-pelvic disproportion, and 4.37% cases had APH, out of which maximum of 3.01% had Placenta previa. Also, 8.35% cases showed failure to progress with maximum of 2.62% having contracted pelvis with labor pain. Failed induction comprised 3.59%, while 5.58% had malpresentation with maximum of 4.71% showing breech. Those with pre-eclampsia and uncontrolled blood pressure comprised 2.82% of cases.

An analysis of the indications of CS concerning Robson groups 1-4 has been presented in (Table 3).

Table 3: Analysis of indications of CS concerning Robson groups 1-4

Indications for CS	Group 1 (N=323)	Group 2 (N=163)	Group 3 (N=121)	Group 4 (N=68)
Fetal compromise	193 (60.0%)	59 (36.19%)	81 (66.94%)	29 (42.64%)
Fetal distress	85 (26.32%)	24 (14.72%)	18 (14.87%)	12 (17.64%)
Fetal distress with meconium	101 (31.27%)	32 (19.63%)	61 (50.41%)	14 (20.59%)
Deranged doppler (AEDF/REDF)	0	1 (0.61%)	0	1 (1.47%)
Cord prolapsed	7 (2.16%)	2 (1.23%)	2 (1.61%)	2 (2.94%)
Previous CS	NA	NA	NA	NA
Cephalo-pelvic disproportion	74 (22.91%)	14 (8.59%)	11 (9.09%)	3 (4.44%)
APH	7 (2.17%)	4 (2.45%)	6 (4.95%)	13 (19.12%)
Abruption	5 (1.54%)	1 (0.61%)	4 (3.31%)	3 (4.42%)
Placenta previa	2 (0.62%)	3 (1.84%)	2 (1.61%)	10 (14.70%)
Failure to progress	42 (13%)	41 (25.15%)	20 (16.53%)	12 (17.64%)
NPOL	21 (6.5%)	23 (14.11%)	8 (6.62%)	6 (8.82%)
Arrest of dilatation	9 (2.78%)	10 (6.13%)	5 (4.13%)	1 (1.47%)
Arrest of descent	7 (2.17%)	6 (3.68%)	5 (4.13%)	4 (5.88%)
Deep transverse arrest	5 (1.55%)	2 (1.22%)	2 (1.61%)	1 (1.47%)
Failed induction	NA	41 (25.15%)	NA	11 (16.17%)
Malpresentation	NA	NA	NA	NA
Others	4 (1.23%)	5 (3.07%)	1 (0.82%)	1 (1.47%)
Scar rupture	0	0	0	0
Cervical fibroid	0	0	0	0
Infertility treated refusing for VD	1 (0.31%)	1 (0.61%)	0	0
Hysterotomy/Myomectomy scar	0	1 (0.61%)	0	0
Chorioamnionitis	3 (0.93%)	3 (1.84%)	1 (0.82%)	1 (1.47%)

CS: Caesarean section

Table 3. This table presents an analysis of indications for CS with respect to Robson groups 1-4. Fetal compromise was a maximum of 66.94% in Robson group 3, and 50.41% babies had fetal distress with meconium. No case was reported with the previous CS. In all, 22.91% cases had cephalo-pelvic disproportion in Robson group 1. There were 19.12% cases having APH in Robson group 4. In all, 25.15% cases in Robson group 2 showed failure to progress. Failed induction was observed in Robson groups 2 and 4. No case of malpresentation was observed. There were 1.84% cases in Robson group 2 who were suffering from chorioamnionitis.

An analysis of the indications of CS concerning Robson groups 5-8 has been presented in (Table 4).

Table 4: Analysis of indications for CS concerning Robson groups 5-8

Indications for CS	Group 5 (N=780)	Group 6 (N=74)	Group 7 (N=45)	Group 8 (N=10)
Fetal Compromise	131 (16.79%)	2 (2.70%)	1 (2.22%)	1 (10.00%)
Fetal distress	36 (4.62%)	0	0	0
Fetal distress with meconium	92 (11.79%)	0	0	0
Deranged doppler (AEDF/REDF)	2 (0.25%)	2 (2.70%)	1 (2.22%)	1 (10.00%)
Cord prolapsed	1 (0.12%)	0	0	0
Previous CS	304 (38.97%)	NA	23 (51.11%)	4 (4.00%)
Previous 2 CS	131 (16.79%)	NA	9 (2.00%)	4 (4.00%)
Previous 3 CS	3 (0.38%)	NA	0	0
Previous CS with scar tenderness	94 (12.05%)	NA	0	0
Previous CS refusing for TOLAC	48 (6.15%)	NA	0	0
Previous CS with short ICP	28 (3.59%)	NA	0	0
Previous CS with breech	NA	NA	14 (31.11%)	0
Cephalo-pelvic disproportion	218 (27.94%)	0	0	3 (3.00%)
APH	14 (1.79%)	1 (1.35%)	2 (4.44%)	1 (1.00%)
Abruption	4 (0.51%)	0	0	0
Placenta previa	10 (1.28%)	1 (1.35%)	2 (4.44%)	1 (1.00%)
Failure to progress	55 (7.05%)	0	0	2 (2.00%)
NPOL	46 (5.89%)	0	0	2 (2.00%)
Arrest of dilatation	6 (0.77%)	0	0	0
Arrest of descent	2 (0.26%)	0	0	0
Deep transverse arrest	1 (0.13%)	0	0	0
Failed induction	39 (5.00%)	0	0	0

Malpresentation	NA	68 (91.89%)	18 (40.00%)	8 (80.00%)
Breech	NA	68 (91.89%)	18 (40.00%)	7 (70.00%)
Transverse	NA	NA	NA	1 (10.00%)
Others	8 (01.02%)	1 (1.35%)	0	1 (10.00%)
Scar rupture	1 (0.13%)	NA	0	1 (10.00%)
Cervical fibroid	0	0	0	0
Infertility treated refusing for vaginal delivery	2 (0.26%)	0	0	0
Hysterotomy/Myomectomy scar		0	0	0
Chorioamnionitis		1 (1.35%)	0	0

CS: Caesarean section

Table 4. This table presents an analysis of indications for CS with respect to Robson groups 5-8. Fetal compromise was maximum of 16.79% in Robson Group 5, while 11.79% cases had Fetal distress with meconium. There were 51.11% cases in Group 7 having previous CS. Maximum of 27.94% cases had cephalo-pelvic disproportion in Group 5. There were 4.44% cases in group 7 having APH. Maximum of 7.05% cases in Group 5 showed failure to progress. Failed induction was only noticed in cases of Group 5. Besides, 91.89% cases of malpresentation were observed in Group 6 and 10% cases of Group 8 had scar rupture.

An analysis of the indications of CS concerning Robson groups can be gleaned from (Table 5).

Table 5: Analysis of indications for CS concerning Robson groups 9-10

Indications for CS	Group 5 (N=780)	Group 6 (N=74)	Group 7 (N=45)	Group 8 (N=10)
Fetal compromise	131 (16.79%)	2 (2.70%)	1 (2.22%)	1 (10.00%)
Fetal distress	36 (4.62%)	0	0	0
Fetal distress with meconium	92 (11.79%)	0	0	0
Deranged doppler (AEDF/REDF)	2 (0.25%)	2 (2.70%)	1 (2.22%)	1 (10.00%)
Cord prolapsed	1 (0.12%)	0	0	0
Previous CS	304 (38.97%)	NA	23 (51.11%)	4 (4.00%)
Previous 2 CS	131 (16.79%)	NA	9 (2.00%)	4 (4.00%)
Previous 3 CS	3 (0.38%)	NA	0	0
Previous CS with scar tenderness	94 (12.05%)	NA	0	0
Previous CS refusing for TOLAC	48 (6.15%)	NA	0	0
Previous CS with short ICP	28 (3.59%)	NA	0	0
Previous CS with breech	NA	NA	14 (31.11%)	0
Cephalo-pelvic disproportion	218 (27.94%)	0	0	3 (3.00%)
APH	14 (1.79%)	1 (1.35%)	2 (4.44%)	1 (1.00%)
Abruption	4 (0.51%)	0	0	0
Placenta previa	10 (1.28%)	1 (1.35%)	2 (4.44%)	1 (1.00%)
Failure to progress	55 (7.05%)	0	0	2 (2.00%)
NPOL	46 (5.89%)	0	0	2 (2.00%)
Arrest of dilatation	6 (0.77%)	0	0	0
Arrest of descent	2 (0.26%)	0	0	0
Deep transverse arrest	1 (0.13%)	0	0	0
failed induction	39 (5.00%)	0	0	0
Malpresentation	NA	68 (91.89%)	18 (40.00%)	8 (80.00%)
Breech	NA	68 (91.89%)	18 (40.00%)	7 (70.00%)
Transverse	NA	NA	NA	1 (10.00%)
Others	8 (01.02%)	1 (1.35%)	0	1 (10.00%)
Scar rupture	1 (0.13%)	NA	0	1 (10.00%)
Cervical fibroid	0	0	0	0
Infertility treated refusing for vaginal delivery	2 (0.26%)	0	0	0
Hysterotomy/Myomectomy scar		0	0	0
Chorioamnionitis		1 (1.35%)	0	0

CS: Caesarean section

Table 5. This table shows analysis of indications for CS with respect to Robson groups 9-10. Fetal compromise was maximum of 41.35% in Robson Group 10, while 17.70% cases had Fetal distress. There were 20.13% cases in Group 10 having previous CS and 4.16% cases had cephalo-pelvic disproportion in Group 10. Also, 15.97% cases in Group 10 had APH. Maximum of 5.03% cases in Group 10 showed failure to progress. Failed induction was only observed in Group 10 in 8.09% cases. All cases in Group 9 had malpresentation, while 7.66% cases of Group 10 had hysterotomy/myomectomy scar or chorioamnionitis.

Discussion

In high income countries it was observed that there is growing international concern regarding the increased use of CSs. Though caesarean procedures performed in the absence of a clinical justification do not reduce maternal or infant death rates if carried out at a rate higher than 10%-15%. The unjustified, unrestrained use of clinical procedures may lead to an ever-increasing therapeutic cascade of avoidable interventions and become life-threatening in the current or subsequent pregnancies for both the women and children. The worldwide rise in CS rates has become a growing public health concern and a cause for

debate due to potential maternal and perinatal risks, cost issues and inequity in access.

There is a high degree of variability in the reported crude rates of CS performed in different countries and regions, and there are often even significant differences between hospitals within a single region. The highest caesarean rates are observed in the Dominican Republic (56.4%), Brazil (55.6%) and Egypt (51.8%) with Africa (7.3%) showing the lowest proportion of these procedures. In most European countries, the rates are about 25% to 35%. However, due to the decentralized structure of the health system, there is no nationally established system to monitor the use of caesarean procedures.

In a similar study conducted by Dhillon BS. *et al*. across 30 teaching hospitals in India, concluded the overall CS rate as 28.1% (range 11.6-58.7%). It is expected that caesarean delivery rates will vary across hospitals based on patients' clinical conditions and choices, hospital capacity and degree of obstetric and neonatal care specialization among other factors [12]. The high CS rate in a tertiary care centre in India may be attributed to the higher number of complicated, unbooked and neglected pregnancies, most of which are referral cases. Consecutively, pertaining to the substantial influx of referral cases round the clock, CSs are often conducted at a lower threshold of abnormality in lieu of managing the labor ward space and to avoid constant patient care load.

Experts recommend that scheduled CS delivery be conducted from 39 weeks onwards so that fetal maturity is complete. Some studies have pointed to differences in respiratory complications between Asian and Caucasian ethnicities, according to the gestational age pattern [14]. The lowest complication rate was observed at the end of 39-40 gestational weeks for Caucasians and at the end of 38 gestational weeks for Asians [13]. The current study found that a maximum of 76.42% live births had a gestational age of (37-40) + 6 days, and a minimum of 1.94% cases had a gestational age of (28-31) + 6 days.15.

In multi logistic conditional regression analysis, the factors which were associated with increased risk of neonatal ICU admission are grand multi parity (Adjusted OR 1.46), gestational diabetes (Adjusted OR 1.92), maternal employment (Adjusted OR 1.84), prolonged rupture of membranes (Adjusted OR 5), fetal distress (Adjusted OR 1.84), prematurity (Adjusted OR 43.78), low birth weight (Adjusted OR 42), high order multiple gestation (Adjusted OR 9.58) and low 5-min APGAR score (Adjusted OR 10). Among the babies those who were delivered at early term (37-38.6 weeks), 16% were admitted to the NICU for a median length of stay of 4 days (IQR 2, 8). Transient tachypnea of new born and respiratory distress syndrome were most common reason for admission among them.

Even though the overall CS rate was not found to be high by the present study as compared to international studies, repeat CS comprised about 30% of the overall CS rate. The efforts to reduce the overall CS rate should focus on reducing the primary CS rate. There is a need to analyse the possible causes of the global steady growth in the overall CS rate of CSs. It is found that RTGCS is a valuable clinical method that allows standardized comparisons of data among countries.

We should avoid unnecessary interventions in childbearing women, and at same time we should ensure that necessary interventions take place. Every effort should be made to perform these procedures on the women that truly need them. With this perspective in mind, it is even more important to apply suitable methods to monitor and assess the results of these kinds of interventions in order to identify when and where they are overused, especially when they are performed on healthy women who are not deemed to be at risk. The maternity team at the hospital, including the obstetric and midwifery team, studied here, conducts a daily, in-depth review of every CS performed on the previous day in order to assess whether the clinical indications followed met the standards set out in the institution's protocols and provides feedback to the healthcare professional involved.

More analytical studies based on Robson's 10-group classification are needed locally to evaluate the indications of CS within each group. High-quality research is required in the future to evaluate multicomponent and locally tailored interventions addressing women's and health professionals' demands as well as the health system while attempting to design and implement interventions aiming at reducing the number of unnecessary CS.

In our study, the main contributors to the overall CSs performed came from Robson groups 5, 10, 1, 2 and 4. Efforts to reduce the overall CS rate must focus on reducing the initial CS rate (groups 5, 1 and 2). The worldwide increase in the rate of CS over the past few decades has made evident the need to formulate and apply a classification system (such as the 10-group Robson method) that makes a comparison of the caesarean rates at different hospitals possible [14, 16]. Such a system can be used to identify the groups displaying the most significant growth in the frequency of these procedures so as to act to stem these increases and provide an easy way of collecting information regarding CS rate.

Conclusions

It is stated that the RTGCS is an important clinical method that allows standardized comparisons of data among the countries. Further, with help of RTGCS it has brought awareness among various hospital and it act as easy tool for comparison between hospital and regions. In this study, the main contribution to the overall CSs performed came from Robson groups 5, 10 and 1. Hence we should work towards reduction of the initial CS rate (Robson groups 1, 2, 10).

In low risk pregnancies CS rate should be monitored which will help to decrease the increasing trend. We should emphasize on individualizing every labor where maternal and fetal monitoring is good and there should be fair trial of labor at tertiary care hospital. We should encourage doctors, nurses and most importantly patients for VBAC for fair trial of labor. The presence of continuous one on one support in the form of DOULA helps reduce anxiety and provide emotional support during delivery as well as identify warning signs and symptoms earlier. There are various birthing positions that help the patient and it gives greater success during vaginal delivery. Training resident doctors and nursing staff should keep in mind about respectful maternity care which will help in decreasing the gap between patient and medical staff. Application of such protocols will help us to reduce CSs conducted at the institute.

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