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Full Length Research Paper

Trends in elective caesarean section rate in Aminu Kano Teaching Hospital, Kano: a four (4) year review

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Caesarean section (CS) is increasingly used for safe delivery for fetal or maternal indications either as an elective or emergency. The procedure is increasingly been used for delivery even in the developing countries due to the relative safety of blood transfusion services, improved anaesthesia, aseptic techniques and the availability of potent antibiotics. Elective caesarean sections have been pronounced safer for both the mother and the fetus in terms of adverse events compared to emergency caesarean sections. Paradoxically, emergency caesarean sections continue to form the bulk of caesarean deliveries in our facility. Although the study has shown a steady increase in elective CS rate, probably due to increased cohort of patients with 2 or more caesarean sections, increased utilization of CS for breech presentations in primigravidae at term and for women with bad obstetric history. The aim of this study was to determine the trends in caesarean section rates. This was a retrospective study of the clinical records of all patients that had Caesarean Section in Aminu Kano Teaching Hospital, Kano from January 2006 to December 2009, a 4 year period. Data on the number and type of Caesarean Section, age of patients and the indication for the Caesarean Section were extracted and analyzed. There were total of 14,570 deliveries at the facility over the period of the study, out of which 2,519 were caesarean sections giving a caesarean section rate of 17.3%. Of all the patients that had caesarean sections, 2,131 (84.6%) were emergency caesarean section, while 388 (15.4%) were elective caesarean sections. There was a steady increase in elective caesarean section rate from 12.4% in 2006 to 18.5% and 17.1% in the last two years of the study period respectively. Repeat caesarean sections following two or more previous caesarean sections were the commonest indication for the elective caesarean section accounting for 51.3% of all cases, followed by bad obstetric history and abnormal presentations/ lie accounting for 11.5% and 10.3% of cases respectively. The caesarean section rate in our centre was 17.1% and there is a rising trend of elective caesarean section in our centre accounting for 1 out of every 6 caesarean sections. The commonest indication for elective caesarean section was two or more previous caesarean sections.

Keywords: Elective, emergency, caesarean section, outcome.

INTRODUCTION

Caesarean section is a surgical operation to deliver a

baby or babies by means of an incision through the abdomen and uterus (Mutihir et al., 2005). In current obstetric practice, caesarean section is the commonest operation apart from episiotomies. The operation dates from antiquity and was usually performed to save the

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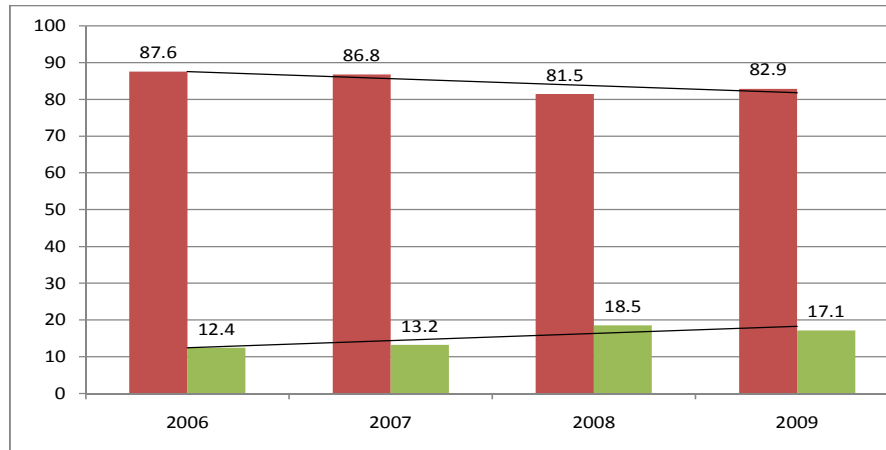


Figure 1. shows the yearly distribution of caesarean sections according to emergencies and electives.

Key: Red- Emergencies, Green- Electives

living fetus in dead and near miss pregnant women (Ijaiya and Aboyeji, 2001). It can be performed as an emergency or elective procedure. The elective ('planned') 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 pregnancy and planned for a term or as close to term as is possible (Mutihir et al., 2005; Adinma, 1993). Emergency caesarean section is that in which the decision to do so is taken during labour or delivery, when there is imminent danger to the mother, fetus or both.

Caesarean Section can also be categorized based on the timing of CS at the time of decision making into four (4) categories. Category 1 or emergency CS when there is an immediate threat to the mother or the fetus and ideally the CS should be done within the next 30 min. Category 2 or urgent CS when there is maternal or fetal compromise but was not immediately life threatening. The delivery should be completed within 60–75 min. Category 3 or scheduled CS when there is no maternal or fetal compromise but early delivery is needed due to concerns that continuation of the pregnancy is likely to affect the mother or fetus in hours or days to come and then Category 4 or elective CS where there is no indication for the Caesarean Section but there is no urgency as such the delivery is timed to suit the mother and staff (Arulkumaran, 2012).

The indications for elective caesarean section are many, and varied. Documented indications for the elective procedure include contracted pelvis, major degree placenta praevia, malpresentations, previous caesarean section for recurrent causes, hypertensive disorders of pregnancy, intrauterine growth restriction, precious baby, elderly primigravidae and bad obstetric history (Mutihir et al., 2005; Anya et al.). A small number of CS is contributed by maternal request for non-medical reasons (Arulkumaran, 2012). Caesarean Section rates

are thought to have increased further worldwide due to maternal requests for planned caesarean section especially in private practice (Naldoo and Moodley, 2009).

Elective caesarean section is far better than emergency caesarean section because the operation is performed at a prearranged time during pregnancy to ensure the best quality of obstetrics, anaesthesia, neonatal resuscitation and nursing services, particularly when there is a confirmed indication for the operation (Naldoo and Moodley, 2009; Dutta, 2011). Anaesthetic complications are more likely to occur in patients who need emergency caesarean section, and are administered general anaesthesia sooner than 4-6 hours after taking foods or fluids (Kamal, 2002). The decision to conduct this study was conceived due to paucity of data on elective caesarean section in our centre and other centres in and outside this country.

Objectives of the study

To determine caesarean section rate and ascertain the trend of elective caesarean section and its indications in our centre.

MATERIALS AND METHODS

This was a retrospective analysis of 2,519 caesarean sections performed at Aminu Kano Teaching Hospital, Kano-Nigeria over a 4 year period (January 2006 to December 2009). The records from the antenatal ward, labour ward, the operating theatre, and the postnatal ward were retrieved and checked for caesarean sections. The delivery records of patients that had caesarean sections were obtained and relevant variables extracted. The variables were age, parity, the mode of delivery, the

Table 1. Age distribution of elective caesarean section

Age group (yrs)	2006	2007	2008	2009	Total
15-29	24	42	45	43	153
30-44	40	47	65	82	232
Total	64	89	110	125	388

Table 2. Yearly trend in elective caesarean section rates

Year	No. of elective CS	Rate (%)
2006	64	12.4
2007	89	13.2
2008	110	18.5
2009	125	17.1
Total	388	15.4

Table 3. Indications for elective caesarean section as seen in the study.

	Indications	Frequency	Percentages
1	2 or more Previous C/S	245	51.3
2	Bad Obstetric History	55	11.5
3	Abnormal presentations/Lie	49	10.3
4	Major degree placenta praevia	35	7.3
5	Hypertensive disorders of pregnancy	11	2.3
6	Precious babies	14	2.9
7	Multiple pregnancies	12	2.5
8	Previous myomectomy	10	2.1
9	HIV in pregnancy	11	2.3
10	Others	36	7.5
	Total	478	100.0

Note: The total of 478 was because some cases had more than one indication.

type of caesarean section and the indication(s) for the caesarean section. The data was analyzed using simple percentages and results were depicted using tables and a graph.

RESULTS

There were total of 14,570 deliveries at the facility over the period of study, out of which 2,519 were caesarean sections giving a caesarean section rate of 17.3 %.

2,131(84.6%)had emergency caesarean sections, while 388 (15.4%) were elective caesarean sections.

DISCUSSION

The age of the patients ranges from 15-44 years with a mean age of 29.5 years. Elective caesarean section was highest among women of the age group of 30-44 year age group as seen in table 1.

The commonest indication for elective caesarean section was 2 or more previous caesarean sections. This accounted for 51.3% of all the cases. Bad obstetric history and malpresentations accounted for 11.5% and 10.3% respectively. Some cases had multiple indications for the elective caesarean section. The overall caesarean section rate was 17.3%.

The study showed a steady rise in the rate of elective caesarean sections with concomitant decline in the emergency procedures even though the emergency procedures continue to form the bulk of caesarean deliveries in our facility. Certain factors could be identified as probably responsible for the increasing trend of elective caesarean sections such as increase in the cohort of patients with two or more previous caesarean sections, fear of litigation, more liberal use of caesarean section for breech presentation (Geidam et al., 2009) especially in the primigravidae and of course, improved safety of caesarean sections in many tertiary facilities of this country.

The incidence of caesarean section in the literature varies from region to region and from one country to another (Mutahir et al., 2005). Depending on the population and the facilities available the incidence varies between 10 and 25% in most developed countries (Arulkumaran, 2012). There appears to be a rising incidence of caesarean section in our practice similar to the pattern in some developed countries (Ijaiya and Aboyeji, 2001; Adinma, 1993; Anya et al.,). Various authors. in this part of the world have quoted caesarean section rates between 10-20% (Adinma, 1993; Kamal, 2002; Okonofua et al., 1988; Megafu, 1988). The caesarean section rate in this study was 17.3% which was within the range quoted above but higher than the rate of 11.4% (Adinma, 1993) ; 10.5% (Swende et al., 2007) and 15.8% (Mutahir et al., 2005) and lower than 23.1% (Oladapo et al., 2004), 24.1% (Naymi and Rehan, 2000) and 28.5% (Anya et al.,) reported in some studies.

The elective caesarean section rate in the study was 15.4% while the emergency caesarean section accounted for 84.6% of all cases of caesarean sections. There was an increase in the trend of elective caesarean section over the years as seen in the study with a rate of 12.4% in 2006 to 17.1% in 2009. These findings were similar to that obtained by a similar study conducted at Federal Medical Centre Makurdi, North Central Nigeria by Swende and coworkers which showed a rising trend of elective caesarean section rate from 10.3% in 2004 to 22.8% in 2006¹². The finding was also similar to an 18 year study conducted at Jos University Teaching Hospital which demonstrated a gradual increase in the trend of elective caesarean sections; where it rose from about 8.6% in 1985 to 27.4% in 2002 (Mutahir et al., 2005).

The elective caesarean section in this study was lower than the rate of 25.4% reported by Adinma (Adinma, 1993). The reason for the low incidence of elective caesarean section in this centre may partly be due to the practice of teenage marriage in our society, as such in the first pregnancy she may had caesarean section for cephalopelvic disproportion, while in the subsequent pregnancies she would have regained her pelvis and have a successful vaginal birth. This, unlike what is obtained in other societies where women delay marriage to pursue career and pregnancy is embarked upon lately with attendant medical conditions. This study and those conducted by Mutahir¹ and Adinma³ had shown a decline in the incidence of emergency caesarean sections with a concomitant rise in the elective caesarean section rate. The reason may partly be due to ever increasing list of indications for elective caesarean section, 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 ultrasound machine and cardiotocograph which fortunately were available in this centre.

Repeat caesarean sections due to two or more previous caesarean section were the commonest indications for elective caesarean section accounting for 51.3% of cases in the study. This finding was similar to the findings of Swende et al and Mutahir et al which also showed a repeat caesarean section as the commonest indication.

CONCLUSION

The overall caesarean section rate in our centre is 17.3% and the trend of elective caesarean section is rising with repeat caesarean section been the commonest indication.

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