https://www.eejournals.org Open Access
Eurasian Experiment Journal of Scientific and Applied Research (EEJSAR) ISSN: 2992-4146
EEJSAR Publications Volume 4 Issue 3,2023

Factors Influencing Women's Use of Caesarean Section Delivery at Fort Portal Regional Referral Hospital in Fort Portal City, Kabarole District, Western Uganda

Omagor Canon

Faculty of Clinical Medicine and Dentistry Kampala International University Western Campus

ABSTRACT

The baby is delivered via abdominal and uterine incisions during a Caesarean section, usually known as a C-section. Worldwide, the percentage of cesarean deliveries has increased significantly over the past few decades and now exceeds the WHO-recommended 10-15%. A descriptive and analytical cross-sectional study design, both qualitative and quantitative, was carried out at the maternity ward of Fort Portal Regional Referral Hospital (FPRRH) in fort-portal city, Kabarole District, Western Uganda, in order to identify the factors influencing caesarean deliveries and ultimately determine the mean rate of caesarean deliveries. 300 respondent mothers who were either admitted to or delivered from the maternity department were questioned in order to ascertain the factors influencing caesarean sections among women in the maternity unit. Semi-structured surveys, interview guidelines, and document review guides were all employed. According to the report, the recommendation of medical personnel accounted for 21.0% of all caesarean sections. Fort Portal Regional Referral Hospital's CSR was 30.5% on average. The age of respondents, whether or not they were married, the respondents' educational level, residing in an urban location, maternal illness, and prior cesarean section were additional factors linked to or influencing Caesarean delivery, among others. The need for a caesarean birth was significantly impacted by socioeconomic characteristics (regular household income and occupation). The WHO's standard of 10-15% is exceeded by Fort Portal Regional Referral Hospital's caesarean section rate (30.5%). Other elements influencing or connected to Ca as a result, there is a critical need to regularize monitoring and reviews of caesarean section rates and to educate mothers about the issues they should take into account when deciding on this delivery method. The researcher advises students and other researchers to conduct additional research on this subject, expectant mothers to receive thorough education regarding the short- and long-term benefits and drawbacks of using a caesarean section as a mode of delivery, and health professionals to prioritize caesarean section over spontaneous vaginal delivery (SVD) only when necessary.

Keywords: Caesarean delivery, Baby, Mother's abdomen, Health workers, Vaginal delivery.

INTRODUCTION

Caesarean section (CS) is the most commonly performed surgery in obstetrical care. It can be life-saving and is also a highly effective procedure for preventing complications such as dystocia [1]. Caesarean deliveries, whether elective or medically necessary, have risen dramatically in recent decades in the United States. This made evidence-based research on methods, postoperative care and how to safely reduce their incidence became more imperative (American College of Obstetricians and Gynecologists [2]. Cesarean section delivery rate is the total number of resident caesarean deliveries among women divided bythe total number of all deliveries for a specified geographical area (country, province, city or hospital)during a specified time period per 100 live births [3]. It is sometimes expressed in percentage (%). American College of Obstetricians and Gynecologists [2] argued that caesarean section can be done for a number of reasons (indications). Some of the indications, among others, are failure of labour progress or obstructed labour, fetal problems such as umbilical cord prolapses or compression, big baby, malposition of the baby, oblique lie, and cervical dystocia as well as contracted maternal pelvis. A recent study by [4], similarly reported that Caesarean birth rates continue to rise worldwide with the recent rate in the year 2016 being 24.5% in Western Europe, 32% in North America, and 41% in South America. Wylie and Mirza found, from data from 36 developing countries, that the CS rate in the least-developed countries was often <5%. However, CS appeared to be overused in most developed countries and emerging economies. The CS rate in those countries stood at more than 30%. Other large ecological studies arrived at similar conclusions. From 2004 to 2008, the WHO conducted a global survey on maternal and perinatal health with 373 health facilities selected from 24 countries across Latin America, Africa and Asia. Although the data were not nationally representative, China was reported to have the highest CS rate (46.2%) in the global survey. The other countries ranged from 1.62% (Angola) to 42.0% (Paraguay). It is worth noting that, in 23 countries, excluding China, the CS rate without medical

indications ranged between 0.01% and 2.10%. In contrast, this figure was 11.6% in China, accounting for 63% of all CS without medical indications for the 24 countries surveyed. According to the World Health Organization [1], the ideal rate for caesarean sections is between 10% and 15%. Over the years, however, caesarean sections have become increasingly common in both developed and developing countries. When medically necessary, a caesarean section can effectively prevent maternal and newborn mortality. WHO further argues that when caesarean section rates rise toward 10% across a population, the number of maternal and newborn deaths decreases when the rate goes above 10%, there is no evidence that mortality rates improve. The lack of a standardized internationally accepted classification system to monitor and compare caesarean section rates in a consistent and action-oriented manner is one of the factors that has hindered a better understanding of the trend of Caesarean section rates. The practice of standard precautions is very important in the improvement of services [5]. Organization of Economic Co-operation for Development [6] argued that nevertheless, caesarean delivery continues to result in increased maternal mortality, maternal and infant morbidity and increased complications for subsequent deliveries, raising questions about the appropriateness of caesarean deliveries that may not be medically required. Robson and [7] reported that recent analyses suggested that the optimal global Caesarean Section rate is almost 20%. Attempts to reduce Caesarean Section rates in developed countries seemed notto have worked at all. They noted that the strongest predictor of caesarean delivery for the first birth of low-risk women appears to be maternal age; a factor that continued to increase. Most women whose first baby is born by caesarean delivery will have all subsequent children by caesarean delivery. Just like with any surgery, caesarean sections are associated with short- and long-term risk which can extendmany years beyond the current delivery and affect the health of the woman, her child, and future pregnancies. These risks are higher in women with limited access to comprehensive obstetric care. In fact, [4] found that Cesarean delivery is associated with future sub-fertility and several subsequent pregnancy risks such as placenta previa, uterine rupture, and stillbirth. In their submission on complications of C-section, [7] also reported that longer-term outcomes, such as pelvic organ prolapse and urinary incontinence, are closely related to the mode of birth, and up to 20% ofwomen will undergo surgery for these conditions. Furthermore, [8] opined that Caesarean section surgery, when medically indicated and performedby trained staff with the necessary equipment and supplies can be a life-saving procedure for the mother and baby.

Statement of Problem

Caesarean section use continues to rise globally, now accounting for more than 1 in 5 (21%) of allchildbirths. This number is set to continue increasing over the coming decade, with nearly a third (29%) of all births likely to take place by caesarean section by 2030, the research finds [9]. Worldwide caesarean section rates have risen from around 7% in 1990 to 21% today, and are projected to continue increasing over this current decade. If this trend continues, by 2030 the highest rates are likely to bein Eastern Asia (63%), Latin America and the Caribbean (54%), Western Asia (50%), Northern Africa (48%) Southern Europe (47%) and Australia and New Zealand (45%), the research suggests [9]. In sub-Saharan Africa, 1276 women underwent a Cesarean section, giving a frequency of 6.2% (range 4.1- 16.8%). The most common indications were obstructed labour, poor presentation, previous caesarean section,fetal distress, uterine rupture and antepartum haemorrhage. Parity >6, uterine rupture, antepartum haemorrhage, and pre-eclampsia/ eclampsia were associated with maternal death. Uterine rupture, antepartumhaemorrhage, and cord prolapse were associated with early neonatal death [10]. In Kenya, for example, the C-section rate ranges from 2.4% in the poorest quintile to 19% in the richest quintile, as estimated from a nationally representative survey conducted in 2014 [11]. Caesarean delivery rates increased both at facility and population levels in Uganda. Overall, the CS rate for live births at facilities was 9.9%, increasing from 8.5% in 2012 to 11% in 2016. The overall population-based CS rate was 4.7% and increased from 3.2 to 5.9% over the same period. Health Centre IV-level facilities had the largest annual rate of increase in CS rate between 2012 and 2016. Among all 112 districts, 80 (72%) had a population CS rate below 5%, while 38 (34%) had a CS rate below 1% over the study period. Overall, Uganda's facility-based CS rate is projected to increase by 36% (PRR 1.36, 95% CI 1.35– 1.36) in 2021 while the population-based CS rate is estimated to have doubled (PRR 2.12, 95% CI 2.11– 2.12) from the baseline in 2016 [12]. A study done in Mbarara Regional Referral Hospital (MRRH), found that the Caesarean Section Rate (CSR)was greater than 24% for the past four years and was 25% in the month of April 2011. Specifically, the CSR for MRRH was 24.1% in Financial Year 2006/2007, then 28.4% in the Financial Year 2007/2008 28.5% in the Financial Year 2008/2009 and lastly 27.7% in the Financial Year 2009/2010. This finding contradicted the one published by the Uganda Demographic Health survey, which had put CSR for Uganda to vary between 4% in the Western region and 1.5% in the northern region [13]. In Fort Portal regional referral hospital, from January- March 308 mothers underwent C-sections in 2022 compared to 108 who were operated on in January-March 2021(Fort Portal regional referral hospital records, 2021 and 2022). From this unpublished data, there is a need to know the factors that contribute to the caesarean section in Fort Portal Regional Referral Hospital. C-section is a delivery mode supposed to be offered to mothers in obstetric emergencies; however, some C- section deliveries are done without any emergencies. Therefore, the study was to assess and analyse the possible alternative reasons resulting from the presumed increased C-section deliveries and possible strategies to minimise this challenge.

Aim

This included the main objectives and specific objectives of the study.

Main Objective

To identify the factors that contribute to caesarean section deliveries among women at the maternity ward of Fort Portal Regional Referral Hospital.

Specific Objective

- To study the maternal and fetal factors that contribute to caesarean section deliveries among women atthe maternity ward of Fort Portal Regional Referral Hospital.
- To explore how the socio-economic factors, influence caesarean section deliveries among women at thematernity ward of Fort Portal Regional Referral Hospital

Omagor, 2023.

- To determine the average rate of caesarean section deliveries among women at the maternity ward ofFort Portal Regional Referral Hospital.

Research Question

i. What are the factors that contribute to caesarian section deliveries among women at the maternityward of Fort Portal Regional Referral Hospital?
ii. What is the average rate of caesarean section deliveries among women at the maternity ward of FortPortal Regional Referral Hospital?

METHODOLOGY

Study Design

A Descriptive and Analytical Cross-sectional study design was used. The study was conducted in the month of August, September and October 2022. Both qualitative and quantitative dimensions were taken, thus a mixed-method study. The choice of this design was based on its Strengths. These are relatively quick and easy to conduct (no long periods of follow-up), data on all variables are only collected once, and the ability to measure prevalence for all factors under investigation, multiple outcomes and exposures can be studied, among others [14].

Area of Study

This study was carried out in Portal Regional Referral Hospital commonly known as Fort Portal Hospital sometimes referred to as Buhinga Hospital which is located in the city of Fort Portal-Kabarole District in western Uganda. It is the Referral Hospital for the districts of Kamwengye, Bundibugyo, Kabarole, Kasese, Ntoroko and Kyenjojo. According to the 2022 national census, the population area of Fort Portal was 18.2 km2, with a population size of about 52,932. Whereby 27,053(51.1%) were females and 25,879(48.9%) were males thus the hospital receives a number of women ready to deliver from the hospital and other areas within the district and beyond. The facility has a number of consultant doctors, as well as specialists in various fields, obstetrics and gynaecology, being among them. Fort-portal district is characterized by high fertility rates among women which translates to the increasing population in the District.

Study Population

The study population included mothers admitted to the maternity ward of Fort-Portal Regional Referral in the 3 months of August, September and October 2022.

Study Unit

The unit of study was a mother admitted to the maternity ward of Fort Portal Regional Referral Hospital.

Inclusion Criteria

The respondent mothers included those pregnant mothers who were admitted to the maternity ward of Fort Portal Regional Referral Hospital or all who delivered from the ward within the study period.

Exclusion Criteria

Mothers who gave birth outside the Hospital and were admitted to the maternity ward for postpartum complications aswell as medical records with incomplete data were excluded. Mothers who were unconscious were also excluded.

Sample Size Estimation

The formula for calculation of sample size (n) when population size (N) is known was used to determine the sample size. This is called the Taro Yamane formula (1967:886) and it provides a simplified formula tocalculate sample sizes. Assuming a 95% confidence level and maximum degree of variability of the attributes in the population, p = 50% (0.5), the sample size is calculated as below;

$$n = \frac{N}{1+(e)^2}$$

Where n is the sample size, N is the population size and e is the level of precision (Sampling error 5%)

Over the three-month period, the total in-patient admission was 1200 mothers with an average of 400 mothersper month.

Thus;
Sample n=

$$\frac{1200}{1+1200(0.05)^2}$$

n =**300** respondents.

Sampling Procedures

A purposive sampling technique was used to identify the key informants to be interviewed. The selection of these informants was

predetermined before starting the study. However, a Simple random technique was used to identify the respondent mothers. All mothers who met the inclusion criteria were assigned a random number, and the researcher made copies of those random numbers in wrap-up pieces of paper. The researcher then drew the numbers representing each mother randomly from the different groups of mothers. This exercise was repeatedly used by way of picking until the sample size, n, was reached. Using these numbers, the researcher then went to the wards where the mothers were traced the mothers using the numbers and interviewed them there and then. Independent Variables. These included Socio-demographic factors (Age, Marital status, Residence, Education level, living environment), Socio-economic factors (Regular household income and Occupation), Pre-natal factors (Gestational age, Parity, Birth order, Doctors suggestion, Counselling directed towards preferred choice) andfinally into Family factors (Husbands preference, Self-evaluated difficulty in getting pregnant). The intervening variables of this study were previous caesarean section, Mal-position/malpresentation, fetal distress, and Antepartum haemorrhage. Others include Attending ANC services as well as use of contraceptives. Dependent Variable Cesarean section delivery.

Data Sources

Both secondary and primary data were used. The secondary data from patient files (hospital records) for the study period, 3 months, August, September and October 2022 was retrieved. These were records of patients admitted to maternity wards. On the other hand, primary data was collected from respondent pregnant mothers.

Data Collection Tools and Techniques

The following tools were used; a Document Review Guide (Observation Checklist) and Semi-structured questionnaires. Review Guide was used to guide and extract information, for the three (3) months, on the number of caesarean Sections conducted, total number of deliveries and number of total in-patient admissions made. A semi-structured self-administered questionnaire was also used by the researcher to record individual responses from the mothers.

Data Entry and Cleaning

The data obtained was checked for completeness, cleaned and sorted to eliminate obvious inaccuracies and omissions. The data was then coded and entered into the computer.

Data analysis

Data was entered into the Microsoft Excel program for analysis. Descriptive tests were done to determine the percentages, and frequencies (proportions) of the different variables such as demographic data, socioeconomic status, parity, and maternal and fetal factors contributing to the use of C-section as a delivery mode.

Measurement of Variables

The variable "Delivery by C-section" was the dependent variable and it was measured in terms of the proportion of women who have delivered by C-section. The independent variables included the socio-demographic factors, parity, maternal and fetal factors, socioeconomic status, and prevalence of C-sections will be measured in percentages. Specific statistical tests were done to determine the relationship between different factors and the use of C-section as a delivery mode.

Quality Control

To ensure quality control the researcher conducted a pre-test study using eight (8) questionnaires in the Fort Portal Referral Hospital maternity ward and data was collected before the actual study. This helped in the reconstruction of the questionnaire where necessary.

Ethical Considerations

The research proposal was approved by the supervisor and the faculty of Clinical medicine dentistry, KIU- WC. Official permission was given by the administration of the Faculty (letter attached). Ethical approval was obtained from the faculty of clinical medicine and dentistry, KIU-WC. Approval was obtained from the hospital administration of Fort Portal Regional Referral Hospital (letter attached). The in charge of the Obstetrics and Gynaecology ward was informed about the study and permission to access records of the ward was sought. To keep the privacy of mothers' history, the name and address of the mothers was not included in the study [15].

RESULTS

Factors contributing to caesarean section deliveries at the maternity ward of Fort Portal RegionalReferral Hospital

To establish the factors contributing to Caesarean Section Delivery in Fort Portal regional referral hospital, a sample size of 300-respondents (mothers) was considered and interviewed. 200 0f these were mothers who underwent C-sections and were admitted to the hospital at the time of the study. Their responses were entered into SPSS and bi-variate analysis was made between Caesarean delivery and the corresponding variables.

Independent Variables, Dependent Variables and Intervening Variables

The study found a number of factors associated with or influenced Caesarean delivery at FPRRH. These were categorised into dependent variables, independent variables and intervening variables. In this study, the dependent variable was delivered by C-section while the independent variables of this study were further divided into Socio-demographic factors (Age, Marital status, Residence, Education level and Living environment), Socioeconomic factors (Regular household income and occupation), Pre-natal factors (Gestational age, parity, doctors suggestion, ANC attendance, Cephalopelvic disproportion, Multiple babies, and Family planning methods) and finally into Family factors (Husbands preference, Self-evaluated and difficulty in getting pregnant). Other factors such as previous caesarean, Mal-position/malpresentation, fetal distress, and Ante-partum haemorrhage, were categorised as intervening variables. The ratings of how each factor contributes to C-sections among mothers at FPRRH were recorded in the table below;

Table 1: The ratings of each C-section contributing factors in percentages.

Factors	Frequency(/300)	%age(100)
Socio-demographic factors		
• Maternal Age	**20**	10.0
• Marital status	2	0.7
• Residence	3	1.0
• Education level	5	1.7
• Living environment	3	1.0
Socio-economic factors		
• Regular hold income	2	0.7
• Occupation	4	1.3
Pre-natal determinants		
• Gestational age	3	1.0
• Parity	5	0.7
• Cephalopelvic Disproportion(CPD)	32	8.3
• Multiple babies	7	2.3
• Doctors suggestion (Counselling directed towards preferred choice)	42	25
• Attending ANC services	2	0.7
• Family planning methods (stillbirth, abortions)	2	0.7
Family determinants		
• Husbands preference	3	1.0
• Self-evaluated (fear of delivery pain)	3	1.0
• Difficulty in getting pregnant.	3	1.0
Intervening variables		
• Previous caesarean	37	21.7
• Mal-position/malpresentation	4	0.7
• Fetal distress	25	16.3
• Antepartum haemorrhage (abruption/placenta	3	1.0

previa)	7	1.0
• Contraceptives	28	9.3
• Prolonged and obstructed labour	5	1.0
• Post-dated pregnancy	40	23.3
• Chronic health condition (Hypertension disorder, diabetes, obesity)		

For the purpose of this study, the researcher concentrated on the first top 7- major contributing factors C- section deliveries among mothers at the maternity ward of FPRRH. This included: doctor suggestions (Counselling directed towards preferred choice) accounting for 21.0% of the mother's record. This was followed by chronic health conditions such as hypertension, HIV, genital herpes etc. among mothers which accounted for 20.0% of the mothers on record. Other common factors were previous C-section scar(18.5%), prolonged labour (9.3%), fetal distress (12.5%), maternal age(10.0%) and CPD with 16.5.% These can be illustrated in the table below.

Table 2: An illustration of the major factors contributing to C-section in percentages

Factors	Frequency (out of **200**)	%age (out 100)
Obstetrics and gynaecology Doctors advise and decision	42	21.0
chronic health condition (Hypertension disorder, diabetes, obesity)	40	20.0
Fetal distress	25	12.5
Maternal Age	20	10.0
CPD	32	16.0
Previous scar	37	18.5
Others	04	2.0
Total	200	100

Decision-based on Obstetrics and Gynaecology Doctor Counselling Directed towards PreferredChoice)

From the above table, the study reveals that the biggest percentage of a mother going through C-sections at FPRRH were following advice from their doctors. This accounted for 21.0% of the mothers on record. A 37-year-old mother of 3, when asked, responded that it's her doctor who always delivers her baby and she trusts and follows her doctor's advice. The mother of three had been going through C-section delivery mode forher every delivery. It should be noted that some doctors could have their own personal motives and benefits like maybe soliciting money from the mother.

Chronic Health Conditions

The study revealed that virginal birth was very difficult for mothers with chronic health challenges like hypertension, diabetes, HIV, heart disease, genital herpes etc. These mothers were more likely to undergo C-C-section reason being that they were not fit enough to push a baby on their own. C-section was recommendedfor mothers with transmissible diseases like HIV or genital herpes 20% of mothers at FPRRH with chronic health complications undergo C-section delivery.

Previous C-section

The study found that 18.5% of the mothers had previously undergone C-section delivery. Mothers whohave had certain types of C-sections in the past may face a higher risk of uterine rupture, due to this, the majority of the mothers at FPRRH are unable to have a vaginal birth. Some mothers are just scared to go through natural delivery and since they have never tested C-section, they feel it's a better method for them.

Cephalopelvic Disproportion (CPD)

In cases where the mother's pelvis is too small for safe delivery, it is called cephalopelvic disproportion (CPD). Cephalopelvic disproportion (CPD) usually occurs when the baby is big and the mother's pelvis is too small for the baby. This is a very tricky situation. For this case, the obstetrics and gynaecology doctor would recommend for caesarean section to avoid causing trauma to the baby and mother. This comprised 16% ofthe mothers on record.

Fetal Distress

Fetal distress occurs when the baby is not receiving enough oxygen (a sign that your baby is not doing well).According to the study, 12.5% of the mothers who undergo C-sections at FPRRH are victims of fatal distress.

Prolonged labour

When a new mother goes into labour for more than 20 hours or when a mother who has never given birth previously goes into labour for more than 14 hours, it is called "failure to progress or stalled labour" Prolonged labour may call for immediate help and inform of an emergency c- section. The study indicates that 9.3% of the mothers who undergo C-sections at FPRRH were faced with stalled labour. It should be noted that some of these were referrals from other hospitals and they reach when they are already tired.

Maternal Age

Finally, the study found out that out of the major causes of C-sections, maternal age took the 7th ranking with10.0%. Among these, 8.0% were (20-40) years of age and 2.0% were above the age of 40. This can be illustrated in the table below:

Table 3: Maternal age illustration

Age	**Frequency**	**Out of (10)**		**Out of (100%)**
20-40	16	8.0		80
Above 40 years	4	2.0		20
Total	20	10		100

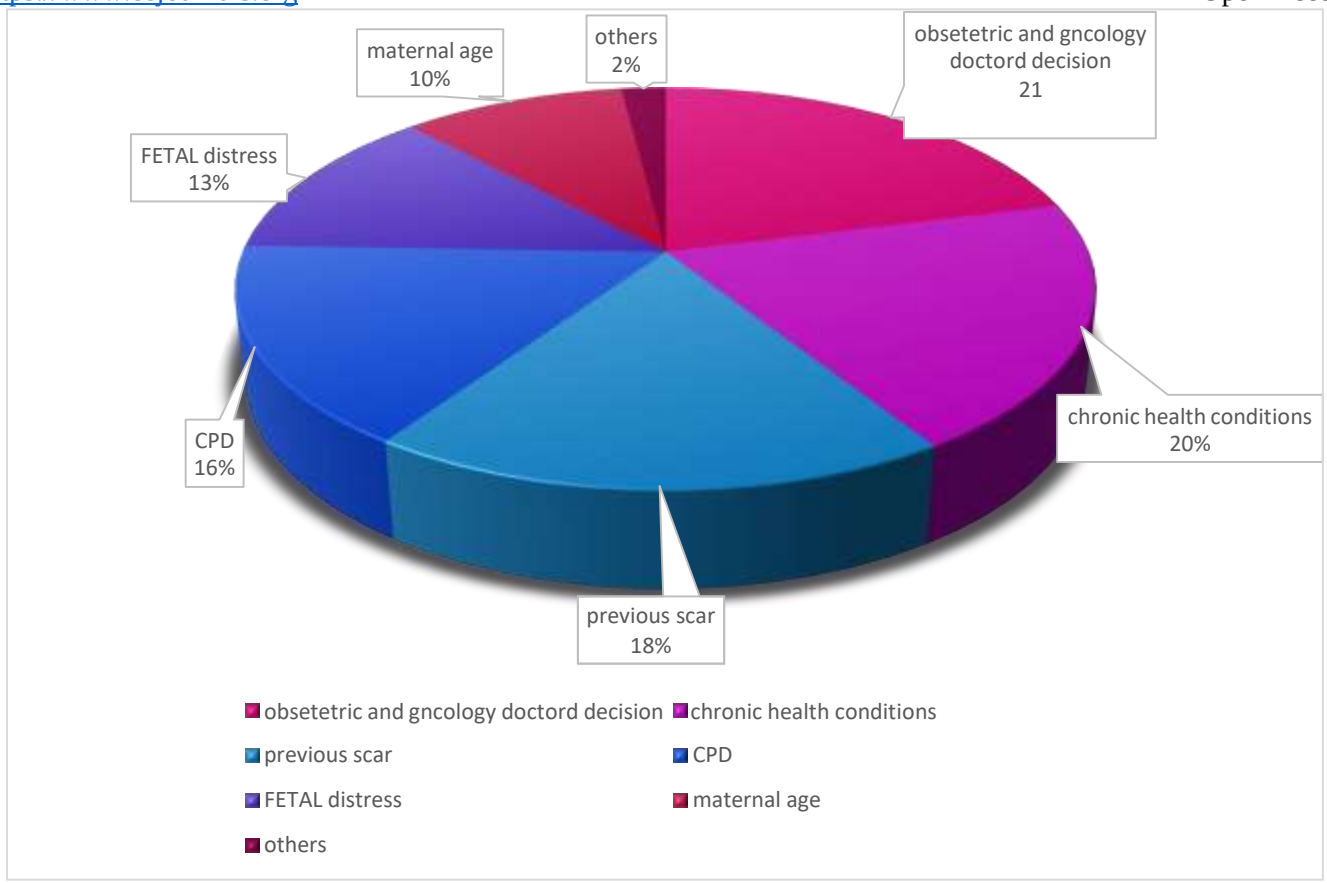

Figure 1: Graphical representation of the most common causes of c- section in percentages (%age)

Socio-Economic Factors Contributing to Caesarean Deliveries at the Maternity Ward of FortPortal Regional Referral Hospital.

For Socioeconomic factors, the researcher briefly looks at the marital status of the mother, the girl child's education,preferences, living environment and household incomes among others.

Marital Status: (Married vs. singles)

Not being married was a factor contributing to Caesarean delivery and again these respondents were 2 timesmore likely to deliver by Caesarean section than their married counterparts.

Education level

It is 4.8 times, 2.3 times and 1.1 times more likely for the respondents who had Primary, Post-primary andtertiary education, respectively, to deliver by Caesarean section than those who had no education.

Living Environment

Mothers who lived in an urban setting were 2.8 times more likely to deliver by Caesarean section as opposed totheir rural counterparts.

Regular House Hold Incomes

Respondents who earned UGX100.000/ = to UGX300.00/ = and those who earned more than UGX300.000/ = were 11 times and 2 times more likely to deliver by Caesarean section than those mothers who earned less than UGX100.000/ =. Whereas occupation was highly significant to delivering by Caesarean section, the formally employed mothers and housewives were found to be 0.3 times less likely to deliver by Caesarean section than their peasant counterparts respectively. Even so, Multiparous mothers were 4.5 times more likely to deliver by Caesarean section than Para 0 and Para 1 mothers.

Preferences

Similarly, mothers whose preferred choice of mode of delivery was no C-section were 0.4 times less likely todeliver by Caesarean section. Lastly, mothers whose reason for the preferred choice of mode of delivery was based on the doctor's suggestion were 2.4 times more likely to deliver by Caesarean section. Likewise, mothers whose choice of mode of delivery was based on their husband's preference were less likely to deliver by Caesarean section.

Other factors

For the case of this study, a prenatal factor of multiple pregnancies was chosen.

Multiple Pregnancy

Women carrying more than one baby (quintuplets, triplets even twins) would need C-sections depending on the position of the babies in the womb and how far the mother has been in pregnancy. This is a rare condition but very possible. According to the study, at least 2.3% of babies born at FPRRH are multiple babies. In conclusion, the Age of respondents is less than 20 years, not being married, and the educational level of respondents, living in an urban setting, among others. All the socio-economic determinants (regular household

income, and occupation) highly influenced caesarean delivery in the health facility. On the other hand, the gestational ageand gravidity of the mothers did not influence Caesarean delivery.

Average Caesarean Section Rate (CSR) at the Maternity Ward of Fort Portal Regional Referral Hospital

To determine the average CSR, data was collected for the past three months; August 2022 to October 2022.A summary of the data collected is shown in the table below.

Table 4: Data Used for Computation of Average CSR.

Month	Number of delivery	Total number of all deliveries
August,2022	132	430
September, 2022	140	450
October,2022	126	426
Grand total	398	1306

$$\text{Caesarean rate} = \frac{398}{X} \quad 100 = 30.5\%$$

Average Caesarean Section Delivery Rate, which is the total number of resident caesarean deliveries among women divided by the total number of all deliveries for the specified hospital during a specified time period, was computed. This study found the Average CSR for Fort Portal regional referral hospital at 30.5%.

DISCUSSION

To establish the factors contributing to caesarean Section Delivery in Fort Portal regional referral hospital, a sample size of 300 respondents (mothers) were asked related questions. 200 0f these were mothers who underwent C-sections and were admitted to the hospital at the time of the study. Their responses were entered into SPSS and bi-variate analysis was made between caesarean delivery and the corresponding variables.

Factors Contributing to Caesarean Section Deliveries at the Maternity Ward of Fort PortalRegional Referral Hospital

In this study, the commonest factor contributing to C-section deliveries was based on obstetric, and Gynaecology doctors' advice accounting for 21.0% of the mothers in records, the doctor was the final decision maker. On prior ANC visits, a mother can be guided and advised on what kind of delivery will suit her best. It should be noted that C-section preference at FPRRH was largely the decision of the obstetrics and gynaecology doctors. It's not clear why the doctors opted for this option over vaginal delivery, but it's most likely because of their clinical judgment or possibly for personal gain and motive. A 37-year-old mother of 3 when asked why she preferred caesarean section, responded that "her doctor has been delivering her babies and every time she delivers, she's recommended for C-section, however, she says she has no serious chronic illness and at times she feels she can also try virginal birth". The study further revealsthat C-sections were also contributed to by mothers with chronic health conditions like HIV, hypertension, genital herpes etc. This was the second strongest factor accounting for 20% of the mothers on record. The study revealed that vaginal birth may be very difficult for mothers with chronic health challenges like hypertension, diabetes, HIV, heart disease, genital herpes, etc. These mothers are more likely to undergo caesarean section deliveries. C-sections were recommended for mothers with transmissible diseases like HIV or genital Herpes. 35% of mothers at FPRRH with chronic health complications undergo C-section delivery, "31-year-old mother reported that it was her first pregnancy and she was recommended for C-sectionbecause she had a history of hypertension". Other determinants included previous scar, CPD, fetal distress and maternal age with percentages of 18.5%, 16.0%, 12.5% and 10.0% respectively. This agrees with a study done by [17] a case study on "An evaluation of the factors that influencecaesarean section in F.C.T hospitals, Nigeria" where the Previous C-section was 14.5%. Another article by Live [18] "Indications for caesarean section in rural Nepal" shows fetal distress was one of the main indications of caesarean section with 19.8%. Another study on 'factors contributing to caesarean section among women on maternity in the ward ofKampala International University-Teaching Hospital, Bushenyi district "by Bigabwamukama Cornelius a diploma Student in clinical medicine and community health at KIU (2017) showed that the major indication was fetal distress with 27.1% of the mothers in records. A retrospective study by [19] on reasons for rising trends of caesarean section rate year after year showed that fetal distress reduced from 14.3% to 13.9% and previous scar increased from 36.0% to 36.5%. Prolonged labour in 24 CS (26.4 %), fetal distress in 18 CS (19.8 %). Three-quarters of CS was performed asan emergency [20]. Age and CPD followed the above counting 11.5%and 0.8% respectively of mothers in records. The study found that 8 % were below 20 years of age and 2% were above the age of 40. which is in line witha study on 'Determinants of Caesarean Deliveries and its Major Indications in St. Joseph's Hospital in Kitovu, neighbouring Masaka city of Central Uganda where the majority of the mothers were between 20–40 years with a percentage of 56.7% and that being in this age category is 0.4 times less likely to predispose one to Caesarean delivery. Conversely, being more than 40 years of age is 1.3 times more likely to make the respondent deliver by Caesarean section. Other determinants of C-section included: marital status, girl child education, rural-urbanization factor, multiple births, occupation etc. not being married, educational level of respondents, and living in urban setting, among others. All the socio-economic factors (regular household income, and occupation), highly influenced caesarean delivery in the health facility. On the other hand, the gestational age and gravidity of the mothers did not

influence Caesarean delivery. The study found that 8 % were below 20 years of age and 2% were above the age of 40. which is in line witha study on 'Determinants of Caesarean Deliveries and its Major Indications in St. Joseph's Hospital in Kitovu, neighbouring Masaka city of Central Uganda where the majority of the mothers were between 20–40 years with a percentage of 56.7% and that being in this age category is 0.4 times less likely to predispose one to Caesarean delivery. Conversely, being more than 40 years of age is 1.3 times more likely to make the respondent deliver by Caesarean section. Other determinants of C-section included: marital status, girl child education, rural-urbanization factor, multiple births, occupation etc. not being married, educational level of respondents, and living in an urban setting, among others. All the socio-economic factors (regular household income, and occupation), highly influenced caesarean delivery in the health facility. On the other hand, the gestational age and gravidity of the mothers did not influence Caesarean delivery.

Average Caesarean Section Rates (CSR) at the Maternity Ward of Fort Portal Regional ReferralHospital.

This study found the average CSR over a three (3) month period was 30.5%, far much higher than theWorld Health Organization recommendation of 10–15%. In a similar study by [21], he found that the rate of caesarean section in St. Joseph sKitovu at 47.6%. Emily, et al reported in 2016 that caesarean section rates had increased both at facility and population levelsin Uganda. In 2018, Rahman et al reported that caesarean section (CS) has been on the rise worldwide and Bangladeshwas no exception. In Bangladesh, the CS rate, which includes both institutional and community-based deliveries, had increased from about 3% in 2000 to about 24% in 2014. According to the World Health Organization [1], the ideal Caesarean section rate (CSR) is between 10% and 15%. Over the years, however, caesarean sections have become increasingly common in both developed and developing countries. When medically necessary, a caesarean section can effectively prevent maternal and newborn mortality. They further argued that whereas, when CSR rise toward 10% across a population, the number of maternal and newborn deaths decreases. When the rate goes above 10%,there is no evidence that mortality rates improve. The lack of a standardized internationally accepted classification system to monitor and compare CSR in a consistent and action-oriented manner is one of the factors that has hindered a better understanding of the trend of Caesarean section rates. Even so, with the immense global interventions to reduce the problem of maternal and child deaths due to complications in pregnancy and delivery, the magnitude of maternal mortality remains high, especially in the sub-Saharan Africa region [22]. Many countries are now taking measures to reduce and/or prevent the increase of Caesarean Section rates tomeet the World Health Organization recommendation [23]; Organization of Economic Co-operation for Development [7][24]-[27].

CONCLUSION

In conclusion, this study found that there were several factors contributing to caesarean-section deliveriesamong mothers, the commonest factor being decisions taken prior to doctor's advice, health complications ofthe mother, previous C-section scar, fetal distress, prolonged labour and maternal age. Caesarean sectionwas seen to be one of the contributors to mothers producing live babies since all the babies born were alive. The rate of Caesarean delivery is high in Fort Portal regional referral hospital and yet, as with any surgery, Caesarean section is associated with short- and long-term risks. The short-term complications among many include the likelihood of requiring a blood transfusion, the risks of anaesthesia complications, organ injury, infection, thrombo-embolic disease and neonatal respiratory distress. On the other hand, in the long term, Caesarean section has been associated with an increased risk of asthma and obesity in children, and complications in subsequent pregnancies, such as uterine rupture, placenta accreta, placenta praevia, ectopicpregnancy, infertility, hysterectomy and intra-abdominal adhesions. The risk of these morbidities progressively increases as the number of previous caesarean deliveries increases. All these mean that the higher these caesarean delivery rates the more the mothers or women in our communities are suffering fromthese complications. Such complications might be reported in hospitals all over the country and this is subject to another research. This being a cross-sectional study has its own limitations and the researcher advises one to consider those limitations.

RECOMMENDATIONS

i. The use of evidence-based clinical guidelines, caesarean section audits, rational health care practice andtimely feedback to health professionals was to reduce caesarean section deliveries.
ii. Provide education to reduce anxiety in mothers that usually occurs if one is recommended to delivernormally rather than by caesarean section.
iii. Popularise delivery under epidural analgesia to give mothers confidence in normal delivery.
iv. Students and other researchers to carry out more studies to add this information.

REFERENCES

1. World Health Organization. [WHO]. (2015). WHO statetment on caesarean section rates .pdf]. http://apps.who.int/iris/bitstream/handle/10665/161442/WHO_RHR_15.02_eng.pdf?
2. American College of Obstetricians and Gynecologists [ACOG]. (2017). Cesarean delivery: resource overview. Blog Post]. Available through: https://www.acog.org/ Womens-Health/Cesarean-Delivery
3. Anon. (2018). Cesarean Delivery Rate •pdf online]. Available at: https://www-doh.state.nj.us/doh- shad /view/sharedstatic/CesareanDeliveryRate.pdf.
4. Oonagh, E. K., Norman, J. E., & Stock, S. J. (2018). Longterm risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: systematic review and meta-analysis. PLOS, 15 (1). https://doi.org/10.1371/journal.pmed.1002494.
5. Ghosh, S. & James, K. S. 2013. Increasing Caesarean Section Delivery in India: A Threat to Urban Women's Health? *Population Association of America, 2013 Annual meeting program, New Orleans. http://pa a2013.princeton.edu/abstracts/130873 (accessed on 11-07-2016).*
6. Andersen RM. Families' use of health services: a behavioural model of predisposing, enabling and need components [thesis] West Lafayette, In Purdue University; 1968 Available from: http://docs.lib.purdue.edu/dissertations/AAI6902884/, accessed 2 May 2019).

Omagor, 2023.

7. Karna, J., & Malhotra, V. M. (2017). Prevalence and determinants of caesarean section in a rural communityof Nalgonda District, Telangana. International Journal of Community Medicine and Public Health, 4 (8). https://doi.org/10.18203/2394-6040. ijcmph20173365.
8. Adeline, A. B., Anne, S., Ana, P. B., Aluisio, J. D. B., Ties, B., Maria, R. T., & Cesar, G. V. (2018). Within Country inequalities in cesarean section rates: an observational study of 72 low- and middle-income Countries. British Medical Journal, 360(55). (Published 24 January 2018). https://doi.org/10.1136/bmj.k55.
9. Hodin, S. (2017). The global epidemic of unnecessary cesarean section (part 1). •MHTF Blog Post¬. Available at: https://www.mhtf.org/2017/01/24/the-globalepidemic-of-unnecessary-cesarean-sections- part–1/Israel, G. D. (1992). Determining sample size •pdf online¬. Availableat:https://www.tarleton.edu/academicassessment/documents/Samplesize.pdf
10. World Health Statistics 2015. Geneva: World Health Organization; 2015 (http://www.who.int/gho/publications/world_health_statistics/2015/en/, accessed 2 May 2019).
11. KARIM, M. R. 2012. socio-economic variables do influence the prevailing high C-section delivery incidence Section (C-section) Incidence Rate inPublic, Private and NGO Health Facilities in Bangladesh, Dhaka College, Bangladesh (http://bea-bd.org/site/images/pdf/062.pdf, accessed on 9-7-2016).
12. National Institutes of Health state-of-the-science conference statement: Caesarean delivery on maternal request March 27–29 2006.
13. Feng, X. L., Xu, L., Guo, Y. &Ronsmans, C. 2012. Factors influencing rising caesarean section rates inChina between 1988 and 2008. *Bulletin of the World Health Organization*, 90**,** 30-9A.
14. Natasha, S. (2016). Cesarean section rates and indications at MRRH. •Pdf¬. Available at: https://nmfonline. org/wp-content/uploads/2016/02/2011-UgandaSpencer-N.pdf 38.
15. Ugwu Chinyere Nneoma, Eze Val Hyginus Udoka, Ugwu Jovita Nnenna, Ogenyi Fabian Chukwudi and Ugwu Okechukwu Paul-Chima (2023). Ethical Publication Issues in the Collection and Analysis of Research Data. NEWPORT INTERNATIONAL JOURNAL OF SCIENTIFIC AND EXPERIMENTAL SCIENCES (NIJSES) 3(2): 132-140. https://nijournals.org/wp-content/uploads/2023/07/NIJSES-32-132-140-2023.pdf
16. Feng, X. L., Xu, L., Guo, Y., &Ronsmans, C. (2018). Factors influencing rising caesarean section rates in China between 1988 and 2008. Bulletin of the World Health Organization, 90(1), 30–39A. 2012. https://do.org/10.2471/BLT.11.090399. Available at:https://www.who.int/bulletin/volumes/90/1/11-090399/en/.
17. Althabe, F., Belizán, J. M., Villar, J., Alexander, S., Bergel, E., Ramos, S., Romero, M., Donner, A., Lindmark, G. & Langer, A. 2004. Mandatory second opinion to reduce rates of unnecessary caesarean sections in Latin America: a cluster randomised controlled trial. *The Lancet*, 363**,** 1934-1940.
18. Andersen RM, Davidson PL. Improving access to care in America: individual and contextual indicators. In: Andersen RM, Rice TH, Kominski EF, editors. Changing the U.S. health care system: key issues in health services, policy, and management. San Francisco: Jossey-Bass; 2001:3–30.
19. Arab Fund for Economic and Social Development (AFESD), Arab Gulf Program for Development (AGFUND), Gulf-Co-Operation Council (GCC), Ministry of Health (Saudi Arabia), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), United Nations Statistics Division (UNSD), World Health Organization (WHO). Saudi Arabia Family Health Survey 1996– 1997
20. Arrieta A. Health reforms and cesarean sections in the private sector. The experience of Peru. Health Policy. 2011 Feb; 99(2):124–30. http://dx.doi.org/10.1016/j.healthpol.2010.07.016 PMID:20724019.
21. Omona, K. (2021). Replication data for determinants of caesarean section rates in private-not-for-profit healthcare facilities: St. Joseph's Hospital_ Kitovu. Harvard Dataverse, V1. https://doi.org/10.7910/DVN/ BYGYY9.
22. BDHS 2014. Bangladesh Demographic and Health Survey Report. National Institute of Population Researchand Training, Ministry of Health and Family Welfare, Dhaka, Bangladesh.
23. Betrán AP, Ye J, Moller A-B, Zhang J, Gülmezoglu AM, Torloni MR. The increasing trend in caesarean section rates: global, regional and national estimates: 1990–2014. PLoS One. 2016 Feb 5; 11(2): e0148343. http//dx.doi.org/10.1371/journal.pone.0148343 PMID:26849801
24. Kelly, V. Y., Yerba, K., Failoc-rojas, V., Zeña-ñañez, S., & Valladares-, M. (2020). Factors Associated with Surgical Site Infection in Post-Cesarean Section: A Case-Control Study ina Peruvian Hospital. Ethiop J Health Sci, 30(1), 10–15.
25. Winnie Odar Achiro. (2023). Post Cesarean Care for Mothers Attending Arua Regional Referral Hospital Drivers and Challenges. Newport International Journal of Biological and Applied Sciences. 3(2), 185-200.
26. Kojoki Victoria.(2023). Factors Influencing Success of Vaginal Delivery after Caesarean Section among Women with One Previous Scar at Hoima Regional Referral Hospital, Western Uganda. Eurasian Experiment Journal of Scientific and Applied Research (EEJSAR). 4(1), 106-115.
27. Mercy Mamman Maizanko. (2023). Knowledge and Practices on Infection Control among Health Workers in Jinja Regional Referral Hospital. Newport International Journal of Scientific and Experimental Sciences. 3(2), 141-148.

CITE AS: Omagor Canon (2023). Factors Influencing Women's Use of Caesarean Section Delivery at Fort Portal Regional Referral Hospital in Fort Portal City, Kabarole District, Western Uganda. Eurasian Experiment Journal of Scientific and Applied Research, 4(3):45-56.