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Frequency And Indications For Cesarean Sections At Kenge General Referral Hospital, Kwango, Dr Congo

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Abstract
Background*: Caesarean section, a procedure involving surgical opening of the uterus, is the subject of this study, which aims to determine its frequency and indications at the Kenge General Referral Hospital.*
Materials and methods: *This retrospective cross-sectional study relied on a literature review for data collection. Simple random probability sampling included all 724 women who gave birth in this institution between 1 January and 31 December 2016.*
Results*: The frequency of cesarean sections was 19.8% (143 out of 724 deliveries). The main indications were feto-pelvic disproportion (12.6%), cord procidence (11.1%), precious pregnancies (9.8%), multiple pregnancies (9.1%), placenta previa and acute fetal distress (8, 4% each), fetal macrosomia (7.7%), abnormal presentation (7%), narrowed pelvis (6.3%), dynamic dystocia (5.6%), scar uterus (4.2%) and cervical dystocia (2.8%).*
Conclusion*: Caesarean section is a vital medical intervention, helping to save lives and improve both maternal and foetal prognosis, provided it is performed under optimal conditions. It remains the most frequently performed surgical procedure at the Kenge General Referral Hospital and worldwide. Current data shows a growing trend, exceeding the 15% threshold set by the World Health Organisation (WHO).*
Keywords: Frequency, Indications, Caesarean section, Caesarean trends, Kenge Hospital

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I. Introduction

Every day, around 1,000 women die from complications related to pregnancy or childbirth. Similarly, more than 8,000 newborn babies die before they are a month old, and a similar number are born stillborn. Newborn deaths in the first four weeks of life account for 41% of all under-five child deaths. This is closely linked to maternal health and the conditions of pre-and post-natal care. It is important to note that the vast majority of maternal deaths (99%) occur in developing countries, particularly in sub-Saharan Africa and South Asia, which together account for 87% of cases. [1] A cesarean section is a surgical procedure involving the opening of the uterus to extract the fetus when its natural birth is compromised. This procedure can save the life of both the newborn and the mother. However, its use must be justified by an appropriate medical indication. Over the decades, the cesarean section rate has risen significantly, although this trend varies considerably from one country to another and even within the same medical institution. In sub-Saharan Africa, unequal access to this obstetric procedure and disparities in associated practices remain a cause for concern [2]. According to the recommendations of the World Health Organization (WHO), an optimal rate is between 5% and 15% in the general population. [2]. For more than a decade, there has been a significant increase in the cesarean section rate, far exceeding WHO recommendations. This trend shows considerable disparities between continents, countries, and even within the same territory. Significant advances in the fields of surgery, obstetrics, neonatology, anesthesia, infectiology, microbiology, and surgery have greatly contributed to reducing the risks of intra- and postoperative complications associated with this procedure. These advances have led to a significant change in the perception and understanding of both healthcare professionals and women regarding cesarean sections. [3] Caesarean section remains one of the most frequently performed surgical procedures worldwide, offering a significant improvement in the prognosis for both mother and fetus. The simple classification established by Robson and recommended by the WHO makes it possible to evaluate and compare cesarean section rates between different medical establishments. Although the number of cesarean sections has risen steadily in recent decades, this increase varies considerably from one country to another and within the same medical facility [4]. Despite advances in anesthesia, asepsis, antisepsis, resuscitation, and antibiotic therapy, which have improved the safety of cesarean sections, it should be emphasized that this procedure is not without risk. Indeed, it can be marred by complications ranging from morbid problems to maternal death. Although the advent of antibiotic therapy and improvements in surgical techniques have helped to significantly reduce infectious complications in developed countries, these remain

frequent in developing nations such as Cameroon [5]. In sub-Saharan Africa, there is still a marked disparity in terms of access to cesarean sections, accompanied by wide variations in the practices surrounding this procedure. According to a hospital study conducted in 2020, the cesarean section rate in N'Djaména, Chad, was 33.9%, a figure observed in most university hospitals. The constant increase in the use of cesarean sections is giving rise to growing concern [4]. In the scientific literature, commonly studied risk factors for dystocia include short stature (1.50 m), young age (under 19 years) or advanced age (30-35 years), nulliparity or high parity, as well as a history of scarred uterus. A cesarean section may be recommended if difficulties are anticipated during labor that could endanger the health of the baby or the mother. Certain exceptional situations may also make natural childbirth impossible, such as a malpositioned placenta requiring a scheduled cesarean section. It should also be noted that a woman who has already undergone a cesarean section has an increased risk (50%) of giving birth by cesarean section again in subsequent deliveries, which can have an impact on the bond between mother and child [6]. Obstetric emergencies, because of the complications they cause, are a major health concern in some developing countries, including Guinea. Obstetric services in Guinea are mainly intended for an economically disadvantaged population that has difficulty accessing health facilities. This context is often marked by delays in the provision of obstetric care. These various obstacles make obstetric emergencies critical, rapidly jeopardizing maternal and/or perinatal prognosis [6]. The Democratic Republic of Congo (DRC) has an estimated cesarean section rate of 5%. Although this procedure has proved to be effective in reducing maternal and infant morbidity and mortality, there are some religious, economic, financial, cultural, and psychological obstacles to its use in settings with limited resources, even when it is medically justified. Many factors influence women's perceptions of cesarean sections, sometimes creating a discrepancy between the reality and the imagination surrounding the procedure [3]. In the Democratic Republic of Congo, cesarean sections contribute 30.4% to maternal mortality, according to Labama data. Cesarean section incidence rates vary, standing at 1.9% in Kinshasa, 10.2% in South Kivu, 4.61% in Katanga, and 2.66% in Ituri and Kisangani. In addition, the rates are 12.5% at the Hôpital Général de Référence (HGR) in Kabondo, 8.6% at the HGR in Makiso and 14.2% at the University Clinics of Kisangani [1].

Cesarean sections are still widely performed at the Kenge General Referral Hospital (HGR). Women who have undergone a cesarean section, as well as those accompanying them, have questions about the indications for this procedure. They express doubts about the abusive recourse by health professionals to this procedure, which they perceive to be motivated by financial interests. Against this background, the main aim of this study was to analyze the frequency and indications of cesarean sections performed at the Kenge General Referral Hospital, focusing on two specific objectives: firstly, to determine the prevalence of cesarean sections among deliveries, and secondly, to identify the medical indications justifying these procedures.

II. Materials And Methods

Presentation of the study setting

This research was conducted at the Kenge General Reference Hospital (HGR). This establishment is located on Avenue Dispensary 1, in the Masikita district, in the commune of Masikita, the town of Kenge, capital of the Kwango Province, part of the Kenge Rural Health Zone under the Kwango Provincial Health Division in the Democratic Republic of Congo (DRC). It is located approximately 275 km from Kinshasa, the Congolese capital, along the No. 1 national road between Kinshasa and Kikwit. The Kenge HGRCC offers a range of complementary activities in its capacity as a General Referral Hospital. It oversees curative, preventive, and promotional activities. Its administrative structure is based on a management committee and a hospital steering committee. The operational management of the hospital has been delegated to the ASBL Diocèse de Kenge by the Congolese authorities. On a technical level, the Kenge HGRCC works with a multidisciplinary team of 92 members, including 6 doctors, two administrator-managers, 3 nutritionists, 3 laboratory technicians, and 3 microscopists; 49 nurses, including a Director of Nursing; 4 midwives, 7 ordinary workers, and 9 administrative staff. This medical corps provides preventive and curative care aimed at improving the health conditions of in-patients and out-patients. Total capacity is estimated at 135 beds.

Sampling method and data collection techniques

Sampling for this study was based on simple random probability sampling. It consists of an exhaustive sample of 143 cesarean women out of 724 deliveries during the period from 1 January to 31 December 2016. This retrospective study was based on a survey using documentary analysis techniques.

Data analysis

The data of all caesareanised women who gave birth during the period of our study were taken into account in this study. The analysis of the results of the study is descriptive, based on the calculation of frequencies, proportions, and averages.

III. Results

Frequency of cesarean sections

The frequency of cesarean sections at Kenge General Referral Hospital was 19.8%. (Table 1).

Table 1: Frequency of cesarean sections

Frequency	F.O	%
Delivery by vaginal route	581	80,2
Cesarean section deliveries	143	19,8
Total	724	100

Source : Auteur, (2017).

Women undergoing cesarean section were aged between 15 and 55. Just over 40% (43%) were aged between 15 and 26. More than half (46%) were aged between 27 and 44, and 10.5% were aged between 45 and 55 (Table 2).

Table 2. Breakdown of cesarean sections by age group

Age range	Frequency	Percentage
15-20 years	27	18,9
21 -26 years	35	24,5
27 -32 years	27	18,9
33- 38 years	22	15,4
39 -44 years	17	11,9
45-50 years	9	6,3
51-55 years	6	4,2
Total	143	100

Source: Auteur, (2017)

The indications for cesarean sections were categorized into three main groups: maternal indications (27.3%), fetal indications (23.1%), and mixed indications (49.7%). Among the maternal indications, we noted a narrowed pelvis (8.4%), dynamic dystocia (6.3%), pre-rupture (5.6%), scarred uterus (4.2%), and cervical dystocia (2.8%). Fetal indications include acute fetal distress (8.4%), fetal macrosomia (7.7%), and vicious presentation (7%). Mixed indications include feto-pelvic disproportion (12.6%), cord procidence (11.1%), precancerous pregnancy (9.8%), multiple pregnancies (9.1%), and placenta praevia (Table 3).

Table 3: Breakdown of cesarean sections by indication

Maternal indications	Frequency	Percentage
Dynamic dystocia	9	6,3
Cicatricial uterus	6	4,2
Cervical Dystocia	4	2,8
Shrunken basin	12	8,4
Pre-break	8	5,6
S/Total	*39*	*27,3*
Fetal indications		
Vicious presentation	10	7,0
Acute foetal distress	12	8,4
Foetal macrosomia	11	7,7
S/Total	*33*	*23,1*
Mixed indications		
Foeto-pelvic disproportion	18	12,6
Precious pregnancy	14	9,8
Multiple pregnancies	13	9,1
Placenta previa	9	6,3
Procidence of the cord	17	11,9
S/Total	*71*	*49,7*
Total	**143**	**100,0**

Source: Author, (2017)

IV. Discussions

Frequency of cesarean sections

The cesarean section rate is 19.8%, slightly above the upper limit of 15% set by the World Health Organization (WHO). Various studies have reported an upward trend in the cesarean section rate compared with the limit recommended by the WHO [7–9]. Research conducted in three medical institutions in Kinshasa (University Clinics of Kinshasa, Kinshasa Provincial General Reference Hospital, and Bumbu Mother and Child Centre) revealed a cesarean section rate of 31.2% in the three maternity units studied [10], far exceeding our results. In Arab countries, one study found significant disparities in the use of cesarean sections within and between Arab regions, with this surgical procedure being more common among the wealthiest quintiles and in private health facilities. Rates ranged from 57.3% (95% CI: 55.6% to 59.1%) in Egypt to 5.7% of births (95% CI: 4.9% to 6.6%) in Yemen. Overall, the use of cesarean sections increased in the Middle East and Africa region, except in Jordan where no change was observed (-2.3 (95% CI: -6.0 -1.4)). In most of the countries studied, recourse to cesarean section was more frequent among individuals from the richest quintile than among those from the poorest quintile; for example, rates of 42.8% (95% CI: 38.0-47.6%) compared with 22.6% (95% CI: 19.6-25.9%) in Iraq (Onambele et al., 2023). In Canada too, the cesarean section rate has increased significantly for twenty years, rising from 19.9% in 1999 to 29.9% in 2019. [11]. An analysis carried out at the Centre Hospitalier Universitaire Mère et Enfant in N'Djamena, Chad, showed that the proportion of caesareans was 18.8% [4], a figure slightly lower than our work.

The age of women having undergone a cesarean section was between 15 and 55. Slightly more than 40% (43%) were in the 15-26 age group. Nearly half, 46%, were aged between 27 and 44, while 10.5% were aged between 45 and 55. According to the results of a study conducted in three institutions in Kinshasa, the average age of women who underwent caesarean section was 30.07 ± 6.25 years (Mbungu et al., 2017). Another study carried out in the Kalamu health zone in Kinshasa found that 56.8% of the women concerned were aged 36 or over [12].

Indications for cesarean section

Among the indications for cesarean section, feto-pelvic disproportion was in first place with a prevalence of 12.6%, closely followed by cord procidence (11.1%), precious pregnancies (9.8%), multiple pregnancies (9.1%), and placenta previa. Other notable reasons include acute fetal distress (8.4%), fetal macrosomia (7.7%), and vicious presentations (7%). Maternal indications such as narrowed pelvis (8.4%), dynamic dystocia (6.3%), uterine pre-rupture (5.6%), scarred uterus (4.2%) and cervical dystocia (2.8%) were also observed. At the Centre Hospitalier Universitaire de la Mère et de l'Enfant in N'Djamena, Chad, it was found that the main indication for cesarean section was mechanical dystocia in group 1. Scar uteri were frequently associated with group 5, while cases of eclampsia were found to predominate in group 3 [4]. In Kinshasa, the findings of the study conducted in three main hospitals revealed that the main indications for cesarean section were feto-pelvic disproportion (FPD), uterine scarring, acute fetal distress (AFS), and eclampsia [10]. All of these indications were observed in our study, except eclampsia, which was not documented. In contrast, in Mali, Dao [13] identified that the main indications for cesarean section in a Bamako District Hospital were acute fetal distress (43.6%) and multi cicatriciall uterus (27.4%). In the Kalamu Health Zone in Kinshasa, pre-eclampsia accounted for 35.1% of cesarean sections, dystocia for 20.3%, fetal macrosomia for 20.3%, and poor presentation for 14.9% and arterial hypertension for 9.5% [12].

V. Conclusion And Recommendations

Conclusion

Cesarean section represents a vital medical intervention, contributing to the preservation of life and the improvement of both maternal and fetal prognosis, provided that it is performed under optimal conditions. It remains the most frequently performed surgical procedure at the Kenge General Referral Hospital and worldwide. Current data shows an increasing trend, exceeding the 15% threshold set by the World Health Organization (WHO). Regular attendance at antenatal consultations by pregnant women, together with the provision of high-quality ANC (antenatal consultation), could enable early intervention and thus reduce the need for urgent decisions.

Recommendations

To médical staff:

- Only resort to Caesarean sections where it is really necessary to save the mother and child,
- Organize quality ANC to enable effective monitoring of the pregnancy.

To pregnant women

- To take part regularly in antenatal consultations to enable them to plan their mode of delivery and reduce the number of emergency caesareans.

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