

Trends in Caesarean Delivery at Federal Medical Centre, Bida, Niger State, Nigeria.

¹Adewara EO, ²Omokanye LO,
²Balogun OR, ³Salaudeen AG,
²Saidu R, ³Jimoh AAG

¹Department of Obstetrics and Gynaecology, Federal Medical Centre, Bida, Niger state, Nigeria.

²Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital, Ilorin.

³Department of Epidemiology and Community Health, University of Ilorin Teaching Hospital, Ilorin.

ABSTRACT

Background: Caesarean delivery is becoming more acceptable to patients in the developing countries against the backdrop of aversion to operative delivery. This has led to extension of the indications, therefore making it an international public health issue.

Objective: To determine the caesarean section rate, the indications, the trend of the procedure and the commonest maternal complications.

Methodology: This was a retrospective study of the clinical records of all the patients that had caesarean deliveries at Federal Medical Centre (F.M.C) Bida, between 1st January, 2000 and 31st December, 2007. There were 850 (94.7%) and 48(5.3%) cases performed as emergency and elective caesarean deliveries respectively.

Results: A total number of 8,731 deliveries were conducted during the period of study, of which 898 deliveries were by caesarean sections. This gives an overall caesarean sections rate of 10.3%. Caesarean sections increased from 1 in 13.9 deliveries in the year 2000 to 1 in 7.4 deliveries in 2007 showing an almost doubled proportion.

The commonest indication was cephalopelvic disproportion occurring in 288 patients constituting 32.1%. Other common indications were pre-eclampsia/eclampsia with unripe cervix, fetal malpresentation and antepartum haemorrhage occurring in 16.4%, 13.8% and 12.8% respectively. The mode of anaesthesia was general anaesthesia in most of the patients between year 2000 and 2006 but spinal anaesthesia were used in 24 patients when it was introduced in 2007. The maternal clinical complications encountered include; haemorrhage (79.1%), wound infection (13.3%), burst abdomen (1.9%) urinary tract infection (4.8%) and deep vein thrombosis (0.9%). There were 11 and 4 maternal deaths following caesarean section and vaginal delivery respectively. All caesarean section mortality occurred in unbooked patients. Maternal mortality ratios were 1225 per 100,000 following caesarean deliveries as against 46 per 100,000 after vaginal deliveries.

Conclusion: Caesarean delivery rate has almost doubled during the study period. Emphasis should be on improved surgical and anaesthetic techniques, improved blood transfusion services and public enlightenment on the importance of antenatal care and delivery in skilled facilities.

KEYWORDS: caesarean sections, delivery, trend, Bida

INTRODUCTION

Caesarean section is about the commonest major operation in current obstetric practice^{1,2}. It is the delivery of a fetus or fetuses through surgical incisions on the abdominal and uterine walls after 28 weeks of gestation. It is usually performed when there is risk to the health of mother or baby during the course of pregnancy, labour or delivery². The operation dates back from antiquity and was usually performed to save the living fetus in dead and near miss pregnant women^{1,2,3}.

There are few absolute indications for caesarean delivery^{4,6}. Most indications are relative and could be objective or subjective depending on the skill and judgment of the obstetrician. This has led to differences in caesarean section rates and trends reported from centres in developed and developing countries^{2,7}. The operation has received better acceptability by patients and relatives in the Sub-Saharan Africa over the years due to improved safety associated with the surgical procedure. Nevertheless, the procedure is never entirely safe and still carries higher risk compared to vaginal delivery. This report reviews the experience with caesarean delivery in a growing training institution, Federal Medical Centre (FMC), Bida North Central Nigeria.

Corresponding Author:

Dr. LO Omokanye,
Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital,
Ilorin, Nigeria.

RESULTS

The total number of deliveries was 8,731 during the period under review, of which 898 were via caesarean section.

Table 1 shows the yearly trend in caesarean delivery during the period of study. There was a steady rise in the rate from 7.2% in 2000 to 13.5% in 2007 showing an almost doubling rate with intervening dips in 2003 and 2006 (Fig. 1).

Table 1: Yearly Caesarean Delivery Rates.

Year	Total Deliveries	Caesarean Deliveries	Rate (%)
2000	777	56	7.2
2001	975	83	8.5
2002	1158	124	10.7
2003	1111	101	9.1
2004	1168	121	10.4
2005	1135	133	11.7
2006	1223	120	9.8
2007	1184	160	13.5
Total	8,731	898	100

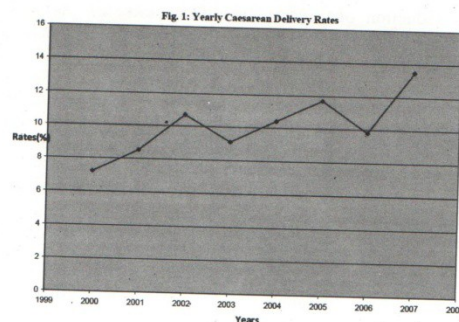


Table 2: Indications For Caesarean Section.

Indication	No. of Patients	(%)
Cephalopelvic Disproportion (CPD)	288	32.1
PET/Eclampsia with Unripe Cervix	147	16.1
Fetal Malpresentation (Breech, Oblique, Transverse, Compound)	124	13.8
Antepartum Haemorrhage (APH)	115	12.8
Failed Induction	66	7.3
Obstructed Labour	65	7.2
Fetal heart rate abnormality in Labour	35	3.9
2 previous Caesarean Section	27	3.0
Bad Obstetric History	16	1.8
Cord Presentation/Prolapse	6	0.7
Intrauterine Growth Restriction	5	0.6
Retroviral Positivity	4	0.4
Total	898	100

PET= pre-eclamptic toxemia

Table 2 shows the indications for the caesarean delivery during the period of study. The commonest indication is cephalopelvic disproportion accounting for 32.1%. Other common indications include pre-eclampsia/eclampsia with unripe cervix, fetal malpresentation and antepartum haemorrhage accounting for 16.4%, 13.8% and 12.8% respectively.

66 patients (7.3%) had caesarean section following failed induction of labour while 65 patients (7.2%) were as a result of obstructed labour.

All anaesthesia were administered by nurse anaesthetists and they were general anaesthesia in 874 patients (97.3%). Spinal anaesthesia was introduced in 2007 and was used in 24 patients accounting for 2.7% of all patients. However it constituted about 60 % of anaesthesia for caesarean section in the last quarter of 2007 when it was introduced. Maternal complications are shown in Table 3. Haemorrhage during caesarean section accounted for (79.1%) of all complications. It is estimated as blood loss in excess of 1000mls during surgery and it occurred in 83 patients, wound infections were found in 14 patients (13.3%) during the study period. Other complications were urinary tract infection, burst abdomen and deep vein thrombosis in 4.8% and 0.9% respectively.

Eleven (11) maternal deaths were recorded following caesarean birth giving maternal mortality ratio of 1,225 per 100,000 compared to 4 maternal death after vaginal deliveries (40 per 100,000) (maternal mortality ratio). All maternal deaths occurred in unbooked patients.

Table 3: Maternal Complications

Types of complication	No of patients	%
Haemorrhage	83	79.1
Wound infection	14	13.3
Urinary tract infection	5	4.8
Burst Abdomen	2	1.9
Deep vein thrombosis	1	0.9
Total	105	100

DISCUSSION

The caesarean section rate during the study period was 10.3% in this centre. The rate is comparable to findings reported in some other centres, such as 9.1% from Ilorin², 10.1% from Benin⁴ and 11.4% in Iyi-Enu Mission Hospital¹ in Nigeria. It is also similar to 10% rate reported from Ethiopia¹. It is however lower than 15.8% reported from Jos⁶ and 28.5% rate reported from Port-Harcourt⁷. However, the rate is within the general rate between 10 and 20% reported by various authors in this part of the world. Emergency caesarean section was performed in 94.7% of the case while 5.3% of the patients had elective caesarean section in the same facility. This is similar to emergency caesarean section (91.5%) reported in Ilorin Nigeria² and 93% from Zaire¹⁰ respectively. During the study period, caesarean delivery had risen from 1 in 14 deliveries in 2000 to 1 in 7 deliveries in 2007. This showed a doubled rate over the period of study. This is in keeping with the general trend observed in many studies.

This rise in the caesarean section rate is one of the most dramatic features of modern obstetric practice. The only exception to this trend is National Maternity Hospital Dublin where the caesarean section rate has been fairly constant¹⁰.

The increasing trend of caesarean section in this centre could be attributed to increasing awareness and acceptance of antenatal care and hospital delivery. The total deliveries have concomitantly increased with caesarean delivery during the study period. In addition, liberal use of caesarean section for breech presentation and obstructed labour with intrauterine fetal death in the face of waning skilled hands for destructive operation¹² have also contributed to this trend.

The commonest indication for caesarean section in this study is cephalopelvic disproportion. This is similar to findings in many developing countries. The main reasons for this are early marriage in the presence of childhood malnutrition and chronic infection with resultant impaired pelvic bone development.

Haemorrhage at surgery is the commonest maternal complication. Haemorrhage is taken as blood loss in excess of 1000mls at caesarean section. It accounted for 79.1% of all complications. This shows the importance of an effective and efficient blood banking system in every centre where caesarean sections are performed, in order to reduce

maternal morbidity and mortality. Other maternal clinical complications included: wound infection, urinary tract infection, burst abdomen and deep vein thrombosis.

Maternal mortality ratio during the study period was 1,225 per 100,000 caesarean section against 46 per 100,000 in vaginal deliveries. This implies that the risk of dying from caesarean sections is about 27 times higher than vaginal delivery. Similar high mortality rate have been recorded in Lagos (1,100 per 100,000 and 1,600 per 100,000)³, and Ilorin (1,050 per 100,000)². These rates are at least thrice the

reported value of 350 per 100,000 from England and Wales⁵. Improved anaesthetic techniques by anaesthetist physician and reduction of general anaesthesia rate for caesarean section^{11,12} should have a positive effect on reducing maternal mortality ratio in Nigeria.

The rising caesarean section trend worldwide calls for improvement in patients selection¹³, strict policy on active management of labour, early referral of patients from peripheral centres where there is no facilities for comprehensive emergency obstetric care, improved blood transfusion services and improved anaesthetic techniques in this environment. Clinician should also exercise restraints on maternal deaths since the maternal mortality ratio associated

Reference

1. Kwawukaume EY. Caesarean Section. In: *Comprehensive Obstetrics in the Tropics*. Kwawukume EY, Emuveyan E. (eds). First edition. Asate and Hittscher printing press Limited, 2002; pp 321-329.
2. Ijaiya MA and Aboyeji AP. Caesarean Delivery: The trend over a ten-year period at Ilorin Nigeria. *The Nigerian journal of surgical research*. 2001; 3 (1): 11-18.
3. Oye-Adeniran BA. Recent trends in Caesarean section at the Lagos University Teaching Hospital, Lagos, Nigeria. *Nigerian quarterly Journal of Hospital Medicine*, 1998; 6: 111-114.
4. Adinma JIB. Caesarean section: A review from a Sub-urban hospital in Nigeria. *Nig.Med.J*, 1993; 24(1): 9-12.
5. Donald I. Caesarean section. In: Donald I (Ed). *Practical Obstetrics problems*. PG Publishing Ltd. 1988; pp 825-861.
6. Mutihir JT, Daru PH and Ujah IOA. Elective Caesarean section at the Jos University Teaching Hospital. *Trop.J.Obstet.Gynaecol*. 2005; 22(1):39-41.
7. Anya SE, Ikimalo JI, John CT. Rising Caesarean section rate in University of Port-Harcourt Teaching Hospital. Abstracts of papers: 35th AGM & Scientific Conference of society of Gynaecologists and Obstetricians (SOGON). *Trop.J.Obstet.Gynaecol*. 2001; 18 (Suppl.1):27.
8. Okonta PA, Otoide VO and Okogbenin SA. Caesarean section at the University of Benin Teaching Hospital revisited. *Trop.J.Obstet. Gynaecol*. 2003; 20(1):63-66.
9. Onsrud L, Osurud M. Increasing use of caesarean section even in developing countries. *Tidsskr Nor. Laegforen (English translation from Medicine Search)*. 1996; 16: 67-71.
10. Derom R, Patel NB, Thierry M. Implications of increasing rates of
11. Caesarean section. In: Stud's (Ed.) *Progress in Obstetrics and Gynaecology*. Churchill livingstone, 1987: 176-191
12. Okonofua FE, makeinde ON, Ayangade SO. Yearly trends in Caesarean section and Caesarean mortality at Ile-Ife, Nigeria. *Trop. J. Obstet. Gynaecol*. 1988; 1:31-35.
13. Asuen MI, Oronsaye AU. Obstructed labour-A 4-year survey, 1st April 1973-31st March 1977 at the University of Benin Teaching Hospital, Benin city, Nigeria. *Trop.J. Obstet Gynaecol*. 1981; 2: 81-85.
15. Gupta Kanal. Elective versus emergency lower segment Caesarean
16. Section. In: Dutta, DK (Ed), *Caesarean Delivery*. New Delhi: Jay-Pee Brother Medical Publishers Ltd, 2002: 13-15.