

A Six-Year Review of Caesarean Sections at the Federal Teaching Hospital Abakaliki, Ebonyi State, South East Nigeria

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Abstract

Background: Globally, the rise in the rate of caesarean section is becoming a public health problem. This study examined the rate, indications and complications of caesarean section at the Federal Teaching Hospital Abakaliki (FETHA). **Subjects and Methods:** This was a six-year retrospective study covering January 1st 2012 to December 31st 2017. Patients who met the inclusion criteria were identified from the theatre records and their case notes retrieved from the health information unit of the hospital. Information extracted includes sociodemographic data, indications and types of caesarean section performed and the complications. Data was collected using a structured proforma and entered into a secured personal computer. Data analysis was performed by means of Epi Info version 7. Results are presented in tables, means and simple percentages. **Results:** During this period, a total of 11,215 deliveries were recorded at FETHA, of these, 3908 were delivered by CS giving a caesarean section rate of 34.8%. The mean age of the study subjects was 29.3 ± 5.03 years. Almost half (49.7%) of the patients were in the 20 - 29 age group. Multiparous women made up 36.0% while nulliparous women were 12.6%. The most common indication for an emergency caesarean section was failure to progress in labour with 20.0% contribution and the most common indication for elective caesarean section was previous caesarean section with 13.5%. Majority of the babies were delivered at term (77.0%) with an average gestational age of 38 ± 2.6 weeks. Almost two-thirds of the subjects (62.5%) had emergency caesarean section. The average birthweight was 3.03 ± 0.71 kg. Maternal anaemia was the most common complication recorded 38.0%. There was direct maternal death in 2.0% of the study popu-

lation. Severe birth asphyxia was recorded in 12.3% of the babies while there was 3.2% perinatal death. **Conclusion:** There is a high rate of caesarean section from this study. The World Health Organization has stated that there is no additional maternal or fetal benefit with caesarean section rate of greater than 10% - 15%. Stakeholders and policy makers need to do more to mitigate this rising trend.

Keywords

Abakaliki, Caesarean Section Rate, Maternal Mortality, Perinatal Mortality

1. Introduction

Worldwide, there is a rising incidence of caesarean section, making it one of the most commonly performed procedures in Obstetrics [1]. In recent times, especially in developing countries, caesarean section is increasingly used for delivery due to safe and efficient blood bank services, improved anaesthesia, availability of potent antibiotics and safer surgical practices in contemporary obstetrics [2]. Caesarean section is a surgical procedure to deliver the fetus(es) through an incision made on the abdomen and the uterus after the age of viability [3] [4] [5] [6]. Its true origin has been lost to antiquity.

Traditionally, caesarean section was performed when there is an unacceptable risk to the mother or baby if a vaginal delivery was to be allowed. Recently, the indications for caesarean section have assumed a worrying dimension and a new trend of performing caesarean sections for no medical indication other than maternal choice is gaining traction, this could have far reaching short and long term implications for the individual and the society at large [5] [6]. There continues to be an ongoing debate as to what constitutes an acceptable caesarean section rate. The World Health Organization (WHO) recommended that a most, 10% - 15% of women should be delivered by the abdominal route as there is no additional health benefit with a caesarean section rate of greater than 15% [6]. Previously, it was thought that high caesarean section rate was a problem of developed countries. A recent worldwide survey of caesarean section rates in more than 100 countries by the WHO revealed increasingly unacceptable caesarean section rates in developing countries including sub-Saharan Africa [6] [7]. Caesarean section is not without its complications as a significant number of women continue to die from complications directly or indirectly attributable to caesarean.

The Federal Teaching Hospital Abakaliki is the largest tertiary health institution in Ebonyi State, Southeast Nigeria receiving referrals from affiliate hospitals but since its establishment, no study of this nature has been undertaken. In this study, evaluated the rate, indications and complications associated with caesarean sections at the Federal Teaching Hospital Abakaliki (FETHA).

2. Methodology

This was a retrospective study conducted at the Federal Teaching Hospital Abakaliki (FETHA) from January 2012 to December 2017. FETHA was created on the 23rd December 2011 following the acquisition and merger of the defunct Ebonyi State University Teaching Hospital with the Federal Medical Centre Abakaliki by the Federal Government. It is a referral hospital serving the neighbouring states of Enugu, Abia, Anambra, Cross-River and Imo states.

Case notes of patients who had caesarean section were retrieved from the health information management unit. Sociodemographic variables, type, indications for caesarean section and birth outcome data were extracted. Patients who had antenatal care in our facility were considered “booked” while those who did not receive antenatal care but presented on referral following complications in pregnancy or labour were considered “unbooked”. All the surgeries were performed by at least a registrar in the department. Case notes with incomplete records were excluded.

Data was collected using structured proforma and entered into a secured personal computer. Analysis was performed by means of Epi Info version 7. Results are presented in tables, means and simple percentages.

Ethical clearance was obtained from the research and ethics committee of the Federal Teaching Hospital, Abakaliki.

3. Results

During the period under review, complete case notes of 3850 of the 3908 women who had caesarean sections were retrieved giving a retrieval rate of 98.5%. A total of 11,215 deliveries were recorded at FETHA, giving a caesarean section rate of 34.8%.

Table 1 shows the sociodemographic distribution of parturient women who had caesarean section during the study period. The mean age of the study subjects was 29.3 ± 5.03 years. Almost half (49.7%) of the patients were in the 20 - 29 age group. Almost two-thirds of the patients were urban dwellers and 73.0% of the study population was booked. Multiparous women made up 36.0% while nulliparous women were 12.6%.

The indications for caesarean section are presented in **Table 2**. The most common indication for an emergency caesarean section was failure to progress in labour with 20.0% contribution, others were for previous caesarean section 13.5%, antepartum haemorrhage 9.2% and presumed fetal distress in 8.0%. About 0.1% of the caesarean sections were done for previous successful repair of obstetric fistula and higher order multiple pregnancy.

Majority of the babies were delivered at term (77.0%) with an average gestational age of 38 ± 2.6 weeks. About 62.5% of the patients had emergency caesarean section while the rest had elective caesarean section. The mean birth weight was 3.03 ± 0.71 kg, there was macrosomia in 8.1%. There was severe and moderate birth asphyxia in 28.7% of the babies born (**Table 3**).

Fetal and maternal complications are presented in **Table 4**. More women had

Table 1. Sociodemographic characteristics.

Variables		Frequency	Percentage
Age(years)	<20	85	2.2
	20 - 29	1915	49.7
	30 - 39	1775	46.1
	40 - 49	75	2.0
Residence	Urban	2535	65.8
	Suburban	680	17.7
	Rural	635	16.5
Booking status	Booked	2810	73.0
	Unbooked	1040	27.0
Parity	Nullipara	485	12.6
	Primipara	1625	42.2
	Multipara	1385	36.0
	Grandmultipara	355	9.2
Total		3850	100

Table 2. Indications for caesarean section.

Indication	Frequency	Percentage
Failure to progress in labour (emergency caesarean sections)	770	20.0
Previous caesarean section (elective caesarean sections)	518	13.5
Antepartum haemorrhage	355	9.2
Fetal distress	307	8.0
Persistent breech presentation	290	7.5
Obstructed labour	280	7.3
Hypertensive disorders of pregnancy	265	6.9
Malpresentation and malposition	190	4.9
Prolonged pregnancy	155	4.0
Twin gestation	140	3.6
Failed induction of labour	115	3.0
Preterm labour	100	2.6
Severe oligohydramnios	65	1.7
Cord presentation/cord prolapse	65	1.7
Elderly primigravida	50	1.3
Bad obstetric history	45	1.2
Preterm labour	30	0.8
Maternal request	30	0.8
Retained second twin	25	0.6
Conception by assisted reproductive technology	25	0.6
Triplet gestation	20	0.5
Higher order pregnancy	5	0.1
Pregnancy after successful vesico-vaginal fistular repair	5	0.1
Total	3850	100

Table 3. Pregnancy event and outcome.

Variables		Frequency	Percentage
Gestational age	<37 wks	730	19.0
	37 – 41 + 6 wks	2965	77.0
	≥42 wks	155	4.0
Type of caesarean section	Emergency	2405	62.5
	Elective	1445	37.5
Birth weight	<2.5 kg	715	18.6
	2.5 - 3.9 kg	2825	73.4
	4 kg and more	310	8.1
Apgar score	≤3	473	12.3
	4 - 6	630	16.4
	7 - 10	2747	71.4

Table 4. Fetal and maternal complications.

Complication	Frequency	Percentage
Anaemia	1463	38.0
Infectious morbidity	424	11.0
Primary postpartum haemorrhage	225	5.8
Maternal death	77	2.0
Birth asphyxia	473	12.3
Low birth weight	715	18.6
Perinatal death	123	3.2

postpartum anaemia with 38.0%, infectious morbidity 11.0% and maternal death was reported in 2.0%. Severe birth asphyxia was recorded among 12.3% of the babies, 18.6% were low birth weight and perinatal death recorded in 3.2% of babies delivered.

4. Discussion

Despite the reported high aversion for caesarean section among Eastern Nigerian women [7] [8], our study found a caesarean section rate of 34.8% which is more than twice the recommended limit by the WHO [6]. The rate reported from the present study is a more than 100% increase from 16.4% reported by Onoh *et al.* at the defunct Ebonyi State University Teaching Hospital (EBSUTH) Abakaliki, one of the hospitals that made up the present FETHA [9]. This high incidence rate reported in our study is not an isolated finding. It is comparable to the 35.5%, 34.6%, 34.7% respectively reported by Adekanle in Osogbo [10], Akinwutan *et al.* in Ibadan [11] and Ezechi *et al.* in Lagos [12]. The reasons for the high incidence recorded in this study are not unconnected with the sheer size of the institution and the geographical region it serves. It is major referral centre serving the host and neighbouring states. Similarly, FETHA is a tertiary

centre with junior doctors in training, some of the indications may be found to be justified if subjected to intense scrutiny.

Failure to progress in labour, mainly due to potential or actual cephalopelvic disproportion was the main indication for caesarean section in a fifth patients, this could be attributed to inadequate pelvic development from malnutrition which is rampant in rural Nigeria and a relatively high incidence of teenage pregnancy which accounted for 2.2% of the women [13]. A little over a quarter of the women were unbooked in FETHA, they were referred from other health centres or traditional birth attendant settings mainly for complications in labour or delivery. This is made worse by the almost non-existent, poorly staffed and poorly equipped primary and secondary health care facilities in rural Nigerian communities [7]. An uncommon indication observed in our study was previous successful obstetric fistula repair. The National Obstetric fistula centre for the Southeast region is located within FETHA. These women are preferably delivered by an elective caesarean section [1]. An emerging indication for caesarean section in our setting is a maternal request for caesarean section with no medical basis. We note that our society is witnessing increasing women education and empowerment and they now have greater decision making capacity regarding issues concerning their health.

In this study, about 6 out of 10 women who had caesarean section were delivered by emergency CS. This is similar to 66.4% reported by Inyang in calabar [14] but less than higher rates reported of 86.6% reported by Garba [8] in Kano, 80.8% reported by Adekanle [10] and 77.9% reported by Akinwuntan [12]. These values were reported from Nigerian tertiary hospitals with similar capacity and clientele with FETHA.

Postoperative anaemia was a relatively common morbidity which was reported in 38.0% of our study subjects. This is due to a combination of several factors including antenatal anaemia from malnutrition, poor compliance with iron therapy given that iron deficiency anaemia is the commonest cause of anaemia in this women and a heavy burden of malaria infestation [15]. Maternal and perinatal deaths reported in this study were among the unbooked patients who had emergency caesarean sections. More often than not, these women were referred in moribund states following mismanaged infected prolonged obstructed labours by quacks and traditional birth attendants. Such is not uncommon in sub-Saharan Africa as evidence from similar studies show [8] [9] [10].

5. Conclusion

In conclusion, the high rate of caesarean section and the complications observed in this study are unacceptable. Government should do more to employ appropriate personnel and equip the secondary health sector to bridge the gap currently existing at this level which is the reason why dangerous unorthodox practices still thrive with its attendant implications. There is equally a yearning need to dispel current misconceptions among the populace that patronising the hos-

pital would lead to a deliberate delivery by caesarean. Healthcare should be subsidized otherwise the issue of cost would continue to serve as a deterrent to hospital attendance.

Limitations

During the period under review, the hospital used paper patient case notes/records. This made it difficult to retrieve the all patient's casefiles.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Buowari, Y.D. (2012) Indications for Caesarean Section at a Nigerian District Hospital. *Nigerian Health Journal*, **12**, 43-46.
- [2] Yakassai, I.A. and Abubakar, M.Y. (2014) Trends in Elective Caesarean Section Rate in Aminu Kano Teaching Hospital, Kano: A Four Year Review. *Global Advanced Research Journal of Medicine and Medical Science*, **4**, 80-83.
- [3] Mutahir, J.T., Daru, P.H. and Ujah, I.A. (2005) Elective Caesarean Sections at the Jos University Teaching Hospital. *Tropical Journal of Obstetrics and Gynaecology*, **22**, 39-41. <https://doi.org/10.4314/tjog.v22i1.14540>
- [4] Benzouina, S., Boubkraoui, E.M., Mrabet, M., Chahid, N., Kharbach, A., El-hassani, A., *et al.* (2016) Fetal Outcome in Emergency versus Elective Caesarean Sections at Souissi Maternity Hospital, Rabat, Morocco. *The Pan African Medical Journal*, **23**, 197-202. <https://doi.org/10.11604/pamj.2016.23.197.7401>
- [5] Hafeez, M., Yasin, A., Badar, N., Pasha, M.I., Akram, N. and Gulzar, B. (2014) Prevalence and Indications of Caesarean Section in a Teaching Hospital. *JIMSA*, **27**, 15-17.
- [6] Gibbons, L., Belizan, J.M., Luer, J.A., Betran, P.A., Merialdi, M. and Althabe, F. (2010) The Global Numbers of Additionally Needed and Unnecessary Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage. WHO World Health Report, 1-31.
- [7] Obuna, J.A., Ugboma, H.A.A., Ejikeme, B.N., Umeora, O.U.J. and Agwu, U.M. (2012) Pattern and Outcome of Higher Order Caesarean Section in a Secondary Health Facility in Nigeria. *Research in Obstetrics and Gynecology*, **1**, 19-22.
- [8] Garba, N.A. (2011) Caesarean Morbidity and Mortality at Aminu Kano Teaching Hospital, Kano: A Two Year Review. *BOMJ*, **8**, 10-14.
- [9] Onoh, R.C., Eze, J.N., Ezeonu, P.O., Lawani, L.O., Iyoke, C.A. and Nkwo, P.O. (2015) A 10-Year Appraisal of Caesarean Delivery and the Associated Fetal and Maternal Outcomes at a Teaching Hospital in Southeast NIGERIA. *International Journal of Women's Health*, **7**, 531-538. <https://doi.org/10.2147/IJWH.S81338>
- [10] Adekanle, D.A., Adeyemi, A.S. and Fasanu, A.O. (2013) Caesarean Section at a Ter-

- tiary Institution in Southwestern Nigeria: A Six Year Review. *Open Journal of Obstetrics and Gynecology*, **3**, 357-361. <https://doi.org/10.4236/ojog.2013.33066>
- [11] Akinwuntan, A.L., Oladakun, A., Morhason, B.O., Ukaigwe, A. and Olatunji, F. (2006) Caesarean Section at the Turn of the Millenium A 5 Year Review: The University College Hospital, Ibadan Experience. *Tropical Journal of Obstetrics and Gynaecology*, **23**, S13.
- [12] Ezechi, O.C., Nwokoro, C.A., Kalu, B.K.E., Njokanma, O.F. and Okeke, G.C.E. (2002) Caesarean Morbidity and Mortality in a Private Hospital in Lagos, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, **19**, 97-100.
- [13] Sule, S.T. and Matawal, B.I. (2003) Comparison of Indicators for Caesarean Section in Zaria, Nigeria: 1985 and 1995. *Annals of African Medicine*, **2**, 77-79.
- [14] Onwuhuafoa, P.I. (1999) Perinatal Mortality and Caesarean Section at Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, **6**, 6-9.
- [15] Esike, C.U., Anozie, B.O., Onoh, R.C., Sunday, U.C., Nwokpor, O.S. and Umeora, O.U.J. (2016) Prevalence of Anaemia in Pregnancy at Booking in Abakaliki, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, **33**, 332-336. <https://doi.org/10.4103/0189-5117.199818>