

**RETROSPECTIVE STUDY OF PRIMARY CAESAREAN SECTION AT A TERTIARY CARE CENTRE**S. Prasanna Lakshmi<sup>1</sup>, D. Uma<sup>2</sup><sup>1</sup>Senior Assistant Professor, Department of Obstetrics and Gynaecology, KAPV Government Medical College, Trichy, Tamil Nadu.<sup>2</sup>Professor, Department of Obstetrics and Gynaecology, KAPV Government Medical College, Trichy, Tamil Nadu.**ABSTRACT****BACKGROUND**

The caesarean section epidemic is a reason for immediate concern and deserves serious National and International attention. Rates of caesarean section are of concern to both developed and developing countries. The indications for caesarean section have been undergoing a gradual change over the last few decades. Besides the obstetric causes, several other medical, social, ethical, economical and medicolegal factors play a role in the rising trend of caesarean section.

The aim of the study was undertaken to determine the rate, indications, intraoperative and postoperative complications of primary caesarean section in primi and multipara and maternal and foetal morbidities in these patients.

**MATERIALS AND METHODS**

This is a retrospective study carried out on primary caesarean section in the Department of O and G at Mahatma Gandhi Memorial Government Hospital attached to K.A.P. Viswanatham Government Medical College, Trichy, during 1 year period from January 2015-December 2015.

Inclusion Criteria- Patients (booked/unbooked) attending the labour room undergoing primary caesarean section in the department. Their intraoperative and postoperative complications were noted and also maternal and foetal morbidities and complications.

Exclusion Criteria- Gestational age <28 wks., previous LSCS, previous uterine surgery or hysterotomy, multiple gestation.

**RESULTS**

There has been a steady increase in total deliveries (increase by 5.2%) in the last 2 yrs. at Mahatma Gandhi Memorial Government Hospital attached to K.A.P. Viswanatham Government Medical College, Trichy, and total caesarean section rate (increased by 19.3%) and primary caesarean section rate (increased by 12.3%) in the past 2 years with concomitant reduction in neonatal mortality rate by 28%. However, this doesn't justify the increase in primary caesarean section rate.

**CONCLUSION**

Potentially modifiable factors such as patient preferences, practice variations among hospitals, systems and healthcare providers, medicolegal issues most likely contribute to the escalating caesarean delivery rates. The problems associated with caesarean delivery as compared to vaginal delivery are very many. The various recommendations cited maybe beneficial. It may be necessary to revisit the definition of labour dystocia because recent data show that contemporary labour progresses at a rate substantially slower than what was historically taught. Additionally, improved and standardised foetal heart rate interpretation and management may have an effect on curtailing the caesarean section rate.

**KEYWORDS**

Caesarean Section, Perinatal Mortality Punctuations.

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**BACKGROUND**

Caesarean birth can be lifesaving for the foetus, mother or both in certain cases. However, the rapid increase in caesarean birth rates from 1996 with concomitant decrease in maternal or neonatal morbidity or mortality raises

significant concern that caesarean delivery is overused. The most common among documented indications for primary caesarean include, labour dystocia, non-reassuring foetal heart rate, cephalopelvic disproportion, pre-eclampsia and severe pre-eclampsia, increased over time, while arrest of descent, malpresentation and obstetric indications did not increase. Primary caesarean births accounted for 50% of increasing caesarean rate. Among primary caesarean, more subjective indications contributed larger proportions than more objective indications malpresentation, maternal-foetal conditions, obstetric conditions). Many theories offered for this increasing trend are increase in high-risk expectant mothers and the subjective and elective indications over recent years is a complex issue. Medicolegal reasons, scheduling issues, increased labour induction rates and a

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broader perception of caesareans as safe have been raised as possibilities. Efforts should be made to address the rising caesarean rate and may benefit from attempts to convert subjective indications into objective ones through clearer evidence based provider accountability before the decision to perform caesarean at the hospital.

**The Variables Used were**

Single, multiple pregnancy, nulliparous, multiparous, cephalic, breech presentation or other malpresentation, spontaneous or induced labour, primary caesarean section or repeat section.

**AIMS AND OBJECTIVES**

- To analyse the rate, indications of primary caesarean section over a period of one year, January 2015-December 2015.
- To analyse intra and postoperative complications of primary caesarean section in primi/multipara.
- To study the maternal and foetal morbidities in these patients.
- To compare caesarean section rates with Indian and global standards.

**MATERIALS AND METHODS**

A retrospective study.  
 Study Period- January 2015-December 2015.  
 Study conducted at K.A.P. Viswanatham Government Medical College, a tertiary care centre.

**The Following Datas were Collected from Medical Records Department for 2 Years**

- Number of caesarean sections.
- Primary or repeat caesarean section.
- Indication of caesarean section.
- Single or multiple pregnancy.
- Maternal and foetal outcome.

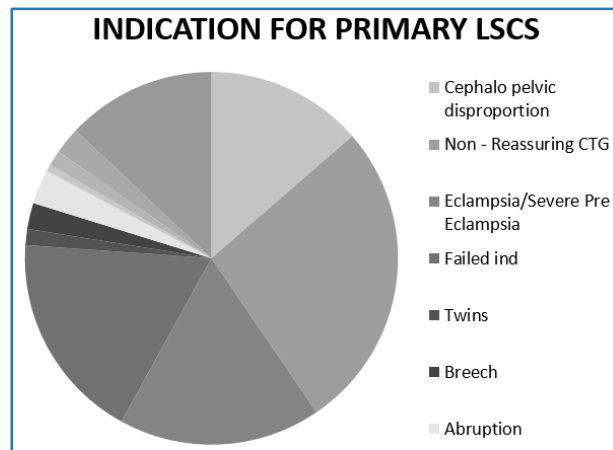
**RESULTS**

A combination of demographic, socioeconomic and institutional factors determine the rate of caesarean delivery in any region.

Statistics	Census	Percentage %
Total Deliveries	9002	
Total LSCS	4801	53.33%
Primary LSCS	2520	52.49%
Repeat LSCS	2281	47.51%

**Table 1. January 2015 to December 2015**

Table 1 shows the total number of deliveries for the year 2015, which was 9002, primary caesarean section being 2520 (52.49%) and repeat section being 2281 (47.51%).



**Chart 1**

Indications	Number of Patients=N	%
Oligohydramnios	343	13.6
Cephalopelvic disproportion	360	14.29
Non-reassuring cardiotocogram	585	23.21
Eclampsia/severe pre-eclampsia	464	18.41
Failed induction	479	19.01
Multiple gestation	37	1.47
Breech	60	2.38
Abruption	79	3.13
Cord prolapse	16	0.63

**Table 2. Indications of Primary LSCS**

Table 2 shows the various indication for primary caesarean section, the leading indication being non-reassuring CTG followed by failed induction. The 3rd frequent indication being eclampsia/severe pre-eclampsia and fourth frequent indication being oligohydramnios.

Maternal Mortality Following Primary LSCS	Number of Patients
Antepartum Eclampsia	2
Heart disease	1

**Table 3. January 2015 to December 2015**

Table 3 shows the maternal mortality following primary CS, which was 3 in our study. 2 following AP eclampsia with pulmonary oedema and 1 due to heart disease, both of which were unrelated to the CS.

Morbidity	Number of Patients
Wound resuturing	13
Haemorrhage requiring B lynch	222
Haemorrhage requiring caesarean hysterectomy	2
Bladder injury	1
Paralytic ileus	16

**Table 4. Morbidity Following Primary LSCS**

Table 4 shows the morbidity following primary CS. Minor morbidities were wound resuturing-13, paralytic ileus-16. Major morbidities were haemorrhage requiring B-

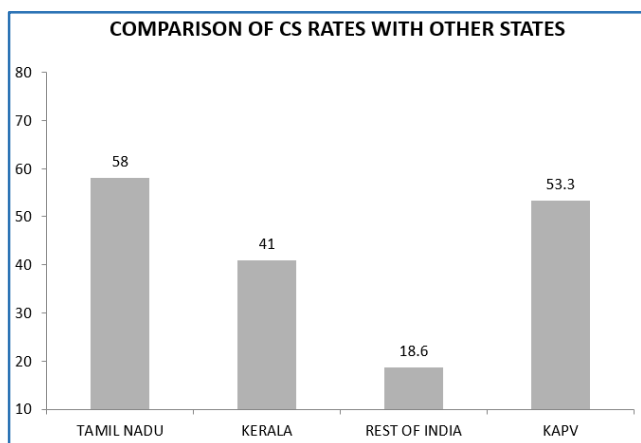
LYNCH-222, haemorrhage requiring caesarean hysterectomy-2, bladder injury-1.

	2014	2015	Increase/Decrease	% Increase/Decrease	
Total deliveries	3872	4801	929	19.3%	↑
Primary LSCS	2208	2520	312	12.3%	↑
Repeat LSCS	1664	2281	617	27.04	↑
Neonatal mortality	18/1000	13/1000	5/1000	28%	↓

**Table 5. Neonatal Mortality Following Caesarean Section**

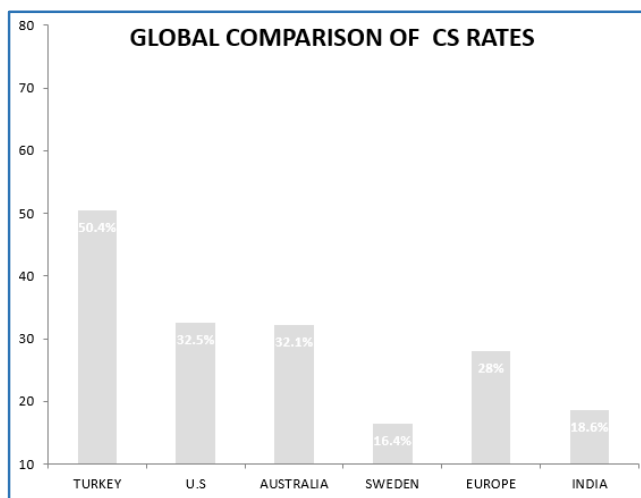
Table 5 shows comparison of perinatal mortality (combined) of previous year with period of study, which shows a decrease by 30% in newborn death and decrease in neonatal death by 5%. However, the total CS rate increased by 19.3% and primary CS rate increased by 12.3%.

Graph 1 shows the comparison of CS rates of our study with other states of India. Graph 2 shows the comparison of CS rates of India with other countries.



**Graph 1. Comparison of CS Rates in Various States**

Source- Health Reforms Asia.



**Graph 2. Source- The Organisation for Economic Cooperation and Development**

**DISCUSSION**

International healthcare community has considered 10 to 15% as the ideal rate for caesarean section.<sup>1,2</sup> A rate more than 15% indicates over utilisation of the procedure for other than lifesaving reasons.<sup>3</sup> One important reason for growing caesarean section rate in developing countries are attributed to the increase in institutional deliveries.<sup>4</sup> The caesarean rates have escalated in the last decade to 41% in Kerala and 58% in Tamilnadu. The healthy people target for 2020 is a caesarean delivery rate of 23.9% in low risk full-term women with a singleton.<sup>5</sup> It is sad that caesarean sections are frequently and arbitrarily done world over for foetal distress and prolonged labour without due respect to correct diagnosis and unbiased decision. A fourfold increase in maternal mortality rate is seen after CS even after controlling for medical and obstetric complications.<sup>6</sup> CS is also a significant risk factor for emergent postpartum hysterectomy mainly for adherent placenta, uterine atony, uterine rupture, fibroids, sepsis and extension of uterine scar.<sup>7</sup> This increase in caesarean rate world over could also be due to change in patient lifestyle, increase in incidence of obesity, diabetes and heart-related problems.

**CONCLUSION**

Caesarean surgeries have an impact on the health of both the mother and baby, both short and long term. One of the earliest relationship to be strained due to caesarean section is that of mother and baby as babies are likely to be fed late as mothers take time to recover. The state of the world's mother report asserts that immediate breast feeding is one of the most effective interventions for newborn survival.<sup>8</sup> As the caesarean rate increases, so does our glimpse into the reality of the immense proportions of the epidemic and its impact is far larger and deeper than we know. Breast feeding provides baby with good immune system protection, gut protection and

protection against obesity. Breast milk is a unique source of food for babies, which contains all necessary nutrients that will ensure the infant's health, growth and development.<sup>9</sup> Later in life, babies born without labour have a higher chance of having<sup>10</sup> or diabetes.<sup>11</sup> Other risks for infants include injury during delivery and need for care in NICU due to iatrogenic prematurity. Full recovery following caesarean delivery takes 4-6 weeks while vaginal delivery takes about 1-2 weeks. The most common complications for the mother include, infection, heavy blood loss, deep vein thrombosis, pulmonary embolism, anaesthesia complications, ileus, injury to adjacent organ-like bladder and last of all maternal death about 2 in 1,00,000 caesareans result in maternal death.

WHO proposes the Robson's classification system as a global standard for assessing, monitoring and comparing

caesarean section rates within healthcare facilities overtime and between facilities; the reason for the escalated caesarean rates partly lies on lifestyle, obesity, institutional deliveries and medicolegal issues. Our study has shown an increase in caesarean rate with a concomitant decrease in perinatal mortality. The WHO multicountry survey maternal and newborn health (2010-2011) shows large increase in caesarean section rate as countries move from lower to higher human development index. In the absence of country-specific information about maternal and child health outcomes, caution is needed before recommending strategies aimed at modifying practices.<sup>12</sup>

The following tabular column shows the ACOG (Institute of Medicine) recommendations for safe prevention of the primary caesarean delivery.

**Recommendation for Safe Prevention of Primary Caesarean Delivery**

Recommendations	Grade of Recommendation Level of Evidence
<b>First Stage of Labour</b>	
A prolonged latent phase (>20 hrs. in primi and >14 hrs. in multi) should not be indication for CS.	1b
	Strong recommendation moderate quality evidence
Slow, but progressive labour in 1st stage of labour should not be an indication for CS.	1b
	Strong recommendation moderate quality evidence
Cervical dilation of 6 cm is threshold for active phase of most women in labour, thus before 6 cm dilation progress of labour not be applied.	1b
	Strong recommendation moderate quality evidence
A specific absolute maximum length of time spent in second stage of labour beyond, which all women should undergo operative delivery has not been identified.	1C
	Strong recommendation low quality evidence
Before diagnosing arrest of labour in second stage, if maternal and foetal conditions permit, allow for following- <ul style="list-style-type: none"> <li>• At least 2 hrs. of pushing in multiparous women (1b).</li> <li>• At least 3 hrs. of pushing in nulliparous women (1b).</li> </ul> Longer durations maybe appropriate on individualised basis (e.g., with use of epidural analgesia or with foetal malposition) as long as progress is being documented (1b).	1B
	Strong recommendation moderate quality evidence
Operative vaginal delivery in second stage of labour by experienced and well-trained physicians should be considered safe, acceptable alternative to caesarean delivery. Training in and ongoing maintenance of practical skills related to operative vaginal delivery should be encouraged.	1B
	Strong recommendation moderate quality evidence
Manual rotation of foetal occiput in setting of foetal malposition in second stage of labour is reasonable intervention to consider before moving to operative vaginal delivery or caesarean delivery. To safely prevent caesarean deliveries in setting of malposition, it is important to assess foetal position in second stage of labour particularly in setting of abnormal foetal descent.	1B
	Strong recommendation moderate quality evidence
<b>FOETAL HEART RATE MONITORING</b>	
Amnioinfusion for repetitive variable foetal heart rate decelerations may safely reduce rate of caesarean delivery.	1A
	Strong recommendation high quality evidence
Scalp stimulation can be used as means of assessing foetal acid-base status when abnormal or indeterminate (formerly, non-reassuring), foetal heart patterns (e.g., minimal variability) are present and is safe alternative to caesarean delivery in this setting.	1C
	Strong recommendation low quality evidence

<b>Induction of Labour</b>	
Before 41-0/7 wks. of gestation, induction of labour generally should be performed based on maternal and foetal medical indications. Inductions at 41 0/7 wks. of gestation should be performed to reduce risk of caesarean delivery and risk of perinatal morbidity and mortality.	1A
	Strong recommendation high quality evidence
Cervical ripening methods should be used when labour is induced in women with unfavourable cervix.	1B
	Strong recommendation moderate quality evidence
If maternal and foetal status allow, caesarean deliveries for failed induction of labour in latent phase can be avoided by allowing longer durations of latent phase (up to 24 hrs.) and requiring that oxytocin be administered for at least 12-18 hrs. after membrane rupture before deeming induction failure.	1B
	Strong recommendation moderate quality evidence
<b>Foetal malpresentation</b>	
Foetal presentation should be assessed and documented beginning at 36-0/7 wks. of gestation to allow for external cephalic version to be offered.	1C
	Strong recommendation low quality evidence

Strict implementation of these recommendations might go a long way in reducing the escalating caesarean section rate. Health personnel, medical officer, staff nurse, village health nurse are to be increased at all levels of healthcare to bring about a significant change.

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