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Original Research Article

Incidence of cesarean section among primi at a tertiary care hospital in Mahabubnagar, Telangana, India

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ABSTRACT

Background: Not only in India but globally the incidence of cesarean section deliveries is increasing and it is becoming an important cause of concern. The objective of the present study was to observe the incidence of cesarean section deliveries at a tertiary care hospital.
Methods: A hospital record-based study was carried out from January 2017 to August 2018. All deliveries with live birth taking place among the primipara were included in the present study. Other than this was excluded. Data was analyzed using proportions.
Results: A total of 12254 deliveries took place from January 2017 to August 2018. Maximum deliveries were seen during July 2017 to October 2017 where it ranged above 6%. Normal delivery rate ranged from 51.2% in March 2018 to 64.4% in February 2017. Overall it was 62.1%. The overall cesarean section rate was 37.9% in the present study. This rate is very low compared to the rates from private sector. The cesarean section rate ranged from 35.6% in February 2017 which was lowest in the study period to 48.8% in the month of March 2018 which was the highest in the study period. But the cesarean section rate never crossed the 50% mark and most of the time it remained near 40% mark.
Conclusions: It has been found that the cesarean section rate always remained on a lower side as compared to the normal deliveries rate. This can be attributed to the appropriate clinical practices in our settings.

Keywords: Cesarean section, Healthy normal delivery, Primipara

INTRODUCTION

Not only in India but globally the incidence of cesarean section deliveries is increasing and it is becoming an important cause of concern.[1]

Delivery by cesarean section has been considered as more dangerous in terms of maternal health as compared to the vaginal deliveries. The fetus would not be getting any additional advantage in the delivery by cesarean section as compared to the delivery by vaginal route. Various reasons have been cited for this increased in the rates of cesarean section deliveries.[2] The various reasons may be labor inductions, women preference towards cesarean section as they think that it is painless, it can be done at any preferred time, etc.[3]

Vertex presentation is an indication of normal vaginal delivery. But if the mother presents with prolapse of cord, major placenta previa and malpresentation then these are standard indications for cesarean section.

Such indications have been included as guidelines for carrying out cesarean section in developed countries and they are properly followed.[4] Data from "South Asian and sub-Saharan African countries" indicates that the

cesarean section is more common among rich people from urban areas and less than 5% among people who are poor and are from rural areas.[5]

Cesarean section carried out without appropriate indications can lead to the damage of the mother and child. World Health Organization in its survey 2008 report which was carried out in 24 countries found that cesarean section done without actual indication compared to the normal vaginal delivery was associated with poor maternal and fetal outcomes, increased maternal mortality. Neonatal mortality has also been found to be strongly associated with cesarean section rates especially in countries with low resource settings.

Financially also this has resulted in the undue expenses for the families.[6] The cesarean section rates increased from 2% in the year 2000 to 17% in the year 2011 in Bangladesh, from 3% in 1992 to 11% in 2006 in India, from 1% in 2000 to 5% in 2011 in Nepal.[7] Present study was carried out to study the incidence of cesarean section among primi at a tertiary care hospital.

METHODS

Present study was hospital based retrospective study. The hospital records of Obstetrics and Gynecology department from January 2017 to August 2018 were studied. The study was carried out at Department of Obstetrics and Gynecology, Government Medical College, Mahabubnagar, Telangana State. During the study period of January 2017 to August 2018 total of 12254 primi deliveries took place at Obstetrics and Gynecology, Government Medical College, Mahabubnagar, Telangana State and all of these were included in the present study. Institutional Ethics Committee permission was obtained for the present study. Permission from Medical Superintendent was obtained to publish the results of the present study.

Inclusion criteria

- Only primipara deliveries included
- Both normal as well as lower segment cesarean section delivery.

Exclusion criteria

- Multipara deliveries excluded.

Hospital records from Obstetrics and Gynecology, Government Medical College, Mahabubnagar; Telangana State from January 2017 to August 2018 was studied. Only primipara deliveries that took place during the study period were included and deliveries of multipara were excluded.

It was found that a total of 12254 deliveries took place during this one-and-a-half-year period. Out of this, 7610 (62.1%) were normal and 5356 (37.9%) were delivered by lower segment cesarean section. Month wise analysis was carried out for both the normal deliveries as well as for the deliveries by lower segment cesarean section.

Statistical analysis

The data was entered in the Microsoft Office Excel Worksheet. The data was then analyzed using proportions.

RESULTS

A total of 12254 deliveries took place from January 2017 to August 2018. Maximum deliveries were seen during July 2017 to October 2017 where it ranged above 6%. Again, it is going above 6% in July 2018. From March 2017 to May 2017 the delivery rate was less than 5%. From November 2017 to June 2018 the delivery rate varied between 5-6%.

Table 1: Month wise distribution of total deliveries.

Month	Number	%
January 2017	476	3.9
February 2017	413	3.4
March 2017	551	4.5
April 2017	567	4.6
May 2017	563	4.5
June 2017	655	5.3
July 2017	763	6.2
August 2017	752	6.1
September 2017	782	6.4
October 2017	772	6.3
November 2017	712	5.8
December 2017	689	5.6
January 2018	712	5.8
February 2018	652	5.3
March 2018	713	5.8
April 2018	693	5.7
May 2018	734	5.9
June 2018	659	5.4
July 2018	781	6.4
August 2018	327	2.7
Total	12254	100

Normal delivery rate ranged from 51.2% in March 2018 to 64.4% in February 2017. It was above 60% from January 2017 to May 2017; then gone down below 60% in June and July 2017; then in August 2017 went above 60% and again came down below 60% from September 2017 to November 2017. In December 2017 and January 2018, it was above 60% and then it was consistently below 60% from February 2018 to August 2018. Overall it was 62.1%. The overall cesarean section rate was 37.9% in the present study. This rate is very low compared to the rates from private sector. The cesarean section rate ranged from 35.6% in February 2017 which was lowest in the study period to 48.8% in the month of March 2018 which was the highest in the study period.

Table 2: Month wise distribution of normal deliveries.

Month	Number	%
January 2017	289	60.7
February 2017	266	64.4
March 2017	341	61.9
April 2017	357	62.9
May 2017	354	62.9
June 2017	381	58.2
July 2017	437	57.3
August 2017	454	60.4
September 2017	452	57.8
October 2017	433	56.1
November 2017	413	58
December 2017	429	62.3
January 2018	455	63.9
February 2018	380	58.3
March 2018	365	51.2
April 2018	373	53.8
May 2018	420	57.4
June 2018	378	57.4
July 2018	445	56.9
August 2018	188	57.5
Total	7610	62.1

But the cesarean section rate never crossed the 50% mark and most of the time it remained near 40% mark.

Table 3: Month wise distribution of deliveries by lower segment cesarean section.

Month	Number, LSCS	%
January 2017	187	39.3
February 2017	147	35.6
March 2017	210	38.1
April 2017	210	37.1
May 2017	209	37.1
June 2017	274	41.8
July 2017	326	42.7
August 2017	298	39.6
September 2017	330	42.2
October 2017	339	43.9
November 2017	299	42
December 2017	260	37.7
January 2018	257	36.1
February 2018	272	41.7
March 2018	348	48.8
April 2018	320	46.2
May 2018	314	42.6
June 2018	281	42.6
July 2018	336	43.1
August 2018	139	42.5
Total	5356	37.9

Figure 1 shows comparison between cesarean section rates and normal deliveries rates month wise. It has been found that the cesarean section rate always remained on a lower side as compared to the normal deliveries rate and as seen from the above figure, a wide gap has been maintained between the two in all successive months. This can be attributed to the appropriate clinical practices in our settings.

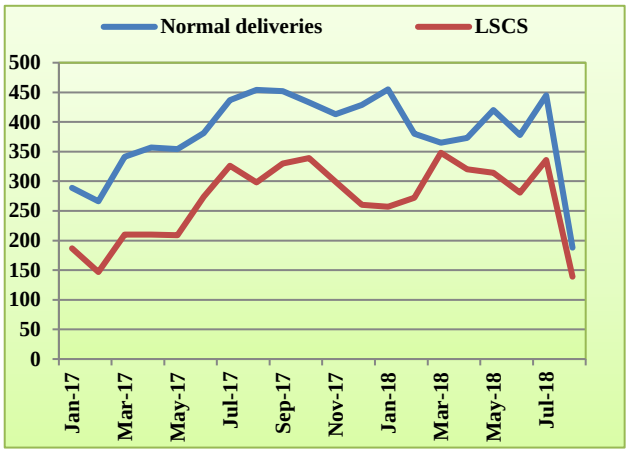

Figure 1: Comparison of normal deliveries and cesarean section delivery rates month wise.

DISCUSSION

A total of 12254 deliveries took place during the study period and out of them 37.9% were done by cesarean section and rest were normal vaginal deliveries in the present study.

Davey MA et al in their study found that onset of labor was not associated with perinatal deaths. Women who underwent induction of labor were at 2.54 times more at risk of cesarean section than the women who did not underwent the induction of labor.[8] The authors concluded that induction of labour in normal women leads to more incidence of cesarean section. Thus, authors suggested that inductions should be minimized if not indicated which will lead to the reduced number of cesarean sections.[8]

Janoudi G et al noted that as the age of the mother was more, the rate of cesarean section was also increased from 26.2% in the age group of 20-34 years to 35.9% in the age group of 35-40 years and 43.1% in the age group of above 40 years.[9] We also found similar rates of cesarean section in the present study. Factors like cesarean section done in the last delivery time, primiparity, gestational diabetes, hypertension of chronic nature, other medical conditions, were more commonly associated with the increased rates of cesarean section. The authors concluded from their study that only medical conditions are not responsible for the increased rates of the cesarean section, but the individual preferences are also important, and more studies should be done related to this.[9]

Betran AP et al 10 studied data on cesarean sections from 150 countries and observed that the average rate for the

cesarean section was 18.6% overall and ranged from 6-27.2%. This is slightly higher in the present study at 37.9%. The authors found that the highest rates of the cesarean section were 40.5% in the Caribbean region. This rate is also higher than the rate in the present study. The rates for Asia are 19.2% as given by the author and this is very low compared to the finding of the present study. The authors concluded that the rates of cesarean section have increased globally.[10]

Saha L et al studied 100 cases and found that the overall rate of the cesarean section was 57.87% which is very high compared to the present study where we found it as 37.9%.[11] The authors mentioned that out of these, 74.34% were primary cesarean section deliveries. Just like present study, this study also focused on the primigravida women. In 35% of the cases the indication for the cesarean section was fetal distress, in 14% of the cases the indication for the cesarean section was pre-eclampsia, in 12% of the cases the indication for the cesarean section was cervical dystocia. In 70% of the cases it was emergency cesarean section while the rest were elective.[11]

Al-Kadri HM et al studied 198 gravid one woman and 200 gravida two women. They noted that lack of antenatal care in G2 was the most common cause of increased cesarean sections and the difference was found to be statistically significant.[12] Previous vaginal surgery was another important risk factor for increased rate of cesarean section for G2 women. These G2 women who had previous vaginal surgery were found to be at 10 times more risk of undergoing cesarean section than women who never had previous vaginal surgery. The authors concluded that physician practice appears to be responsible for increased rates of the cesarean section and can be reduced.[12]

Al Rowaily MA et al observed that during the period of four years the cesarean section rte was 19.05% which is very low compared to the findings of the present study where we found that it was 37.9%. This may be due to the difference in the study period.[13] Where we studied only for 18 months the authors studied the rate over a period of four years. The authors noted that the 67% of the total cesarean sections were emergency in nature and 33% were elective in nature. In 35.9% of the cases the indication for emergency cesarean section was difficult labor, in 21.9% of the cases the indication for emergency cesarean section was fetal distress, in 11.6% of the cases, the indication was for emergency cesarean section breech presentation. In 54.3% of the cases previous cesarean section was the indication for elective cesarean section, in 20.4% of the cases breech presentation was the indication for elective cesarean section, in 10.1% of the cases maternal request was the indication for elective cesarean section. The authors recommended that more studies are required on repeat cases of cesarean section.[13] Kamil A et al found that pre-maturity of the fetus, parity and advanced age of the mother were prominent risk factors for increased rates of cesarean section.[14] The authors recommended that certain secondary tests should be done during pregnancy to ensure that fetus is all right and this may help reduce the cesarean section delivery rates.[14]

Ahmed I et al noted the effect of counselling on the rates of cesarean section.[15] They observed that the rates of the cesarean section were more among women who were not given counselling during pregnancy and who were not attended by full time faculty. But the differences were not found to be statistically significant. The authors concluded that the standard guidelines should be followed to reduce the physician bias. They recommended more studies especially with large sample size and multiple centre studies and prospective studies.[15]

CONCLUSION

It has been found that the cesarean section rate always remained on a lower side as compared to the normal deliveries rate. This can be attributed to the appropriate clinical practices in our settings. Though more compared to certain studies from other countries, but lesser than compared to the settings in the private sector.

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