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Prevalence of Caesarean Sections and Risk Factors at Kitagata General Hospital

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ABSTRACT

The study aimed to determine the rate of cesarean sections among patients at Kitagata General Hospital between January and May 2021. It used both descriptive and analytical methods, with theatre records as the main data collection method. Out of 2,467 deliveries, 72% were vaginal and 28% were Caesarean. The most common indications for Caesarean Sections were previous Caesarean Section, fetal distress, CPD, obstructed labor, prolonged labor, and malpresentation/malposition. The prevalence of Caesarean Sections was high, with common indications including previous Caesarean Section, fetal distress, CPD, obstructed labor, prolonged labor, and malpresentation/malposition.

Keywords: prevalence caesarean section, associated factors

INTRODUCTION

A caesarean section is a type of birth done by a surgical incision in the abdomen (laparotomy) and uterus (hysterotomy) to deliver a fetus or fetuses safely when a vaginal birth is not considered a safe route [1]. Despite worldwide concerns about the over utilization of Cesarean section in the recent years, many African women and/or theirs babies still die because of limited or no access to Cesarean section services [2, 3].

This definition of a caesarean section however, does not include removal of the fetus from the abdominal cavity in the case of rupture of uterus or an abdominal pregnancy. Cesarean section is a surgical intervention in case of serious delivery complications and has been life saving for long period. Advancements in health care system and access to medical facilities have greatly reduced the maternal and perinatal mortality. Cesarean section can be: elective a term used when the procedure is done at a pre-arranged time during pregnancy to ensure the best quality of obstetrics especially when a risk or a contraindication to vaginal delivery. Cesarean section is termed emergency

when it is performed due to unforeseen or acute obstetrics emergencies.

The World Health Organization considers Cesarean section rates of 5% -15% to be the optimal range for targeted provision of this life saving intervention for mother and infant. However, access to safe Cesarean section in resource-limited settings is much lower, estimated at 1-2% reported in sub-Saharan Africa [4, 5].

In 2008, the WHO estimated that over 350,000 women died in complications of childbirth Ninety-nine percent of these deaths occurred resource-poor in countries where access to family planning, antenatal care, and emergency obstetric services are limited. Outcome data from maternal health service data in rural Africa, where much of this mortality occurs, is difficult to obtain [6, 7]. The international community, through Millennium Development Goal 5 (MDG5), has committed to reducing the maternal mortality ratio by three quarters between 1990 and 2015. In order to reach this goal, there needs to be an expansion in access to basic emergency obstetric care (EmOC) which includes the provision of

antibiotics, oxytocin, and anticonvulsants, manual removal of the placenta and retained products of conception, and assisted vaginal delivery as well as comprehensive EmOC which includes safe

Study design

This study was a cross-sectional study that employed both descriptive [8] and analytical methods. Both quantitative and qualitative approaches were utilized with review of theatre records as the main method of data collection.

Study population

All women who gave birth at Kitagata general hospital within the study period of January – May 2021.

Inclusion criteria

All available records of women who delivered at Kitagata general hospital during the months of January to May 2021 whose was included in the study.

Exclusion criteria

Any deliveries that had occurred outside the study period and all those deliveries where the patients' records were incomplete or missing was excluded from the study.

Sample size determination

The sample size was determined using Fishers et al., 2013 formula i.e. $N=Z^2PQ/D^2$: Where;

N was the desired sample size

Z was the standard normal deviation taken as 1.96 at a confidence interval of 95%.

P was the prevalence of Caesarean Sections in a population = 28.84% (Mbarara study by [9].

D was the degree of accuracy= 0.05.

Q= (1-P) which was the population without the desired characteristics.

Therefore, N= $1.96^2 \times 0.2884 (1-0.2884) / (0.05)^2 = 315.36$

Three hundred and sixteen (316) delivering mothers was the sample needed

A total of 2,467 deliveries were recorded within the study period. Of these,

Cesarean section and blood transfusion [6]. The main objective was to determine the rate of cesarean sections among patients attended to at Kitagata general hospital between January and May 2021.

METHODOLOGY

but being a period prevalence study, all the deliveries conducted within the study period were enrolled for the study.

Sampling technique

Simple random sampling procedure was used and the theatre records of maternity ward reviewed. Simple random sampling was preferred since it gave each participant of the research an equal chance of being selected.

Data collection

Theatre registry review was utilized in data collection. Patient records was the key source of data concerning demographics, diagnosis Pre and Post operatively, delivery type and outcomes as well as follow-up.

Ethical consideration

An introductory letter obtained from the Faculty of Medicine and Dentistry, KIUwestern Campus was submitted to the Medical superintendent Kitagata general hospital to obtain permission for collecting data from records department of obstetrics and gynecology unit. All results were treated with utmost confidentiality by ensuring that only authorized people had access to them. To ensure anonymity, no names were used but instead codes only known to the researcher [10].

Data analysis

After the data collection process, data collected was cross-checked for completeness then entered and analyzed statistically using Microsoft excel and statistical package for social sciences programs. It was presented in tables, figures and graphs.

RESULTS

1767(72%) were vaginal deliveries while 700(28%) were Caesarean sections.





Table 1: Distribution of delivery modes by age groups							
AGE	GROUP	CASAREAN	NORMAL	TOTALS			
(years)		DELIVERY n (%)	DELIVERY n (%)	N (%)			
< 20		60 (10%)	696 (58%)	756 (32%)			
20-29		315 (52%)	571 (23%)	886 (38%)			
30-39		189 (32%)	389 (10%)	578 (25%)			
40 and abov	/e	36 (6%)	111 (9%)	147 (5%)			
TOTALS		700 (100%)	176 7 (100%)	246 7 (100%)			

able 1: Distribution of delivery modes by age grou	oups
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Table 1: Distribution of delivery modes by age groups (N=2467)



Figure 2: Bar graph representing the proportions of CS to SVD in the different age groups

It is clear, from table 1 and figure 3 above, women between the ages of 20-29 and 30-39 have increased the number of CS deliveries at Kitagata general hospital. 315 of the 571 women between the ages of 20-29 were delivered via CS (55.2%) while 189

out of the 389 women between the ages of 30-39 were also delivered via CS (48.6%). Only 8.62% of those less than 20 years, and 32% of those above 40 years were delivered by CS.

Table 2: Parity and rate of caesarean deliveries								
PARITY	CAESAREAN SECTIONS	VAGINAL DELIVERIES		TOTALS				
Primiparous	442 (72%)	1085	(63%)	152	7(69%)			
Multiparous	258 (28%)	682	(37%)	940	(31%)			
TOTALS	700 (100%)	176	7(100%)	246	7(100%)			
Table 2: Odds of CS delivery by parity $(N=2467)$								

CS delivery by parity (N=2467)

above table, From the primiparity increases the odds of delivering by CS

slightly. (Odds Ratio=1.08) while multiparity increases the risk by 0.93.



Figure 3: Various indications for CS

The various indications for CS among mothers delivered at Kitagata general hospital within the study period were, Obstructed labour (30%), Cephalopelvic disproportion (27%), Previous scar (CS) (19%), Prolonged labour (14%), and Others (10%).

Those falling under the others category included, but not limited to, cervical dystocia, face presentation, malpresentation of first twin, cervical oedema, eclampsia and pre-eclampsia, retained second twin, cord presentation, foetal distress, precious-baby, preterm labour, multiple pregnancy, uterine rupture, placenta Previa, and elective by mother's preference.

We therefore see that the commonest indication for CS was obstructed labor and the lowest indication was for other indications of CS.

CLASSIFICATION	FREQUENCY OF CS (n)	PERCENTAGE (%)
Booked	100	14%
Un-booked	415	59%
Referral	185	26%
TOTAL	700	100%

Table 3: Classification of mothers delivered by caesarean section

Unbooked CSs had a higher incidence (59%), followed by referrals from peripheral facilities to Kitagata general hospital (26%). However, the incidence was

really low for booked caesarean sections (14%) compared to those in other categories.

DISCUSSION

The overall prevalence of CS in this study was 7.7%, the risk factors being age between 20-29, 30-39 years, and primiparity.

The indications for CS met were Obstructed labour, CPD, Previous CS, Prolonged labour, pre-eclampsia with fetal distress, malpresentation and malposition.

The prevalence is lower than the ideal recommended rate of 10% - 15% [11]. This could be attributed to either discrepancies in the recording of caesarean sections done at the hospital or reduced access to hospital facilities and poor health seeking behaviors that affect the performance of successful Caesarean sections.

It could also mean that the rate of teenage pregnancies have decreased and more mothers are now delivering when they are within the ages of 20-39 in this district possibly due to female child education.

This value is lower than the China one of 54.4% [12] which could be attributed to, others, the huge among population difference between China and the population in our study area and also slightly lower than the 27.6% seen in Southwest Ethiopia [11].

This too could be attributed to difference in population dynamics and Ethiopia being a bit advanced in terms of Health sector knowhow than us. They are, however, higher than those of Saudi Arabia (19.05%) [13].

This could be attributed to cultural and religious differences between the populations. The Saudi's are much more reserved and restrictive in terms of involving reproduction matters and reproductive health [14]. Jaipur India [4],

The prevalence of Caesarean Sections is high, and the commonest indications for Caesar were Previous Caesarean Section, Fetal distress, CPD, obstructed labour, prolonged labour and malpresentation/malposition.

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Nepal [15] had higher prevalence than ours but rural India's (18%) and urban India's (5%) [16] were far lower.

Closer home, it is of significant relevance to find that our study findings were very much different from those from Mbarara Regional Referral Hospital. The prevalence of CS there was 24.84% [17], a fact that might be reflective of differences in cultural and population dynamics. Also it may be indicative of the marked differences in characteristics and size of the catchment areas of the two hospitals.

Our risk factors and indications for CS mirror those from various previous studies done elsewhere. All these findings revolve around problems with the passage, passenger [18]. or powers These indications were CPD (32.3%), previous CS (24.2%), Fetal distress (18.12%) and malpresentation/malposition (8.8%) [11]. In Saudi Arabia, indications were difficult

labor, fetal distress, malpresentation/ malposition [19], in China it was CPD, fetal distress, previous CS, malpresentation, breech presentation and macrosomia [12]. The indications were similar in [20], and Garage [11].

Fetal distress, contracted pelvis, repeat sections and obstructed labour were the indications in Mbarara [17] and Fort-portal [21].

CONCLUSION

This high prevalence could be indicative of both positive or negative factors e.g., positive would-be increased facility-based deliveries and thus more complications that would necessitate CS are dealt with.

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