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Caesarean section: Study in a tertiary care Centre in Uttarakhand

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Abstract
Introduction: Caesarean section is one of the most common surgical procedures performed in obstetrics practice. Recent studies have shown an increase in the caesarean delivery rate worldwide.
Methodology: The present study was conducted in the Department of Obstetrics and Gynaecology of the Government Doon Medical College, Dehradun, Uttarakhand. It was a retrospective study from April 1, 2017 to March 2018. Secondary data was collected and analysed.
Results: There were 9165 deliveries in the study period of one year, out of which 2444 had caesarean deliveries, giving a caesarean delivery rate (CDR) of 26.66%. Out of this 86% were emergency sections. Important indications were previous CS (36 %), foetal distress (19.2%). Other indications were breech presentation, severe oligohydromnios, placenta previa, non-progress of labour, failed induction, obstructed labour, malpresentation, cephalopelvic disproportion.
Conclusion: All efforts should be made to reduce caesarean delivery rate and measures were advocated for proper labour management and reduction in unintended caesareans.

Keywords: caesarean section, previous CS, indications, caesarean delivery rate

Introduction

Caesarean section is the delivery of an infant alive or dead through an abdominal uterine incision after the period of viability [1, 2]. Caesarean section is one of the most widely performed surgical procedure in obstetrics worldwide. It has become an accepted standard procedure among the modern obstetric procedures reducing maternal morbidity and mortality [3]. Caesarean delivery is potentially lifesaving obstetric surgery when properly performed and following appropriate medical indications. According to WHO, the C-Section should be restricted to 10-15% to have a healthy maternal and infant environment. Since 1985, WHO recommended a 10-15% of Caesarean Section rate in developing countries [4]. This value is often considered as a 'threshold', beyond which the benefits of performing CS are no longer outweighing short- and long-term morbidity and mortality associated with the actual procedure [5]. The rate of caesarean delivery has been increasing globally in the most recent years and in institutional deliveries, the caesarean section rate is as high as 30% [6]. The estimated prevalence rate is 33%, ranging from 4% in Africa to 29% in Latin America and Caribbean [7]. According to an Indian Council of Medical Research (ICMR) task force study, the CS rate has increased to 28.1% in 2005-06, that was 21.8% in 1993-94. The indications are widely different in different countries. In developed countries, the factors contributing to increased rates are fear of litigation, liberal use of caesarean section for breech presentation, detection of fetal distress by continuous electronic fetal monitoring and others [8]. The reasons are not so clear in developing countries and include specialist and referral nature of the hospital, most patients being admitted in emergency without booking, increasing use of fetal rate abnormality alone as a measure of fetal distress, over diagnosis of cephalo-pelvic disproportion by inexperienced staff and increasing number of women with prior caesarean delivery [9].

The improved anesthetic techniques worldwide has made caesarean section much safer and led to increase in its rates [10, 11]. The aim of this study is to determine the frequency and indications of caesarean delivery over a period of one year in a government medical college in Uttarakhand. Conclusions will be drawn and recommendations made based on findings.

Methods

The present study was conducted in the Department of Obstetrics and Gynaecology of the Government Doon Medical College, Dehradun, Uttarakhand. It was a retrospective study from April 1, 2017 to March 2018. It was based on secondary data from the labor room register, operation theatre registers and medical records of the department. Socio demographic and other information were obtained. Data was analysed to obtain simple percentages and inferential statistics. The study was approved by the hospital's research and ethics committee.

Results

There were 9165 deliveries in the study period of one year, out of which 2444 had caesarean deliveries, giving a caesarean delivery rate (CDR) of 26.66% (2444/9165). Majority of women were between 24-29years of age group (56.1%) and multigravida (47.4%). Only 3.7% were elderly gravida. Among them 55% were hindus, 41% were from muslim population and 4% were from other religion. 86% of caesarean sections were emergency type. (Table1)

Table 1: Socio Demographic characteristics

Variables	Number(N)	Percentage (%)
Age (years)		
<19	34	1.4%
20-24	580	23.7%
25-29	1370	56.1%
30-34	370	15.1%
>35	90	3.7%
Gravida		
1-2	790	32.3%
3-4	1160	47.4%
>4	494	20.3%
Religion		
Hindu	1344	55%
Muslim	1004	41%
Other	96	4%
Type of caesarean section		
Elective	346	14%
Emergency	2098	86%

(Figure 1) shows that 86% of caesareans were of emergency type and only 14% were elective in nature.

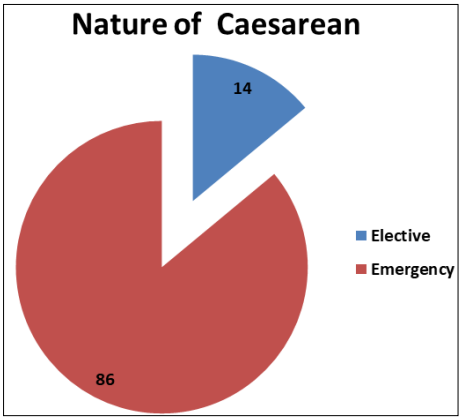

Fig 1

Table 2 shows total annual CDR is 26.66%. Figure 2 shows that maximum caesarean rate were in the month of April and September i.e.32.29% and 32.38% respectively. Minimum caesarean rate was in the month of October (23.78%).

Table 2: Monthly distribution of Caesarian Delivery Rate (CDR)

Months	Total delivery (9165)	Caesarian delivery (2444) (%)
Jan	828	210(25.36)
Feb	671	166(24.73)
March	706	190(26.91)
April	644	208(32.29)
May	694	207(29.82)
Jun	669	181(27.05)
July	727	206(28.33)
August	854	238(27.86)
September	670	217(32.38)
October	845	201(23.78)
November	771	195(25.29)
December	869	225(25.89)

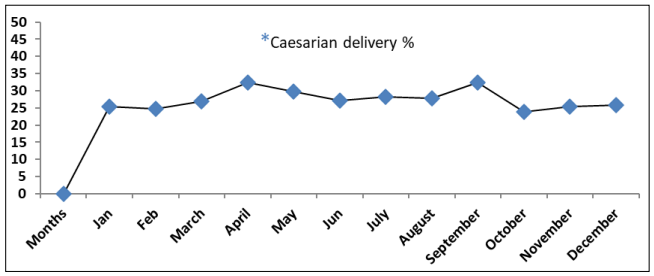

Fig 2

Table 3 shows that previous caesarean section is the most common indication of caesarean section i.e. 36% (890/2444), second most common indication was fetal distress i.e.19.2% (470/2444), other major indications were breech presentation, severe oligohydramnios, placenta previa, non-progress of labour, failed induction, obstructed labour, malpresentation, cephalopelvic disproportion and scar tenderness etc.

Table 3: Indications of caesarian section

Indications of C-section	Numbers	Percentage (%)
Previous C section	890	36%
Fetal distress	470	19.2%
Breech	110	4.5%
Severe oligohydramnios	232	9.5%
Obstructed labour	96	3.9%
Failed induction of labour	108	4.4%
Non progress of labour	116	4.7%
Scar tenderness	90	3.6%
Mal presentation	104	4.2%
Placenta previa	146	5.9%
Cephalopelvic disproportion	82	3.3%

Discussion

In the present study maximum number of patients, 56.1 % were in the age group of 25 - 29 years and 23.7 % were in the range of 20 -24 years. Similar results were found in a study by Das RK *et al.* [12] where 88.94 % patients were in the age group of 20 – 30 years. Studies done by other Indian authors like Jawa A *et al.* [13] and Sarma P *et al.* [14] showed similar results.

The caesarean section rate in our study was 26.66%. In other studies caesarean section rate was found to be comparable, 31.46 % in a study by Gupta M *et al.* [15], 35.54 % in a study by Das RK *et al*[12] and 25.66 % in a study by R. Subhashini *et al.* [16]. Caeseaean section in a primigravida should be avoided if possible as the probabilty of repeat caesarean in future pregnancies is very high. There is no benefit with increasing caesarean rate above 15 % according to WHO. Caesarean rates are considerably high in our hospital as it is a tertiary referral centre where patients come from the whole Uttarakhand state in emergency conditions, mostly in a state of obstructed labour or previous caesarean with scar tenderness or fetal distress so trial of labour is not possible at such time considering the overall safety of both the mother and the fetus.

In our study caesarean section was done most commonly (36%) in cases with previous caesarean section.

This is mainly because being a tertiary referral centre, most of the cases land up in our hospital in late stages with labour pains and scar tenderness where trial of VBAC is dangerous for the patients and not feasible in emergency conditions. The results are comparable with a study by Das RK *et al*. [12] where previous caesarean was an indication of caesarean in 29.96 % cases. Similar trends were observed in studies by Jawa *et al*. [13], Prashant Bade *et al*. [17], G. Singh *et al*. [18] and Lubna Ali. [19]. However, trial of labour was given to patients in our hospital with previous caesarean scar who had regular antenatal checkup and presented to the hospital for timely delivery and no associated complications but the percentage of such cases was very low as most of them refused to sign risk consent for trial of VBAC. Second most common indication in our study was fetal distress in 19.2% cases. This can be due to the fact that interpretation of fetal heart tracing is biased and use of fetal scalp blood pH was not available in our hospital to correctly diagnose fetal distress. Also, the incidence of on demand caesarean sections and medico legal concerns have lead to a generalized increase in trend towards caesarean delivery. Similar results were obtained in studies by Saxena N *et al* (26.2%) [20], Jawa *et al*. [13] (13 %), Singh G *et al*. [18] (25.40 %) and Bade P *et al*. [17] (16. 6 %). Other indications like breech presentation, severe oligohydramnios, placenta previa, non-progress of labour, failed induction, obstructed labour, malpresentation and cephalpelvic disproportion had almost similar percentages when compared to studies by Saxena N *et al*. [20] and Das RK *et al*. [12].

Maximum caesarean sections done, 86%, were emergency in nature due to the referral status of our hospital. Patients usually come to the hospital at a later stage of labour with preexisting multiple risk factors which warrants immediate attention and termination of pregnancy.

Conclusion

The caesarean section rate in our study was 26.66%. Majority (86%) of them were done for emergency indications with previous caesarean (36%) being the most common indication of caesarean section. The reasons for this increased rate have already been discussed. What is left to say is that not only the trend of caesarean section is increasing globally but because of the increased safety of the procedure, more and more patients are themselves opting for elective caesareans rather than facing a painful trial of labour. Most of the indications of caesareans are biased and depending on findings and examination of senior residents. Moreover, in our setup most commonly patients come at such a stage having with stood a difficult and exhaustive trial of labour at other places with multiple risk factors that emergency caesarean is lifesaving for them. General measures which should be advocated not only in our but other hospitals too to reduce the caesarean rates should be properly formulated and followed. Management protocols and SOP guidelines should be made in every hospital for proper management of patients with high risk pregnancy and diligently followed. The importance of regular antenatal visits and checkups should be imbibed at the grass root levels by health programmes and ASHA workers. Labour monitoring and management with the tradition of making a partogram in every patient should be taught to every labour room staff and routinely mock drills should be conducted. With proper education and change in the perception of the society the increasing trends in caesarean can be definitely controlled.

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References

1. Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY. Williams Obstetrics, 23rdedn. Chapter25.Cesarean Delivery and Peripartum Hysterectomy. McGraw Hill, NewYork, 2010, 544-55
2. Definition of Caesarean section. Medicine Net. Com. Medterms medical dictionary a- z list. Caesarean definition. Available from URL http://search.medicinenet.com/search/
3. search_results/default.aspx?Searchwhat=1& query=c section&I1=Search
4. Rein Verdult caesarean birth: psychological aspects in adults. Int. J. of prenatal and perinatal psychology and medicine 2009 ;21(1): 17 -36
5. World Health Organisation. Appropriate technology for birth. Lancet. 1985; 2:436-7.
6. CS Ratesata Maternity Hospitalin Mumbai, India. J Health Popul Nutr. 2001; 19(4):306-12
7. Mukherjee S N. Rising caesarean section rate. J ObstetGynecol India 2006; 56(4): 298-300.
8. Betran AP, Mepaldim, Lauer JA, Bingshum W, Thomas J, Vanlook P, *et al*. Rates of caesarean section: Analysis and perinatal epidemiology. 2007; 21:98-113.
9. Oladapo OT, Sotunsu JO, Sule-Odu AO. The rise in caesarean birth in Sagamu, Nigeria: Reflection of changes in obstetrics practice. J Obstet Gynaecol. 2004; 24:377-81
10. Ado D Geidam, Bala M Audu, Bello M Kawuwa, Jessy Y Obed Rising trend and indications of CS at the university of Maiduguri teaching hospital, Nigeria Annals of African Medicine. 2009; 8(2):127-32. DOI: 10.4103/1596-3519.56242
11. Sunday-Aleoye I, Kalu CA. Pregnant Nigerian women's view of caesarean section. Nigerian Journal of clinical practice. 2011; 14:276-9.
12. Penna L, Arulkuraman S. Caesarean section for nonmedical reasons. International Journal of Gynecology and Obstetrics. 2003; 82:399-409.
13. Das RK, Subudhi KT, Mohanty RK. The rate and indication of caesarean section in a tertiary care teaching hospital eastern India. Int J Contemp Pediatr. 2018; 5:1733-9.
14. Jawa A, Garg S, Tater A, Sharma U. Indications and rates of lower segment caesarean section at tertiary care hospital-an analytical study. Int J Reprod Contracept Obstet Gynecol. 2016; 5:3466-9.
15. Sarma P, Boro RC, Acharjee PS. An analysis of indications of caesarean sections at Tezpur medical college and hospital, Tezpur (a government hospital). Int J Reprod Contracept Obstet Gynecol. 2016; 5:1364-7.
16. Gupta M, Garg V. The rate and indications of caesarean section in a teaching hospital at Jaipur, India. Int J Reprod Contracept Obstet Gynecol. 2017; 6:1786-92.
17. Subhashini R, Uma N. Changing trends in Caesarean delivery. IAIM. 2015; 2(3):96-102
18. Bade P, Kendre V, Jadhav Y, Wadagale A. An analysis

of indications for caesarean section at government medical college, Latur. Intern J Recent Trends Sci Technol. 2014; 11(1):6-8.
19. Singh G, Gupta ED. Rising incidence of caesarean section in rural area in Haryana, India: a retrospective analysis. Internet J Gynecol Obstetr. 2013; 17(2):1-5.
20. Ali L, Tayyab S. Cesarean section rate: current trends. J Surg Pakistan. 2007; 12:64-66.
21. Saxena N, Sharma B, Gupta V, Negi KS. A six-year appraisal of caesarean delivery at a teaching hospital in Uttarakhand. Int J Reprod Contracept Obstet Gynecol. 2016; 5:4369-72.