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## High severity of abortion complications in fragile and conflict-affected settings: AMoCo, a mixed-methods cross-sectional study in two referral hospitals in sub-Saharan Africa

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### Introduction

Abortion-related complications are one of the five main causes of maternal mortality. However, research about abortion is very limited in fragile and conflict-affected settings. We aimed to describe the severity of abortion-related complications and contributing factors in two MSF-supported referral hospitals; one in a rural setting, northern Nigeria, and one in the capital city, Bangui, in the Central African Republic (CAR).

### Methods

This cross-sectional mixed-methods study included four components: 1) a clinical study using prospective review of medical records for women presenting with abortion-related complications between November 2019 and July 2021; 2) a quantitative survey among hospitalized women, to identify contributing factors for severe complications; 3) a qualitative study to understand the care pathways of women with severe complications; and 4) a knowledge, attitude, and practice (KAP) survey among health professionals providing post-abortion care in the two hospitals. The clinical study and the quantitative survey used the methodology of the WHO multi-country study on abortion led in 11 sub-Saharan African countries in stable contexts.

### Ethics

This study was approved by the MSF Ethics Review Board, the Central African Republic's Comité Scientifique Chargé de la Validation des Protocoles d'Etude et des Résultats de Recherche en Santé, and by the Guttmacher Institute International Review Board.

### Results

520 and 548 women comprised the clinical study enrollees for the Nigerian and CAR settings, respectively; of these, 360 and 362, respectively, participated in the quantitative survey. Of these women, 66 in Nigeria and 18 in CAR were interviewed for the qualitative study. Lastly, 140 and 84 health providers in Nigeria and CAR, respectively, participated in the KAP survey. The severity of abortion complications was high: 348 (67%) and 278 (50,7%) of women had a severe complication (potentially life-threatening, near-miss, or death) respectively in Nigerian and CAR hospitals. The KAP survey showed that almost 60% and 91% of health providers in Nigerian and CAR hospitals respectively, personally knew a woman who had died from abortion complications. Among women who did not have severe bleeding (146 in Nigeria and 231 in CAR), anemia was nonetheless frequent, affecting 66.7% of women in Nigeria and 37.6% in CAR. Among women participating in the quantitative survey, 23% in Nigeria and 45% in CAR reported having induced their abortion.

Among them, 97% in Nigeria and almost 80% in CAR used unsafe methods. In CAR, qualitative data indicated that these included unsafe instrumental evacuations performed by unskilled individuals, and self-administered decoctions of traditional ingredients such as herbs, roots, or vegetables, ingested either alone or in combination with pharmaceutical drugs. In Nigeria, 50% did not want to be pregnant but fewer than 3% reported using contraception at the start of the index pregnancy. In CAR, 56% did not want the pregnancy, but 37% of women reported using contraception at its start. Women faced long delays accessing care, with 50% of hospitalized women in both settings taking two or more days to reach adequate post-abortion care after the onset of symptoms. Nevertheless, delays were worse in Nigeria where 27% took six days or more to access those care, versus 16% in CAR. Qualitative data indicated that factors implicated in longer delays included delayed recognition of danger signs necessitating medical care, unsuccessful attempts to self-manage symptoms, internalized stigma causing fear of disclosure among women reporting induced abortion, and in Nigeria, requiring permission to seek care. In both settings, structural barriers associated with lack of capacity and low quality of care in local health care structures, and transport difficulties to access adequate care also increased delays. Lastly, despite restrictive legal environments in both contexts, the KAP survey revealed that most health providers (74% in Nigeria and 67% in CAR) considered that access to safe abortion care was the right of every woman.

### Conclusion

Our data suggests a higher severity of abortion-related complications, as compared to WHO data from African hospitals in more stable settings. Factors that could contribute to such high severity include greater delays in accessing post-abortion care, decreased access to contraception and safe abortion care, resulting in unsafe abortions; and food insecurity leading to iron deficiencies and chronic anaemia. The results highlight the need for better access to safe abortion care, contraception, and high-quality post-abortion care, to prevent and manage complications of abortions in fragile and conflict-affected settings.

### Conflicts of interest

None declared.