

## Trend of Caesarean Section in Bheri Zonal Hospital

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### ABSTRACT

**Introduction:** Caesarean Section (CS) rates are a major public health concern and cause worldwide debates according to latest data from 150 countries. Currently 18.6% of all births occur by CS, ranging from 6 to 27.2% in the least and most developed regions. This study was done to find out incidence and outcome of CS and geographical variation of women coming for the service in this Zonal Hospital.

**Methods:** A retrospective review of case files of 771 women who had CS from 16<sup>th</sup> April 2017 to 15<sup>th</sup> April 2018 were analyzed for demographic profile like age, parity, geographical location. Similarly, gestational age, various indications of CS, incidence, parity, maternal and fetal outcome and duration of hospital stay were recorded.

**Results:** Out of 5083 deliveries, 771 (15.17%) had CS. Most of the CS was done for Cephalopelvic disproportion (CPD) which was 175 (22.70%) and previous CS, 140 (18.15%). Majority of CS which was 328 (42.54%), in age group 20-24 years. In relation to parity nulliparous were 463 (60.05%). Maternal morbidity was 31 (4.02%) and maternal mortality was one after CS. Apgar score of the baby between 0-3 was 3.24%. Three babies were expired within 24 hours due to severe birth asphyxia. The patients from Banke district were 408 (52.92%).

**Conclusion:** Study showed CS rate, 15.7% which is in upper limit of WHO recommendation and 60.50% were nulliparous had CS and most common indication of CS was CPD and fetal distress. There was no CTG used in routine practice.

**Keywords:** *Caesarean Section, Geographical distribution, Maternal and Fetal outcome*

### INTRODUCTION

Caesarean Section (CS) rates are a major public health concern and cause worldwide debates.<sup>1</sup> According to latest data from 150 countries. Currently 18.6% of all births occur by CS, ranging from 6 to 27.2% in the least and most developed regions.<sup>2</sup> Good maternal and prenatal outcome can be ensured through essential obstetric and newborn care provided by skilled attendants during pregnancy and child birth. In many resource poor settings, access to skilled care and crucial interventions is limited caesarean delivery is a matter for the availability and use of obstetric service in the situations.<sup>3</sup> Caesarean section is one of the commonly performed surgical procedure in obstetric and is certainly one of the oldest operation in surgery. The objective of caesarean section in the ancient world was mainly postmortem delivery of dead or alive fetus.<sup>4</sup> Rate of CS have risen around the world.<sup>5</sup> CS rates differ substantially in

different parts of the world ranging from approximately 1% in some African countries (South Sudan and Niger) to 56% in some American countries (Brazil and Dominican Republic).<sup>6</sup> Based on the WHO systematic review, increase in caesarean section rate up to 10%-15% at the population level are associated with decreases in maternal, neonatal and infant mortality.<sup>7</sup> Low CS rate might indicate poor access to CS, where obstetric complications occur while high rate increases the risk of maternal and neonatal morbidity.<sup>6</sup> Caesarean section rate in different hospital of Nepal varies between 10%-30%.<sup>8</sup> Rate is probably higher in private institutions. Although CS is becoming increasingly safe, normal vaginal delivery is still considered safe.<sup>9</sup> Better diagnosis and early referral due to increased health care coverage have increased the CS in Tertiary Care Hospitals in India,<sup>2</sup> it is similar in Nepal. An increase in number of CS conducted for non medical indication is a important contribution to the increased rise in CS rates. It is estimated that one-third of the 18.3 million annually performed worldwide are conducted for non medical indications and have described as "unnecessary".<sup>9</sup> UN recommended minimum CS rate 5%-15%.<sup>10</sup>

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Private hospitals have high CS rates than general hospital. This is probably due to mother choice regarding mode of delivery or for not taking risks.<sup>7</sup> Some of the hospitals in Kathmandu valley

shows up to 50.9%<sup>4</sup>, which unacceptably high. CS rates were highest among urban mothers, first births, births to women with higher education and births to women from the richest quantile of household wealth.<sup>11</sup>

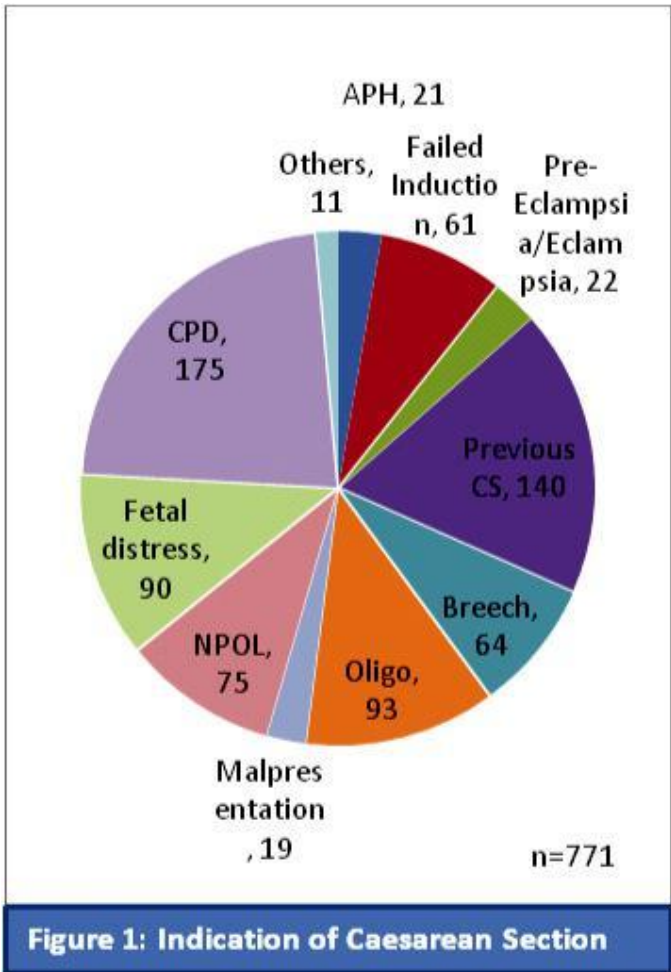
**METHODS**

This study was done in department of Obstetrics and Gynae, Bheri Zonal Hospital, Nepalgunj. It is a tertiary care hospital in mid-western Nepal. It was retrospective study from 16<sup>th</sup> April 2017 to 15<sup>th</sup> April 2018, after taking ethical approval from hospital authority. A total of 771 women of CS were taken excluding uterine rupture. The case files of the patients were obtained from record section. Patient's age, address, parity, antenatal status, incidences, indication, fetal outcome of CS were analyzed. The data was introduced into the Excel sheet in the computer and analyzed accordingly.

**RESULTS**

There were 5083 delivery during study period among them 771 had caesarean section that is 15.17% cases. Seventy six (9.86%) were adolescent. Most of age group 20-25 years was 328 (42.54%). Most of them were Primi 463 (60.05%). The most common indication was CPD 175 (22.70%) followed by previous CS 140 (18.15%). Most of the patients were from Banke 408 (52.92%) district followed by Bardiya 218 (28.27%). Post operative complications were 74 (9.60%) as shown in table 3, however for PPH 2 patients had subtotal hysterectomy and 2 had Blynch Suture. There was a one maternal mortality following 10 hours of CS due to pulmonary embolism. Most of the baby 92% had good Apgar score. Three babies were expired within 24 hours. Most of the patients (90.09%) were discharged within 6-10 days.

P		
P <sub>0</sub>	463	(60.05)
P <sub>1</sub>	213	(27.63)
P <sub>2</sub>	59	(7.65)
P <sub>3</sub>	22	(2.85)
P <sub>4</sub>	8	(1.04)
P <sub>5</sub>	4	(0.52)
P <sub>6</sub>	2	(0.26)



Age in years	Number	%
<=19	76	(9.86)
20-24	328	(42.54)
25-29	222	(28.79)
30-34	106	(13.75)
>=35	39	(5.06)

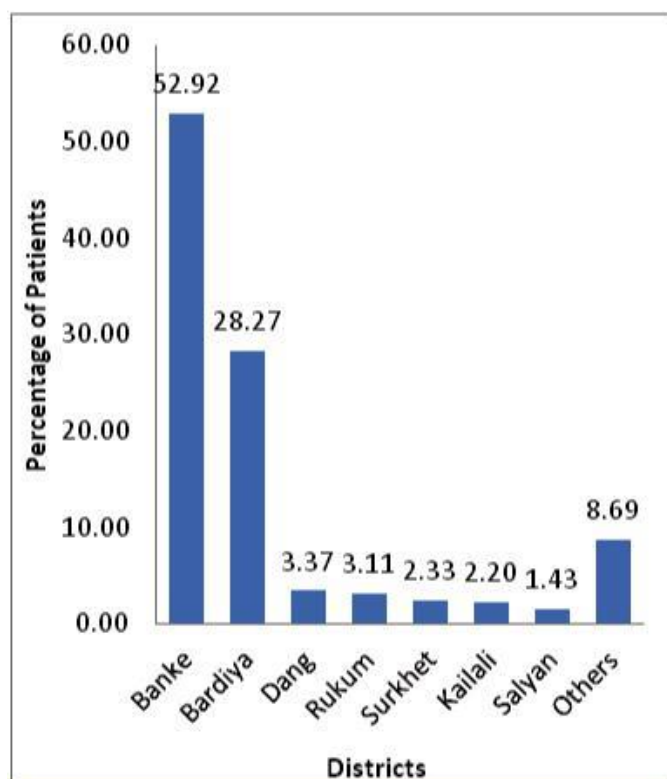


Figure 2: Geographical presentation of patients

Table 3: Post operative morbidity of patients

Pyrexia	20
Infection	30
PPH	15
Mastitis	9

Majority of the neonates (92.09%) at 5 min had good Apgar score

Table 4: APGAR score of neonates (n=771)

APGAR score	1 min	%	5 min	%
0-3	52	6.74	25	3.24
4-6	407	52.79	36	4.67
7-10	312	40.47	710	92.09

Table 5: Period of stay at hospital

Day	No. of Patients
<=5	191
6-10	549
11-15	24
16-20	6
>=20	1

## DISCUSSION

This study showed a caesarean section incidence rate was 15.12%. Similar study was done by Mittal Shiva et al.<sup>8</sup> and Pradhan P et al.<sup>6</sup> showed much higher incidence 28.93% and 50.9% respectively. In our study, incidence of CS was near to WHO recommendation (10%-15%). It may be due to most of the patients came in late labour and almost no demand CS, all decisions were taken by the health persons. Due to implementation of safe motherhood programme attendant population were from low and middle class who were in favour of trial of labour.

In our study, 76 (9.86%) adolescent had CS which is similar to 9.1% as reported by Jashmin et al.<sup>13</sup> which may be due to similarity in patients profile like low socio economic condition and early marriage. Primi Parous were 328 (60.05%) which is unacceptably high in comparison to study 31.2%<sup>19</sup> and 41.5%<sup>21</sup>. The challenges to keep CS rates low while maintaining safe outcomes for the mother and infant, this requires continuous auditing of CS.<sup>20</sup> Most of the women underwent CS were in age group 20 to 24 were 328 (42.54%) which was higher in comparison to Began T et al. study report 32.8%. This may be due to small group of population was in our study. Most common indication of CS was CPD 175 (22.70%) which is less in comparison to Singh D et al.<sup>15</sup> 42.21%, it may be due to most of the patients decided in active phase of labour and who gave history of prolonged labour and also due to referral cases. Second most common indication was previous CS which was 18.15% which is comparable with S Subedi report (21.25%).<sup>13</sup> This high rate may be due to avoidance of trial of labour, increased risk of various complications including uterine rupture and labour complication of emergency CS, perinatal morbidity and mortality and also due to fear of litigation, low resource of person for continuous vigilance of patients.<sup>14, 22</sup> Recent clinical audit done by RCOG in London, the young women living in more deprived area had higher rate of attempted VBAC (Vagina Birth after Caesarean section), 63.4% who attempted VBAC had successful vaginal birth<sup>15</sup>, another study in US success rate of VBAC was 57.1%.<sup>19</sup> It indicates that once CS doesn't indicate repeat CS.

Third most common indication was Fetal Distress (12%), as comparison to other hospital of Nepal (40.2%)<sup>6</sup>, (13.87%)<sup>14</sup>. CS for Breech was 8.3%, it may be due to Primigravida who had completed 38 weeks of pregnancy were not waited for labour unless patients came in active phase of labour with adequate pelvis comparable to other study 10%<sup>13</sup>, 6.8%<sup>15</sup>. There was 9.60% morbidity as shown in Table 3 our study comparison to 7.2%<sup>6</sup> in other study. There was a one mortality due to

pulmonary embolism, she was a case of gravida 5 para 4 at 38 week of pregnancy of age 35 years with APH (abruptio placenta), though it is common in high socio economic country. She was a high risk group for thrombo embolism aged 35 years, para >3, emergency CS delivery during labour.<sup>14</sup> One of the study in Turkey shows maternal mortality due to embolism comprised 3.10% (third most common cause) following CS. Three babies were expired within 24 hours; they had low birth weight and severe birth asphyxia and one still birth. All these babies were born after emergency CS. As Shah A et al.<sup>5</sup> study also shows high emergency CS rate were associated with increased fresh still birth, neonatal deaths and severe neonatal morbidity. Most of the patients were from Banke (52.92%) and second was Bardiya (28.27%) due to the lack of proper functioning of CONC hospital in Bardiya though they have comparable population, Banke 4,91,313 and Bardiya 4,26,576.<sup>22</sup>

## CONCLUSION

Study shows incidence of CS was near to higher side of WHO recommendation (10-15 years), nulliparous were 60.05%, which is very high most common indication was CPD (22.70%) followed by previous CS ((18.15%). Proper functioning of CONC site with ICU and NICU facility is also necessary for Bardiya district.

## REFERENCES:

- Torloni MR, Betran AP, Widmer M, Allen T, et al (2011) classification for cesarean section. A systematic Review. *PLoS ONE* 6 (1): e14566 doi. 10.1371/journal.pone.0014566.
- Bertran AP, Ye, J Moller AB, 2 hang J, Gulmezoglu AM, Torloni MR (2016) The increasing trend in Caesarean Section Rates: Global, Regional and National Estimates 1990-2014 *Plos One* 11 (2): e0148343 doi: 10.1371/Journal.pone.0148343
- Unittal S, Pardehi S, Mayadeo N, and Mane J. Trends in Caesarean Delireru: Rate and indications *J. Obstet Gynaecol India*. 2014 Aug 64 (4):251-254
- Kirane A, Giakwad BN, Bhingare PE, Male Dr. Informed Consent: an audit of Informed Consent or Cesarean section Evaluation Patient Education and Awareness. *J. obstet Gynaecol India*, 2013 Dec; 65 (6): 382-383
- Shah A, et al, Caesarean delivery outcomes WH global surveyor maternal and perinatal health in Africa *Int j Gynecol obstet* (2009), doi: 10.1016/J.ij90.2009.8.013
- Pradhan P, S.Shrestha, Rajbhandari P/L/ Dangal G. profile or caesarean Section T Kirtipur Hospital. *NJog* 2014 Jul-Dec, 18 (2): 51. 54
- Sandal CJ, Steinsrik KR, Pun P Da, Dani Potal. Indication for Caesarean section Rural Nepal. *J obstat Gynaecol India*. 2016 Oct; 66 (suppl1): 284-288.
- WHO statement on Caesarean Section Rates 2015 ([www.WHO.int/about/licensing/Copyright-for/en/Index.html](http://www.WHO.int/about/licensing/Copyright-for/en/Index.html))
- Shrestha NS, Pradhan S. Ondemand Caesarean Section what's Women's aatitude? *N. J obstet. Gynacol* 2007 Nov.Dec: 2 (2): 12-15
- Aminu et al. *BMC Pregnancy and childbirth* 2014, 14 130 <http://www.biomedcentral.com/1471-2393/14/30>
- Yisma E, Smithers LG, Lynch JW, Mol BW, Caesarean Section in Ethiopia: Prevalance and sociodemographic characteristics. *J atern Fetal Neonatal Med*.2017 Nov 20:1-6.doi: 10.1080/14767058.2017.1401606
- Begum T. Rahman A, Nababan H, Hoque DM.E.Khan AF, Ali T et al (2017) Indications and determinants of caesarean section delivery: Evidence from a population -based study in Matlab, Bangladesh. *PLoS ONE* 12(11): e0188074. <https://doi.org/10.1371/journal.pone.0188074>
- Subedi S Rising rate of casarean section -A year review
- Quinlan, JD, Murphy NJ Casarean Delivery Counsling Issues and complication Management. *Am. Fan. Physician* 2013; 91 (3) 178.184. [www.aafp.org/afp](http://www.aafp.org/afp).
- Singh D, Regmi RP', Gurung T', Sunar L' Caesarean Delivery and its Indication; A cross section study in Tertiary care Hospital, Pokhara, Nepal. *NJOG*, 2017 Jul-Dec 23 (2) 79-82
- Wilkinson c, Mellwaine G, Jon CB, coles, *British Journal or obstetrics and gynaecology* Janaury 1998, Vol 105, pp 45-52
- Tay S.K, TsaKoK F.H.M and Na C.S. A. The use of intradepartmental audit toto contain cesarean section rate
- Uzuncakmak C.Ozcam H (2016) Association between Maternal Mortality and Cesarean Section: Turkey Experience. *PloS ONE* 11(11): e 0166622. Doi: 10.1371/journal.pone.0166622
- Zhang J, Troendle J, Reddy M, Katherine S, et al. Contemporary Caesarean Delivery Oractice in the United States *Am J Obstet Gynecol*. 2010 October; 203(4): 326.e1-326.e10.doi.10.1016/j-ajog.2010.06.058
- Tura AK, Pipers O, de Man M, et al. Analysis of caesarean sections using Robson 10-group classification system in a university hospital in eastern Ethiopia: a cross-sectional study. *BMJ Open* 2018;8:e020520.doi:10.1136/bmjopen-2017-020520
- Ugwu EO, Obioha KC, Okezie OA, Ogwu AO. A five year survey of caesarean delivery at a Nigerian tertiary hospital, *Ann Med Health Sci Res*. 2011 Jan; 1(1):77-83
- Central Bureau of Statistics 2011.

