PATHWAYS TO CARE AMONG WOMEN HOSPITALIZED WITH SEVERE ABORTION COMPLICATIONS

Castors Maternity in Bangui, Central African Republic, a conflict-affected urban setting – Results of the AMoCo study













INTRODUCTION

Global estimates indicate that up to 45% of all abortions are unsafe (1). As a consequence, abortion-related complications are significant contributors to maternal mortality and morbidity (2), (3). Seven million women are hospitalized each year in low-income countries as a result of unsafe abortion complications (4). It is estimated that globally, most abortion-related deaths, occurring almost exclusively in low- and middle-income countries, are related to unsafe induced abortions, which are responsible for 7.9% to 18% of all maternal deaths (2), (5), (6). These deaths could almost entirely be prevented by ensuring access to comprehensive abortion care (safe abortion and post-abortion care, as well as contraceptive services) (7), (8). It is therefore imperative that high-quality and timely post-abortion care is accessible and available before complications become life-threatening.

Conflict-affected and fragile settings bear a heavy burden of maternal mortality (9), (10). The Central African Republic (CAR) is one of the countries most affected by conflict and fragility, and where the risk of pregnancy-related illness and death is compounded by disruption or restriction of access to essential health services, including sexual and reproductive health care. CAR is one of the poorest and most fragile countries in the world (11), affected by decades-long internal conflict

and chronic insecurity. With 829 deaths for every 100,000 live births (12), it holds the fifth highest maternal mortality rate in the world, with abortion-related complications estimated to be responsible for 24% of all maternal deaths (or 31% of the direct causes of maternal deaths) (13).

As research about abortion, abortion-related complications, and abortion care in fragile and conflict-affected settings remains very limited, the AMoCo (Abortion-related Morbidity and Mortality in Conflict-affected and Fragile Settings) mixed methods study was designed to describe, quantitatively and qualitatively, the burden of abortion-related complications and their contributing factors in three fragile and conflict-affected settings: CAR, Northern Nigeria and the Democratic Republic of Congo (ClinicalTrials.gov, NCT04331847). This evidence brief summarizes key findings from its qualitative component, which aims to describe the access to care and treatment of women and girls hospitalized in Castors Maternity Hospital in Bangui for potentially life-threatening and near-miss abortion complications such as severe haemorrhage, severe sepsis, and uterine and intra-abdominal perforation (14).

METHODS

Participants in the qualitative component were recruited purposively among women included in the quantitative components of the AMoCo study who were hospitalized at Castors Maternity Hospital with severe abortion complications (19). Eighteen women and teenage girls who sought life-saving care at Castors Hospital between November 2019 and January 2020 took part in face-to-face in-depth interviews conducted at the hospital, either before or just after discharge. Interviews were conducted in Sango, the local language, by one of two

trained female interviewers. They explored the conditions and factors that may have contributed to hospitalisation, pathways to abortion and post-abortion care, decision-making processes about care-seeking, access and timing, as well as perceptions of post-abortion care and treatment. All interviews were audio-recorded, translated, and transcribed from Sango into French and English. Interview transcripts were coded independently by two researchers and analysed for common themes, one using French and the other, English.



PARTICIPANT DESCRIPTION

The eighteen study participants ranged in age from 13 to 36 years, with two under 18 years of age. Most reported to have attended primary or secondary school and to being engaged in formal or informal income-generating activities. About two-thirds of the participants reported being in a committed relationship and living with a partner, with a large majority already having children (Table 1).

Participant (N=18) characteristics reported in the qualitative interviews		
Age category		
<18	2 (11.1%)	
18-24	4 (22.2%)	
25-30	6 (33.3%)	
30 and older	6 (33.3%)	
Reported induced abortion?		
Yes	11 (61.1%)	
No	7 (38.9%)	
Severity of the abortion complication*		
Near-miss†	14 (77.8%)	
Potentially life-threatening‡	4 (22.2%)	
Relationship status		
Cohabitating/marriage	12 (66.7%)	
Uncommitted relationship	4 (22.2%)	
Not in a relationship	2 (11.1%)	
Occupation		
Formal employment	4 (22.2%)	
Self-employed/Informal employment	6 (33.3%)	
School/Occupational training	3 (16.7%)	
None reported	5 (27.8%)	
Number of previous live births		
None	4 (22.2%)	
1-2	8 (44.4%)	
3 or more	6 (33.3%)	

Table 1: AMOCO Qualitative Study: Participant Characteristics

^{*}Abortion complication classifications are based on data collected prospectively from medical records for the quantitative component of the study based on the following criteria (1):

[†] WHO maternal near-miss criteria (organ dysfunction of either one or more of the following: cardiovascular, respiratory, renal, coagulation, hepatic, neurological or uterine dysfunction) (14).

 $[\]ddagger$ WHO potentially life- threatening complications (severe haemorrhage, severe systemic infection, or suspected uterine perforation) (14).

KEY FINDINGS

- About two-thirds of participants reported that they had induced the abortion, either on their own or with assistance, before seeking post-abortion care at Castors Hospital. Eleven of the 18 participants described their induced abortion procedures and pathways. Among women not reporting having induced their abortion, two women stated that they had a miscarriage of undefined cause, and the five others reported either an "accidental abortion" caused by a drug treatment or a gynaecological health problem during pregnancy that resulted in a spontaneous abortion (miscarriage).
- Availability, access to, and use of contraceptive methods was limited and contributed to these pregnancies, unintended for two thirds of the participants. Most participants reported never having used modern contraceptives. Several participants reported using natural methods to avoid pregnancies, and some reported occasional condom use. Others harbored some misconceptions about having low fertility post-pregnancy and thus considered that they did not need contraceptives. Some participants also expressed concerns regarding modern contraceptives, including high costs and not having the transport fare or the time to collect them. In one case, the partner objected to its use. Among the few women reporting having previously been on modern contraceptives, or "the pill", which was a general term used to describe tablets, implants and injectables, the majority reported having discontinued their use due to side effects or a lack of acceptable methods available at health facilities.

"I had tried "the pill" [implant] twice, ... I had a lot of bleeding; it was continuous for one month ... they removed it, and afterwards, I had [injections] every three months, it was the same thing, too much bleeding, ... I was told to stop as it does not fit my organism and ... to take the tablets. At that time, when I went to the pharmacy, they said that they were out of the [tablets], [so] to continue with the injection. I told them that it doesn't adapt to my organism, it's better to change and they refused. That's how I gave up".

Age 26 years, potentially life-threatening complications, 3 children

"I didn't have someone to go with me to get there and in addition I don't have enough time. When I leave for work in the morning at 7:00 am, I get back home at 11:00 pm. Time does not allow me to come to get the pill ... I (just) don't have the time".

Age 32 years, potentially life-threatening complications, 1 child



• The respondents' reported life circumstances surrounding the interruption/loss of their pregnancy were complex and diverse. When induced abortion was not reported, side effects of non-abortive pharmacy drugs, physical exertion, or a gynecological health problem seemingly common in the community, called gnama-ti-ya¹, were indicated as the causes of pregnancy loss. In the case of reported induced abortion, respondents reported that the decision to terminate the unplanned or unwanted pregnancy was often influenced by dire life situations, including having experienced abandonment, abuse, and neglect in their relationships. Experiencing or anticipating precarious life circumstances and financial struggles was often a main or at least an additional consideration in their decision to terminate the pregnancy.

"I experienced a lot of difficulties in my life which made me decide to free myself from this pregnancy ... I did this abortion to be on my feet, to carry out my activities and to meet my needs...I don't live together with my partner, if I keep the pregnancy and he abandons me, how will I [live]? There are many difficulties... With the pregnancy, I could not work anymore, I will be blocked, what will become of me? That's why I prefer abortion...the man responsible for this pregnancy, we live well, there is no problem between us; but I am not ready to make a child, it comes from my will. I thought about what he [former abusive partner] did to me, that's why I decided to end this pregnancy... I didn't want [it]".

Age 26 years, near-miss complications, 1 child

^{1.} Literal translation of Gnama-ti-ya: Animal in the belly. It refers to pelvic pain of unknown origin. It can refer to signs of pelvic infection or uterine fibroids, and in the community, it is attributed to sharing of clothes, infections, natural phenomenon, a traditional healer's action, or the side effects of other medications.

Sources of information about induced abortion were mostly
informal. Induced abortion methods were usually recommended
by family members, friends, or colleagues, and were selected
based on perceived efficacy and convenience of access rather
than medical safety. Induced abortions were usually obtained at
costs considered high by the women, and were often negotiated,
ranging from 2000 CFA Francs² to several thousand CFA Francs,
excluding transport, depending on the method used.

"I explained to a friend of mine...and she directed me to him [the person who did the abortion]. We went to his house; when we explained the problem, he asked for money, we talked for a long time and in the end, I gave him 18 000 CFA. Before [the abortion], he told me that my cervix is too thick, I had to buy some medicine... All the expenses that I had made are in the amount of 27000 CFA Francs."

Age 21 years, near-miss complications, 2 children

• Male partners often had a role in the abortion decision-making process and the choice of the abortion method. Among participants reporting induced abortion, the decision to terminate the pregnancy was a) taken with the partner who could help gather information or money to pay for the abortion, b) hidden from the partner, c) compelled by partner desertion after he learned of the pregnancy, or in some instances, d) insisted upon by the partner, who could also decide on or recommend the method to be used.

"My partner also does not need this pregnancy because our living conditions are not favorable for the moment .. The cost of our health care, the food, all that. He's the only one who does it [provides for us], so he's not going to be able to get by".

Age 28 years, potentially life-threatening complications, 3 children

"He's preparing his file to go to the military training ...It's better to abort this pregnancy, if he's not there, he [won't] be comfortable as long as we haven't removed this. For the moment, he doesn't have the money to give for my small business so that I can take charge of this pregnancy. How are we going to do it?... Now it was [he] who went to see the [senior health worker at the hospital], he said that he wants to have the abortion with me because he is not ready for the moment, so he wants us to do the curettage. The [senior health worker] accepted."

Age 19 years, near-miss complications, no children

"I didn't tell him about this abortion, but now he'll now find out. He didn't want me to take [the pregnancy] out, but I did it secretly without him knowing what I had done."

Age 36 years, near-miss complications, 1 child

"When I told him about the pregnancy, he didn't answer.
One day, I told him that I didn't feel comfortable, and
he started to yell at me, that he is not the one who is
responsible for the pregnancy ... When my partner told
me this, I was troubled in my thoughts; I asked myself
questions wondering what I will become if I keep the
pregnancy. Will I be able to take charge of the pregnancy?
I can't do it alone; that's why I had bought some
medicines... [Since then] my partner has fled."

Age 15 years, near-miss complications, no children

Women seeking to induce their abortion often tried successively
multiple and mixed methods to obtain the expected outcome,
hence delaying their pathway to safer care (Table 2). Abortion
methods included "curettage", a term used to describe a range
of invasive procedures performed by medically trained or lay
individuals to terminate pregnancies, and self-administered
"traditional" decoctions of herbal and/or pharmaceutical
methods through various modes of administration.

"I was upset, and I had drunk the traditional medicine. Before that someone had shown me to take a piece of iron into the vagina... It was a piece of iron like that [she shows the size to interviewer]. The person said that it allows to dilate the cervix, I pushed it into the vagina but there was no effect...The person told me to uproot the roots of the Kava plant and boil the roots with natron and drink [it]. After drinking that I didn't feel well. I had stomach aches and dizziness, my stomach was also stirring, I could no longer get up, the pains were intense.

Age 32 years, potentially life-threatening complications, 1 child

"I found out that I was pregnant. I had informed my husband, he told me that our living conditions do not allow us to have many children. He told me that he was going to explain to someone, his friend, who works at the hospital to do the curettage because he was not ready to keep the pregnancy. And he took me to his friend's, he did the curettage, but it didn't work, the person hadn't removed the residue properly".

Age 29 years, near-miss complications, 2 children

"I started the traditional treatment two weeks ago, but it didn't work so I had to come to Bangui and meet the health worker, who injected me with drugs.

Age 27 years, near-miss complications, 4 children

Induced abortion reported* ?	Methods used to induce the abortion*
Yes	"Curettage" (use of "clamps") with injections and anesthesia administered by health care worker* at his home
Yes	Undisclosed medication administered by family member
Yes	"Curettage" (use of scissors) with injections administered by health care worker *
Yes	"Curettage" and injections administered by a non-medically trained person*
Yes	Prescribed abortion medication
Yes	Undisclosed medication with red terramycin decoction, honey, boiled natron (Self-administered)
Yes	Root medicine concoction (Cabboto ou ngorouboyi) Curettage" with injection and dilatation with insertion of cava root by non-medically trained person *
Yes	Ash bath (Self-administered) Curettage" with injections and ibuprofen tablets administered by non-medically trained person *
Yes	"Curettage" administered by non-medically trained person *, at participant's home
Yes	"Curettage" (use of curette) with injection and medication administered by health care worker *
Yes	Kava roots and leaves boiled in natron and inserted in the anus, dilatation with metal rod (Self-administered)
Reported causes of pregnancy loss	
No	Undisclosed medication, decoction with plants, honey, lemon (Self-administered)
No	 Pharmacy-bought medication (Self-administered) Prescribed antiparasitic and antimalarial medication Vitamins (Self-administered) Injections by health care worker * Concoction of bark and honey with boiled lemon and garlic
No	None reported
No	Miscarriage
No	Amoxicillin (Self-administered), physical exertion
No	Miscarriage
No	Ngama-ti-ya treatment: Boiled leaves decoction drunk and leave inserted into the vagina (Self-administered)

Table 2: Participants' reported methods and causes of abortion

^{*} As reported by the participants

 Women who disclosed their induced abortion to a trusted female confidante and asked for help appear to have accessed adequate post-abortion care in a timelier manner.

"When I fell into this state, I didn't think of Castors, given my [financial] means and as what happened to me was in the neighborhood. I didn't think of going to the hospital, but it was my sister who came to direct me to Castors".

Age 30 years old, near-miss complications 2 children

"It was thanks to my neighbor who came to my house one evening to visit me and she told me that "diseases of the abdomen" are often complicated; she asked me if I did not know that Castors treats for free? ... I told her that I have no idea ... the next day she came to my house, she cleaned me up and took a motorcycle to bring me here".

Age 21 years, near-miss complications, 2 children

"There is a mama who lives behind our house, she knows about health, I went to explain to her ... She told me to go directly to the hospital".

Age 29 years, near-miss complications, 2 children

- Delays that may have affected seeking and receiving adequate post-abortion care and potentially caused increased morbidity were explored using the "Three delays Model" as described by Thaddeus and Maine in their article, Too far to Walk: Maternal mortality in Context (15). Focusing on the first two delays that affected seeking and reaching adequate care for patients allowed for a closer examination of their pathways to care. The first delay, or the time from symptom onset to the decision to seek care, ranged from less than one to 21 days among women reporting induced abortion but could span over several weeks among women not reporting induced abortion. The second delay, the time from the decision to seek care to arrival at Castors Maternity Hospital, the place of adequate care, ranged from zero to nine days among women reporting induced abortion. Data on the third delay, delays experienced in the health facility while receiving treatment, were not mentioned during the interviews.
 - Factors delaying decision-making regarding care-seeking (first delay) included delayed recognition of danger-signs necessitating medical care, prioritizing other activities, such as childcare or family events, and among women reporting induced abortion, wanting to keep the abortion secret, despite experiencing severe symptoms.

Factors implicated in the second delay regarding reaching adequate care included, for about two-thirds of participants, attempts to self-manage symptoms at home with self-prescribed medication (including pharmaceuticals and traditional treatments), trying, and often failing, to consult with the person who had done the abortion, and/or seeking care by visiting another health care provider or by consulting local health facilities (Figure 1). Participants reported having been given injections for pain management but were either denied further care due to a lack of skilled staff or needed equipment at the health facility or offered surgical procedures at a cost that they could not afford. In rare instances, participants were provided with referral notes to Castors. However, several participants told interviewers they were denied the use of an ambulance because ambulances were reserved for pregnant women. After having decided to go to Castors Maternity Hospital, finding transport, securing money for transport, anticipating other costs for services at Castors (when in fact the services at Castors are provided without a fee for the service), and finding someone willing to help them to go to the hospital were additional factors that caused delays.

"If there was a means of travel, a safe way to get the patients to the hospital, it would [have] help[ed] me earlier. ... Ambulances should be available in the health centers, such as the maternity ward. ... Now, to take me to Castors, there is no ambulance, the accompanying person had to go out to the main road to look for another motorcycle. ... Since there is this lack plus the insecurity in the area, I was obliged to wait until it was daylight before leaving home to go out to the side of the road to look for the motorcycle ... The worst was the weekend, a Sunday in our country, this day it is difficult to find the means of transport like cab and motorcycle cab; they circulate little. This caused more delays in my treatment, so I lost a lot of blood that day and almost died."

Age 35 years, near-miss complications, 3 children

"There was also the problem of money, ... If we had had the idea that here they do free care, we would have had to look only for the money of the transport and come so early, but in our thought, it was similar to what happens in the clinics. ... As soon as you get there, you have to pay before you can be seen. That's why we were worried about money and how we would get there, how we would get the treatment. That's how we delayed until this point."

Age 26 years, potentially lifethreatening complications, 3 children

"I had often heard that after doing the curettage the woman felt better ... I thought that sometime later the fetus will come out and I will feel better. ... I couldn't put anything in my mouth, I couldn't stand up ... I was in pain night and day. The medication that the person who had [done the abortion] gave me before, I took but it was not good ... As things became complicated, I was afraid, because my family had not accepted that I could do the abortion; I had not told anyone about my situation, I was very withdrawn, and I isolated myself in my house."

Age 21 years, near-miss complications, 2 children

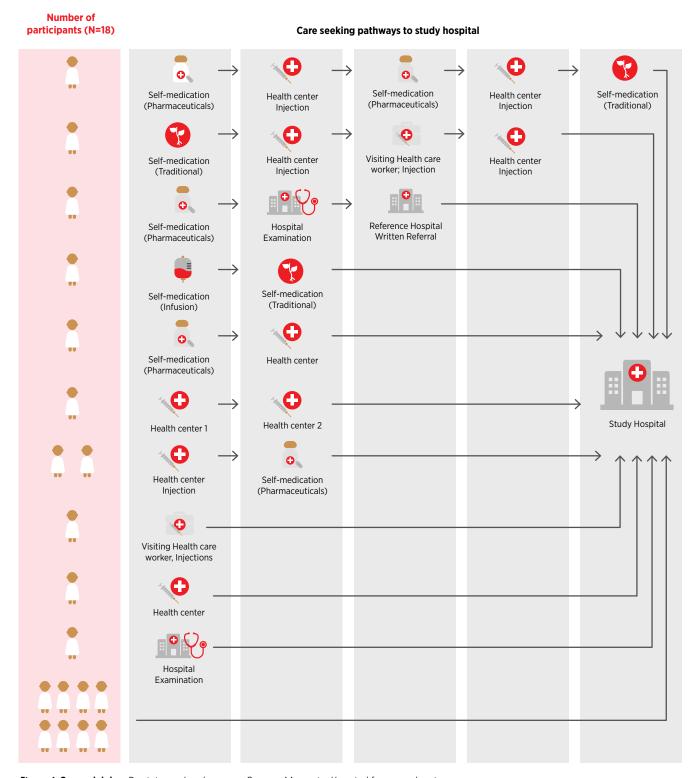


Figure 1: Second delay: Participants' pathways to Castors Maternity Hospital for post-abortion care

Notes about figure 1:

- Six participants opted to seek care directly at Castors Maternity Hospital
- "Injections" may include oxytocin, antibiotics, painkillers, and other unknown substances
- "Self-medication pharmaceuticals": Usually bought from pharmacies/shops, could include painkillers, antibiotics, antimalarial drugs, antiparasitic
 medication, etc.
- "Self-medication traditional methods": decoctions of ingredients, usually drunk, may also include a practice called hot water massage which is an enema with hot water.

 Perceptions of quality of care at Castors Maternity Hospital were overall very positive and all participants expressed their gratitude for having their lives saved. However, many women reported having received little information from the health personnel regarding the procedures used to treat them and medical care they received.

"Castors is the best health center, the reception is good and if it wasn't for this health center, I wouldn't be here today to exchange with you... When I arrived here yesterday and the state I was in, it is true that on the one hand they had the idea that it was me who had provoked it, but on the other hand, they helped me so that I could recover ... The techniques that this health center has applied to work are the best. This center gives better help to the people".

Age 26 years, potentially life-threatening complications, 3 children

Several women reported experiencing stigmatizing and judgmental attitudes from some health care providers, including a few at Castors Maternity Hospital. In some cases, individual staff attitudes about abortion resulted in negative experiences.

"[The midwife from the local health center], said some bad things to me...Afterwards, she gave me the injection and told me to get out and leave ... I was angry and crying when I left the health center to go home."

Age 24 years, near-miss complications, 2 children

"One of the [health personnel] who work here [Castors] thought that I was the one who provoked the abortion ... She said, 'If you die as a result of the abortions that you provoke it should be better, you kill children, you don't deserve to be alive'... In her thoughts it was us who had done it on purpose, because among us some have provoked the abortion ... For me I had come so that she could help me, but she did not know what was at the origin of what had happened to me"

Age 26 years, potentially life-threatening complications, 3 children

 The participants' reported physical, financial, social and mental impacts of post-abortion complications were substantial and may have long term consequences. In some cases, relatives and family members were also impacted financially.

"My husband had a little money, he spent it all to do the abortion So at the moment we are going through difficult times ... Difficulty in finding food for the children, sometimes the children don't have breakfast in the morning and sometimes they only eat once until the evening."

Age 29 years, near-miss complications, 2 children

"My only concern is my belly which is spoiled, I cannot make children anymore. This grief is engraved on my heart, and it overcomes everything in my life. I am too sad on the one hand and very angry on the other hand of what this Papa [person who did the abortion] had done to me ... As soon as I see someone carrying a baby, I get sad, and my tears start to flow; every time this happens to me after seeing someone with a baby".

Age 21 years, near-miss complications, 2 children

"I have been stuck here [hospitalized at Castors Maternity Hospital] for several days, these are my difficulties ... the pain I feel keeps me constantly in bed, as I am sick, I have no strength to do certain things ... It was really serious, it's like a big story in my life ... I used to be big [strong] and now I've become very thin, it's really dangerous and I don't know what to say about these things".

Age 26 years, near-miss complications, 1 child

"Since I am in this state,I am blocked here, my business is also blocked and I am in financial difficulties".

Age 35 years, near-miss complications, 3 children

 Supportive partners were also negatively impacted by circumstances caused by post-abortion complications.

"My partner does all the housework for me and he can't do anything else, he has to go home to take care of the children, prepare the meal and during the day he brings the [still breastfeeding] child home to give him something to eat and in the afternoon he brings the child back here with me so that we can spend the night with him and in the morning, he takes him to go and take care of him, it's really very hard during this period."

Age 28 years, potentially life-threatening complications, 3 children

"My family is not over there, I was only with my husband, he is the one who supported me until now in this health center; he is the one who washes the clothes that are soiled with blood, he does everything".

Age 36 years, potentially lifethreatening complications, 5 children



CONCLUSIONS AND RECOMMENDATIONS

Our findings indicate that in this fragile, conflict-affected setting, abortion affects women of a wide age range, origin, parity status, marital and social statuses, and at various life stages. Experiencing a multitude of barriers, including access and utilization of contraception, the majority of participants reported having been faced with an unplanned pregnancy for which they sought to induce abortion, with little information or skilled care.

When induced abortion is safe, i.e., using a method recommended by the World Health Organization (WHO), appropriate to the gestational age, and provided or supported by someone with the necessary skills, the risk of serious complications is very low (1). Furthermore, increased evidence shows that individuals with accurate information, quality drugs and access to trained health workers (in case they want or need support) can safely self-manage their abortion with medication through at least the first 12 weeks of gestation (1) and even later in pregnancy (16).

When choosing a method to induce the abortion, participants mostly relied on informal sources of information; safety of these procedures was seldom addressed. Participants expressed no or very little knowledge of medication abortion. For most of them, decision-making regarding abortion was influenced by individual, interpersonal, socio-economic, and societal criteria that often led them to choose harmful and potentially ineffective methods due to their limited access to safe abortion care services. Abortion methods, which differed widely among participants, were selected because they were accessible, and because they were recommended by a trusted source. Participants were more concerned about the method being efficient, and none reported having considered the medical safety and legality of the procedure when deciding and seeking an abortion.

When post-abortion complications arose, pathways to care were highly varied, often long and at times complex. Hospitalized with near-miss or potentially life-threatening complications, several participants reported that their delays in care-seeking were affected by their lack of knowledge about the danger signs of abortion complications and by internalized stigma which compelled them to hide the fact that they had induced the abortion. Several barriers related to the availability and costs of care-seeking and

transport also increased delays in obtaining quality post abortion care. Participants also reported to not have had, or obtained too late, information about where to seek adequate care, and often started to seek it locally, facing multiple challenges in terms of lack of capacity, stigmatization, and quality of care from local health care providers and facilities.

In contrast, perceptions of post-abortion care at Castors Maternity Hospital were positive and recognized to be of high quality. However, some individual staff members expressed disapproving attitudes about abortion that resulted in negative experiences for a few of the participants.

These findings highlight the urgent need to provide and encourage access to reliable and accurate information on abortion at community-level. Information about the abortion process, existing safe abortion care methods, including medication abortion, warning signs for post-abortion complications as well as locations for support and resources for the provision of high-quality post-abortion care is crucial. Adapting policies and providing such information can contribute to the reduction of maternal morbidity and mortality in CAR, where abortion remains one of the main cause of maternal mortality (13), (17). The information should also be disseminated to women's familial and social networks, as their advice appears to play a significant role in shaping women's care-seeking trajectories.

There is a vital need to remove the structural barriers to high-quality post-abortion care. Training health care workers in the recognition of alert and danger signs, the treatment of abortion complications using recommended technologies and effective communication with patients, as well as improving access to ambulance services, are essential and basic components for saving lives.

Stigmatizing attitudes among medical personnel, which can be life-threatening for their patients, should also be addressed. The introduction of non-judgmental training offering opportunities to discuss attitudes and values about induced abortion may help to reduce reports of stigmatization, shaming and abuse from some health providers. This training may also create a more supportive environment for abortion care so women seeking post-abortion care can receive prompt and timely care in a non-judgmental way.

Lastly, this study indicates that the burden of abortion-related complications is high, significantly affecting women physically, psychologically, and financially. Participants in this study would have benefited greatly from having access to information about the safe induced abortion options available and legal in the country, whether instrumental or medication abortions in a health facility or self-administered medication abortions (18).

REFERENCES

- World Health Organization, Abortion care guideline, License: C. Geneva, 2022.
- (2) L. Say *et al.*, "Global causes of maternal death: a WHO systematic analysis," *Lancet. Glob. Heal.*, vol. 2, no. 6, 2014.
- (3) G. A. Roth et al., "Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2017: a systematic analysis for the Global Burden of Disease Study 2017," Lancet, vol. 392, no. 10159, pp. 1736-1788, Nov. 2018.
- (4) S. Singh and I. Maddow-Zimet, "Facility-based treatment for medical complications resulting from unsafe pregnancy termination in the developing world, 2012: a review of evidence from 26 countries," *BJOG*, vol. 23, pp. 1489–1498, 2016.
- (5) W. Graham *et al.*, "Diversity and divergence: the dynamic burden of poor maternal health," *Lancet (London, England)*, vol. 388, no. 10056, pp. 2164–2175, Oct. 2016.
- (6) M. Koblinsky *et al.*, "Quality maternity care for every woman, everywhere: a call to action," *Lancet (London, England)*, vol. 388, no. 10057, pp. 2307–2320, Nov. 2016.
- (7) D. A. Grimes et al., "Unsafe abortion: the preventable pandemic," Lancet, vol. 368, no. 9550, pp. 1908–1919, Nov. 2006.
- (8) B. Ganatra et al., "Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model," *Lancet*, vol. 390, no. 10110, pp. 2372–2381, 2017.
- (9) M. Jawad, T. Hone, E. P. Vamos, V. Cetorelli, and C. Millett, "Implications of armed conflict for maternal and child health: A regression analysis of data from 181 countries for 2000–2019," *PLOS Med.*, vol. 18, no. 9, p. e1003810, Sep. 2021.
- (10) A. Kotsadam and G. Østby, "Armed conflict and maternal mortality: A micro-level analysis of sub-Saharan Africa, 1989–2013," *Soc. Sci. Med.*, vol. 239, Oct. 2019.
- (11) "States of Fragility 2022 | en | OECD." (Online). Available: https://www.oecd.org/dac/states-of-fragility-fa5a6770-en.htm. (Accessed: 05-Dec-2022).

- (12) "Trends in Maternal Mortality 2000 to 2017: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.," Geneva, 2019.
- (13) Ministère de la Santé and UNFPA, "Evaluation de la disponibilité, de l'utilisation et de la qualité des soins obstétricaux d'urgence dans la zone d'intervention de l'UNFPA en République Centrafricaine," Bangui, 2010.
- (14) WHO, "The WHO Near-Miss approach for Maternal Health," 2011.
- (15) S. Thaddeus and D. Maine, "Too far to walk: maternal mortality in context," *Soc. Sci. Med.*, vol. 38, no. 8, pp. 1091–1110, 1994.
- (16) C. Gerdts, R. T. Jayaweera, S. E. Baum, and I. Hudaya, "Second-trimester medication abortion outside the clinic setting: an analysis of electronic client records from a safe abortion hotline in Indonesia." BMJ Sex Reprod Heal., vol. 44, pp. 286–291, 2018.
- (17) UNFPA, "UNFPA Central African Republic | ENQUÊTE RAPIDE SUR LES SOINS OBSTETRICAUX ET NEONATAUX D'URGENCES (ER SONU)," 2020.
- (18) A. Bankole, L. Remez, O. Owolabi, J. Philbin, and P. Williams, "De l'avortement non sécurisé à sécurisé en Afrique subsaharienne: des progrès lents mais constants," 2020.
- (19) The magnitude and severity of abortion-related complications in the Castors Maternity in Bangui, Central African Republic Evidence brief. March 2022. E. Pasquier, O. Owolabi, T. Fetters, H. Chen, T. Williams, D. Lagrou, C. Schulte-Hillen, C. Fotheringham, B. Powell, L. Nguengo, A. Dodane, M. Adame Gbanzi, E. Baudin, A. Moore, R. Ngbale The AMoCo Study group for the Central African Republic. https://epicentre.msf.org/sites/default/files/2022-08/MSF%20OCB%20Evidence%20Briefing%20document%20ENG_Web_29062022.pdf

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