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# Indications and Rate of Cesarean Delivery in Primigravida in Kogi State Specialist Hospital, Lokoja, Nigeria

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**Abstract:** Primary caesarean delivery rate is on the increase among primigravida. The indications and rate of cesarean delivery varies among hospitals, but the outcome is good for both mother and baby with early diagnosis and intervention. The aim of the study was to assess indications and rate of cesarean delivery in primigravida in Kogi State Specialist Hospital, Lokoja, Nigeria. The study was a prospective evaluation of the demographic characteristics of patients, types of cesarean delivery, indications, rate and outcome of cesarean delivery in primigravida in Kogi State Specialist Hospital, Lokoja, Nigeria between December 15, 2020 and December 14, 2021. Data collected were analysed using SPSS window version 20.0 statistical package. A total of 491 deliveries were recorded, out of these 113/491 (23.01%) cesarean deliveries were performed. The rate of cesarean deliveries in primigravida was 36/113 (31.9%), obstructed labour 18/36 (50.0%) was the commonest indication for cesarean delivery in primigravida and 30/36 (83.3%) of cesarean delivery in primigravida had no complication. The rate of cesarean delivery in primigravida due to obstructed labour in this study is high, however the early outcome is good and safe for both maternal and fetal health. Cesarean delivery therefore remains one of the means for reducing maternal and perinatal morbidity and mortality in Nigeria especially among the primigravida where decision making for primary cesarean delivery has a far reaching consequences in the productive health of women. It will be nice if future study will look at ways to prevent the prevalence of cephalopelvic disproportion, a Feto-Maternal problem common among our primigravida.

**Keywords:** Cesarean Delivery, Primigravida, Indications, Rate, Outcome, Lokoja, Nigeria

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## 1. Introduction

Cesarean delivery also known as c-section or cesarean section, is the surgical procedure by which one or more babies are delivered through an incision in the mother's abdomen, often performed because vaginal delivery would put the baby or the mother at risk [1]. Reasons for the operation include obstructed labour, twin pregnancy, high blood pressure in the mother, breech birth and problems with the placenta or umbilical cord [2]. The rise in rate of cesarean delivery are partly as a result of better surgical techniques and availability of blood transfusion and antibiotics, and partly because of social factors such as fear of litigation should there be any fetal or maternal morbidity and mortality or women aspiration to have a healthy baby. A very small proportion of the increase is due to maternal request for non-medical reasons [3].

The indications for cesarean delivery are grouped into

four categories depending on the urgency at the procedure: Category 1 or emergency cesarean delivery is carried out within the next 30 minutes because of immediate threat to the mother or the fetus e.g., abruptio placenta, cord prolapse; Category 2 or urgent cesarean delivery which should be completed within 60-75 minutes because of maternal or fetal compromise e.g., fetal heart rate abnormality; Category 3 or scheduled cesarean delivery where the mother needs early delivery and there is no immediate maternal and fetal compromise but continuation of the pregnancy is likely to affect the mother or the fetus in hours or days e.g., failure to progress in labour and lastly category 4 or elective cesarean delivery where the delivery is timed to suit the mother and staff e.g., placenta previa without bleeding and mal-presentation, brow, breech or previous cesarean delivery [4].

Caesarean delivery rate especially in primigravida are increasing worldwide because there are many indications such as maternal age and emergence of new indications such as maternal request for non-medical reasons [5]. Women and infants right are safe delivery naturally through the vagina, however, caesarean delivery are increasing now [6].

A caesarean delivery typically takes 45 minutes to an hour [2]. It may be done with a spinal block, where the woman is awake, or under general anaesthesia. A urinary catheter is used to drain the bladder and the skin of the abdomen is then cleaned with antiseptic. An incision of about 15 cm is then typically made through the mothers lower abdomen. The uterus is then opened with a second incision and the baby delivered. A woman can typically begin breastfeeding as soon as she is out of the operation room and awake [3]. They take longer time to heal from about six weeks than vaginal birth [2]. The increase risk include breathing problem in the baby and amniotic fluid embolism and postpartum bleeding in the mother [3]. Established guidelines recommend that caesarean delivery should not be used before 39 weeks of gestation without a medical reason [7].

Delivery by caesarean delivery is usually associated with high rate of pain, breastfeeding difficulties and next pregnancy complications; so assessment of benefits of caesarean delivery versus complications should be put into consideration before decision is made [8]. Caesarean delivery rate are increased generally, but we still find very big variations among hospitals may be due to clinical and non-clinical causes [9]. One-fourth of primary caesarean delivery is reported to be performed in the second stage of labour but appear more complicated to the ones performed in the first

stage [9]. The aim of this study was to asses the indications and rate of caesarean delivery in primigravida in Kogi State Specialist Hospital, Lokoja, Nigeria.

## 2. Methods

The study was a prospective evaluation of the demographic characteristics of patients, types of caesarean delivery, indications, rate and outcome of caesarean delivery in primigravida in Kogi State Specialist Hospital, Lokoja, Kogi State, Nigeria between December 15, 2020 and December 14, 2021. Data collected were analysed using SPSS window version 20.0 statistical package (IBM corp. Released 2011. IBM SPSS Statistics for windows, version 20.0 Armonk, NY: IBM corp).

## 3. Results

A total of 113 caesarean deliveries were performed during this period and 36 of the patients were primigravida, making the the rate of caesarean delivery in primigravida 31.9%. Majority, 61.1% of the primigravida were in the age group between 26 - 30 years. Emergency caesarean delivery was carried out in 77.8% of cases. Obstructed labour was the indication for caesarean delivery in 50.0% of the primigravida. Majority, 86.1% of cases spent less than five days in the hospital and there was no postoperative complication in 83.3% of the primigravida. The total number of hospital delivery within the study period was 491.

The age distribution of the primigravida who had caesarean delivery is shown in Figure 1. Majority 22/36 (61.1%) of the primigravida were in the age group of 26 - 30 years.

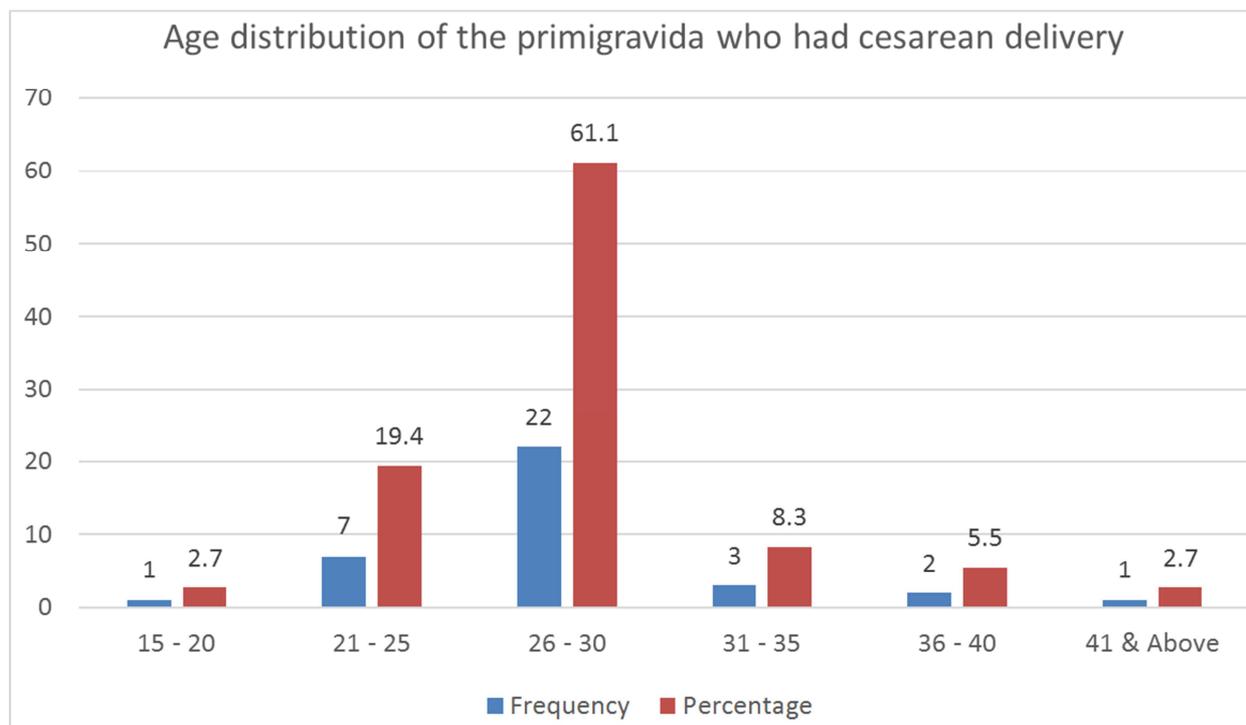


Figure 1. Bar chart showing the age distribution of the primigravida who had cesarean delivery.

All the patients had spinal anaesthesia and pfannestiel incision was performed in all the patients. The types of the cesarean delivery in primigravida are presented in Figure 2.

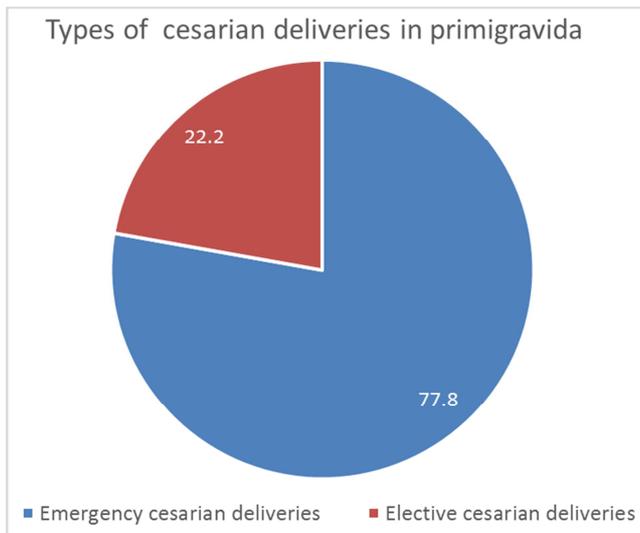


Figure 2. Pie chart showing types of caesarean delivery in primigravida.

Emergency cesarean deliveries were carried out in 28/36 (77.8%) of cases while elective cesarean deliveries were carried out in 8/36 (22.2%) of cases. Indications for cesarean delivery in primigravida is shown in Table 1.

Table 1. Indications for the cesarean delivery in primigravida.

Indications	frequency	percentage
Obstructed labour	18	50
Pre eclampsia/ eclampsia	7	19.4
Fetal distress	3	8.3
Oligohydramnios	3	8.3
Breech presentation	2	2.7
Antepartum haemorrhage	1	2.7
Transverse lie	1	2.7

Obstructed labour accounted for 18/36 (50%) of the indications for cesarean delivery in primigravida and this was followed by preeclampsia/eclampsia, fetal distress and oligohydramnios.

The complications of cesarean delivery in primigravida is shown in Table 2. There was no complication in 30/36 (83.4%) of the primigravida who had cesarean delivery, however wound infection rate of 3/36 (8.3%) was recorded..

Table 2. Complications of the cesarean delivery in primigravida.

Type of complications	frequency	percentage
No complication	30	83.3
Postpartum haemorrhage	1	2.7
Wound infection	3	8.3
Early neonatal death	1	2.7
Severe birth asphyxia	1	2.7

The length of hospital stay in primigravida who had cesarean delivery is shown in Figure 3.

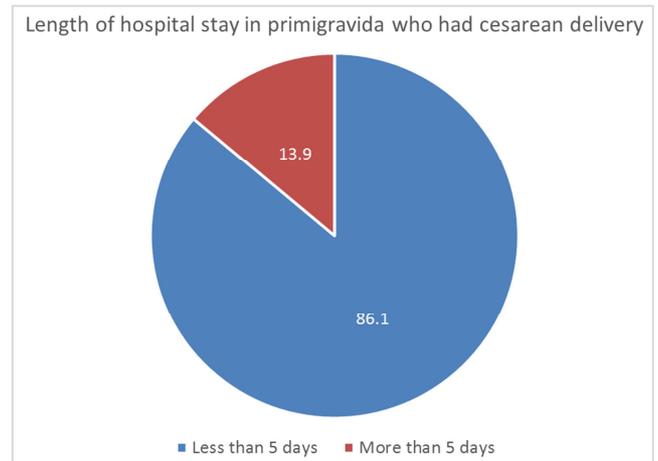


Figure 3. Pie chart showing the length of hospital stay in primigravida who had cesarean delivery.

Majority 31/36 (86.1%) of the patients spent less than five days while 5/36 (13.9%) spent more than 5 days in the hospital.

## 4. Discussion

Cesarean delivery in primigravida is increasing in rate now, because of many reasons or indications. In this study caesarean delivery rate in primigravida was 31.9% and obstructed labour was the commonest indication accounting for 50% of cases, followed by pre-eclampsia / eclampsia and fetal distress. This is far different from the study done in El-sharby Hospital, Alexandria, Egypt where fetal distress was the commonest indication for cesarean delivery in the primigravida [10]. In the study reported by Martins et al, dystocia was the most common indication for primigravida cesarean delivery, followed by breech presentation and finally fetal distress [11]. Belay et al, reported a similar cesarean delivery rate of 30.1%. In their report, most indications in the first stage of labour were non-reassuring fetal heart rate patterns accounting for 37.8%, followed by arrest or protraction disorder of 23.4% whereas the commonest indication for the second stage cesarean delivery was cephalo-pelvic disproportion accounting for 48.5% [9].

Cesarean delivery can be life - saving for both mother and child, but the indications and rates of cesarean delivery varies among hospitals in Nigeria [12-15]. High standards of obstetric care therefore remains one of the veritable tools for improving obstetric outcome especially among the primigravida where decision making for primary cesarean delivery has a far reaching consequences in the productive health of women.

The rate of cesarean delivery is increasing across Nigeria towns now with a rate ranging from 20.8 - 35.5% [12, 13] and this has become necessary as a result of advance in obstetric care and efforts being made to reduce maternal and perinatal morbidity and mortality. However, despite recent advances in safe obstetric cares in big Nigeria cities,

prolonged obstructed labour is still a major cause of obstetric morbidity and mortality in rural Nigeria where vesicovaginal fistula remains a problem [12].

The complications observed from the cesarean delivery among the primigravida in this study were few but the majority, 83.3% of the patients did not have any complication and they were discharged home with their babies within 5 days after surgery.

## 5. Conclusion

In conclusion, the rate of cesarean delivery was 31.9%, and obstructed labour was the leading indication for cesarean delivery in 50.0% of the primigravida. Emergency cesarean delivery was performed in 77.8% among young primigravida aged between 26 and 30 years. The outcome of cesarean delivery was good in more than 83.3% of the primigravida. The rate of cesarean delivery in primigravida due to obstructed labour in this study is high, however the outcome of emergency cesarean delivery in primigravida for obstructed labour was good and safe for both maternal and fetal health. Cesarean delivery therefore remains one of the means for reducing maternal and perinatal morbidity and mortality in Nigeria especially among the primigravida where decision making for primary cesarean delivery has a far reaching consequences in the productive health of women.

It will be nice if future study will look at ways to prevent the prevalence of cephalopelvic disproportion, a Feto-Maternal problem common among our primigravida.

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