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Caesarean section in Benin and Mali: increased recourse to technology due to suffering and under-resourced facilities

Clémence Schantz^{a,b,*}, Moufalilou Aboubakar^c, Abou Bakary Traoré^d, Marion Ravit^a, Myriam de Loenzien^a, Alexandre Dumont^a

^a Cepad, IRD, Université Paris Descartes, Inserm, Paris, France; ^b CEMS-Centre d'Etude des Mouvements Sociaux; CNRS/EHESS FRE2023 - INSERM U1276; ^c Centre Hospitalier Universitaire de la Mère et de l'Enfant de la Lagune, Cotonou, Bénin; ^d Centre de Santé de Référence de la Commune II, Bamako, Mali

Corresponding author.



Clémence Schantz is a sociologist and a midwife. She conducts research on the biomedicalization of childbirth in different contexts (Asia, Africa, Europe). She is a postdoctoral fellow at the Ecole des Hautes Etudes en Sciences Sociales (EHESS) in the Centre d'Etudes des Mouvements Sociaux (CEMS). She is also an associate researcher at the Centre Population et Développement (Cepad).

After having demonstrated with her doctoral research that obstetric practices build and shape the female body in Cambodia, she conducted postdoctoral research on the practice of caesarean section in Benin and Mali. She is currently working on the circulation of obstetrical models between Asia and Africa.

Abstract In line with policies to combat maternal mortality, the medicalization of childbirth is increasing in low-income countries, while access to healthcare services remains difficult for many women. High caesarean section rates have been documented recently in hospitals in Mali and Benin, illustrating an a-priori paradoxical situation, compared with low caesarean section rates in the population. Through a qualitative approach, this article aims to describe the practice of caesarean section in maternity wards in Bamako and Cotonou. Workshops with obstetricians and midwives; participant observation inside labour rooms; and in-depth interviews with caregivers, patients and policy makers have indicated increased recourse to caesarean section due to women's and caregivers' suffering and under-resourced facilities. Within these procedures, two types of caesarean section were documented: 'maternal distress caesarean section' and 'preventive caesarean section'. The main reasons for these caesarean sections are maternal fear and pain, and a lack of resources. Inadequately resourced facilities lead to staff suffering and ethical breakdowns, and encourage the inappropriate use of technology. The policy of access to free caesarean section procedures exacerbates the issue of non-medically-justified caesarean sections in these countries. The overuse of caesarean section is particularly alarming in countries with high fertility as it constitutes a danger to both mothers and babies in the short and long term. Currently, conditions are in place in Benin and Mali for an increase in non-medically-justified caesarean sections. In the short term, such an increase could constitute a new burden for these two sub-Saharan countries, where maternal mortality is high.

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E-mail address: clemschantz@hotmail.com (C. Schantz).

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Following the Millennium Development Goals, most low- and middle-income countries have adopted common

facilities with medically standardized environments and technology for giving birth. Between 1990 and 2014, the proportion of assisted deliveries increased from 57% to 70% in low- and middle-income countries (United Nations, 2015).

Over the same period, voices have been raised denouncing the emergence of new forms of violence against women, which can occur during childbirth in health institutions (d'Oliveira et al., 2002). Research on violence during childbirth intensified in the 2010s, and has been documented in terms of disrespect and abuse, mistreatment of women during childbirth and obstetric violence (Bohren et al., 2015, 2019; Bowser and Hill, 2010; Freedman et al., 2014; Sadler et al., 2016). Among these acts of violence, practices that are not medically justified or that are carried out without consent have been described. Many medical practices around childbirth are not guided by scientific evidence, and are determined by social factors such as beliefs around birth, and professional or organizational cultures (Sadler et al., 2016). The abuse and violence described are both structural (e.g. health system deficits leading to a lack of equipment or understaffed maternity wards) and individual (Freedman et al., 2014). At an individual level, the notion of women's choice and their ability to act in response to new technologies during labour and delivery have been discussed in the literature at the same time as the deployment of these technologies (Akrich, 1999; Behague et al., 2002; Wagner, 2000). The social construction of childbirth as a dangerous and risky event leads some women to choose to give birth in hospital and to adhere to technology by default (Coxon et al., 2014).

Recently, attention has been focused on the increasing global caesarean section rate, which has also been called a 'caesarean section epidemic' (Morris, 2013). When medically justified, caesarean births can effectively prevent maternal and perinatal morbidity and mortality, but giving birth by caesarean section is also associated with short- and long-term risks that can last for many years and affect the health of the woman, her child and her future pregnancies (Sandall et al., 2018). Since the 2000s, hospital-based caesarean section rates have increased rapidly in sub-Saharan Africa (Vogel et al., 2015). In this region, the overuse of caesarean section has been documented recently in Tanzania (Litorp et al., 2015) and Burkina Faso (Kaboré et al., 2016). Maternal mortality after a caesarean section is 50 times higher in African countries than in high-income countries (Bishop et al., 2019), and among all regions, women from sub-Saharan Africa are at the highest risk of death following a caesarean section (Sobhy et al., 2019). These findings encourage exploration of the crucial question of the practice of caesarean section in two sub-Saharan African societies: Mali and Benin. Conducting research on maternal health is critical in these two countries because they both have high maternal mortality rates (347 and 430 maternal deaths for every 100,000

requirements to fight maternal mortality since the 2000s. This fight has taken the form of the provision of health

deliveries in Mali and Benin, respectively) (Kassebaum et al., 2016; INSAE and ICF, 2019) and high fertility (total fertility rates were estimated at 5.9 and 4.9 children per woman in Mali and Benin, respectively, in 2015–2020) (United Nations, Department of Economic and Social Affairs, Population Division, 2017). National demographic and health surveys have indicated low population-based caesarean section rates in these two countries: 2.5% in Mali and 5% in Benin (Instat et al., 2019). However, high rates of caesarean births in health facilities in Mali and Benin have been documented recently, particularly among women with low obstetric risk, suggesting that overuse of technology in childbirth is emerging in these countries (Schantz et al., 2018). These observations indicate the coexistence of the under- and overuse of caesarean section in these countries, as has been documented in other contexts (Guilmoto and Dumont, 2019), and this fact constitutes an a-priori paradoxical situation that must be explored in more detail through a qualitative in-depth approach. This article aims to describe the practice of caesarean section inside labour rooms in these two low-income countries in Western Africa, and to understand why and how caesarean sections are performed.

A sociological study of the use of a biomedical technology in two low-income countries

This research is based on the work of Bohren et al. (2015), who reported the experiences of women and health providers in health facilities and the mistreatment of women globally. The current challenge for maternal health is not only to increase the rates of skilled birth attendance and facility-based childbirth, but also to improve the 'quality of care provided to women at health facilities, including women's rights to dignified and respectful care' (Bohren et al., 2015). In this research, we approach caesarean section as a technoscience (Pestre, 2014). As mentioned above, the increased global use of technology surrounding childbirth is not determined solely by medical factors, and this article hypothesizes that the increased use of medical technology could be the expression of a new form of control of women's bodies by biomedical institutions. This discussion of the relationship between the body and control refers to the work of Foucault (1976) and the more recent work by Memmi and colleagues (Fassin and Memmi, 2004; Memmi, 2014; Memmi et al., 2009), who questioned the governmentality of the body through the use of devices and techniques, particularly in hospitals.

Context of caesarean policies in Benin and Mali

In 2008, the President of Benin, Boni Yayi, visited Homel Hospital in Cotonou and Abomey Calavi Zone Hospital. He found that many women were detained there because they could not afford the fees from caesarean section procedures they had undergone weeks, months or even years earlier. The President decided to establish a policy of access to free caesarean section procedures (Dossou et al., 2018). The decree (N° 2008-730) took effect in December 2008, and the policy was implemented in Benin. In Mali, in June 2005, the Government announced a policy of access to free caesarean section procedures in public health facilities, motivated by the need to improve access to skilled birth attendants and emergency obstetric care (El-Khoury et al., 2011). Implementation of policies of access to free caesarean section procedures in these two countries is in perfect harmony with the Millennium Development Goals set by the United Nations in 2000, with the aim of reducing maternal and neonatal mortality rates. However, the reform is far from being optimally implemented in both countries, and could exacerbate the unregulated biomedicalization of childbirth.

Workshops with birth caregivers

Between January and June 2017, our fieldwork team (CS, MA, ABT and MR) collected and analysed data extracted from medical registers from health facilities in Benin and Mali using the Robson classification recommended by the World Health Organization (WHO) to describe the practice of caesarean section in these two countries (World Health Organization, 2015). The subset of study sites (four facilities in Benin and five facilities in Mali) was selected purposely based on prespecified characteristics to reflect the diversity of contexts in each country (such as district/provincial contexts, rural/urban areas, proximity of academic hospitals, private/public facilities). This strategy allowed for a preliminary description of caesarean section practices in Benin and Mali based on women's obstetric characteristics. In total, 12,472 deliveries were included in the study, including 7030 from Mali and 5442 from Benin. The overall caesarean section rates were high in both countries: 31.0% in Mali and 43.9% in Benin. More than 85% of these women had spontaneous labour, and more than half were multiparous. Among women with low obstetric risk, the caesarean section rates were 21.8% in Mali and 32.0% in Benin. The rates were particularly high for women with prior caesarean section: 84% in Mali and 82.5% in Benin. The detailed methodology and results have been described and published elsewhere (Schantz et al., 2018).

In July 2017, we organized a results feedback workshop in Benin and Mali with midwives and obstetricians to interpret the results. We recruited a midwife and an obstetrician from each participating health facility (total of eight midwives and obstetricians in Benin and 10 midwives and obstetricians in Mali). The workshops were based on tools derived from guidance from the WHO Ten-Group Classification System to interpret caesarean section rates and other outcomes surrounding labour and delivery in relation to caesarean section (World Health Organization, 2017). A discussion guide was used for each participant group (Mali and Benin) to

assess communication, interprofessional interactions and decision-making, including aspects related to position/seniority, the influence of gender on alternative modes of delivery and their implications, and information-sharing. The discussions were recorded. The 291 min of discussion (123 min in Benin and 168 min in Mali) on the practice of caesarean section in each country during each workshop constitute the body of data analysed in this article.

Participant observation in health facilities

Between January and July 2017, the first author (CS) conducted four periods of fieldwork in Benin and Mali, totalling 4 months. Over this time, CS conducted participant observation in two maternity wards. In Benin, she was hosted by a university hospital in the capital, Cotonou. In Mali, she was hosted by a health facility in the capital, Bamako. The maternity wards were selected based on convenience because they were the places where the study partners (MA and ABT) worked daily. The presence of MA and ABT during the fieldwork allowed for regular exchanges and discussions regarding data collection and research hypotheses. CS attended daily staff meetings; dozens of prenatal consultations; and night and day shifts in labour rooms, delivery rooms and obstetric operating rooms. She also spent time in the postpartum units with postpartum women and their families. Observations were conducted with an inductive approach without a predefined observation tool to become familiar with the context studied. The objective was to understand the process of pregnancy and childbirth management, and to observe the conditions in which women give birth in these hospitals. CS is a sociodemographer with a background in midwifery; she practised as a midwife for 10 years in hospitals in France before becoming a researcher.

In-depth interviews

CS also conducted a total of 25 semi-structured interviews with 10 Beninese and Malian men and 15 Beninese and Malian women who were midwives ($n=6$), obstetricians ($n=11$), patients ($n=6$) and policy-makers ($n=2$). The interviewed obstetricians and midwives were working daily in maternity wards. Mothers were selected based on their availability in postpartum wards during the research period. They all gave birth by caesarean section. Interviews took place in a private room at the hospital, and confidentiality was ensured.

Questions posed to all of the interviewees were related to giving birth, the body, gender relations and sexuality. Questions asked to midwives, obstetricians and policy-makers were related to the practice of caesarean section in their country and to their working environments, especially in reference to resources and staff, patient conditions inside the delivery rooms, and their views on the role of women in the decision-making process. These interviewees were also questioned on maternal requests for caesarean section. The questions specific to the mothers were related to pregnancy follow-up and the way in which they gave birth, as well as to their knowledge about caesarean section. More precisely, the following topics were discussed: the decision-making process, including interactions with providers; companionship; gender and

family influences on the weighing of alternative modes of giving birth and their implications; perceptions regarding self-esteem, knowledge and empowerment about decision-making during pregnancy and childbirth; perceptions and experiences of support during childbirth, including labour companionship; and satisfaction with the birth experience, including interactions with providers and the facility environment. Interviews were conducted until saturation of information for the main topics was obtained, focusing on key points of the interviews but not limited to the predetermined topics and allowing the generation of unexpected information and themes. The interviews lasted an average of 55 min. The qualitative data were analysed through a thematic analysis using an inductive approach to allow themes to emerge naturally from the data.

Ethical approval

The study was approved in Mali by the Comité National d’Ethique des Sciences de la Santé in February 2017 (n°0036/MSHP-CNESS), and in Benin by the Comité National d’Ethique et de Recherche en Santé in September 2017 (n°66/MS/DC/SGM/DRFMT/CNERS/SA).

Results

During the workshops with birth caregivers, participant observations and in-depth interviews, caesarean section procedures performed in health facilities in Mali and Benin for reasons other than strictly medical indications were mentioned. Within these procedures, two types of caesarean section were documented: ‘maternal distress caesarean section’ and ‘preventive caesarean section’. Inadequately resourced facilities lead to women and staff suffering and ethical breakdowns, and encourage the inappropriate use of medical technology. The policy for free access to caesarean section procedures exacerbates the issue of non-medical determinants of caesarean section.

Fear and reluctance of women and their family to give birth by caesarean section

Regarding how Beninese and Malian women perceive giving birth, all of the interviewed men and women mentioned that women do not generally like caesarean section:

Women are afraid of caesarean section. When you mention a caesarean section, sometimes they run away! They run away first before coming back. They run away! Families are doing the same. There is a psychosis when we tell you we will operate; no, there is a great fear, as I mentioned (Beninese midwife, 53 years old).

Moreover, interviewees mentioned that giving birth by caesarean section is a family matter:

My husband refused. He refused a caesarean section. And so did my parents; everyone refused. They said they’re scared. They’re afraid for my life (woman giving birth for the first time, 26 years old).

Across the interviews, the most recurrent words associated with caesarean section were ‘surgery’, ‘opening’ and ‘dying’, as expressed by this 30-year-old Beninese woman: ‘The knife can’t touch me’.

She was giving birth for the first time and explained:

When I was told I was going to have a caesarean section, I was scared. Too scared. I thought that, during the caesarean section I would die.

Another woman, who gave birth for the third time by caesarean section, explained:

They said I’m going to have another caesarean section. Really, that really hurt me, because I was hoping to deliver vaginally. When I was told that, I cried; I started crying. It hurt too much because I really hoped to deliver vaginally. Most often, women are afraid – we think our lives are in danger, that things can go wrong. That’s why we’re afraid. We think we can die easily.

Tubal ligation associated with caesarean section is also a source of fear:

[Women] don’t like it because it scares them, and in general, you know, Mali is a country with high fertility, so if you start giving birth by caesarean section, it will be difficult to go to six children because there may be medical indications for tubal ligation (40-year-old male Malian obstetrician).

Women’s request for caesarean section and maternal distress

Curiously, and in an apparently contradictory way, all midwives and obstetricians mentioned that some women requested a caesarean section. These requests occurred inside the labour wards during the labour process but rarely before labour during antenatal visits. A 37-year-old Malian male obstetrician explained that:

with the policy of access to free caesarean sections, women come to the hospital. As soon as the contractions begin, they come to the hospital. They say, ‘Operate on me, operate on me, operate on me’. You see, they scream, and they say, ‘Go ahead and operate; I cannot push any more’. I see a lot of women saying that.

Caesarean sections requested by women during their labour are referred to in this article as ‘maternal distress caesarean sections’. The term ‘distress’ aims to highlight the poor conditions characterized by pain and fear in which women are placed.

In Benin and Mali, we observed that women experience labour and give birth in common delivery rooms without privacy or social support. Indeed, due to the prevalence of common delivery rooms and the argument for preserving women’s privacy, the presence of a mother, sister, friend or

husband to support the labouring woman is prohibited in the delivery room. The observations documented care without consent and the absence of pain relief. All of these points constitute elements of structural violence and, more specifically, gender-related violence, generating fear among these women. Among these conditions of violence, witnessing other women who died giving birth likely contributes the most to the generation of extreme fear. In many cases, CS observed people dropping off labouring or delivered women in the maternity ward and leaving immediately:

March 2017, 00h30: Arrival of a woman referred for haemorrhage and uterine rupture. Pale conjunctives +++. Arrived by motorcycle taxi, carried by the driver. Needs prescriptions, blood, but the family is absent. Only the mother-in-law is in the hospital yard; she says she has only 500 FCFA-0.85 USD, nothing more. The husband must come, but he is unreachable. The woman bleeds to death being watched by other women in labour around her' (Cotonou, field notes).

All interviewed midwives and obstetricians in Benin and Mali described women's requests for a caesarean section as being due to pain and fear. The same Malian obstetrician mentioned above added:

Even last night, I had a case like that. A woman who tells me, 'Go ahead and operate on me'. It's the pain that does that because she cannot bear the pain. She is there, it takes time, she has pain, so she wants to have peace. So in this context, she requests a caesarean section.

A 24-year-old female Beninese midwife similarly explained:

Yes, yes, there are women who request caesarean sections. Even the women who are in the delivery room, when they are tired of pushing, they ask for a caesarean section. They do not want to make any more effort.

According to the birth practitioners' arguments, women were not brave, could not bear the pain, and were not able to handle the pain and fear. Women therefore needed help from the biomedical institution and caesarean technology to give birth because they were not able to give birth by themselves. We heard this judgement regarding the lack of courage and capacity of women in all the discourses relating to women's requests for a caesarean section. However, in reality, women are plunged into a state of fear and pain fuelled on all sides by the deplorable conditions to which they are subjected (i.e. no social support, no ability to move around and no pain relief). These structural conditions not only disempower women but also label them as defective in some way (not brave enough and unable to handle pain), which draws attention away from the defective healthcare system.

Women's demands for a caesarean section are therefore constructed by social, material and political forces. Instead of building structures that support women in their

experiences of birth, the biomedical institution disempowers women:

There is no epidural, there is no childbirth without pain, so young people live with this fear (Beninese midwife, 46 years old).

An in-depth description of the mechanisms that lead women to request giving birth by caesarean section allows for discussing the notion of choice (Akrich, 1999; Hopkins, 2000; Wagner, 2000). In our research, in-depth interviews have shown that women do not have an initial preference for giving birth by caesarean section. The structural conditions in health institutions sometimes lead them to request a caesarean section, reflecting that giving birth by caesarean section could be the least undesirable solution for them. However, these caesarean section requests remain invisible in African countries. Women's requests for a caesarean section are frequently measured in middle- and high-income countries, but not in low-income countries (Schantz et al., 2019).

Preventive caesarean sections due to under-resourced conditions

The interviewed midwives and obstetricians also explained that some caesarean sections were performed due to a lack of equipment. Obstetricians called these procedures 'precautionary', 'prophylactic' or 'preventive' caesarean sections. For example, during the workshop, a 45-year-old Malian male obstetrician mentioned:

In our daily practices, we have concerns about the pelvis, and since we don't have the means to explore the pelvis, this often leads to caesarean sections.

Similarly, a 40-year-old midwife in Benin nostalgically explained that working conditions were much better previously with more equipment, allowing caregivers to work in good conditions and to perform 'good obstetrics'. According to her, this lack of equipment led to a lack of motivation among the caregivers. She also noted a lack of involvement of the authorities regarding equipment. She added that the deterioration of medical equipment had a direct impact on the quality of care:

The problem in the public sector is that the equipment is not renewed. We had four cardiotocographers here in the past, and really, we were comfortable working. And then, the equipment became degraded, and since then, no one wants to update the equipment. In the past, we were really doing obstetrics, and we were really trying to deliver the scarred uterus vaginally. Now with all the problems we have, only one operating room and all that, we don't try any more! We don't try any more! And when the equipment deteriorates, no one wants to try any more. And also, people are not responsible for the equipment. And when things get bad, the authorities don't want to renew.

Indeed, resource conditions are not improving in maternity hospitals in Benin and Mali. 'Things are going

decrescendo', as the Beninese midwife expressed. Further, a 54-year-old female Beninese obstetrician explained:

And sometimes we wonder if we are regressing... at a certain point, we were a little advanced, and then, gradually, everything stopped; we came back as before... So, we go back to the archaic methods we used before.

Our observations led us to note that equipment and consumables (beds, mattresses, gloves, compresses, antibiotics, blood, etc.) were lacking at each stage of women's care. Furthermore, there was a lack of technical equipment for maternal and fetal monitoring during labour. This lack of equipment led directly to some caesarean section procedures. In the public hospitals in Cotonou and Bamako, no cardiotocograph or ultrasound machine was available. Caesarean section procedures due to a lack of available equipment for fetal surveillance were observed daily during the fieldwork. For example, women with meconium-stained amniotic fluid were frequently operated on because midwives and obstetricians were unable to estimate the well-being of the fetus, despite the fact that meconium-stained amniotic fluid is not a medical indication for caesarean section. In the university hospital in Cotonou, there was a fire in one of the two operating rooms in 2015. During fieldwork in 2017, this operating room had still not been repaired, leading to the anticipation of some caesarean section procedures due to constrained conditions. Indeed, having only one operating room available added stress to the obstetricians. When the medical staff anticipated that the operating room would be busy for a planned surgery for the next 2 h, they would perform preventive caesarean section procedures more frequently. For example, a pregnant woman in early labour who was dilating more slowly than average and had a poor prognosis for giving birth vaginally could be pushed to deliver by caesarean section without waiting to give her an opportunity for her cervix to dilate. Sadler showed that working in under-resourced conditions constitutes a 'form of disrespect and abuse' for many birth caregivers; these conditions socialize them to violence and lead them to exercise violence (Sadler et al., 2016).

Lack of staff motivation and ethical breakdowns encourage inappropriate use of medical technology

Themes including lack of motivation, weariness and hopelessness were present in each discourse. A 42-year-old Beninese female midwife explained that she was no longer motivated because she felt that she was useless. She mentioned that women arrive too late at hospitals in advanced stages of morbidity:

Women arrive here at a terminal stage of labour; we only register the deaths.

The omnipresence of women's deaths constitutes violence for birth practitioners that can lead to professional burnout, as expressed by this obstetrician:

How can one work in these conditions? We turn in a vicious circle, and no one finds a way out. We're here, we're surviving, we're

stressed because, well, you see someone dying, and you cannot do anything; so, before, we contributed with our money to save lives. And at some point, we said to ourselves, 'We will continue to contribute until when?' (female obstetrician, 54 years old, Benin).

This emotional exhaustion experienced by the midwives and obstetricians was associated with a lack of motivation and substandard care. This lack of motivation was very common in labour rooms, and we observed a lack of opportunities for women to give birth vaginally because of a lack of staff to provide patient monitoring. In this context, performing a caesarean section or pushing to perform a caesarean section is easier than helping a woman give birth vaginally. A 30-year-old male Malian obstetrician explained that:

midwives push for caesarean section because it frees them up. It decreases the number of women in the delivery room, because when we decide to have a caesarean, we prepare the kit, the patient goes to the surgical theatre, and then it's over. And then the delivered woman goes to the postsurgery room. But when a woman is in the labour room, every 15 minutes, midwives have to go to monitor the fetal heart sounds, then make the vaginal examination and everything.

This doctor discussed how midwives' lack of motivation led directly to some caesarean section procedures. Additionally, a 70-year-old Beninese obstetrician noted that:

to give birth vaginally, it would take 6 to 8 h. For a caesarean, it is 45 min and then finished!

Emotional exhaustion, dysfunction, corruption and the problematic professional culture of midwives in hospitals have long been widely documented in West Africa (Jaffré, 2009; Jaffré and Olivier de Sardan, 2003; Jaffré and Prual, 1993; Jaffré and Suh, 2016; Olivier de Sardan, 2001; Rouleau et al., 2012). The professional ethics of care have been reported as one of the most important factors that influence access to and quality of care across a variety of West African countries and in different types of health facilities (Jaffré and Suh, 2016), with a lack of professional ethics leading to substandard care.

Role of the policy of access to free caesarean section procedures in the overuse of caesarean section

Regarding the practice of caesarean section, many birth practitioners mentioned their fear of a practice they described as unregulated, the use of which seemed to be increasing very quickly. A 46-year-old Beninese midwife explained in an alarmed tone:

And I told you last time, and I'll tell you again, I still have a little fear, not a little, a big one! Because I believe in 5–10 years, all the uteruses will be scarred, and you see, all the consequences, the complications... The people only perform but do not think!

And they do not see the consequences! Placenta accreta, all these factors contribute to maternal deaths. (...) It increases quickly! It goes up fast! And it's a fashion! It's a fashion.

By mentioning placenta accreta, the midwife was referring to the medical consequences of caesarean section that will develop later. The mentioning of 'fashion' conveys the influence of non-medical factors on the practice of caesarean section.

During the focus group in Benin, a 65-year-old obstetrician reacted to the high caesarean section rates reported. He mentioned another non-medical factor contributing to the high caesarean section rate and explained that:

this can be considered as a high rate, which has increased over time. Four or five years ago, the rate was approximately 25%, and now, this hospital is at 44%. But when I think about it, I have an explanation because we are a maternity school, so there are learners, and the indications are not always well thought out before decisions are made, so there are indications for caesarean section that are new indications that we have never seen before! (...) Yes [there are excessive caesarean sections], of course. More than excessive, abusive! (...) Well, in theory [the policy of free access cannot increase the number of abusive caesarean sections], but in reality, yes.

This doctor noted that being a university hospital led to more caesarean section procedures. He added that the policy of access to free caesarean section procedures led to a concrete increase in the number of 'abusive' caesarean sections. A 70-year-old Beninese male obstetrician explained this point by mentioning that performing a caesarean section was a source of money for hospitals:

Doctors are less rigorous now in terms of caesarean section because, for hospitals, it is a source of money, so doctors are more inclined to do caesareans more easily (...) For hospitals, when the state pays the costs of caesarean section, it's a breath of fresh air for them; so today, indications for caesarean section are for nothing.

This idea was reflected during the same focus group in the testimony of a 40-year-old political decision-maker:

I would like to add that I am very affected by seeing that we are moving toward the limits of certain policies, such as access to free caesarean sections. Even if we have not been able to evaluate the contribution of free caesarean sections to the increase in the rate of caesarean section, we can still understand that we must try to limit its use. Of course, it's free, but on the other hand, you have to see the dangers it can bring. The societal implications are enormous.

These different discourses show that the policy of access to free caesarean section procedures can increase the ability to offer caesarean section during childbirth. However, other interviewers mentioned that the policy can also increase the

demand for caesarean section. The 46-year-old Beninese midwife explained that:

when it was announced that caesarean section would be free, many women started asking for caesarean section because, when women are suffering, they ask for caesarean section, as well as because caesarean sections are free. Do you understand why? Because it's free, they say, 'Do a caesarean on me', anyway, it's free. We say, 'No, we do not do caesarean sections that way; we do caesarean because we need a medical indication. It's not because it's free that you'll get up and say, 'Do a caesarean section on me'. More and more it has been like this.

Thus, the policy of access to free caesarean section procedures has increased both supply and demand.

Concerning implementation of the policy of access to free caesarean section procedures, the practitioners understood that the objective of the Ministry of Health was to achieve a certain caesarean section rate rather than to seek to perform well-indicated caesarean sections. A male Beninese 45-year-old obstetrician expressed this idea as follows:

I think that this free policy allows us to get closer to a normal rate (...) It seems that the rate has increased with the free policy; it brings us closer to where we should be. Of course, it favours abuse (...) Maybe we are above where we should be and below where we should be.

When this obstetrician talked about the 'normal rate', he was referring to the rate of 10–15% recommended by WHO ([World Health Organization, 2015](#)). Thus, if we follow his argument, if some regions have a lower rate and others have a higher rate, the average of these rates will be appropriate. However, this reasoning, inspired by the recommended rates of the international community, cannot be adequate. Some women who should give birth by caesarean section would not have access to it, while others would undergo non-medically-justified caesarean sections. In both cases, it is harmful and not appropriate.

Caesarean section is a standardized intervention promoted by international organizations to save women and their babies, and is a 'travelling model' ([Olivier de Sardan et al., 2017](#)). This standardized intervention was initially developed in high-income countries where women deliver in luxurious healthcare settings that include pain relief. By 'travelling' to different contexts, for example, to low-income countries with very different conditions inside labour rooms, this standardized intervention has unexpected effects. Some caesarean sections described here constitute an important empirical collection of these adverse effects. Caesarean section procedures performed for non-medical reasons are not mentioned in the international recommendations. This omission shows that these aspects are ignored or neglected, and it should be questioned why. During the fieldwork in Bamako, our research team met a policy-maker at the National Health Directorate. We described our research questions to her. She interrupted us and said:

In Mali, we do not have enough caesarean sections. So don't start searching for non-medically-justified caesarean sections (Bamako, field notes, January 2017).

By basing discussions on the fact that national caesarean section rates are low in Benin and Mali, international institutions and policy-makers tend to minimize or ignore the perverse effects of this standardized intervention. While every effort should be made to ensure that women requiring a caesarean section based on medical indications have access to them, policy attention should also focus on caesarean sections performed without medical indications. Attention should be focused not only on caesarean section rates but also on quality decision-making.

Conclusion

This research documented conditions under which women are giving birth in health facilities in Mali and Benin, and the practice of caesarean section experienced by women and caregivers. We observed that some caesarean sections are performed due to maternal distress or inappropriate management of women in labour. Inappropriate use of caesarean section is particularly alarming in countries with high fertility as they constitute a danger to both mothers and babies in the short and long term. These arguments are central to understanding why the inappropriate use of caesarean section is particularly dangerous in West Africa. More than invisible, the non-medical determinants leading to caesarean section seem to be unmentioned. However, this research revealed that they are significant. Furthermore, this research provided evidence that maternal requests for a caesarean section in these two sub-Saharan countries occur, particularly inside labour rooms. Future research should quantify maternal distress and fear of childbirth in these countries. Currently, conditions are in place in Benin and Mali for an increase in caesarean sections performed for non-medical reasons. In the short term, such an increase could constitute a new burden for these two sub-Saharan low-income countries where maternal mortality is high.

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References

- Akrich, Madeleine, 1999. *La péridurale, un choix douloureux*. Les cahiers du genre. pp. 17–48.
- Behague, Dominique P., Victora, Cesar G., Barros, Fernando C., 2002. Consumer Demand for Caesarean Sections in Brazil: Informed Decision Making, Patient Choice, or Social Inequality? A Population Based Birth Cohort Study Linking Ethnographic and Epidemiological Methods. *BMJ (Clinical Research Ed.)* 324 (7343), 942–945.
- Bishop, David, Dyer, Robert A., Maswime, Salome, Rodseth, Reitze N., van Dyk, Dominique, Kluyts, Hyla-Louise, Tumukunde, Janat T., et al., 2019. Maternal and Neonatal Outcomes after Caesarean Delivery in the African Surgical Outcomes Study: A 7-Day Prospective Observational Cohort Study. *Lancet Glob. Health* 7 (4), e513–e522.
- Bohren, M.A., Vogel, Joshua P., Hunter, Erin C., Lutsiv, Olha, Makh, Suprita K., Souza, João Paulo, Aguiar, Carolina, et al., 2015. The Mistreatment of Women during Childbirth in Health Facilities Globally: A Mixed-Methods Systematic Review. *Édité par Rachel Jewkes. PLoS Med.* 12 (6)e1001847.
- Bohren, Meghan A., Mehrtash, Hedieh, Fawole, Bukola, Maung, Thae Maung, Balde, Mamadou Dioulde, Maya, Ernest, Thwin, Soe Soe, et al., 2019. How women are treated during facility-based childbirth in four countries: a cross-sectional study with labour observations and community-based surveys. *Lancet* [https://doi.org/10.1016/S0140-6736\(19\)31992-0](https://doi.org/10.1016/S0140-6736(19)31992-0).
- Bowser, Diana, Hill, Kathleen, 2010. *Exploring Evidence for Disrespect and Abuse in Facility-Based Childbirth*. Report of a Landscape Analysis. Harvard School of Public Health.
- Coxon, Kirstie, Sandall, Jane, Fulop, Naomi J., 2014. To What Extent Are Women Free to Choose Where to Give Birth? How Discourses of Risk, Blame and Responsibility Influence Birth Place Decisions. *Health Risk Soc.* 16 (1), 51–67.
- Dossou, Jean-Paul, Cresswell, Jenny A., Makoutodé, Patrick, De Brouwere, Vincent, Witter, Sophie, Filippi, Veronique, Kanhonou, Lydie G., et al., 2018. 'Rowing against the Current': The Policy Process and Effects of Removing User Fees for Caesarean Sections in Benin. *BMJ Glob. Health* 3 (1)e000537.
- Institut National de la Statistique et de l'Analyse (INSAE) and ICF, 2019. République Du Bénin Cinquième Enquête Démographique et de Santé Au Bénin (EDSB-V) 2017-2018. <https://dhsprogram.com/publications/publication-FR350-DHS-Final-Reports.cfm>.
- El-Khoury, Marianne, Gandaho, Timothee, Arur, Aneesa, Keita, Binta, Nichols, Lisa, 2011. Improving access to life saving maternal health services: the effects of removing user fees for caesareans in Mali. *Health Systems* 20/20, Abt Associates Inc., Mali: Bethesda, MD.
- Fassin, Didier, Memmi, Dominique (Eds.), 2004. *Le gouvernement des corps*. Cas de figure 3. Editions de l'Ecole des hautes études en sciences sociales, Paris.
- Foucault, Michel, 1976. *Histoire de la sexualité I. La volonté de savoir*. Gallimard, Paris.
- Freedman, Lynn P., Ramsey, Kate, Abuya, Timothy, Bellows, Ben, Ndwigwa, Charity, Warren, Charlotte E., Kujawski, Stephanie, Moyo, Wema, Kruk, Margaret E., Mbaruku, Godfrey, 2014. Defining Disrespect and Abuse of Women in Childbirth: A Research, Policy and Rights Agenda. *Bull. World Health Organ.* 92 (12), 915–917.
- Guilmoto, Christophe Z., Dumont, et Alexandre, 2019. Trends, Regional Variations, and Socioeconomic Disparities in Cesarean Births in India, 2010-2016. *JAMA Netw. Open* 2 (3)e190526.
- Hopkins, K., 2000. Are Brazilian Women Really Choosing to Deliver by Cesarean? *Soc. Sci. Med.* (1982) 51 (5), 725–740.
- Instat, Institut National de la Statistique, Cellule de Planification et de Statistique Secteur Santé-Développement, ICF, 2019. Mali Demographic and Health Survey 2018. <https://dhsprogram.com/publications/publication-FR358-DHS-Final-Reports.cfm>.
- Jaffré, Yannick, 2009. *La bataille des femmes: analyse anthropologique de la mortalité maternelle dans quelques services d'obstétrique d'Afrique de l'Ouest*. Éditions Faustroll, aris.
- Jaffré, Yannick, Olivier de Sardan, Jean-Pierre, 2003. *Une médecine inhospitalière: les difficiles relations entre soignants et soignés dans les cinq capitales d'Afrique de l'Ouest*. APAD, Paris; Marseille: Karthala.
- Jaffré, Yannick, Prual, Alain, 1993. Le corps des sages-femmes, entre identités professionnelle et sociale. *Sci. Soc. Santé* 11 (2), 63–80.

- Jaffré, Yannick, Suh, Siri, 2016. Where the Lay and the Technical Meet: Using an Anthropology of Interfaces to Explain Persistent Reproductive Health Disparities in West Africa. *Soc. Sci. Med.* 156, 175–183.
- Kaboré, Charles, Ridde, Valéry, Kouanda, Seni, Agier, Isabelle, Queuille, Ludovic, Dumont, Alexandre, 2016. Determinants of Non-Medically Indicated Cesarean Deliveries in Burkina Faso. *Int. J. Gynecol. Obstet.* 135 (S1), S58–S63.
- Kassebaum, Nicholas J., Barber, Ryan M., Bhutta, Zulfiqar A., Dandona, Lalit, Gething, Peter W., Hay, Simon I., Kinfu, Yohannes, et al., 2016. Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet* 388 (10053), 1775.
- Litorp, Helena, Mgaya, Andrew, Mbekenga, Columba K., Kidanto, Hussein L., Johnsdotter, Sara, Essén, Birgitta, 2015. Fear, blame and transparency: Obstetric caregivers' rationales for high caesarean section rates in a low-resource setting. *Soc. Sci. Med.* 143, 232–240.
- Memmi, Dominique, 2014. *La revanche de la chair: essai sur les nouveaux supports de l'identité. La couleur des idées*Éditions du Seuil, Paris.
- Memmi, Dominique, Guillo, Dominique, Martin, Olivier (Eds.), 2009. *La tentation du corps: corporéité et sciences sociales. Cas de figure 9.* Editions de l'École des hautes études en sciences sociales, Paris.
- Morris, Theresa, 2013. *Cut It out: The C-Section Epidemic in America.* NYU Press.
- Oliveira, Ana Flávia Pires Lucas d', Diniz, Simone Grilo, Schraiber, Lilia Blima, 2002. Violence against Women in Health-Care Institutions: An Emerging Problem. *Lancet* 359 (9318), 1681–1685.
- Olivier de Sardan, Jean-Pierre, 2001. *La sage-femme et le douanier. Cultures professionnelles locales et culture bureaucratique privatisée en Afrique de l'Ouest.* *Autrepart* 20 (4), 61–73.
- Olivier de Sardan, Jean-Pierre, Diarra, Aïssa, Moha, Mahaman, 2017. Travelling models and the challenge of pragmatic contexts and practical norms: the case of maternal health. *Health Res. Policy Syst.* 15 (Suppl. 1). <https://doi.org/10.1186/s12961-017-0213-9>.
- Pestre, Dominique, 2014. *Le gouvernement des technosciences. Gouverner le progrès et ses dégâts depuis 1945.* La Découverte.
- Rouleau, Dominique, Fournier, Pierre, Philibert, Aline, Mbengue, Betty, Dumont, Alexandre, 2012. The effects of midwives' job satisfaction on burnout, intention to quit and turnover: a longitudinal study in Senegal. *Hum. Resour. Health* 10 (1), 9.
- Sadler, Michelle, Santos, Mário J.D.S., Ruiz-Berdún, Dolores, Rojas, Gonzalo Leiva, Skoko, Elena, Gillen, Patricia, Clausen, Jette A., 2016. Moving beyond Disrespect and Abuse: Addressing the Structural Dimensions of Obstetric Violence. *Reprod. Health Matters* 24 (47), 47–55.
- Sandall, Jane, Tribe, Rachel M., Avery, Lisa, Mola, Glen, Visser, Gerard H.A., Homer, Caroline S.E., Gibbons, Deena, et al., 2018. Short-term and long-term effects of caesarean section on the health of women and children. *Lancet* 392 (10155), 1349–1357.
- Schantz, Clémence, Ravit, Marion, Traoré, Abou Bakary, Aboubakar, Moufaliou, Goyet, Sophie, de Loenzien, Myriam, Dumont, Alexandre, 2018. Why Are Caesarean Section Rates so High in Facilities in Mali and Benin? *Sex. Reprod. Healthc.* 16, 10–14.
- Schantz, Clémence, de Loenzien, Myriam, Goyet, Sophie, Ravit, Marion, Dancoisne, Aurélien, Dumont, Alexandre, 2019. How Is Women's Demand for Caesarean Section Measured? A Systematic Literature Review. *PLoS One* 14 (3)e0213352.
- Sobhy, Soha, Arroyo-Manzano, David, Murugesu, Nilaani, Karthikeyan, Gayathri, Kumar, Vinoth, Kaur, Inderjeet, Fernandez, Evita, et al., 2019. Maternal and Perinatal Mortality and Complications Associated with Caesarean Section in Low-Income and Middle-Income Countries: A Systematic Review and Meta-Analysis. *Lancet* [https://doi.org/10.1016/S0140-6736\(18\)32386-9](https://doi.org/10.1016/S0140-6736(18)32386-9).
- United Nations, 2015. *The Millenium Development Goal Report.*
- United Nations, Department of Economic and Social Affairs, Population Division, 2017. *World Population Prospects: The 2017 Revision*, custom data acquired via website 2017. <https://esa.un.org/unpd/wpp/DataQuery/>.
- Vogel, Joshua P., Betrán, Ana Pilar, Vindevoghel, Nadia, Souza, João Paulo, Torloni, Maria Regina, Zhang, Jun, Tunçalp, Özge, et al., 2015. Use of the Robson Classification to Assess Caesarean Section Trends in 21 Countries: A Secondary Analysis of Two WHO Multicountry Surveys. *Lancet Glob. Health* 3 (5), e260–e270.
- Wagner, Marsden, 2000. Choosing caesarean section. *Lancet* 356 (9242), 1677–1680.
- World Health Organization, 2015. *WHO Statement on Caesarean Section Rates.*
- World Health Organization, 2017. *Robson classification: implementation manual.*

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