

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20172947>

Original Research Article

Study on factors influencing caesarean section delivery in urban field practice area of Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, India

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Received: 15 May 2017

Accepted: 10 June 2017

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ABSTRACT

Background: Caesarean section is one of the most commonly performed major surgeries in obstetric practice intended to save the mother and child in turn reducing maternal and perinatal mortality. The steadily increasing global rate of caesarean section has become one of the most debated topics in maternity care. The objective of this study is to identify the factors influencing caesarean section delivery in the study area.

Methods: This is a community based cross sectional study conducted among 66 women who underwent caesarean section in urban slum of field practice area of KIMS Nalgonda from January 2017 to February 2017. Information regarding socio demographic factors, indication of caesarean section, maternal and neonatal outcome was recorded in pre-designed pretested questionnaire.

Results: The rate of caesarean section (CS) in this study was 55.9%. The commonest indication for elective caesarean was previous caesarean section (59.5%) and for emergency caesarean section the commonest indication was fetal distress (50%). 47.6% in elective group and 62.5% in emergency underwent caesarean section in government hospitals, 52.38% in elective group and 37.5% in emergency underwent caesarean section in private nursing homes.

Conclusions: Elective caesarean sections are more common than emergency sections. Most of the caesarian sections were in the age group of 18-25 years, Hindus, BC community, house wives, who have studied up to intermediate and above, below poverty line group and in multigravida women. Common indication for elective CS was previous CS and for emergency CS was fetal distress.

Keywords: Caesarean section, Socio demographic factors, Urban slum

INTRODUCTION

Caesarean section is one of the most commonly performed major surgeries in obstetric practice intended to save the mother and child in turn reducing maternal and perinatal mortality. The steadily increasing global rate of caesarean section have become one of the most debated topics in maternity care as its prevalence has increased alarmingly in last few years.^{1,2} Prevalence of

caesarean section in USA is 29.1% and in England 21.5%.^{3,4} WHO states that no additional health benefits are associated with a caesarean section rate above 15%.⁵

A study by ICMR in 33 tertiary care institutions noticed that the average caesarean section rate increased from 21.8% in 1993-94 to 25.4% in 1997-98. Causes of increasing trend in caesarean section is high education back ground of women, low tolerance for labour pains,

economically sound state of family, presence of more private hospitals. WHO withdrew its previous recommendation of 15% caesarean section rate in June 2010, their official statement rate there is no empirical evidence for an optimum percentage. What matters most is that all women who need caesarean section receive them.⁶ The objective of this study was to identify the factors influencing caesarean section in the study area.

METHODS

This is a community based cross sectional study conducted among 66 women who underwent caesarean section in urban slum of field practice area of Kamineni Institute of Medical Sciences, Narketpally, Nalgonda from January 2017 to February 2017.

The study population included all women who underwent caesarean section in urban field practice area of Kamineni Institute of Medical Sciences in the calendar year 2016. Thus 66 women were enrolled. Information regarding socio demographic factors, indication of caesarean section, maternal and neonatal outcome was recorded in pre-designed pretested questionnaire. Data was entered in Microsoft excel analyzed.

RESULTS

Total number of deliveries that took place in this urban slum of field practice area of Kamineni Institute of Medical Sciences Nalgonda were 118 among them 52 were normal deliveries and 66 women delivered by caesarean section for various indications. The rate of caesarean section in this study was 55.9%. Mean age in elective caesarean section was 23.35 years and in emergency group was 23.58 years.

Table 1: Distribution of cases according to type caesarean section.

Type of caesarean section	Number	%
Elective	42	63.64
Emergency	24	36.36
Total	66	100

Table 1 shows elective caesarean sections (63.64%) are more common than emergency sections (36.36%). The commonest indication for elective caesarean section in our study is previous section which is 59.5% and for emergency caesarean section the commonest indication was foetal distress (50%).

Table 2: Distribution of cases according to socio demographic factors.

Age	Elective CS	Percentage	Emergency CS	Percentage	P value
18-25 years	33	78.57	16	66.66	0.28
26-35 years	9	21.43	8	33.34	
Religion					
Hindu	37	88.9	22	91.66	0.87
Muslims	2	4.76	1	4.17	
Christian	3	7.15	1	4.17	
Caste					
SC	7	16.66	1	4.16	0.32
OC	6	14.28	4	16.67	
BC	29	69.6	19	79.17	
Occupation					
House wife	14	33.33	4	16.66	0.23
Labour	21	50	17	70.84	
Service	7	16.67	3	12.50	
Education					
Illiterate	10	23.82	11	45.83	0.14
Primary	2	4.76	0	0	
Secondary	15	35.71	4	16.67	
Inter and above	15	35.71	9	37.50	
Socioeconomic status					
Above poverty line	9	21.43	3	12.5	0.36
Below poverty line	33	78.57	21	87.5	
Parity					
Primi gravida	11	26.19	15	62.5	0.003
Multi gravida	31	73.82	9	37.5	
Total	42	100	24	100	

Table 2 shows that there were no caesarean sections in the age group below 18 years. Among 18-25 years 78.57% were in elective caesarean section group and 66.66% in emergency caesarean section. Among 26-35 years 21.42% were in elective caesarean section group and 33.33% in emergency group. None was there beyond

35 years of age. Among Hindus 88.9% deliveries were elective caesarean section and 91.66% in emergency group, among Muslims 4.76% in elective and 4.16% in emergency group, among Christians 7.14% in elective group and 4.16% in emergency group. Caste wise 16.66% in elective, 4.16% in emergency group belong to SC, there were no ST candidates in present study.

Table 3: Distribution of cases according to indication maternal and neonatal outcome.

	Elective CS	Percentage	Emergency CS	Percentage
Hospitals				
Government	20	47.61	15	62.15
Private	22	52.38	9	37.5
Indications for elective CS				
Abnormal presentation	7	16.66	-	-
Previous CS	25	59.52	-	-
Pre eclampsia and eclampsia	5	11.9	-	-
CPD	5	11.9	-	-
total	42	99.99		
Indication for emergency CS				
Foetal distress	-	-	12	50
Non progressive labour	-	-	9	37.5
Premature rupture of membranes	-	-	2	8.33
Pre eclampsia and eclampsia	-	-	1	4.16
Total			24	99.99

Table 4 Distribution of cases according to maternal and neonatal outcome

Maternal complications	Elective CS	%	Emergency CS	%
Nil	36	85.71	19	79.16
Infection	2	4.76	1	4.16
PPH	4	9.52	4	16.66
Total	42	99.99	24	99.99
Neonatal outcome				
Good	33	78.57	17	70.83
Congenital anomalies	4	9.52	0	0
Asphyxia	3	7.14	1	4.16
NICU admission	2	4.76	6	25
Total	42	99.99	24	99.99

14.28% in elective group and 16.66% in emergency group belong to OC category, 69.4% in elective group and 79.16% in emergency group belongs to BC category. Occupation wise 33.33% in elective and 16.66% in emergency group were housewives, 50% in elective and 70.83% in emergency group were labourers. 16.66% in elective and 12.5% in emergency were in service. 23.8% in elective group and 45.83% in emergency group were illiterates, 4.76% in elective and none in emergency had primary education, 35.71% in elective and 16.66% in emergency had secondary education, 35.71% in elective and 37.5% in emergency had above inter education. 21.42% in elective group and 12.5% in emergency group belong above poverty line category. 78.57% in elective and 87.55 in emergency group belong below poverty line

group. 26.19% in elective group and 62.5% in emergency were primigravidas. 73.80% in elective and 37.5% in emergency were multigravidas.

Table 3 shows distribution of cases according to place of delivery, indication for CS, maternal and neonatal outcome. 47.6% in elective group and 62.5% in emergency underwent caesarean section in government hospitals, 52.38% in elective group and 37.5% in emergency underwent caesarean section in private nursing homes. Indication for elective caesarean section, 16.66% were for abnormal presentation, 59.5% for previous caesarean section, 11.9% for Pre eclampsia and eclampsia and 11.9% for CPD. In emergency caesarean 50% were done for foetal distress, 37.5% for non-

progressive labour, 8.3% for premature rupture of membranes and 4.16% for Pre eclampsia and eclampsia.

Table 4 shows 4.76% in elective group and 4.16% in emergency group suffered from infection, 9.5% in elective group and 16.66% in emergency group had PPH. 78.5% in elective and 70.8% in emergency group neonatal outcome was good. Congenital anomalies were found in 9.52% in elective group and none were found in emergency group. Asphyxia for short period was observed in 7.14% in elective group and 4.16% in emergency group. NICU admissions were 4.76% in elective group and 25% in emergency group. PPH and NICU admissions were more in emergency caesarean sections. The commonest indication for elective caesarean section was previous caesarean section (59.5%) followed by abnormal presentation, PET and eclampsia, CPD.

DISCUSSION

In this study, there were 118 deliveries in the calendar of the year 2016, in the urban slum of field practice area of Kamineni institute of medical sciences. Among them 66 were caesarean sections giving a rate of 55.9% which is very high compared to many studies. Verma et al reported a rate of 21.32%.⁷ There were no maternal deaths. There were no intraoperative complications.

There was more of elective caesarean section deliveries (63.6%) compared to emergency caesarean section deliveries (36.3%). This due to indications for elective caesarean being previous caesarean section. Majority women were in the age group between 18-25 years (78.5%) in elective and 66.66% in emergency group, whereas Verma et al study majority of the women were in 26-30 years (51%) in elective group and 21-25 years (49%) in emergency group. Primigravida constituted 73.8% in elective group and 37.5% in emergency group. In a study by Smith S 42.4% were primigravida in both elective and emergency group. In our study primigravidas are more in emergency group (62.5%).⁸

The commonest indication for elective caesarean section was previous caesarean section (59.52%) followed by abnormal presentation (10.66%), Pre eclampsia and eclampsia (11.9%) and CPD (11.9%). The commonest indication for emergency caesarean section was foetal distress (50%) followed by non-progressive labour (37.5%), premature rupture of membranes (8.3%), Pre eclampsia and eclampsia (4.16%). The overall rates in all groups were higher in this study. This study is similar to DENSIC.WHO reported 61.5% cases of previous caesarean sections as an indication for elective caesarean sections and non-progressive labour of 41.5% in emergency caesarean section group.^{6,9} This study was conducted in the year 2008. In present study caesarean section rate is very high, the reason being, the women who underwent caesarean for the first time were not in favor of vaginal delivery due to unpredictable course of VBAC.

VBAC (vaginal birth after caesarean section) rates raised in 1980 and 1990.¹⁰ A major turning point occurred in 1996 when a well published NOVA SCOTIA study reported that vaginal after previous caesarean section resulted in more maternal complications than the repeat caesarean sections.¹¹ As a result the rate at which VBAC was attempted fell from 28.3% in 1996 to less than 10% in 2010.^{10,11}

This study was conducted in urban slums where caesarean sections were performed in district government hospitals and private nursing homes where it is difficult to monitor VBAC compared to teaching hospitals where enough number of skilled persons will be present to monitor woman in labour.

CONCLUSION

This study concluded that elective caesarean sections were more common than emergency sections. Most of the caesarean sections were in the age group of 18-25 years, Hindus, BC community, house wives, who have studied up to inter and above, below poverty line group and in multi garvida women. Common indication for elective CS was previous CS and for emergency CS was fetal distress. Common complication in both groups was PPH. The increase in caesarean section rate causes burden to general health system, also strain on family members and may complicate maternal and child health. Hence caution should be exercised in decision making to perform caesarean section delivery especially in primigravida. Government should develop better health care infrastructure to reduce increasing trend in caesarean section deliveries.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Tampakoudis P, Assimakopoulos E, Grimbizis G, Zafrakas M, Tampakoudis G, Mantalenakis S et al. Caesarean section rates and indications in Greece: data from a 24-year period in a teaching hospital. *Clin Experimen Obstet Gynecol.* 2004;31(4):289-92.
2. Lee SI, Khang YH, Lee MS. Women's attitudes toward mode of delivery in South Korea: a society with high caesarean section rates. *Birth.* 2004;31(2):108-16.
3. Hamilton be, Ventura SJ, Martin JA, Sulton PD, Menacker F. Preliminary births for 2004. *Natl Vital Stat Rep.* 2005;54(8):1-17.
4. Thomas Jothy S. The national sentinel caesarean section and its report. RCOG press. 2001. Available at https://www.rcog.org.uk/global_assets/documents/guidelines/research-audit/nscs_audit.pdf.

5. Belizan JM, Althabe F, Barros FC, Alexander S. Rates and implications of caesarean sections in Latin America. *BMJ.* 1999;319(7222):1397-1402.
6. Focus on: Caesarean section-NHS institute for innovation and improvement institute. 2009. Available at <https://www.qualitasconsortium.com/index.cfm/reference-material/delivering-value-quality/focus-on-csection/>
7. Verma S, Saini J, Sehra R, Nagaraj N. A clinical study of rate and indications of cesarean section, maternal and fetal outcomes at tertiary care center in north western Rajasthan. *Int J Reprod Contracept Obstet Gynecol.* 2016;5(8):2791-4.
8. DENISC. Fear of pain causes a bit rise in caesarean section. 26.October 2008.
9. Gregory KD, Fridman M, Korst L. Trends and patterns of vaginal birth after caesarean availability in the United States. *Semi perinatal.* 2010;34(4)237-43.
10. Mc Mahon, Luther ER, Bowes Wa, Olshan Af. Comparision of a trial of labour with an elective secon caesarean section. *N Engl J Med.* 1996;335:689-95.
11. Cunningham FG, Bangdiwala S, Brown SS, Dean TM, Frederiksen M, Hogue CJ et al. National Institutes of health consensus development conferenced statement: vaginal birth after caesarean: new insights. *Obstet Gynecol.* 2010;115:1279-95.

Cite this article as: Balmur SK, Guthi VR. Study on factors influencing caesarean section delivery in urban field practice area of Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, India. *Int J Reprod Contracept Obstet Gynecol* 2017;6:3129-33.