

## ORIGINAL ARTICLE

# Prevalence of primary Caesarean Section deliveries among primiparous and multiparous women at Iringa Regional Referral Hospital, Tanzania

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**Introduction:** Primary Caesarean Section (CS) is an operation that is performed for the first time on a pregnant woman. Primary CS is of particular interest because it has an influence on future modes of delivery. There is also an issue about the original indication for the procedure both in a woman who has never tried her pelvis for vaginal delivery and a woman who has delivered vaginally in the past.

**Objectives:** To determine the prevalence, indications, and outcomes of primary CS deliveries among primiparous and multiparous women, and associations with some demographic characteristics among pregnant women who deliver at Iringa Regional Referral Hospital, Tanzania.

**Methods:** An analytical cross section hospital based study was used with a quantitative research approach. A sample size of 247 of primary CS deliveries was obtained. A structured questionnaire was used to collect the data and the Statistical Package for Service Solutions (v. 23) software programme was used for data entry and analysis.

**Results:** The prevalence rate of primary CS delivery was 247 (21.6%) out of 1144 deliveries between January 2017 and June 2018. The highest indication for CS was foetal distress which was foetal heart rate below 120b/m and above 160 b/m 79 (32.0%) followed by prolonged labour 65 (25.1%). Maternal outcomes revealed that 65 (26.3%) women experienced significant blood loss which was above 1000mls, with blood transfusion of at least more than one unit of blood (PPH) followed by 29 (11.7%) who experienced a high body temperature above 37.5 degree of centigrade. The new born outcomes found that 128 (51.8%) were unable to breast feed and 95 (38.5%) had low Apgar scores below 7 in the 1st and 5th minute.

**Conclusion:** There was a high prevalence of primary CS among primiparous and multiparous women which is above the recommended WHO threshold of 15%. Also, the highest indication for primary CS was foetal distress. The most common complication for the mother was significant blood loss and the commonest newborn complication was that the baby was unable to breastfeed.

**Key Words:** Caesarean Section (CS), primiparous and multiparous, Iringa, Tanzania

## INTRODUCTION

Caesarean Section (CS) is the surgical procedure by which a foetus is delivered through an incision in the mother's abdomen and uterus. It is called a primary CS when it is done for the first time on a pregnant woman.<sup>[1]</sup> Primary CS is of particular interest because it has an influence on future modes of delivery. There is also a concern about the indication for the procedure in a woman who has never tried her pelvis for vaginal delivery. It is a global issue because CS births are increasing,<sup>[1]</sup> with short and long term maternal and newborn implications,<sup>[2, 3]</sup> These include post CS infection, dangerous bleeding, increased need for blood transfusion, breathing problems and deaths among newborns, long hospital stay, risk of problems for future pregnancies including uterine rupture and maternal deaths.<sup>[1]</sup>

CS delivery is a commonly performed operation because it is a life-saving obstetric procedure for both the mother and the foetus and reduces poor obstetric outcomes.<sup>[1]</sup> Safety has increased following the introduction of good anaesthesia, blood transfusion facilities, and antibiotic prophylaxis. The rate of CS procedures has dramatically increased with its indications being liberalized to include foetal distress, dystocia, placenta praevia, as well as Bad Obstetric History (BOH).<sup>[2]</sup>

The objective of this paper was to determine the prevalence, indications, and outcomes of primary CS deliveries among primiparous and multiparous women, and associations with some demographic characteristics among pregnant women who deliver at Iringa Regional Referral Hospital, Tanzania.

## METHOD

An analytical cross section hospital based study with a quantitative research approach was utilized between January 2017 and June 2018. A sample size of 247 of primary CS deliveries was obtained. A structured questionnaire was used to collect data, and the Statistical Package for Service Solutions (v. 23) software programme was used for data entry and analysis.

## RESULTS

219 (88.7%) of the cases reviewed were aged between 19 and 39 years. Additional demographic characteristics of the respondents are shown in the Table 1.

Out of 1 144 deliveries, 247(21.6%) were primary CS deliveries and 897 (78.4%) deliveries were other than CS. Most of respondents who underwent primary CS delivery were multiparous (53%) followed by primiparous (47%), as shown in Figure 1.

As shown in Table 2, the commonest indications for CS were foetal distress (32.0%), prolonged labour (25.1%) and obstructed labour (20.2%).

For the maternal outcomes of the primary CS deliveries, there were significant blood loss per vaginam in only 65 cases (25%) and high body temperature in only 182 cases (11.7%). The newborn outcomes for live babies within days of hospital stay is shown in Table 3.

## DISCUSSION

It has been reported that primigravida women are more prone to primary CS deliveries and their associated outcomes as compared to multigravida women because locally used protocols, unsatisfactory staff motivation, inadequate capacities to handle cases among young doctors, midwives and availability of medical supplies and equipment [4]. This is contrary to what has been observed in the current study in which multiparous women who underwent CS section were found to be 53% as compared to primiparous women.

**Table 1. Demographic characteristics of the respondents (n=247)**

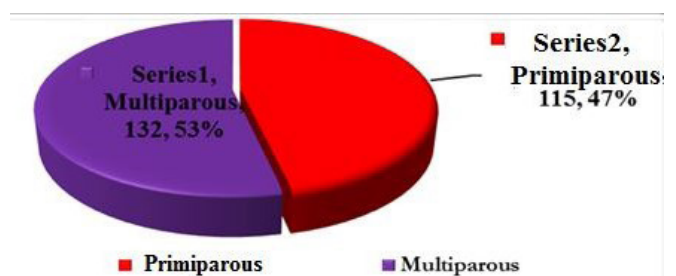
Characteristic	n (%)
<b>Age years</b>	
≤ 18	24 (9.7)
19 – 39	219 (88.7)
≥ 40	4 (1.6)
<b>Education level</b>	
No formal education	31 (12.6)
Primary education	81 (32.8)
Secondary education	53 (21.5)
College/University	82 (33.2)
<b>Marital status</b>	
Single	50 (20.2)
Married	197 (79.8)
<b>Occupational status</b>	
Employed	40 (16.2)
Self employed	96 (38.9)
Housewife	111(44.9)

**Table 2. Indication for Caesarean Section (n=247)**

Indicators	n (%)
<b>Foetal distress</b>	79 (32.0)
Obstructed labour	50 (20.2)
Malposition	33 (13.4)
Prolonged labour	62 (25.1)
Others	23 (9.3)
<b>Total</b>	247 (100.0)

**Table 3. Newborn outcomes for live babies within days of hospital stay**

Variable	n (%)
<b>Low Apgar Score</b>	
Yes	95 (38.5)
No	152 (61.5)
<b>Ability To Breastfeed</b>	
Yes	119 (48.2)
No	128 (51.8)
<b>High Body Temperature</b>	
Yes	28 (11.3)
No	219 (88.7)



**Figure 1. Prevalence of Caesarean Section delivery among primiparous and multiparous women**

This was consistent with findings from India<sup>[5,6]</sup> which found a higher prevalence of CS deliveries among multiparous women as compared to primiparous. This trend could be attributed to factors such as education level.

However, many women in Tanzania still deliver at home and only attend a hospital if there are problems such as prolonged labour. It is difficult to find out how many do this. The WHO threshold is for all births in a population, not just the hospital. The percentage may be lower than 21.6% when looked at in this way.

## CONCLUSION

The prevalence of primary CS in this study was 21.6% and the leading indications for primary CS were foetal distress, prolonged labour, obstructed labour, malposition, and others in that order.

## Recommendations

Based on the findings of the current study, it is recommended that there should be an innovative structured educational programme of training, seminars or workshops for healthcare providers so that they focus on the recommended indications for primary CS deliveries. This should be achieved by proper adherence to the guidelines for CS from the Association of Gynecologists and Obstetricians of Tanzania. This will ensure the CS deliveries are done for clear clinical indications. If these issues are not adequately addressed both locally and country-wide, there may be an unnecessary increased CS delivery rate and its associated maternal and newborn negative health impact will become worse.

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**Competing interest:** The authors declare that they have no competing interests.

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