

Caesarean Sections and Free Healthcare: Pharmaceutical Product Kits and Family Contributions at the Regional University Hospital Center of Ouahigouya (RUHC-OHG)

Issa Ouedraogo¹, Sansan Rodrigue Sib¹, Moussa Sanogo¹, Yobi Alexis Sawadogo², Sibraogo Kiemtoré², Saidou Belem¹, Timongo François Danielle Millogo/Traore²

¹Université Lédéa Bernard Ouedraogo, Ouagadougou, Burkina Faso

²Université Joseph Ki Zerbo, Ouagadougou, Burkina Faso

Email: oued_issa2002@yahoo.fr

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Abstract

Objective: This study aimed to evaluate, in the context of free cesarean sections, the completeness of emergency cesarean kits and the financial contributions made by families in the maternity unit of the Regional University Hospital Center of Ouahigouya in Burkina Faso. **Methodology:** A descriptive cross-sectional study was conducted with prospective data collection on cesarean kits provided free of charge to women requiring emergency cesarean sections. **Results:** A total of 341 pharmaceutical kits for cesarean sections were included. The completeness rate of cesarean kits was 85.21%. Missing items included:

- Universal surgical kit
- Injectable tramadol
- Red povidone-iodine (red betadine)
- Injectable ceftriaxone
- Lumbar puncture needle
- Umbilical cord clamp
- Isotonic saline
- Injectable ephedrine
- Surgical gown

The average cost of a cesarean section covered by the free healthcare policy was 59,626.55 CFA francs, while the average cost paid by families in emergencies was 20,212.72 CFA francs, or about one-quarter of the total. **Conclusion:** Cesarean kits were incomplete in this study. Improving the management and supply of medications and consumables in hospital pharmacies could enhance

the effectiveness of the free cesarean care policy.

Keywords

Cesarean Kits/Free, Financial Contribution/Families, RUHC-OHG, Burkina Faso

1. Introduction

Universal Health Coverage (UHC) is a global health goal that ensures everyone has access to the health services they need, when and where they need them, without facing financial hardship [1]. In Sub-Saharan Africa, eliminating direct payments for public health services has become a key strategy toward achieving this goal.

In Burkina Faso, pilot projects that provided 80% exemptions on healthcare costs began in 2006 and continued until 2015 [2]. In 2016, the government launched a policy offering free healthcare to pregnant women and children under 5 years of age.

This policy covers:

- Prenatal consultations
- Emergency obstetric care
- Deliveries
- Cesarean sections
- Postnatal care

The main goals of this free care initiative were to improve access to health services and reduce the financial burden on patients. However, despite its implementation, many still report having to pay directly for medications, products, or services supposedly included in the free care package.

One study conducted shortly after the policy's introduction in 2016 found that about 30% of women paid directly for maternity services. Additional health-related expenses remain high even under the free care policy. Some families struggled to cover the extra costs, while others reported being unprepared for unexpected expenses [2].

While studies on the completeness of emergency cesarean kits and financial contributions of families have been conducted at the Yalgado Ouédraogo, Tengandogo, and Bogodogo University Hospitals [3], no such study had been carried out at the Regional University Hospital Center of Ouahigouya (RUHC-OHG).

The objective of our study was to assess the completeness of the cesarean kits and the financial burden borne by families during emergency cesarean care at RUHC-OHG

2. Methodology

We conducted a descriptive cross-sectional study with prospective data collection

from August 1 to October 31, 2024, at the Regional University Hospital Center of Ouahigouya.

Study Population:

The population consisted of pharmaceutical kits for cesarean sections prescribed for women undergoing emergency cesarean procedures.

Inclusion Criteria:

Included were all pharmaceutical cesarean kits prescribed for women in emergency situations during the study period.

Parameters Studied:

- Awareness of the free cesarean policy
- Supplementary medical prescriptions:
 - Types of additional pharmaceutical products
 - Total cost of the prescription
- Family contributions:
 - Prior knowledge
 - Reactions
 - Satisfaction
 - Total contribution cost
- Data from the free care records:
 - Pharmaceutical products included in the prescribed kits
 - Cost of the kits covered under the free care policy
 - Date the kit was prescribed

Data were collected using a validated survey form, through interviews and from information found in patient records.

Data entry and analysis were performed using Microsoft Office 2016 (Excel and Word for tables) and Stata/SE version 16.0.

Results are expressed as means \pm standard deviation for quantitative variables, and as percentages for qualitative ones.

3. Results

A total of 341 emergency cesarean pharmaceutical kits prescribed for women undergoing cesarean sections were included in the study.

Additional Prescriptions:

For all 341 emergency kits, supplementary medical prescriptions not covered by the free care policy were issued. These included various essential pharmaceutical products (**Table 1** & **Table 2**).

Table 1. Distribution of pharmaceutical products missing from kits (n = 341).

Product	Number of prescriptions	Percentage
Adhesive bandage (Hypafix)	341	100%
Universal surgical kit	328	96.19%
Injectable tramadol	277	81.23%
Red povidone-iodine (Betadine)	238	69.79%

Continued

Injectable ceftriaxone	146	42.82%
Lumbar puncture needle	77	22.58%
Umbilical cord clamp	71	20.82%
Injectable nefopam	64	18.77%
Isotonic saline	39	11.44%
Injectable ephedrine	38	11.14%
Injectable Catapresan	10	2.93%
Surgical gown	07	2.05%

Table 2. Stockout duration and breakdown by product (n = 341).

Missing product	Duration of stockout* (days)	Total requests	Unfulfilled requests	Stockout rate* (%)
Universal kit	2 days	341	328	96.19%
Injectable tramadol	–	341	277	81.23%
Red povidone-iodine	–	341	238	69.79%
Injectable ceftriaxone	–	341	146	42.82%
Lumbar puncture needle	–	341	77	22.58%
Umbilical cord clamp	–	341	71	20.82%
Isotonic saline	–	341	39	11.44%
Injectable ephedrine	–	341	38	11.14%
Surgical gown	–	341	07	2.05%

- ★ Stockout duration refers to the number of days a product was unavailable at the hospital pharmacy during the study period.
- Stockout rate represents the proportion of requests for a given product that could not be fulfilled.

Completeness Rate of Kits:

The average completeness rate of the cesarean kits was 85.21%, based on the cumulative data across 39 items (this percentage reflects the average availability rate of individual items across all kits, not the number of fully complete kits).

Cost Analysis:

- The cost of the cesarean kits (as covered under the free care policy) ranged from 48,860 CFA to 83,452 CFA, with an average of 59,626.55 CFA ± 6,407.22 CFA.
- Out-of-pocket expenses paid by families (to complete missing items before surgery) ranged from 4,200 CFA to 38,625 CFA, with an average of 20,212.72 CFA ± 4,164.96 CFA.
- The total emergency cesarean cost ranged from 66,675 CFA to 105,080 CFA, with an average of 79,839.27 CFA ± 5,762.86 CFA.
- The portion of the cost borne by families represented 25.32% of the total emergency cesarean cost.

Family Perception of the Cost of Emergency Cesarean Sections

51.32% of families considered the cost of the emergency cesarean section they had to cover as affordable.

11.38% reported not being prepared for the extra prescriptions and faced difficulty paying.

Table 3 shows the different ways families evaluated this cost.

Table 3. Distribution by family perception of the cost of emergency cesarean sections (n = 341).

Perception of cesarean cost	Number (n)	Percentage
Affordable	175	51.32%
Inexpensive	98	28.74%
Too expensive	68	19.94%
Total	341	100.00%

4. Discussion

Our study showed that none of the cesarean pharmaceutical kits provided under the free care policy were complete for any of the women included. Each required supplementary prescriptions outside of the free coverage.

This situation mirrors findings from RUHC-OHG in 2021, where 100% of kits were incomplete [3]. This suggests that public hospitals in Burkina Faso are facing similar challenges in implementing the free care policy. A similar issue was reported in Benin in 2013, where Ouedraogo *et al.* observed that additional prescriptions issued to patients implied incomplete or insufficient cesarean kits [4].

Reasons for Incompleteness:

The main cause of this incomplete coverage likely lies in the frequent unavailability of pharmaceutical products meant to be included in the kits. This is problematic because it violates the principles of the national free healthcare policy.

In our study, the kit completeness rate was 85.21% for pharmaceutical products.

This incomplete rate, far from the ideal 100%, may be due to:

- High patient referrals from peripheral health centers, leading to stock depletion.
- Chronic unavailability of kit components during the study period.

This unavailability of products and medical supplies covered by the free care policy not only undermines the credibility of the program, but also increases the financial burden on families [5].

Financial Impact:

Despite the free kits, families still had to spend an average of 20,212.72 CFA francs to complete missing items in emergency situations.

This figure is higher than the 16,851 CFA francs reported at University Hospital Center of Yalgado Ouedraogo in 2021 [3].

The difference may stem from:

- Our study's longer duration (3 months), which exposed more instances of stock shortages.
- The O-RUHC study only lasted one month, which may have limited the number of missing items observed.

In our study, the family's share of the emergency cesarean cost was 25.32% a significant amount considering the procedure is supposed to be free.

This cost could stem from:

- Purchasing missing kit items.
- High prices of medications at private pharmacies in town [6].

Given that the monthly minimum wage in Burkina Faso is 45,000 CFA francs, this added financial burden is considerable.

Perceptions of Families:

Most families (51.32%) considered the total cost of care affordable, especially when compared to pre-policy expenses. For them, cesarean sections are now less expensive than before the policy was implemented. This perception is relative to prior costs when cesareans were not subsidized.

However, despite the policy, cesarean sections remain costly for some families [7] [8].

In our context, this may be partly explained by the stockouts of medications or medical supplies that were supposed to be provided for free, as well as by unjustified medical overprescription, especially of specialty drugs instead of generics, without valid clinical reasons, as observed by Wirtz *et al.* [9]. This results in additional prescriptions outside the free care coverage.

This points to the need for prescribers to rationalize their practices and prioritize essential generic medications, which are both effective and affordable.

5. Conclusions

While cesarean care is officially free at RUHC-OHG, in reality:

- Kits remain incomplete.
- Families continue to bear part of the cost.
- The average out-of-pocket expense remains high.

This underscores the need for better management and supply chain systems to ensure the true implementation of the free cesarean policy.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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