

## Elective Caesarean Sections at the Jos University Teaching Hospital

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### Abstract

**Context:** Elective caesarean sections have been pronounced safer for both mother and fetus compared with emergency caesarean sections. Emergency caesarean sections however have continued to constitute the lion share of caesarean sections in our facility.

**Objective:** To determine the caesarean section rate, examine the trend of elective caesarean sections and the indications for elective caesarean sections amongst our patients.

**Methodology:** This was a retrospective study of the clinical records of all patients that had caesarean section in Jos Nigeria from January 1985 to December 2002, an 18-year period. Data on the number and type of caesarean section, age of patients and the indication for the elective caesarean section were extracted and analyzed.

**Results:** A total number of 41,470 deliveries were conducted within the period of study. Out of these deliveries, 6,557 were caesarean sections giving a caesarean section rate of 15.8%. Elective caesarean sections were performed in 970 (14.8%), and emergency caesarean sections in 5,587 (85.2%) of all the caesarean sections. The rate of elective caesarean section increased from 8.9% in 1985-1986 to a rate of 22.5% in the last two years of the study period. Repeat caesarean section was the commonest indication for elective caesarean sections in 51.9% of the cases, followed by bad obstetric history (BOH) in 10.8%.

**Conclusions:** Elective caesarean section accounted for 1 out of every 6 caesarean sections in the center. The commonest single indication for the elective caesarean section was repeat caesarean section for 2 or more previous caesarean sections.

**Key Words:** Elective, Emergency, Caesarean Section, Nigeria [Trop J Obstet Gynaecol, 2005, 22: 39-41]

### Introduction

Caesarean section is a surgical operation to deliver a baby or babies by means of an incision through the abdomen and uterus<sup>1,2</sup>. It is performed when there is risk to the health of the mother or baby during the course of pregnancy, labour or delivery; and can be planned or an emergency procedure. The 'planned' procedure, also referred to as an 'elective' caesarean section, is not urgent and may be scheduled well in advance, at a time when it is convenient for the obstetrician, neonatologist, anaesthetist and the patient. The decision is taken before or during the pregnancy and planned for at term or as close to term as is possible<sup>2</sup>. Emergency caesarean section is that in which the decision to do so is taken during labour or delivery, when there is danger to the mother, fetus, or both.

There are few absolute indications for caesarean section; most of which are relative, depending on the skill and judgment of the obstetrician<sup>3</sup>.

The indications for elective caesarean section are many, and varied. Documented indications for the elective procedure include contracted pelvis, major degree placenta praevia, mal-presentation, previous caesarean section for a recurrent cause, hypertensive disorders of pregnancy, intrauterine growth restriction, precious child, elderly primigravida and bad obstetrical history<sup>4,9</sup>. The advantage of elective caesarean section is that the date and time of admission and operation can be planned with patient and her family. In addition, the operation is

performed when it is convenient for the obstetrician and the theater; when full anaesthetic preparation is possible; and in some cases, anticipated specific dangers during labour and delivery are avoided by an earlier delivery.

A major disadvantage of elective caesarean section however, is that a mistake made in calculating and assessing the gestational age can result in the delivery of a preterm infant. Elective caesarean section must therefore be carefully timed to avoid the risk of unexpected prematurity. The operation is planned usually for a time after the 37<sup>th</sup> completed weeks of gestation and preferably at 38 weeks<sup>2</sup> to avoid the delivery of a pre-term infant.

Elective surgery is definitely better than emergency caesarean particularly when there is a confirmed indication for the operation<sup>10</sup>. This is true if the patient is sure of her dates, and has been under regular antenatal care supervision. The operation avails the patient the benefit of a team of anaesthetist, neonatologist, obstetrician and the operating theater staff. Anaesthetic complications are more likely to occur in patients who need emergency caesarean section, and are administered general anaesthesia sooner than 4-6 hours

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after taking foods and fluids<sup>5</sup>. Because of the paucity of data on elective caesarean section at this centre and other centres in and outside this country, we decided to review our data to document its incidence and indications in Jos, Nigeria.

### Materials and Methods

This was a retrospective analysis of 6,557 consecutive caesarean sections performed at the Jos University Teaching Hospital (JUTH), Jos - Nigeria over an 18-year period (January 1985 to December 2002). The records from the antenatal ward, the labour room, the operating theatre, and the postnatal ward were retrieved and checked for caesarean deliveries. The delivery records of patients that had elective caesarean sections were obtained and relevant variables extracted. The variables were age, parity, the mode of delivery, the type of caesarean section and the indication(s) for the caesarean section. The data was analyzed using simple percentages.

**Table 1:** Biennial Distribution of Cases of Elective Caesarean Sections

Year	Total C/S	Emergency C/S (%)	Elective C/S (%)
1985-1986	361	329 (91.1)	32 (8.9)
1987-1988	444	401 (90.3)	43 (9.7)
1989-1990	654	587(89.8)	67 (10.2)
1991-1992	837	734(87.7)	103 (12.3)
1993-1994	779	680 (87.3)	99 (12.7)
1995-1996	903	790 (87.5)	113 (12.5)
1997-1998	896	753 (84.0)	143 (16.0)
1999-2000	847	665 (78.5)	182 (21.5)
2001-2002	836	648 (77.5)	188 (22.5)
Total	6557 (100.0)	5587 (85.2)	970 (14.8)

Key: - C/S = Caesarean Section

### Results

There were total of 41,470 deliveries at the facility, out of which 6,557 were caesarean sections giving a caesarean section rate of 15.8%. Of all the patients that had caesarean section, 5,587 (85.2%) were emergency caesarean sections, while 970 (14.8%) were elective procedures.

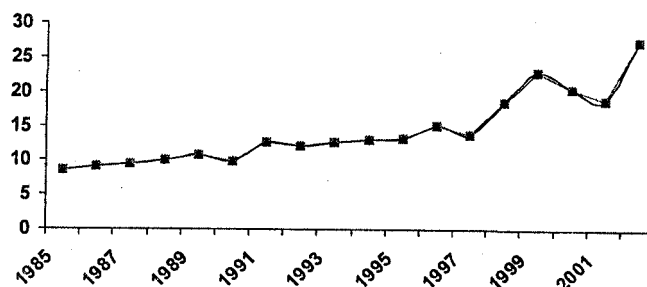
Table 1 shows the biennial distribution of the types of caesarean section. It demonstrated a gradual rise in the rate of elective caesarean sections over the period under review. The age of the patients ranged from 18 to 46 with a mean of  $30.3 \pm 4.3$  years. Elective caesarean section was highest in women of the age group of 30-34 years. Figure I demonstrates the gradual increase in the trend of elective caesarean sections over the 18 years; it rose from about 8.6% in 1985 to 27.4% in 2002.

There was a gradual rise in the rate of elective caesarean sections with a concomitant decrease in the rate of emergency procedures. The yearly trend showed a

decline in the rate of emergency caesarean sections from 91.4% in 1985 to 72.6% in 2002. Table 2 shows the indications for the elective caesarean sections in the study. The commonest indication for elective caesarean section was for two or more previous caesarean sections. This accounted for 51.9% of all the cases. Bad obstetric history was responsible for 10.8%. Some cases had multiple indications for the elective caesarean section.

**Figure I**

**The trend of Elective Caesarean Section Rate (percent) showing a steady rise in the rate**



**Table 2**

**Indications for Elective Caesarean Sections in Jos, Nigeria**

Indications for C/S	Number	%
1. Previous caesarean sections	547	51.9
2. Bad Obstetric history	114	10.8
3. Abnormal presentations/Lie	55	5.2
4. Major degree Placenta Praevia	49	4.6
5. Hypertensive disorders of Pregnancy	45	4.3
6. Precious Babies	35	3.3
7. Multiple pregnancies	35	3.3
8. Previous myomectomy	30	2.8
9. Retroviral Positive in pregnancy	29	2.7
10. Intrauterine growth restriction (IUGR)	25	2.4
11. Fetal Macrosomia	24	2.3
12. Medical Disorders of pregnancy	14	1.3
13. Congenital anomalies	10	0.9
14. Others	42	4.0

Total = 1054; i.e. some cases had more than one indication for the elective caesarean section

### Discussion

The major findings of the study were that the caesarean section rate was 15.8%; and the elective caesarean section rate increased relative to emergency procedures over the years of the review. In the year 1985, there was 1 elective caesarean section to 6 emergency caesarean sections. Mid way in the study (1994), the ratio increased to about 1 in 7 and at the end of the study period (2002), it increased further to a ratio of about 1 in 3. Better patient selection, increase in the cohort of patients with two or more previous cesarean sections,

new or emerging indications for caesarean sections such as HIV positivity in pregnancy, followed by elective caesarean section rather than allowing patients to present as emergencies may be responsible for this finding.

The incidence of caesarean section in the literature varies from region to region and from one country to another. On the whole, there appears to be a rising incidence in the caesarean section rate in our practice similar to the pattern in some developed countries<sup>2,3,4</sup>. Various authors in this part of the globe have quoted caesarean section rates of between 10 and 20%<sup>2-6</sup>. The caesarean section in this study of 15.8% was within the range of the rates in the country but higher than the rate of 11.4% in Iyi-Enu Mission Hospital<sup>2</sup>. The caesarean section rate in the study was however lower than the 28.5% in Port Harcourt 2004<sup>4</sup>. Emergency caesarean section was performed in 74.3% of the cases while 25.7% of the patients had elective caesarean section in the same facility<sup>2</sup>. The elective caesarean section rate in this study was 14.8%, and therefore lower than the 25.7% by Adinma<sup>2</sup>. Both studies however documented a decline in the incidence of emergency caesarean sections with a concomitant rise in the elective caesarean sections. The reason for this may be the ever increasing list of the indications of elective caesarean sections, larger cohort of patients with two or more previous caesarean sections, in addition to improved patient selection by clinicians with the use of better diagnostic techniques such as the ultrasound machine.

While the commonest indication for emergency caesarean section in Iyi-Enu Mission hospital is fetal distress<sup>2</sup>, and dystocia in Ibadan<sup>11</sup>, repeat caesarean

section was the commonest indication for elective caesarean sections in our study. An increase in the cohort of patients with two or more previous sections, and the ever expanding list of indications for elective section may be the reasons for the increasing rate of the elective procedures in our center. The advent of elective caesarean section for patients infected with HIV in a bid to reducing the vertical transmission rate of the virus to the fetus has also contributed to the increase in the elective caesarean section rate. This study showed that about 3% of the elective caesarean sections were for this reason. This no doubt has contributed to the rise in elective caesarean sections in the last five years.

The implication of the rising trend is the need for better and improved patient selection, and better counseling about what the procedure entails such as morbidity and mortality for both the mother and fetus. The meaning of this to policy makers is the provision of improved facilities and consumables for caesarean section services, and the assurance of adequate and qualified personnel to offer the services to desiring clients. The caesarean section rate in the study is within the range of the reported rates in this part of the world. The increased elective caesarean section rate might have been due to an improved appreciation of the indication for the procedure in patients. Supervision of patients in labour by qualified obstetricians may help reduce the incidence of un-necessary caesarean sections. The ever-expanding list of indications poses a challenge for clinicians to exercise some restraints, as elective caesarean sections though safer than emergency operations are not completely free from morbidity or mortality for both the mother and fetus.

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