



## Evaluation and Comparison of Indications for Primary and Repeat Cesareans: A Retrospective Study at Tertiary Care Hospital in Jammu

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### ABSTRACT

**Objectives:** The uncontrolled wave of cesarean rates has increased globally which has resulted in a significant amount of maternal mortality and morbidity. The present retrospective study aims to evaluate the clinical indications, demographic characteristics for repeat cesarean sections and then compare them with primary cesarean sections to draw some valid inferences. **Methods:** The present retrospective study has been carried out at the Department of Obstetrics and Gynaecology, SMGS Hospital, Jammu, India. The data regarding the total number of primary and repeat cesarean sections during (March 2015-Feb 2020) were collected from the record section of the hospital. All patients who underwent cesarean sections during the study period were included in the study. **Results:** In the current study we observe that the most common indication for cesarean deliveries is elective which nearly accounts for (41%) and the other indications for repeat cesarean were fetal distress (15.5%), dystocia (11.4%), breech (7.8%). **Conclusion:** We suggest strategically focusing on elective category patients and making them favorable for normal vaginal delivery which is only possible by establishing proper counseling cells at the gross root level.

**Keywords:** Cesarean, Elective, Fetal

### INTRODUCTION

There is no doubt that parturition or childbirth is celebrated throughout the universe as a natural event. However, for most women particularly in India, it has become a worrisome phenomenon due to the rising cesarean trend and hence over-medicalization of their bodies. As per World Health Organization, the recommended proportional cesarean range should not exceed (5%-15%) but at present, it has reached skies both in developed and underdeveloped countries. The rising inclination of cesarean sections both primary and repeated has posed a serious challenge on health care workers and common masses [1-3]. Even though the cesarean section is a much safer procedure, however, the ill-chosen indications like maternal requests for CS, fear of pain, cultural ethics, personnel interests, etc; continue to remain a subject matter of review. A nationwide study conducted by NFHS revealed that cesarean sections in states like Kerala, Andhra Pradesh, Goa, West Bengal, Jammu, and Kashmir, Tamil Nadu is alarmingly high. Due to the lack of a standard classification system concerning indications for CS, the general indications for CS have been divided into five major groups that include repeated elective section, breech presentation, fetal distress, dystocia, and others [4,5]. Regardless of the several studies on indications for CS deliveries, very little is known about the specific reactions and correlations among indications for primary and repeated cesarean sections [6].

The present retrospective study aims to evaluate the clinical indications, demographic characteristics for repeat cesarean sections and then compare them with primary cesarean sections to draw some valid inferences.

### MATERIAL AND METHODS

The present retrospective study has been carried out at the Department of Obstetrics and Gynaecology, SMGS Hospital, Jammu, India. The data regarding the total number of primary and repeat cesarean sections during (March 2015-Feb 2020) were collected from the record section of the hospital. Other vital details like demographic characteristics and indications were also collected. All patients who underwent cesarean sections during the study period were in-

cluded in the study.

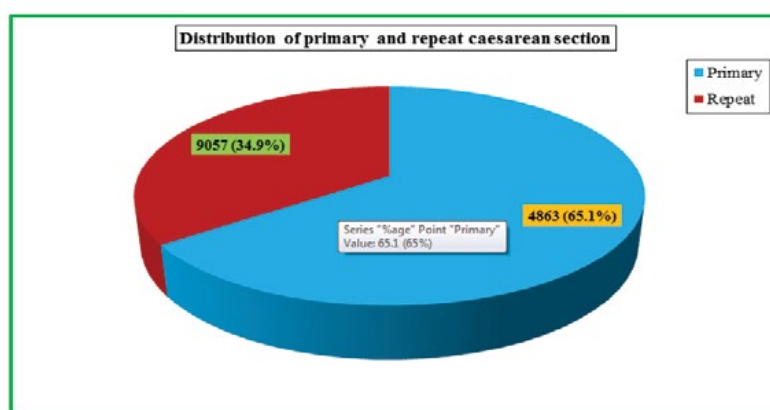
## RESULTS

The recorded data was compiled and entered in a spreadsheet (Microsoft Excel) and then exported to the data editor of SPSS Version 20.0 (SPSS Inc., Chicago, Illinois, USA). Continuous variables were expressed as Mean  $\pm$  SD and categorical variables were summarized as frequencies and percentages. The student's independent t-test was employed to compare various parameters between primary and repeat cesarean section. Graphically the data was presented by pie diagrams.

The hospital cesarean rate during the study period was 49.9% (13920 of 27921 deliveries). Table 1 shows the distribution of primary and repeats cesarean sections in which the percentage of primary cesarean section was observed to be 65.1% and that of repeat cesarean sections was 34.9%.

**Table 1 Distribution of primary and repeat cesarean section**

Caesarean section	Number	Percentage
Primary	9057	65.1
Repeat	4863	34.9
Total	13920	100



**Figure 1 Distribution of primary and repeat cesarean section**

Table 2 displays an analysis of demographic characteristics concerning different parameters; we observe that there is a significant difference between primary and repeat cesarean sections concerning age and parity of patients. Other parameters like gestational age, birth weight, and Apgar scores were comparable.

**Table 2 Demographic characteristics of patients delivered by primary or repeat cesarean section**

Parameter	Primary (n=9057)		Repeat (n=4863)		p-value
	Mean	SD	Mean	SD	
Age (Years)	25.3	7.63	28.7	6.19	<0.001*
Parity	0.7	3.12	1.4	2.74	<0.001*
Gestational age (weeks)	38.9	12.74	39.2	10.18	0.157
Birth weight (Kg)	3.12	8.41	3.25	9.73	0.411
1 min Apgar score	7.31	5.84	7.19	6.15	0.257
5 min Apgar score	8.29	6.37	8.37	5.91	0.469

\*Statistically significant (p-value<0.05)

Table 3 reflects the clinical indications for primary and repeat cesarean sections; we observe that fetal distress (41.5%) is the most common indication for primary cesarean sections thereafter breech (21.8%) and dystocia (15.4%) are the common indications for primary CS. However, for repeat cesarean sections the most common indication is elective (40.6%) thereafter fetal distress (15.5%), dystocia (11.4%), pre-eclampsia (11.4%), and breech (7.8%) are common indications for repeat CS.

**Table 3 Clinical indications of primary and repeat cesarean section**

Indication	Primary		Repeat	
	No.	%age	No.	%age
Elective	792	8.7	1974	40.6
Breech	1973	21.8	381	7.8
Dystocia	1395	15.4	553	11.4
Fetal distress	3759	41.5	753	15.5
Pre-eclampsia	664	7.3	554	11.4
Mal-presentation	105	1.2	142	2.9
Multiple pregnancy	78	0.9	103	2.1
Cord prolapse	54	0.6	42	0.9
APH	237	2.6	361	7.4
Total	9057	100	4863	100

## DISCUSSION

As already reported that hospital cesarean rate was almost (50%) out of which the primary cesarean rate was (65%) and almost (35%) were repeat procedures. In the current study, we observe that the most common indication for cesarean deliveries is elective which nearly accounts for (41%) and the other indications for repeat cesarean were fetal distress (15.5%), dystocia (11.4%), breech (7.8%). These findings are reflecting the same proportion of indications for repeat cesareans reported by Porreco [7]. Evidently from the statistical analysis, we observe that the significant reason for repeat cesareans is elective indications as has also been reported by some previous studies due to Stafford and Notzon, et al. [6,8]. In a study conducted by Heija, et al. it was observed that around (42%) of indications for repeat cesareans are elective and the percentage of breech indications was observed to be (9.5%) much similar to our study [9,10]. Some patients were restricted to labor because of the high incidence of uterine rupture and perinatal mortality due to breech [11]. On comparing the indications for primary and repeat cesareans; we observe that fetal distress and elective indications are respectively high for primary and repeat cesareans. Hence, it's the elective indication that significantly dominates among all indications leading to repeat cesarean. So, to curtail the cesarean rate we need to reduce elective cesareans substantially as Goyert, et al. have rightly pointed out that to reduce the national cesarean rate it is important to lower the repeat cesareans [12].

## CONCLUSION

The present study reveals that with an increase in repeat cesareans overall cesarean rate has increased drastically. The reason for repeat cesareans is multifaceted; however, the fundamental reason for repeat cesareans is undoubtedly a high proportion of elective indications. Hence we suggest strategically focusing on elective category patients and making them favorable for normal vaginal delivery which is only possible by establishing proper counseling cells at the gross root level.

## DECLARATIONS

### Conflicts of Interest

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

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