

HIGH CAESAREAN SECTION RATE: A TEN YEAR EXPERIENCE IN A TERTIARY HOSPITAL IN THE NIGER DELTA, NIGERIA.

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ABSTRACT

Background: Caesarean section rate is rising worldwide and Nigeria is no exception.

Methods: This was a descriptive study. The data from case notes, antenatal and theatre records of patients who had caesarean delivery over a ten year period in the Baptist medical center, Eku were extracted and analysed.

Results: The total delivery for the period under study was 5,153 and the total number of caesarean deliveries was 1,777 giving a caesarean section rate of 34.5%. There was no definite trend in the yearly caesarean section rates. Majority of the cases were aged 25-29 (32%). Grandmultipara constituted 26.4% of the patients while 70.1% of cases presented at a gestational age range of 37-42 weeks. Majority of the patients (59.5%) were unbooked for antenatal care. Dystocia (27.1%) was the commonest indication for caesarean section. Emergency abdominal delivery constituted 63.3% of cases while the common complications included wound breakdown, anaemia and endometritis. There were a total of 25 maternal deaths giving a case fatality rate of 1.4%. The leading causes of deaths were haemorrhage (36%), infections (24%), severe preeclampsia/eclampsia(24%), cardiac arrest (12%) and anaesthesia related complication (4%).

Conclusion: This study found a very high caesarean section rate with majority of cases presenting as unbooked emergency cases. High caesarean section rate in this region was due to increase in primary caesarean delivery for dystocia, elective repeat caesarean deliveries and caesarean deliveries for preeclampsia/eclampsia. Future studies should be extended to rural areas and be targeted at determining whole population Caesarean section rates.

Key Words: High Caesarean Section Rates, Maternal

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INTRODUCTION

The increasing caesarean section rate worldwide has become a topical issue and an issue of much debate in contemporary obstetric practice recently. The World Health Organisation (WHO) has recommended a caesarean section rate of 10-15%, although this estimate needs to be validated with data from developing countries¹. A previous study reported that caesarean section rates are low in sub-Saharan Africa especially in West Africa where they account for less than 1% of expected births². In an urban Nigerian hospital study, the caesarean section rate increased from 10.3% to 23.1% over an 11 year period³. There is paucity of data from rural Nigeria. Over the past two decades, most developed countries have experienced a gradual rise in caesarean rates while in Brazil rates have skyrocketed with rates as high as 30% in public hospitals and 70% in private ones⁴. The United States of America and the United Kingdom have caesarean section rates of 24% and 22% respectively, values higher than the WHO

recommendation³. This high average rate is of ongoing concern to obstetricians, health administrators and consumer groups. Many reasons for these high rates have been advanced, and they include better survival prospects for very preterm infants delivered abdominally, the threat of litigation leading to earlier intervention in labour; decline in operative vaginal deliveries due to fear of litigation and routine abdominal delivery for breech presentation⁵. The widespread use of electronic fetal monitoring and epidural analgesia, and the need for repeat caesarean section have also been cited⁵. In Nigeria, the majority of cases are unbooked and present as obstetric emergency necessitating caesarean deliveries^{6,7}. Prolonged/obstructed labour is the most frequent indication in most Nigeria series^{3,8,9}. This study aims to determine the trend in caesarean section rate, pattern of presentation and associated maternal morbidity and mortality in a tertiary centre in the Niger Delta.

METHODS

Study Setting: This study was done at the Baptist medical centre, Eku, Delta State, a mission tertiary hospital situated in a rural community. It has served as a major referral hospital in the Niger Delta for over 50

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years. It provides specialist out-patient and in-patient medical care in Obstetrics and Gynaecology, Paediatrics, General and Orthopaedic Surgery and Internal Medicine. It gets referrals from private clinics, maternities and traditional birth attendants. A retrospective review of caesarean section done in a ten- year period January 1995 to December 2004 constituted the study group. Booked patients are those who received antenatal care and delivered in the hospital while unbooked patients are the ones who did not receive antenatal care but came to deliver in the hospital. Labour is actively managed here with the use of partograph. There is a functional blood bank in the hospital. The consultant or senior registrar makes decision for caesarean section.

RESULTS

Table 1 shows that the total delivery for the period under study was 5,153 and the total number of caesarean deliveries was 1,777 giving a caesarean section rate of 34.5%. There was no definite trend in the caesarean section rates. However, the highest rates were obtained in 2001 (48.4%) and 2003 (42.9%) while the lowest rates were in 1996 (24.5%) and 1997 (26.2%). The modal age was 25-29 (32%). Grandmultipara constituted 26.4% of the cases. Most of the patients (70.1%) presented at a gestational age range of 38-42 weeks (Table 2). Table 3 revealed that 59.5% of patients were unbooked for antenatal care while dystocia (27.1%) was the commonest indication for caesarean section. Table 4 showed that emergency abdominal delivery constituted 63.3% of cases while the common complications included wound breakdown (2.4%), anaemia (2.3%) and endometritis (1.5%). There was a total of 25 maternal death giving a case fatality rate of 1.4%. The causes of maternal deaths were haemorrhage (44%), severe preeclampsia/eclampsia (28%), infections (24%) and anaesthetic complications (4%).

Table 2: Maternal Age, Parity and Gestational Age.

Parameter	N=1,777	Percentage
Age.(Years)		
<20	84	4.7
20-24	319	18.0
25-29	570	32.1
30-34	544	30.6
>35	260	14.6
Parity		
0	257	14.5
1	210	11.8
2	252	14.2
3	362	20.4
4	227	12.8
5	171	9.6
>5	298	16.8
Gestational Age		
28-32	104	5.9
33-37	339	19.1
38-42	1245	70.1
>42	89	5.0

Table 3: Booking Status and Indications for Caesarean Section.

Parameter	N=1,777	Percentage
Booking status.		
Booked	720	40.5
Unbooked	1057	59.5
Indications.		
Dystocia	482	27.1
Previous caesarean section.	265	14.9
Preeclampsia/Eclampsia	253	14.2
Antepartum haemorrhage	217	12.2
Fetal Distress	192	10.8
Breech presentation	77	4.3
Others	291	16.4

Table 1: Total Deliveries and Caesarean Section Trend.

Parameter											
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Total Deliveries	471	551	780	517	478	600	541	424	410	381	5,153
Caesarean Section. (CS)	147	135	202	168	188	207	262	164	176	128	1777
Percentage CS.	31.2	24.5	26.2	32.8	39.3	34.5	48.4	38.6	42.9	33.6	34.5

Table 4:Types of Caesarean Section and Complications.

Parameter	Frequency	Percentage.
Type of CS.		
Emergency	1124	63.3
Elective	653	36.7
Total	1777	
Complications		
Wound breakdown	42	2.4
Anaemia	40	2.3
Endometritis	27	1.5
Deaths	25	1.4
Urinary tract infection	8	0.5
Hypotension	6	0.34
Paralytic ileus	4	0.22
Phlebitis	4	0.22
Sepsis	2	0.11
Puerperal psychosis	2	0.11
Ruptured bladder	2	0.11
Spinal headache	2	0.11
Spinal hypotension	2	0.11
Vesicovaginal fistula	2	0.11
Aspiration pneumonia	2	0.11

DISCUSSION

The Caesarean section rate of 34.5% found in this study is rather very high and more than 2 folds the maximum rate (10-15%) recommended by the World Health Organisation (WHO)¹. This finding is similar to an earlier study done in an urban Nigerian private hospital where 391 women (34.6%) had caesarean sections out of 1129 deliveries over a two year period¹⁰. However caesarean section rates in most urban Nigerian studies range from 19.8% to 34.6%^{9,10,11}. There is still paucity of data from rural Nigeria. The caesarean section in this study is also higher than that reported in the United States of America (24%) and United Kingdom (22%) but can be compared to the report in Brazil where caesarean section (cs) rates is 30% in public hospitals and more than 70% in private hospitals⁴. Caesarean section rates in these countries are virtually whole population rates as home births or maternity home/birth center births are low. This is a sharp contrast to Nigeria where most of the births occur at homes under the supervision of traditional birth attendants. Hospital births in Nigeria alone does not tell us about actual Caesarean section rate. There was no definite trend obtained from the yearly caesarean section rate in the period under review. The hospital delivery rate was relatively low and this is attributable to the high cost of delivery following the withdrawal of the services of the Southern Baptist convention of America in the early 1990's who hitherto were subsidizing medical care and the

recurrent communal crises in the region which disrupted medical services. The approximate cost of antenatal care and delivery prior to the withdrawal of the American missionaries was about three thousand naira and now ranges from twenty to twenty five thousand naira. Caesarean section rate was low in 1997 despite the fact that there were more deliveries. The ratio of the booked to unbooked patients during this period was 1:1.2. The hospital lost the services of the resident obstetrician to the state government between 2001 and 2003. During this period, the hospital had only the services of family physicians. Higher caesarean section rates were found among the multiparous cases. This is in contrast to some other studies where nulliparity was frequently implicated^{11,12}. Majority of cases in this study were unbooked for antenatal care. This is a recurrent finding in most studies in Nigeria^{6,13}. This is mainly due to poor utilization of antenatal care in rural Nigeria with most of the women presenting only when there are complications. Other reasons are poor socioeconomic status of women in this region, ignorance, illiteracy and religious/traditional beliefs held by the populace. The commonest indication for caesarean section was dystocia. This is similar to findings from previous studies^{3,8,9}. Majority of the patients in this study presented with prolonged obstructed labour after initial management by traditional birth attendants or health workers in maternities and private hospitals. This pattern of presentation has been observed by previous authors¹². Wound breakdown due to sepsis, anaemia and endometritis were the commonest complication. This may be due to delay in presentation, prolonged obstructed labour and prolonged rupture of membranes with its attendant chorioamnionitis. In conclusion, this study found a very high caesarean section rate with majority of cases presenting as unbooked emergency cases. High caesarean section rate in this region was due to increase in primary caesarean delivery for dystocia, elective repeat caesarean deliveries and caesarean deliveries for preeclampsia/eclampsia. Care givers need to be educated on the importance of early referral to reduce complications. Future studies should be extended to rural areas and be targeted at determining whole population Caesarean section rates.

REFERENCES

1. World Health Organisation. Appropriate technology of birth. *Lancet* 1985;ii:436-7.
2. Cisse CT, Faye EO, de Bernis L, Dujardin B, Diadhiou F. Caesarean sections in Senegal: coverage of needs and quality of services. *Sante*. 1998;8(5):369-77.

3. **Oladapo OT, Sotunsa JO, Sule-Odu AO.** The rise in caesarean birth rate in Sagamu, Nigeria: reflection in changes in obstetric practice. *J Obstet Gynaecol.* 2004;24(4):377-81
4. **Finger C.** Caesarean section rates skyrocket in Brazil. *Lancet.* 2003;362(9384):628.
5. **Cunningham GF, MacDonald PC, Gant NF, Leveno KJ, Gilstrap LC, Hanks GV 'et al'.** Caesarean delivery and Caesarean hysterectomy. In: *Williams Obstetrics.* 20th edition. Appleton & Lange publishers, Stanford, Connecticut 1997;509-31.
6. **Igberase GO, Ebeigbe PN.** Eclampsia: ten years of experience in a rural tertiary hospital in the Niger Delta, Nigeria. *J Obstet Gynaecol,* 2006;26(5):414-17.
7. **Nwobodo EI, Wara HL.** High caesarean section rate at Federal Medical Centre, Birnin-Kebbi: real or apparent? *Nigerian Medical Practitioner* 2004; 46(2):39-40.
8. **Ijaiya MA, Aboyeji PA.** Caesarean Delivery: The trend over a ten year period at Ilorin, Nigeria. *Nigerian Journal of Surgical Research.* 2001;3(1):11-18.
9. **Ikiaki CU, Ekabua JE, Agan TU, Ekanem EI, Asuquo EEJ.** Current trends in caesarean section in university of Calabar teaching hospital Calabar, Nigeria. *Mary Slessor Journal of Medicine.* 2001;5(1):41-45.
10. **Ezechi OC, Nwokoro CA, Njokanma FO, Okeke GCE.** Caesarean morbidity and mortality in a private hospital in Lagos, Nigeria. *Tropical Journal of Obstetrics and Gynaecology.* 2002;19(2):97-100.
11. **Arowojolu Akindele AO, Okewole IA, Omigbodun AO.** Multivariate analysis of risk factors for caesarean section in the University College Hospital Ibadan. *Nigerian Journal of Clinical Practice.* 2003;6(2):87-91.
12. **Nwokoro CA, Njokanma FO, Orebamjo T, Okeke GCE, Kotey CK.** Primary caesarean deliveries in a private hospital in Lagos. *Tropical Journal of Obstetrics and Gynaecology.* 2004;21(2):156-159.
13. **Umeora OIJ, Ejikeme BN.** Clinical correlates and trends in hospital maternal mortality in rural Nigeria. *J Obstet Gynaecol.* 2006; 26(2):139-140