

Analysis of Increased Caesarean Delivery in a Tertiary Centre in North Eastern Region of India- A Cross Sectional Observational Study

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ABSTRACT

BACKGROUND

The most dramatic feature of modern obstetrics is the relentless increase in the caesarean section rate. WHO suggests a caesarean rate of above 15% is unnecessary and unjustified. WHO reviewed and said that most women who need caesarean section should receive it. This escalating caesarean section rate is a major public health problem because it increases the health risk for mothers and babies as well as the cost of health care when compared with normal deliveries. We wanted to determine the demographic and etiological factors which lead to the rising trends of caesarean section in a tertiary center.

METHODS

It's a cross sectional observational study among all the subjects undergoing caesarean section in the period of January, 2018 to December 2018, in Agartala Govt. Medical College, in the department of obstetrics and gynaecology. Information regarding socio demographic factors, indication of caesarean section, maternal and neonatal outcome was recorded in pre-designed pretested questionnaire.

RESULTS

In this study, the commonest indication found for caesarean section is previous caesarean section (68.8%). Most of the subjects were primigravida (43.1%); commonest age group was <20 years (48.4%). Most of the surgeries were emergency operations done during 9-4 pm (51.91%) and mainly done in referred patients (57.02%).

CONCLUSIONS

High education background of women, low tolerance for labour pain, economically sound state of family are the client related problems for this rising trend and office time working pattern of obstetrician, while reduced skill in assisted vaginal delivery procedures are the provider related factors. Caution is to be exercised in decision making to perform caesarean section especially in primigravida. Better healthcare infrastructure and adequate counselling to mother antenatally help in reducing the increasing trend of caesarean deliveries.

KEYWORDS

CS- Caesarean Section, TOLAC- Trial of Labour after Caesarean

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BACKGROUND

Caesarean section (CS or C-section) is a surgical intervention which is carried out to ensure safety of the mother and child when vaginal delivery is not possible (emergency CS) or when the doctors consider that the danger to the mother and baby would be greater with a vaginal delivery (planned CS).^{1,2} One of the most dramatic features of modern obstetrics is the relentless increase in the caesarean section rate.³

The World Health Organization (WHO) suggests a caesarean rate should be between 5% and 15%; a rate above 15% implies an unnecessary and unjustified use of surgical delivery. This escalating caesarean section rate is a major public health problem because caesarean section increases the health risk for mothers and babies as well as the cost of health care compared with normal deliveries.⁴

Caesarean section is one of the most commonly performed major surgery in obstetric practice intended to save mother and child in term reducing maternal & perinatal mortality. The steady increasing global rate of CS have become one of the most debated topics in maternity care as its prevalence has increased alarmingly in last few years. High education background of women, low tolerance for labour pain, economically sound state of family are the client related problems for this rising trends and office time working pattern of obstetrician, reduced skill in assisted vaginal delivery procedures are the provider related factors.

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.⁵

On the other hand, increase in the CS rate causes burden in to general health system, also strain on family members and may complicate maternal and child health. Caution is to be exercised in decision making to perform CS especially in primigravida. Better healthcare infrastructure to be developed to reduce the increasing trend of CS deliveries. This study is aimed to determine the demographic and etiological factors and contributory factors which leads to the rising trends of caesarean section in our hospital.

METHODS

The main objective of this study is to find out the indication of CS and its timing and referral status of the patients.

It's a cross sectional observational study among all the subjects undergoing caesarean section in the period of January 2018 to December 2018 in Agartala Govt. Medical College, at Department of obstetrics and gynecology. Information regarding socio demographic factors, indication of caesarean section, maternal outcome was recorded in pre-designed pretested questionnaire. Total 3760 Caesarean section done in that period and all the cases were recorded including emergency and elective Caesarean section.

RESULTS

Types	Number	Percentage
Elective	1520	40.42%
Emergency	2240	59.58%
Total	3760	100

Table 1. Distribution of Cases According to the Type of Caesarean Section

Table 1 shows that 1520 (40.42%) cases was elective and 2240 (59.58%) was emergency. In emergency hours most of the decision for CS was usually generated by on duty resident doctors rather than senior obstetricians which may be a factor for increased CS though electively decided ones.

Age	Total	EL	%	EM	%
< 20 years	1820	802	52.8	1018	45.4
20 -30 years	1158	362	23.8	796	35.5
> 30 years	782	356	23.4	426	19
Total	3760	1520	100	2240	100

Table 2. Age Distribution

	Total	EL	%	EM	%
Illiterate	426	152	10	274	12.2
Primary	252	184	12.1	68	3
Secondary	1940	562	37	1378	61.5
HS and Graduate	1142	622	40.9	520	23.2
	3760	1520		2240	

Table 3. Education

	Total	EL	%	EM	%
Upper	100	82	5.4	18	0.8
Upper Middle	1374	300	19.7	1074	47.9
Middle	1472	788	51.8	684	30.5
Lower Middle	572	184	12.1	388	17.3
Lower	242	166	10.9	76	3.4

Table 3. Socio Economic Status

Table (2, 3, 4) shows that maximum patients who went Caesarean section were <20 years old (48.4%) and among them 45.4% went for emergency Caesarean section. Most women were from middle socio-economic background (39.1%) and maximum studied up to secondary (51.5%). Due to JSY facility, all major surgical procedure is free of cost in the GOVT institute which omits the fear of extra expenditure on Patient party, even in low- & middle-class economic group of people.

	Total	EL	%	EM	%
Primi	2356	866	57	1490	66.5%
Multi	1404	654	43	750	33.4%

Table 4. Parity

Table 4 shows that 2356 women were primigravida (62.7%) and among them 66.5% went to emergency Caesarean section. Cautious decision in case of primigravida at term with singleton pregnancy in vertex presentation supposed to be key intervention point to reduce the CS rate.

	Total	EL	%	EM	%
Referred	2144	560	36.8	1584	70.7
OPD	1616	960	63.1	656	29.2

Table 5. Admission Through

Table 5 shows that 57% patients were admitted through referral. Referred patient pose a difficult problem as regards of duration and mode of trial they received in peripheral institution prior to admission to higher center and in most of the cases, compelling the receiving obstetrician towards quick surgical rescue. Added to this, impatient behavior of attendants also a factor.

As, the medical college bring the ultimate obstetric care in state and most of the complicated deliveries being accumulated here, most of them require surgical interventions.

	Frequency	Percentage
9 AM - 4 PM	1952	51.91
4 PM - 10 PM	1166	31.01
10 PM - 9 AM	642	17.08

Table 6. Timing of CS

Table 6 shows maximum Caesarean section was done between 9 AM - 4 PM (51.91%). This is in contrast to perceived belief of 24x7 obstetric care service to a patient in parturition, the changing trend in present day is completing the surgery within office time (9 am to 4 pm), which may be a reason for early decision of CS without adequate trial of labour.

Indication	Frequency	Percentage
Previous CS	1318	35.1
Abnormal Presentation	318	8.5
CPD	544	14.5
Non-Progress of Labour	200	5.3
Pre-Eclampsia & Eclampsia	374	9.9
Fetal Distress	592	15.7
PROM	164	4.4
CDMR	250	6.6
Total	3760	100

Table 7. Indication of CS

Table 7 shows that the most common indication for section was post CS pregnancy (35.1%), then fetal distress (15.7%), CPD (14.5%), abnormal presentation (8.5%) respectively. Reduced adherence to TOLAC in a poor infrastructure & reduced no. of manpower associating with lack of urgent anesthesia support, most of the post CS pregnancy was terminated electively by CS. Due to lack of proper induction and labour acceleration protocol, inadvertent termination by CS done before 5 cms dilatation of cervix due to either CPD or failure of progress and fetal distress contributing about 35% CS cases.

DISCUSSION

In this study the rate of caesarean section is 60.2%, which is very high compared to WHO guideline and many studies. Vermas et al reported a rate of 21.32%.⁶ The caesarean Section rate was within the 15% recommended by the World Health Organization (WHO) for Developing countries.⁷ In this study, it is found that maximum cases are emergency caesarean section (59.58%) compared to elective caesarean section (40.42%). Whereas, Balmur SK et al shows that

63.6% elective caesarean section deliveries compared to 36.3% emergency caesarean section deliveries.⁸ this is due to high number referral patients and lack of induction.

The maximum patients (45.4%) were below 20 years old and among them 45.4% went for emergency caesarean section. Primigravida found in maximum numbers in both elective (57%) and emergency group (75.4%). A study by Smith S et al shows 42.4% where primigravida in both elective and emergency group.⁹ It can be described by the fact of fear of labour pain, the primigravidas are more reluctant for vaginal delivery.

The commonest indication for section was post cs pregnancy (35.1%), then fetal distress (15.7%), CPD (14.5%), abnormal presentation (8.5%) respectively. In a study by Geidam et al shows that caesarean section was most commonly done in the case of cephalopelvic disproportion (15.5%), previous caesarean section (14.7%), fetal distress (9%).¹⁰ It is clearly showing that the percentage of section in previous post cs pregnancy is much higher. It is due to lack of obstetric skill in VBAC.

CONCLUSIONS

The rate of Caesarean section is much higher than vaginal delivery. Most of the cases are done by emergency. Women less than 20 years of age are more prone to go for emergency Caesarean section. High education background of women, low tolerance for labour pain, economically sound state of family are the client related problems for this rising incidence of Caesarean section. Office time working pattern of obstetrician, reduced skill in assisted vaginal delivery procedures are the provider related factors. Caution is to be exercised in decision making to perform caesarean section especially in primigravida. Better healthcare infrastructure and adequate counselling to mother antenatally should be developed to reduce the increasing trend of caesarean deliveries.

REFERENCES

- [1] Biswas AB, Das DK, Misra R, et al. Availability and use of emergency obstetric care services in four districts of west Bengal, India. *J Health Popul Nutr* 2005;23(3):266-274.
- [2] Leone T, Padmadas SS, Matthews Z. Community factors affecting rising caesarean section rates in developing countries: an analysis of six countries. *Soc Sci Med* 2008;67(8):1236-1246.
- [3] Turner MJ. Delivery after one previous caesarean section. *Am J Obstet Gynecol* 1997;176(4):741-744.
- [4] Ostovar R, Rashidian A, Pourreza A, et al. Developing criteria for caesarean section using the RAND appropriateness method. *BMC Pregnancy Childbirth* Tehran 2010;10:52.
- [5] Focus on: Caesarean section - NHS institute for innovation and improvement institute. 2009.

- <https://www.qualitasconsortium.com/index.cfm/reference-material/delivering-value-quality/focus-on-section/>
- [6] Verma S, Saini J, Sehra R, et al. 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):2791-2794.
- [7] Appropriate technology for birth. *Lancet* 1985;2(9452):436-437.
- [8] 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(7):3129-3133.
- [9] DENISC. Fear of pain causes a bit rise in caesarean section. 26 October 2008.
- [10] Geidam AD, Audu BM, Kawuwa BM, et al. Rising trend and indications of caesarean section at the university of Maiduguri teaching hospital, Nigeria. *Ann Afr Med* 2009;8(2):127-132.